

CLACKAMAS COUNTY BOARD OF COUNTY COMMISSIONERS

Planning Session Worksheet

Presentation Date: June 20, 2018 **Approx. Start Time:** 9:30 AM

Approx. Length: 2 hours

Presentation Title: Responses to “Portland Metro Area Value Pricing Study”
Recommendations

Department: Transportation and Development (DTD) – Long Range Planning
Program

Presenters: Mike Bezner, Assistant Director of Transportation, DTD
Steve Williams, Principal Transportation Planner, DTD
Chris Lyons, Government Affairs Manager, PGA

Other Invitees: Judith Gray, ODOT Region #1 Value Pricing Project Manager

WHAT ACTION ARE YOU REQUESTING FROM THE BOARD?

Direction from the Board of County Commissioners to Commissioner Paul Savas, Clackamas County’s representative on the Value Pricing Study Policy Advisory Committee (PAC), regarding value pricing (tolling) recommendations to be made at the final PAC meeting on Monday, June 25, 2018.

It is not the expectation that the PAC members will “approve” or “endorse” any of the study recommendations. Rather, governments and organizations are being asked to provide their responses to the value pricing study recommendations through their designated representatives (Commissioner Paul Savas) and call out issues requiring further study if the Federal Highway Administration (FHWA) authorizes the state to proceed with the design of a value pricing system for I-5/I-205 in the Portland Metro area.

Today’s meeting agenda will include:

9:30 am	Introduction
	Briefing by ODOT staff
	Staff presentation
10:30 am	BCC discussion

EXECUTIVE SUMMARY:

In section 120 of HB2017, the Legislature gave the Oregon Transportation Commission (OTC) direction to conduct a study of the feasibility of implementing value pricing on I-5 and I-205 between the Columbia River bridges and the interchange where the interstates meet in Tualatin. The Legislature also directed the OTC to develop a specific request to implement value pricing that was to be submitted to Federal Highway Administration (FHWA) before December 31, 2018, and to move forward with the implementation of value pricing if/when approval is granted by FHWA.

In response to this direction from the Legislature, OTC directed ODOT to conduct a feasibility study of value pricing in the Portland area to help structure the request that will be submitted to FHWA before the end of this year. The Portland Metro Area Value Pricing Feasibility Study being conducted by ODOT has focused on two key issues:

1. Identify the most important concerns of the public, local governments, nonprofits and community groups, and businesses that must be addressed in much greater detail in future studies of value pricing. If FHWA authorizes Oregon to move forward toward implementation of value pricing, this issue can be addressed by conducting an extensive public input process and by convening a Policy Advisory Committee (PAC) to review all the input and analysis and provide input to the OTC.
2. Conduct a general study of I-5 and I-205 between the Columbia River and the interchange in Tualatin to identify the most likely locations that can be proposed to FHWA for implementation of value pricing under the existing Federal programs. ODOT has addressed issue #2 by bringing in a consulting team with extensive experience in value pricing to use existing tools and data to identify the most likely locations for implementing value pricing.

The final meeting of the PAC will occur on June 25, 2018.

Portland Metro Area Value Pricing Feasibility Study Recommendations and Proposed Responses:

In the value pricing study there were two rounds of evaluation of pricing concepts. In round 1 eight concepts (number 1 to 8) were evaluated. In round 2 five concepts (lettered A to E) were evaluated. The study recommendations focused on round 2 Concepts A to E. (see Attachment #1: Value Pricing Concepts). Those concepts are as follows:

Concept A - Single priced lane on I-5 in each direction from Going Street north to the area of the Interstate Bridge.

Concept B - Pricing of all lanes on I-5 from Going Street south through downtown Portland to Multnomah Blvd.

Concept C - Pricing of all lanes on I-5 and I-205 from the Columbia River bridges south to the I-5/I-205 interchange in Tualatin.

Concept D - Single priced lane on I-205 in each direction from OR 99E to the Stafford Road interchange.

Concept E - Pricing of all lanes of the Abernethy Bridge on I-205. A modified version of Concept E has been proposed to extend pricing of all lanes from I-205 Abernethy Bridge to the Stafford Road interchange.

In addition, materials have been provided in Attachment #2 on **Round 1 Concept 4**.

An important nuance to Concepts B, C and E is the pricing of all lanes. By doing so it moves the dialogue slightly off the emphasis of value pricing for congestion relief and more towards general revenue tolling.

The final technical memo for the value pricing study analyzed the outcomes of each of the five concepts using 19 performance measures (see Attachment #3). Based on that

analysis the consultants/ODOT staff made the four recommendations. The value pricing study recommendations are below with possible responses.

Value Pricing Study Recommendation: “Initial implementation of Concept B as a pilot pricing program, coupled with a sunset or trigger to evaluate success.”

Response: This appears to be the best location on I-5 to conduct a pilot project under the Federal Value Pricing Pilot Program and has the potential to generate revenue to help pay for improvements. It merits inclusion in the request to FHWA and further study.

Value Pricing Study Recommendation: “Consider implementation of Concept E concurrent with implementation of Concept B.”

Response: A proposal to FHWA to implement Concept E would be acceptable under the following conditions:

- 1) The OTC makes a commitment to fully fund and construct the I-205 bottleneck project, and
- 2) ODOT commits to study traffic diversion from I-205 onto local roads and implement a value pricing system design and rates that will mitigate or eliminate such traffic diversion, and
- 3) ODOT commits funding to local street improvements necessary to lessen or eliminate any realized traffic impacts from diversion.

Value Pricing Study Recommendation: “After assessment of the performance of the initial pricing project, and assuming successful evaluation, implementation of Concept C in phases with more comprehensive system analysis.”

Response: Following a successful performance evaluation for the concepts that are initially implemented, OTC and ODOT should consider broader implementation of value pricing on I-5 and I-205. The revenues that would result from broader implementation would enable ODOT to undertake a long-term program to address deficiencies in the interstate highway system in the Portland area. There were several concepts identified during the value pricing study that merit further study: Concept C as recommended is one possibility. Option #4 from the first round that would expand all of I-5 and I-205 to four lanes and price one lane for the entire length of I-5 and I-205 is another that may warrant additional analysis.

Value Pricing Study Recommendation: “Do not implement Concept A or D.”

Response: Although pricing a single lane does not result in significant revenue generation, it should remain under consideration for future implementation in specific locations that would benefit from congestion management but do not require revenue generation for improvements.

Previous BCC Input

Before the May Value Pricing Study PAC meeting, the BCC discussed a response to the information available at the time. The BCC comments included:

- 1) If the roads are tolled, revenues will fund new highway capacity
- 2) Further study is needed of Concepts B and E

- 3) Option 4 from the Round 1 Concept Evaluation Recommendations Technical Memorandum #3 may warrant additional analysis
- 4) Concepts A & D should be further studied to identify specific applications that would benefit from priced lanes.

ATTACHMENTS:

The following materials from the Portland Metro Area Value Pricing Feasibility Study are attached for Board information:

- Attachment #1: Round 2 Concepts A to E
- Attachment #2: Round 1 Concept 4
- Attachment #3: Summary of Performance Measures for Round 2 Concepts A to E
- Attachment #4: Public Engagement Materials and Public Comments
- Attachment #5: Agendas and Materials for Pricing Advisory Committee meetings
- Attachment #6: Oregon Department of Transportation Presentation for BCC Planning Session, June 20, 2018

All the materials distributed to the Pricing Advisory Committee including agendas, packets, public engagement materials and public comments can be found on Oregon Department of Transportation [Portland Metro Area Value Pricing Advisory Committee](https://www.oregon.gov/ODOT/Get-Involved/Pages/Value-Pricing-Committee.aspx) webpage at the following link: <https://www.oregon.gov/ODOT/Get-Involved/Pages/Value-Pricing-Committee.aspx>.

FINANCIAL IMPLICATIONS (current year and ongoing):

None

STRATEGIC PLAN ALIGNMENT

- How does this item align with your Department's Strategic Business Plan goals?

Construction of the I-205 expansion and the diversion mitigations that will be incorporated in that project will help meet Transportation Maintenance goals due to reduced traffic and wear on local streets and will help meet the Transportation Safety goals in the Vision Zero Transportation Safety Action Plan.

- How does this item align with the County's Performance Clackamas goals?

Implementation of value pricing could fund all of the cost of I-205 expansion, a high priority transportation goal in Performance Clackamas.

LEGAL/POLICY REQUIREMENTS:

None

PUBLIC/GOVERNMENTAL PARTICIPATION:

The "Portland Metro Area Value Pricing Feasibility Study" has been conducted by ODOT with an extensive public involvement process including several open houses and presentations in Clackamas County.

OPTIONS:

The Board can alter any or all of the positions identified in this staff report.

RECOMMENDATION:

1. Provide feedback and direction to Commissioner Savas to relay at the final PAC meeting on June 25 on the positions on value pricing and the recommendations in the Portland Metro Area Value Pricing Feasibility Study that are included above.

SUBMITTED BY:

Division Director/Head Approval _____

Department Director/Head Approval _____

County Administrator Approval _____

For information on this issue or copies of attachments, please contact Steve Williams @ 503-742-4696

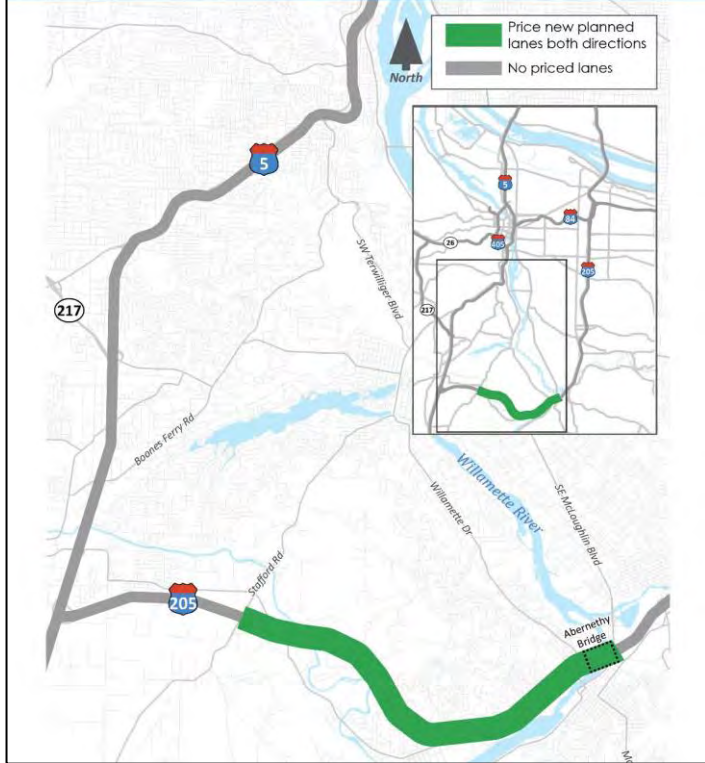
Attachment #2

Attachment #1: Round 2 Concepts A to E

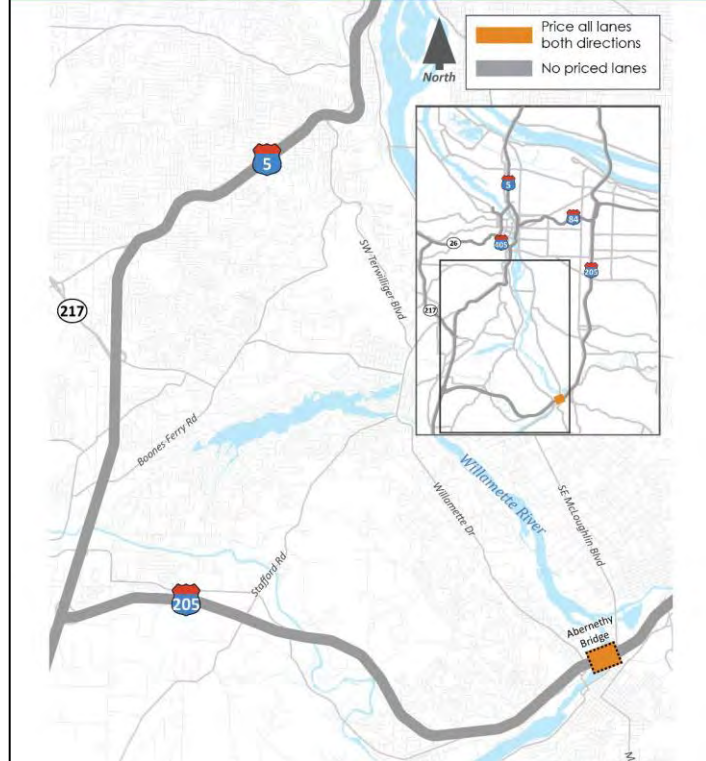
Portland Metro Area Value Pricing Feasibility Analysis Technical Memorandum #4



Concept D



Concept E



Attachment #2: Materials on Round 1 Option 4



3.5 Concept 4 – Priced Lane Construction: Construct a New Priced Lane on I-5 and I-205 in Each Travel Direction

Figure 6. Concept 4 – Priced Lane Construction: Traffic Operations





Overview

Concept 4 – Priced Lane Construct performs well from a traffic operations perspective because of the added third or fourth lane in each direction; however, it would be by far the most expensive to implement and in some cases the addition of a third or fourth lane would require considerable additional freeway and interchange construction, which could have a range of environmental or social impacts in some areas.

Traffic Operations

- § From a traffic operations perspective, this option performs very well because the additional capacity provided by a new lane significantly improves both vehicle throughput and travel speed. In addition, the ability to optimize traffic flow on the new lane due to pricing protects this capacity of the new lane from degrading over time.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would not benefit from using the priced lane because they are prohibited from operating in the left-most priced lane.⁶ However, all drivers would benefit from the added capacity overall, which would reduce demand for the general purpose lanes.
- § While adding an additional lane could improve conditions on the study corridors, care must be taken that the facilities outside of the study corridors would not become significant bottlenecks due to the added lane being dropped at the study corridor boundaries. This is of particular concern for the Columbia River bridges, the I-84 interchanges with I-5 and I-205, and the junction of I-5 / I-205 south of Tigard.

Capital and Operating Costs

- § Concept 4 – Priced Lane Construction is, by far, the most expensive. The capital expenditures to construct a new lane on I-5 and I-205 would be significant and would include the development of a back-office system to collect tolls, toll gantries along the tolled facilities, and lane restriping and signage improvements to delineate the tolled facilities.
- § Experience from other areas of the country show that revenues from a single managed lane are traditionally low and would not be expected to repay the costs of all new construction required to build an additional lane.¹⁰

Geometric and Physical Constraints

- § The physical constraints of adding a new lane are significant, particularly on I-5. Constraints primarily exist at interchanges, both with I-84 and I-405 as well as with arterial roadways where widening on a structure (overpass), or widening under the structure (underpass) becomes more difficult due to the physical constraints of existing infrastructure. While interchanges may have issues relating to exiting

¹⁰ Note: Oregon Highway Plan Policy 6A states that “the use of tolling for financing the construction, operations and maintenance of new roads, bridges or dedicated lanes only if expected toll receipts will pay for an acceptable portion of the project costs.” <http://www.oregon.gov/ODOT/Planning/Documents/OHP.pdf>



and entering traffic that can make the issue more complex, any overpass or underpass may present a physical constraint. This has implications for social and environmental impacts, and increases the cost of construction to a large degree.

Equity and Mitigation

- § Widening the freeways the entire length could have impacts on property and buildings in the urban areas, as well as potential impacts on community cohesion in particular areas. More detailed analysis of environmental and social impacts would occur in a future NEPA process (after December 2018).
- § As all existing free general purpose lanes will remain available under this concept, the need for toll-related mitigation is substantially reduced. However, additional mitigation would be expected to address environmental and/or community impacts.

Attachment #3: Summary of Performance Measures for
Round 2 Concepts A to E



Round 2 performance evaluation summary

Legend:		Performs well 	Performs moderately 	Performs poorly 	N/A Not Analyzed	
Policy consideration	Metric	Concept A Northern I-5 Priced Lanes	Concept B Toll All Lanes between Going St./Albera St. and Multnomah Blvd.	Concept C I-5 and I-205 Priced Roadway - Toll All Lanes	Concept D I-205 Priced Lane - OR99E to Stafford Rd.	Concept E* Abemethy Bridge Priced Roadway (tested for revenue potential)
Traffic operations improvement	Vehicle and person throughput on I-5 and I-205					
	Freight truck throughput on I-5 and I-205					
	Passenger vehicle travel time on I-5 and I-205					
	Passenger vehicle travel time on managed lanes		N/A	N/A		N/A
	Freight truck travel time on I-5 and I-205					
	Assessment of change in duration of peak vehicle traffic conditions					
	Delay on priced facility					
	Safety impacts					N/A
	Trip length distribution					N/A
Diversion of traffic	Diversion impacts on non-tolled facilities					
	Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion					
Transit service and active transportation	Adequacy of transit service					
	Bus transit travel time					
	Mode share shift (high-occupancy vehicle [HOV], single occupancy vehicle [SOV], transit, walk, bike)					**
	Availability of bicycle travel on alternative routes					
	Completeness of pedestrian network					
Equity	Value or travel time savings for Title VI and/or Environmental Justice communities (regional)					N/A
	Changes in travel time based on geographic zones					N/A
	Access to jobs					**
Community, economy and the environment	Physical impacts to existing residences and businesses					
	Regional travel time savings					**
	Regional vehicle miles traveled (VMT) (including non-freeway)					**
	Change in air pollution					**
	Value of travel time savings					**
Cost and revenue	Capital expenditure on facility					
	Estimated gross toll revenue potential from tolled facility					
Implementation	State law & policy					
	Regional law & policy					
	Federal feasibility					
	Project delivery schedule					

* While the primary objective of Concept E is revenue generation in support of constructing congestion relief projects, the use of variable toll rates that are highest during peak conditions on the bridge would also provide some congestion relief on I-205. The evaluation of Concept E focused on key performance measures to help understand the effect of this concept, including: traffic operations, diversion, revenue and cost, and implementation.

** Project team judgment was applied based on considering results from Concepts A-D and Concept E performance for other measures. Performance measure was not modeled or evaluated explicitly for Concept E.

Attachment 4: Public Engagement Materials and Public Comments



Portland Metro Area Value Pricing Feasibility Analysis

Winter 2017-2018 Community Engagement – Executive Summary

OVERVIEW

House Bill 2017, also known as *Keep Oregon Moving*, directed the Oregon Transportation Commission (OTC) to seek federal approval to implement value pricing on I-5 and I-205 in the Portland metro area to address congestion. Value pricing, also called congestion pricing or variable rate tolling, uses fees or tolls to manage congestion.

The Oregon Department of Transportation (ODOT) initiated the Portland Metro Area Value Pricing Feasibility Analysis to explore the options available, determine how and where value pricing could help improve congestion on I-5 or I-205 during peak travel times, and begin to understand potential benefits and impacts to travelers and adjacent communities.

Public review and input are essential components of the value pricing feasibility analysis. Members of the public can submit comments or questions at any time during the project. In addition, ODOT conducted focused outreach between January 17 and February 5, 2018, to share information and collect feedback. Input opportunities include:

- Three in-person community conversation drop-in events between January 23 and January 30
- An online open house and online interactive map
- A questionnaire available at in-person events and through the online open house
- Policy Advisory Committee meetings
- Project website, email address and voicemail line
- Presentations to community and neighborhood groups

Thousands of public comments were received and analyzed between November 2017 and February 5, 2018.¹ This Executive Summary highlights the key takeaways and themes from this public feedback.



Staff record comments at the Lloyd Center in-person community conversation event
Source: ODOT

¹ The goal of the outreach process was to engage and learn from as many members of the broader public as possible. Questionnaire responses are not statistically representative of the Portland metro area population as a whole. Clark County residents are over represented in the questionnaire sample, while

KEY TAKEAWAYS AND THEMES

Travel patterns

- Most questionnaire respondents use the highway frequently (30 percent every day and 31 percent several times a week). Recreational trips (62 percent) and visits to family and friends (54 percent) were the most common travel reasons, followed by commuting to work or school (51 percent).
- Around two-thirds (66 percent) of respondents travel alone.
- Respondents are most likely to consider trip length, congestion, time of day and predictability of arrival time, in that order, before traveling on I-5 and I-205.



More than 60 percent of questionnaire respondents travel on I-5 or I-205 several times a week or more
Source: ODOT

Key congestion impacts

- Questionnaire respondents consider congestion on I-5 to be worse than on I-205, but a majority of respondents think congestion is problematic on both highways (88 percent on I-5 and 80 percent on I-205).
- Most respondents (87 percent) think congestion will get worse over the next few years.
- In open-ended responses, most commenters said congestion has negative impacts on their lives, including loss of time that could be spent with friends, family or at work; increased levels of stress, anxiety and frustration; unpredictable trip length; unsafe driving conditions; and encouragement of poor driving behavior.

Value pricing expectations and considerations

- Questionnaire respondents indicate some flexibility in being able to adjust travel patterns if value pricing is introduced. Around 39 percent expect they would consider traveling a different route, 36 percent would pay the fee and expect a shorter trip, and 25 percent would try to change the time they travel.
- Overall, respondents say the price of the fee and the amount of time saved are the top two considerations that would influence their decision to use I-5 or I-205 if value pricing is implemented.

Clackamas County and Washington County residents are underrepresented. Questionnaire respondents are more likely to be male, white and older than the metro area average. Public input opportunities will continue throughout the project, and additional outreach is planned to further engage underrepresented groups.

Topics of greatest interest

Open-ended comments suggest several key topics and themes of interest that can inform future analysis and concept refinement, including:

- Experiences with congestion and potential of value pricing to relieve congestion and its related impacts
- How and where revenue will be spent
- Fairness of value pricing strategies, particularly for those with limited alternative options
- Transit accessibility and potential transit investments needed to make it a viable alternative to driving for some users
- Adequacy of existing highway capacity and the need for additional expansion and development of alternative routes
- Economic impacts of congestion and potential economic impacts of value pricing
- Disproportionate impacts to low-income residents and other groups
- Potential traffic diversion risks
- Environmental impacts of the project



Lloyd Center community conversation participants fill out the questionnaire
Source: ODOT

Commenters want more information about how and where revenue will be spent, and what mitigation options may be considered.

- Many comments suggested support for a value pricing proposal would be contingent on how and where revenue will be spent. Directly linking toll revenue to highway improvement projects was mentioned frequently.
- Mitigation is seen by many as necessary to address the potential for unequal distribution of benefits and negative impacts. Concerns exist around fairness and whether viable transportation alternatives exist for certain groups.

NEXT STEPS

The findings from this first phase of public engagement will be considered by the Policy Advisory Committee and technical team as they refine a set of concepts for further analysis. The project team expects to solicit feedback on these refined concepts through online platforms and in-person events in spring 2018.

The Policy Advisory Committee will submit its recommendations to the OTC in mid-2018. After considering technical findings and public input, the OTC will submit a final report and proposal to the federal government by the end of 2018 for review. The timeline for next steps after 2018 depends on direction from the Federal Highway Administration. Additional work from 2019 onward is likely to include additional public outreach; environmental, traffic, and revenue analysis; and the development of an implementation plan.



Portland Metro Area Value Pricing Feasibility Analysis Winter 2017-2018 Community Engagement Summary Report





Portland Metro Area Value Pricing Feasibility Analysis

Winter 2017-2018 Community Engagement
Summary Report

Prepared for



Oregon Department of Transportation

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Portland, OR 97209

Prepared by:



EnviroIssues

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Portland, OR, 97201



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- APPENDIX C: Open-ended comments (Available on request)
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1 INTRODUCTION

1.1 Project context and purpose of this report

In 2017, the Oregon Legislature authorized substantial funding to improve highways, transit, biking and walking facilities, and use technology to make the state's transportation system work better. As part of this comprehensive transportation package, the Legislature also directed the Oregon Transportation Commission (OTC) to seek federal approval to implement value pricing on I-5 and I-205 in the Portland metro area to address congestion.

Value pricing, also called congestion pricing or variable rate tolling, uses fees or tolls to manage congestion. It has been successfully implemented in about 40 locations in 11 states in the U.S. and around the world, resulting in faster, more reliable and predictable trips.

The Oregon Department of Transportation (ODOT) initiated the Portland Metro Area Value Pricing Feasibility Analysis to: explore the options available; determine how and where value pricing could help improve congestion on I-5 or I-205 during peak travel times; and begin to understand potential benefits and impacts to travelers and adjacent communities.

This report summarizes public input received as part of the feasibility analysis between November 2017 and the culmination of the winter outreach period on February 5, 2018. This public input will be considered by the Policy Advisory Committee and the project technical team as they refine concepts for additional analysis. The project team will continue to collect public input over the course of the project, including through additional outreach events and opportunities in spring 2018. The Policy Advisory Committee is expected to provide its recommendations to the OTC by June 2018. The OTC will submit a report to the Federal Highway Administration (FHWA) by the end of December 2018. Ongoing opportunities for public input will continue during future phases of analysis.

1.2 Public input opportunities

Public review and input are essential components of the value pricing feasibility analysis. Members of the public have the opportunity to submit comments or questions to the project team and Policy Advisory Committee at any time during the project. In addition, ODOT conducted focused outreach between January 17 and February 5, 2018, to share information and collect feedback.

Throughout the winter 2018 public outreach period, the project team sought to:

- Listen to community input on current and growing congestion and understand needs, issues, concerns and opportunities presented by the potential implementation of value pricing
- Promote awareness among stakeholders and the public about the project process and schedule
- Educate the public and stakeholders about the congestion problem, value pricing and why ODOT is considering the tool and the initial range of value pricing concepts



ODOT provided several opportunities for members of the public to learn about the project and submit input:

In-person community conversations: ODOT hosted three, drop-in open-house style events at the following locations:

- Clackamas Town Center Community Room on January 23, 2018 (4:30 – 7:30 p.m.)
- Lloyd Center Mall on January 27, 2018 (10 a.m. – 1 p.m.)
- Vancouver Community Library on January 30, 2018 (4 p.m. – 7:30 p.m.)

Participants had the opportunity to view informational displays, have conversations with staff, watch educational videos, and share feedback via a mapping exercise, flip charts, and an outreach questionnaire.



Attendees view a display at the Vancouver community conversation event
Source: ODOT

Online open house and interactive map:

Between January 17 and February 5, 2018, ODOT hosted an online open house. This temporary, interactive website included seven virtual “stations” that presented the same information available at the in-person community conversations. Online visitors could provide feedback via an interactive map, the online outreach questionnaire (same as the in-person questionnaire), or through email links. ODOT publicized the online open house via social media, email updates, news releases, digital ads and at in-person events.

Policy Advisory Committee meetings and email address: The OTC established a Policy Advisory Committee to guide ODOT throughout the feasibility analysis. The committee includes representatives of local governments in Oregon and Washington, the business community, highway users, equity and environmental justice interests, and public transportation and environmental advocates. Members of the public are invited to attend and provide public comment at committee meetings and can also email the committee at ValuePricingPAC@odot.state.or.us. Meetings are also streamed live, and videos are archived on the project website.

Project website: The project website, www.ODOTValuePricing.org, provides information about the project and ways to get involved. Visitors can access key project documents, including materials presented to the Policy Advisory Committee, fact sheets (in multiple languages) and answers to frequently asked questions. The website also provides links to the project email and voicemail line.

Project email and voicemail line: Members of the public can submit questions or comments to the project team at any time by emailing ValuePricingInfo@odot.state.or.us or by leaving a voicemail at 503-610-8595.

Community group presentations: Project staff presented information and answered questions at approximately 20 meetings with community and business organizations, county coordinating committees and regional transportation committees, neighborhood associations, and public agency staff. Some of the organizations include:

- Southwest Washington Regional Transportation Council
- Metro Joint Policy Advisory Committee on Transportation (JPACT)

- Washington County Coordinating Committee
- Clackamas County Coordinating Committee (C-4) Metro Subcommittee
- East Multnomah County Transportation Committee
- Wilsonville Planning Commission
- North Clackamas Chamber of Commerce
- Westside Economic Alliance
- Portland Business Alliance Transportation Committee
- East Portland Action Plan Land Use and Transportation Committee
- Portland Freight Committee
- Institute of Transportation Engineers

1.3 Notification

In addition to the project website, public notification of winter 2018 outreach opportunities occurred through the following channels:

Email notification

- News release distributed statewide and to project email list
- Outreach toolkit with background materials, information on upcoming events and how to provide feedback emailed to community groups and neighborhood organizations
- Reminder e-update to project email list

Social media posts

- 1 ODOT Facebook post
- 3 ODOT Facebook events
- 4 ODOT Tweets
- Social media posts from partner agencies and PAC members

Paid digital advertising

- Facebook
- Instagram
- Twitter ads
- YouTube ad
- Google Display Ad Network



Example Twitter ad

Media and blog coverage

- News stories from several sources, including: KATU, KGW, KOIN, Fox12, *Portland Tribune*, *Oregonian*, *Columbian*, OPB, *Clark County Today*, *Lake Oswego Review*, *East Oregonian*, Patch.com, *The Longview Daily News*
- Stories on local blogs including Bike Portland and No More Freeway Expansion



1.4 By the numbers

Table 1-1. Number of people reached

260	Community conversation attendees
6,722	Online open house unique users
111	People attended Policy Advisory Committee meetings 1 and/or 2
249,213	People reached through digital ads
9,500+	People reached through unpaid social media posts
95+	People reached through community group presentations
1,324	Project email list

Table 1-2. Number of comments received

1,810	Completed questionnaires
742	Emailed comments
30	Voicemails
573	Comments on the online interactive map

1.5 Analysis methodology

Thousands of public comments have been analyzed for the purpose of this feedback summary. The approach taken to collect and then synthesize the comments is shared in the following paragraphs.

Outreach questionnaire design

Members of the public were invited to complete an outreach questionnaire via the online open house and on laptops and iPads at the in-person community conversations. Paper copies were also available upon request. The questionnaire included 15 questions: four demographic questions; nine project-related closed-ended questions; and two open-ended questions. Closed-ended questions included multiple choice and ranking types. The questionnaire collected feedback on congestion experiences, community values related to traveling on I-5 and I-205, perceived benefits and burdens of implementing value pricing, and how value pricing might impact driver behavior.



Questionnaire reach and data integrity

Between January 17 and February 5, 2018, 2,175 people started the questionnaire. In total, 2,137 respondents answered at least one non-demographic question, and 1,810 completed the questionnaire to the end. Around 78 percent of those who started the questionnaire answered at least one open-ended question.

The goal of the questionnaire was to engage and learn from as many members of the broader public as possible. To encourage feedback from a large and diverse universe of residents, the questionnaire was accessible on mobile, desktop and tablet devices as well as in hard copy form upon request at in-person events. Responses were not limited by Internet Protocol (IP) address so that multiple members of the same household or workplace could submit feedback. The project team reviewed data by IP address, and no evidence of intentional multiple submissions was found.

Open-ended comment analysis

Open-ended comments received through the questionnaire and via email, voicemail and at in-person events were analyzed together for the purposes of this summary. The questionnaire asked two open-ended questions:

Question 8: How does traffic on I-5 or I-205 affect you personally?

Question 12: Do you have any additional thoughts you would like to share with the Portland Metro Area Value Pricing Feasibility Analysis project team?

The nature of the responses and themes covered did not differ significantly between these questions and the comments received via email and phone. Consequently, for reporting purposes, themes from all open-ended comments are summarized together.

For analysis, open-ended comments were coded based on thematic topic. Comments were coded by multiple themes if more than one topic was discussed. Most comments referred to multiple topics. The comment summary portion of this report describes the main themes and messages associated with the most common topics, as well as several sub-topics within these categories.



Community conversation attendees complete the online questionnaire
Source: ODOT

The questionnaire results are not statistically representative, meaning the respondent sample is not predictive of the opinions of the Portland metro area¹ population as a whole. Clark County residents are over represented in the questionnaire sample, while Clackamas County and Washington County residents are underrepresented.

Questionnaire respondents are more likely to be male, white and older than the metro area average. Specifically, metro residents under the age of 30, Hispanic/Latino(a) residents and Asian/Pacific Islander residents are underrepresented. Results for the closed-ended questions have been compared for different demographic groups (see Appendix B). However, some of these groups have low response numbers, and therefore these cross-tab results should be treated with caution.



2 KEY TAKEAWAYS AND THEMES

Commenters shared feedback on a variety of topics throughout the winter 2017-2018 outreach period. This section highlights key themes that emerged from this public input around travel patterns and behavior, congestion perceptions and impacts, and expectations of value pricing.

2.1 Travel patterns

Most questionnaire respondents use the highway frequently (30 percent every day and 31 percent several times a week). Recreational trips (62 percent) and visits to family and friends (54 percent) were the most common travel reasons, followed by commuting to work or school (51 percent).

- Clackamas County respondents are most likely to use the highways daily (43 percent) and for work commutes (65 percent), while Multnomah County respondents use I-5 and I-205 the least frequently (15 percent rarely or never).
- Although underrepresented in responses, respondents from communities of color are 12 percentage points more likely to travel on I-5 and I-205 every day and 10 percentage points more likely to commute to work or school via the interstates than white respondents.



More than 60 percent of questionnaire respondents travel on I-5 or I-205 several times a week or more
Source: ODOT

Around two-thirds (66 percent) of respondents travel alone.

- Multnomah County respondents are between 8 and 14 percentage points more likely to carpool than respondents from other counties.

Respondents are most likely to consider trip length, congestion, time of day and predictability of arrival time, in that order, before traveling on I-5 and I-205.

2.2 Key congestion impacts

Questionnaire respondents consider congestion on I-5 to be worse than on I-205, but a majority of respondents think congestion is problematic on both highways (88 percent on I-5 and 80 percent on I-205).

- Clark County and Washington County respondents are more likely to think congestion on I-5 is a very big problem than respondents from other counties (68 and 67 percent respectively compared to 49 percent of other respondents). Respondents from Clackamas County and Washington County are 10-18 percentage points more likely to think I-205 traffic is very problematic.
- Respondents who are commuters; rideshare, taxi, and transit operators; or over 65 are all more likely to think traffic is a very big problem.

Most respondents (87 percent) think congestion will get worse over the next few years.

- All demographic groups agree on this point.



In open-ended responses, most commenters said congestion has negative impacts on their lives.

- Key themes include loss of time that could be spent with friends, family or at work; increased levels of stress, anxiety and frustration; unpredictable trip length; unsafe driving conditions and encouragement of poor driving behavior (such as cell phone use, unsafe merging, using the HOV lane improperly and more).

2.3 Value pricing expectations and considerations

Questionnaire respondents indicate some flexibility in being able to adjust travel patterns if value pricing is introduced. Around 39 percent expect they would consider traveling a different route, 36 percent would pay the fee and expect a shorter trip, and 25 percent would try to change the time they travel.

- Multnomah County respondents are much more likely (22-26 percentage points) to consider using other modes like transit or biking than respondents from other counties.
- Almost two-thirds of Clackamas County respondents (65 percent) said they would drive another route **that didn't require a fee**—a much bigger proportion than respondents from other counties.
- Respondents who travel on I-5 and I-205 monthly or rarely are 8 percentage points more likely to consider changing the time they travel and 9 percentage points more likely to consider another transportation option, suggesting potential flexibility among less frequent metro area drivers.
- Respondents from ZIP codes with median household incomes lower than \$42,697 (68 percent of the metro area median income)¹ and those from communities of color are about 8-9 percentage points more likely to say they would drive a **different route that didn't require a fee**. Respondents from communities of color are also eight percentage points less likely to say they could change the time they travel, indicating potentially less schedule flexibility among these respondents.

Overall, respondents say the price of the fee and the amount of time saved are the top two considerations that would influence their decision to use I-5 or I-205 if value pricing is implemented.

- More Multnomah and Washington County respondents (52 and 55 percent) selected amount of time saved as a key consideration than Clackamas and Clark County respondents (44 and 43 percent).
- Price of the user fee was a bigger consideration for respondents under the age of 30 (66 percent) than those 45 or older (53 percent).
- Respondents that travel on I-5 and I-205 monthly or rarely said they would be more likely to consider whether transit options are available (33 percent compared to 23 percent), whether the fee was waived for carpools (47 percent to 31 percent), and whether they could change the time they travel (45 percent to 30 percent) than frequent users.

¹ This analysis used U.S. Census American Community Survey 2016 data on median household income by ZIP code. A "natural break" classification method was used to identify a subset of ZIP codes with lower median household incomes for further analysis.



2.4 Topics of greatest interest

Open-ended comments suggest several key topics and themes of interest that can inform future analysis and concept refinement, including:

- Experiences with congestion and potential of value pricing to relieve congestion and its related impacts
- How and where revenue will be spent
- Fairness of value pricing strategies, particularly for those with limited alternative options
- Transit accessibility and potential transit investments needed to make it a viable alternative to driving for some users
- Adequacy of existing highway capacity and the need for additional expansion and development of alternative routes
- Economic impacts of congestion and potential economic impacts of value pricing
- Disproportionate impacts to low-income residents and other groups
- Potential traffic diversion risks
- Environmental impacts of the project



Lloyd Center community conversation participants fill out the questionnaire
Source: ODOT

Commenters want more information about how and where revenue will be spent, and what mitigation options may be considered.

- Many comments suggested support for a value pricing proposal would be contingent on how and where revenue will be spent. Directly linking toll revenue to highway improvement projects was mentioned frequently.
- Mitigation is seen by many as necessary to address the potential for unequal distribution of benefits and negative impacts. Concerns exist around fairness and whether viable transportation alternatives exist for certain groups.

2.5 Process feedback

Commenters are engaged on this topic and desire further opportunities to provide public input and see how their input has been used.

Additional education could help reduce misinformation around the following topics:

- How fees may be collected through value pricing (i.e. not through toll booths)
- What other existing and proposed congestion mitigation strategies the state is considering
- How and when the price of the fee will be determined
- How and when the decision will be made about the implementation of value pricing



3 WHO WE HEARD FROM: DEMOGRAPHICS

This section summarizes the demographic characteristics of those who engaged with the project between January 17 and February 5, 2018.

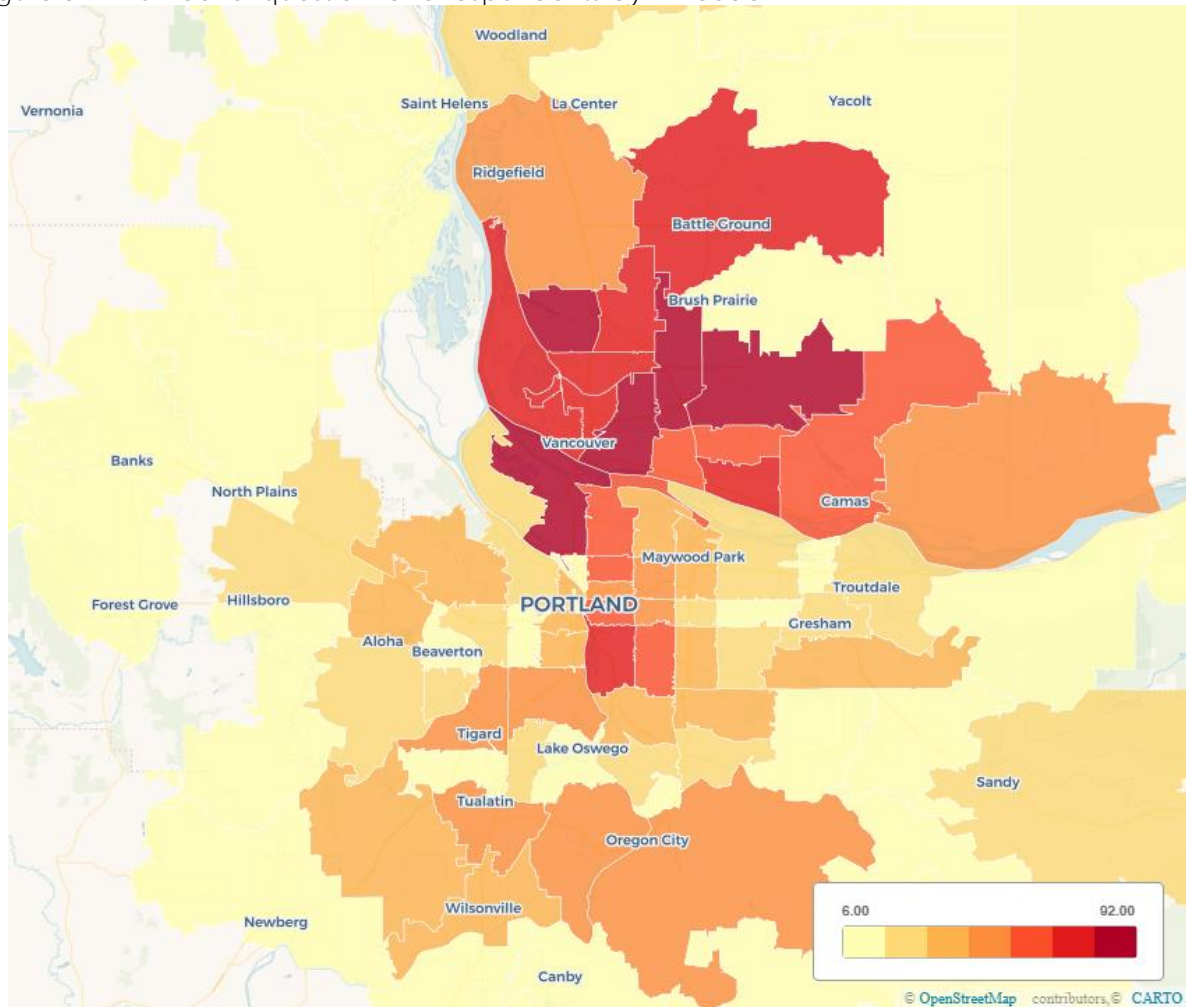
3.1 Questionnaire respondents:

Demographics of questionnaire responses were compared to U.S. Census Bureau American Community Survey data (2012-2016) for the Portland-Vancouver-Hillsboro Metropolitan Statistical Area. Overall, certain demographic groups are overrepresented in this sample. This is called out where applicable in the sections below.

Geography

Questionnaire respondents were asked to provide their ZIP code. Approximately 93 percent of all respondents live in the metro area.

Figure 3-1. Number of questionnaire respondents by ZIP code



Heatmap shows distribution of questionnaire responses by ZIP code. Darker areas had more questionnaire respondents



Within the metro area, responses from Clark County are disproportionately represented. While Clark County's population comprises 19 percent of the metro area population, nearly half (47 percent) of all questionnaires were submitted by Clark County residents. In turn, Clackamas and Washington County residents were underrepresented. Skamania, Yamhill and Columbia County residents comprise 7 percent of the metro area's population, but only 1 percent of questionnaire responses.

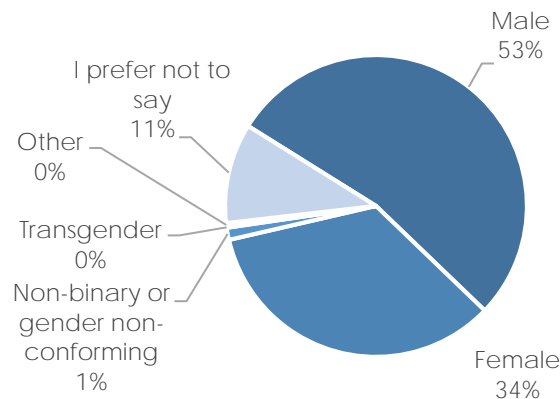
Table 3-1. Geographic distribution of metro area residents and questionnaire respondents

	Total Population ²	Questionnaire Responses
Metro Area	2,351,319	1,692 (93% of all respondents)
Clark County	450,893 (19% of metro area pop.)	787 (47% of metro area respondents)
Multnomah County	778,193 (33%)	575 (34%)
Washington County	564,088 (24%)	156 (9%)
Clackamas County	394,967 (17%)	159 (9%)
Skamania, Yamhill and Columbia Counties	163,178 (7%)	15 (1%)
Outside the metro area	--	118 (7% of all respondents)

Gender

More than half (53 percent) of questionnaire respondents identify as male, while 34 percent identify as female and approximately two percent identified as non-binary, gender non-conforming, transgender or other. Just under 11 percent said they preferred not to say. In the metro area, the gender ratio is 49/51 male to female.³

Figure 3-2. Gender of questionnaire respondents (N = 1,789)



Age

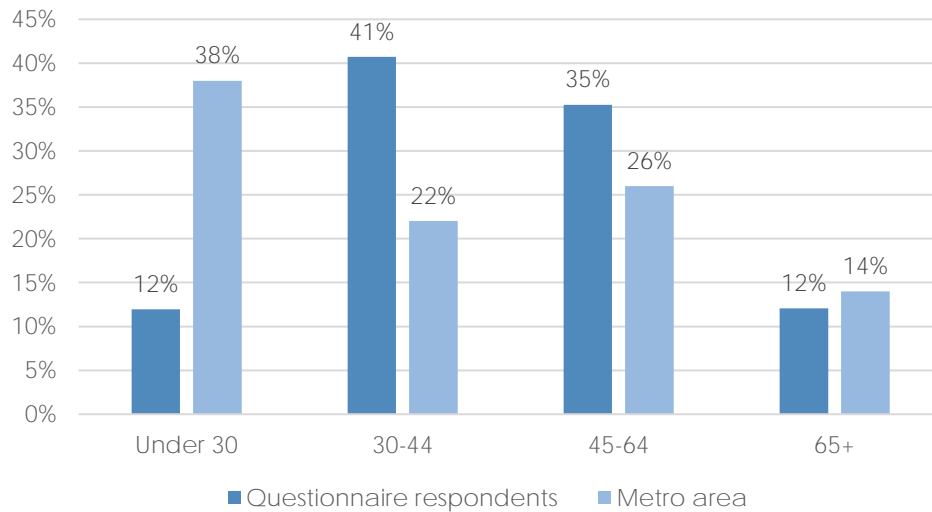
The median age of questionnaire respondents was 43. By comparison, the median age of Portland metro area residents is 38. People under age 30 were underrepresented by the questionnaire respondents, while those between 30-64 were overrepresented.

² U.S. Census Bureau, American Community Survey 2012-2016 5-Year Estimates

³ Ibid.



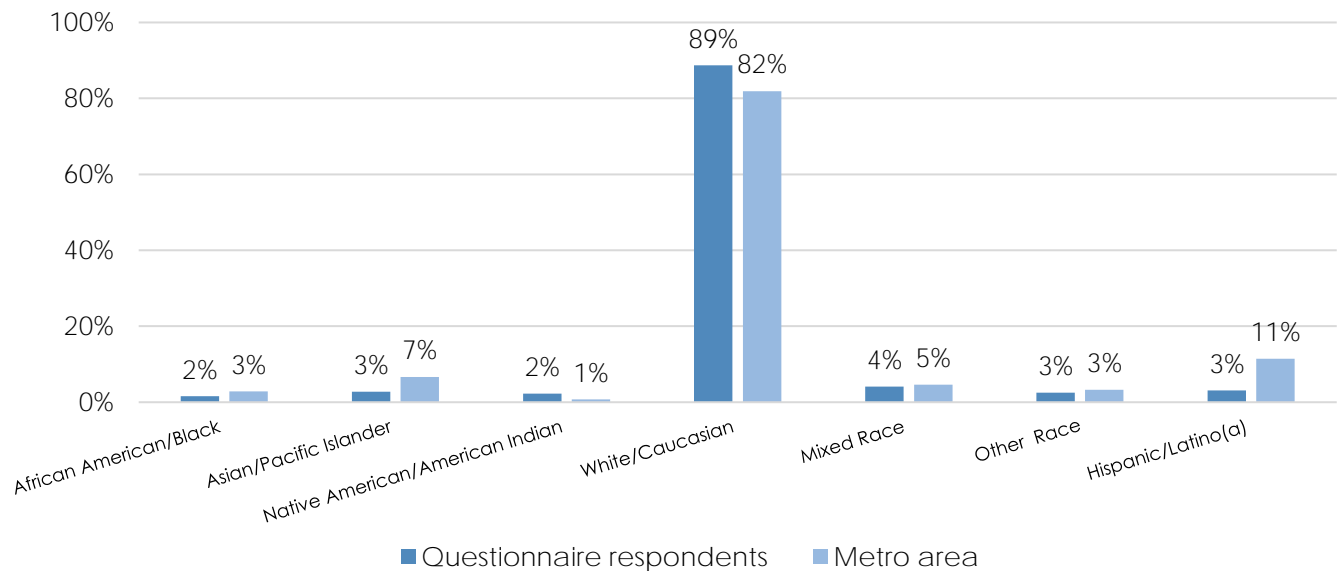
Figure 3-3. Age of questionnaire respondents (N = 1,670) compared to metro area residents



Race/ethnicity

The majority of questionnaire respondents identify as white. Overall, people who identify as Asian/Pacific Islander and Hispanic/Latino(a) are underrepresented in this sample.

Figure 3-4. Race/ethnicity of questionnaire respondents (N = 1,491) compared to metro area residents



3.2 In-person community conversation attendees

Approximately 260 people attended three in-person community conversations.



Table 3-2. In-person community conversation attendees

EVENT	ATTENDEES
Clackamas Town Center Community Conversation Tuesday, January 23, 2018 – 4:30 – 7:30 p.m.	30 attendees
Lloyd Center Community Conversation Saturday, January 27, 2018 – 10 a.m. – 1 p.m.	70 attendees
Vancouver Community Library Community Conversation Tuesday, January 30, 2018 – 4:00 – 7:00 p.m.	160 attendees

Community conversation attendees came from many communities across the metro area. At the events, attendees were invited to indicate where they typically begin their journey on a map. Table 3-3 summarizes the “origin” locations selected.

Table 3-3. Origin location for community conversation attendees

Origin Location	Number	Origin Location	Number
Fisher’s Landing area (WA)	15	Tualatin (OR)	3
Downtown Vancouver area (WA)	14	West Linn (OR)	3
Salmon Creek area (WA)	14	Hazel Dell (WA)	2
Northeast Portland (OR)	11	Milwaukie (OR)	2
West Vancouver (WA)	9	Oregon City (OR)	2
North Portland (OR)	6	Ridgefield (WA)	2
Camas (WA)	5	Tigard (OR)	2
Happy Valley (OR)	5	East Portland (OR)	1
Orchards (WA)	5	Gladstone (OR)	1
Southeast Portland (OR)	5	Gresham (OR)	1
Inner Portland neighborhoods (OR)	4	Hillsboro (OR)	1
Southwest Portland (OR)	4	Lake Oswego (OR)	1
Downtown Portland (OR)	3	Sellwood (OR)	1



Attendees at in-person community conversation events
Source: ODOT

4 WHERE CONGESTION CHALLENGES EXIST



Community conversation map station
Source: ODOT

Members of the public had the opportunity to provide input on where they experience congestion challenges through an online, interactive map and a map station at each in-person community conversation. These mapping activities intended to:

- Encourage participants to think about where and how they experience congestion on typical journeys
- Help participants begin thinking about how congestion impacts them personally and their travel patterns
- Provide information for ODOT and the project team to validate and enhance existing data on traffic patterns

On the online interactive map, participants could “drag” pins onto a map and provide additional context in a short comment box. Map viewers could also interact with others’ activities, such as “liking” existing pins and comments. At the in-person events, attendees were invited to place three different color dots on large-format maps to indicate where they typically start their journey, end their trip and experience the biggest congestion challenges.

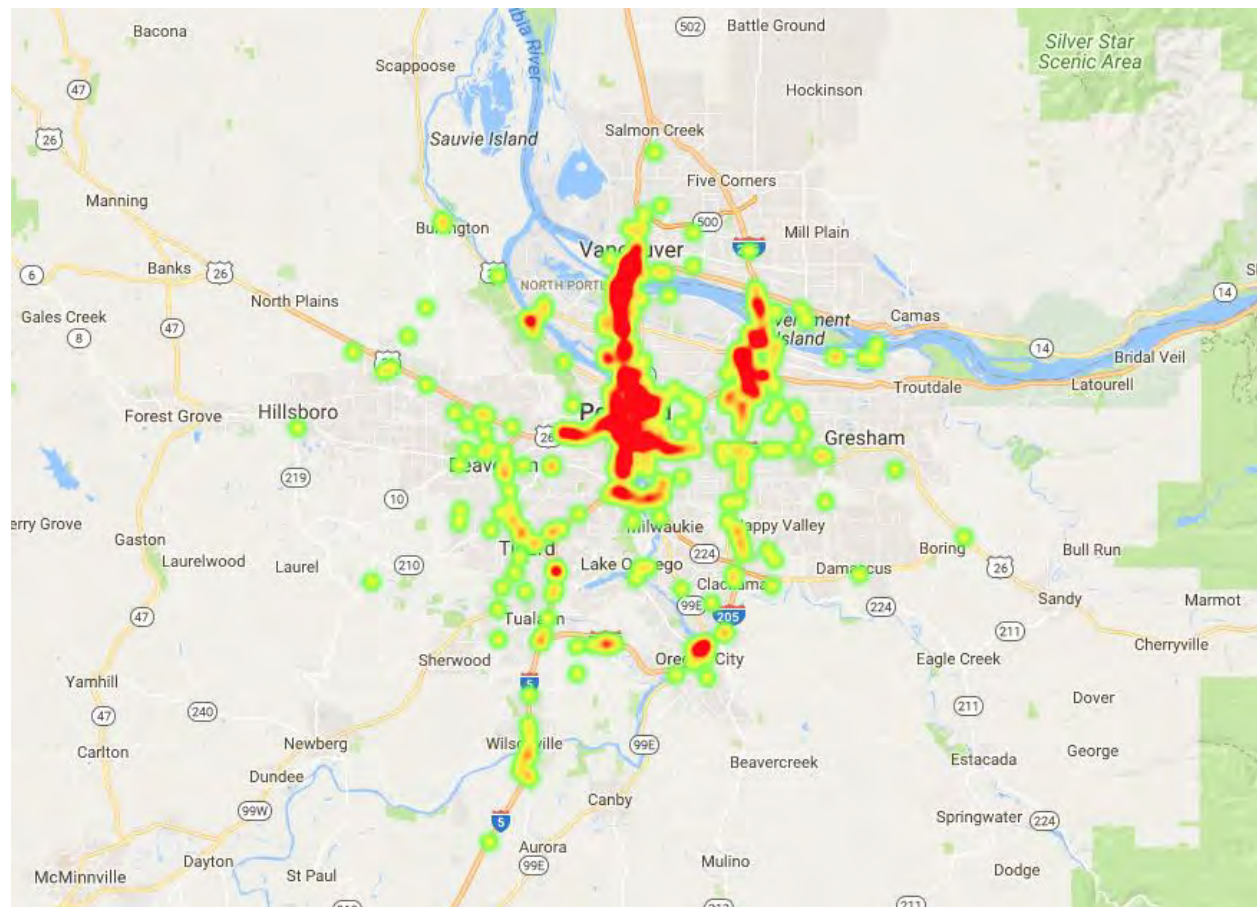
Overall, 257 people placed 573 pins and comments on the online map. Pins on the online map received 919 “likes” and 140 “dislikes.” In addition, around 115 congestion challenge “dots” were placed on the printed maps at in-person events.



Vancouver community conversation participant places a dot on the map

Source: ODOT

Figure 4-1. Online interactive map heatmap



The heat map above shows the distribution of pins on the online interactive map. Areas shaded in red indicate the highest concentration of pins while areas in green represent the lowest concentrations. To view an archive of the interactive map and read comments associated with the pins, visit <https://tinyurl.com/CongestionMap>.

Key takeaways from the mapping exercises

- The most frequently identified “challenging locations” exist along the I-5 and I-205 corridor, including:
 - The Rose Quarter area where I-5 and I-84 converge
 - The I-5 bridge over the Columbia River
 - The junction of I-205 and I-84
 - I-205 near the airport and Marine Drive, Killingsworth, Sandy and Airport Way exits
 - The Abernethy Bridge on I-205
 - The Terwilliger Curves on I-5
 - The Marquam Bridge
 - Junction with OR-213 and OR-224
 - US-26 interchange with I-205
- The maps showed more people that participated experience congestion challenges on I-5 than I-205, though both roadways have challenging locations.



- Many participants experience congestion throughout the metro area, and frequently reported “hot spots” exist on other thoroughfares. These include:
 - The Sunset Highway (US-26 westbound between downtown Portland and Beaverton)
 - Multiple locations along OR-217
 - The Sellwood Bridge and parts of OR-43
 - The Ross Island Bridge
 - The Banfield (I-84 between I-205 and I-5)
 - US-26/Powell Blvd. heading east from downtown Portland
 - Highway 99E/McLoughlin Boulevard
 - Highway 99W/Pacific Highway West
- Participants were more likely to report congestion challenges around downtown and near the Columbia River than in the southern, eastern or western metro area.
- Several people identified congestion challenges on local roadways as well, including Airport Way, NE Halsey Street, SE Stark Street, and more.



5 QUESTIONNAIRE RESULTS (CLOSED-ENDED QUESTIONS)

The following sections present the results for the closed-ended questions of the questionnaire. See Appendix A for the complete text of the questionnaire. Results are summarized around three key categories:

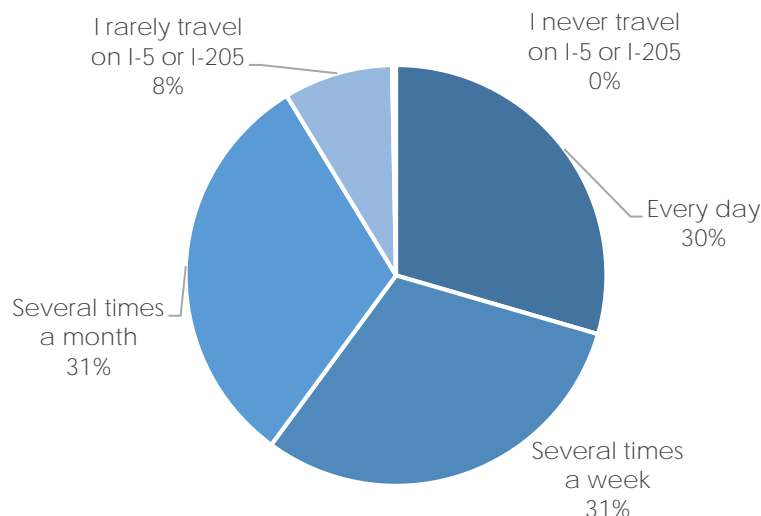
- Travel patterns and behaviors
- Congestion perceptions and impacts
- Value pricing expectations and considerations

Areas of significant difference among demographic groups are noted at the end of each section. Detailed tables showing data for all recommendation-related questions by demographic cross-section are available in Appendix B.

5.1 Travel patterns and behaviors

Respondents were asked how frequently they travel on I-5 and I-205, anywhere between the Oregon-Washington border and where I-5 and I-205 meet near Tualatin. Around 30 percent said they travel on the interstates every day, while similar proportions selected several times a week (31 percent) or several times per month (31 percent). Around 8 percent rarely travel on the highways, and less than 1 percent never use them.

Figure 5-1. Q1: How frequently do you travel on I-5 and I-205, anywhere between the Oregon-Washington border and where I-5 and I-205 meet near Tualatin? (N=2,137)



Around 38 percent of respondents who “rarely” or “never” use these highways said it was because I-5 and I-205 are not near where they need to travel, and 29 percent said they mostly bike or walk. Ten percent of this group said they work or study from home, and 5 percent choose to travel on surface streets to avoid the highways. Around 18 percent of respondents who rarely or never use the interstates provided other explanations, including:



- They avoid driving around Portland in general because of congestion
- They use transit
- They don't own a vehicle
- They avoid driving in the area because of safety concerns and roadway hazards
- They live out of the area
- They are retired and do not need to travel much anymore

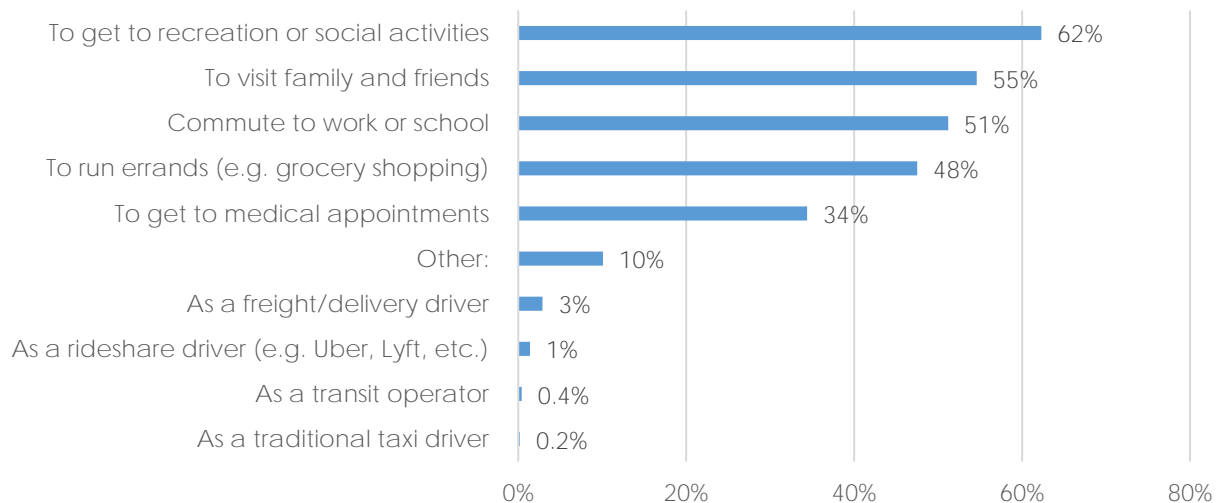
All respondents were asked for what purposes they travel on I-5 and I-205. Recreational trips (62 percent) and visits to family and friends (54 percent) were the most common travel reasons. Just over half (51 percent) of all respondents use the highways to commute to work or to school, and just under half (48 percent) drive on I-5 or I-205 to run errands. A third (34 percent) take these routes to get to medical appointments.

Around 5 percent said they travel on I-5 or I-205 in a professional capacity, either as a freight/delivery driver (3 percent), a rideshare driver (1 percent), a transit operator (.4 percent) or a traditional taxi driver (.2 percent).

Other purposes mentioned include:

- Business appointments and work-related travel (non-commute)
- Passing through on the way to other places or when traveling out of the metro area
- Vacations and tourism
- Travel to airport
- Travel to church
- Volunteering and charitable trips

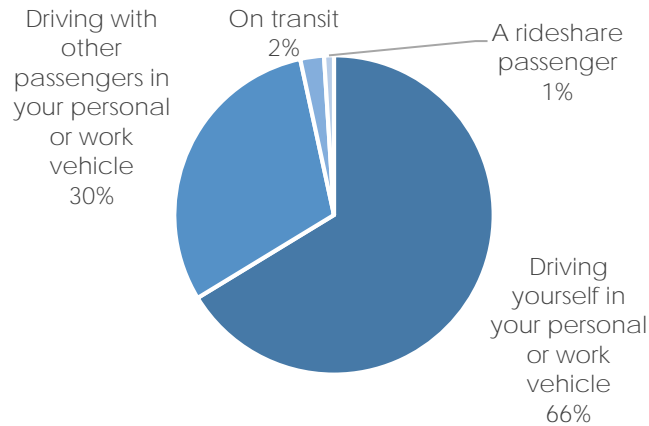
Figure 5-2. Q2: For what purposes do you travel on I-5 and I-205? Check all that apply. (N=2,138)



Most respondents (66 percent) said they typically drive alone in their personal or work vehicle when using I-5 or I-205. Just under a third (30 percent) say they drive with other passengers in their personal or work vehicle. Around 2 percent of respondents say they typically travel on transit when using I-5 or I-205, and 1 percent travel on the highways as rideshare passengers.



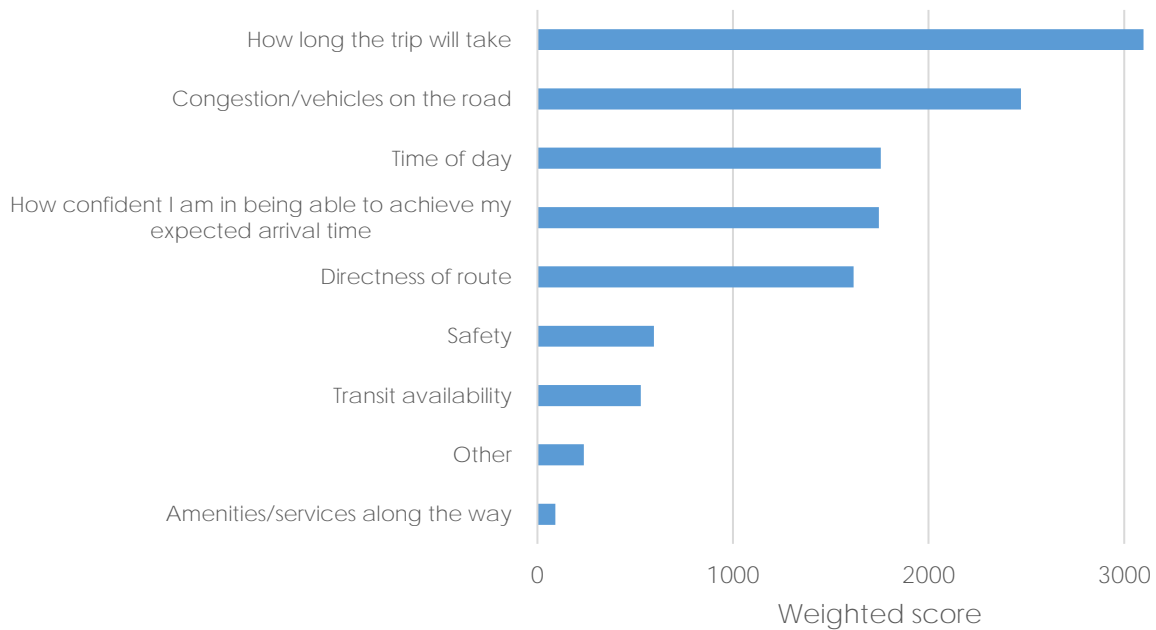
Figure 5-3. Q3: When you travel on I-5 or I-205, are you mostly...? (N=2,132)



Respondents were asked to identify the top three factors they consider when deciding whether to travel by car on I-5 or I-205. Considerations were assigned a weighted score based on how often respondents selected them and how high they were ranked.⁴

Trip length was the top consideration, followed by congestion on the road, the time of day, confidence in arrival time and directness of route. Factors like safety, transit availability and amenities along the way were considered less important by respondents.

Figure 5-4. Q4: When deciding whether to travel by car on I-5 or I-205, what factors do you think most about? Please rank your top 3 considerations.



⁴ Items ranked higher were given a higher value or "weight." The score for each answer option is the sum of all the weighted values.



Differences among demographic groups



Lloyd Center community conversation attendees discuss the project with members of the technical team

Source: ODOT

Geography: Respondents from Clackamas County were more likely to travel on I-5 and I-205 every day (43 percent) than Clark County (32 percent), Washington County (30 percent) and Multnomah County (21 percent) respondents. In turn, a greater proportion of Multnomah County and Washington County respondents use the interstates rarely or never (15 and 12 percent, respectively) compared to Clackamas and Clark County residents (6 and 4 percent respectively). Most Washington County respondents who rarely use I-5 and I-205 said it was because these roadways are not near where they need to travel (68 percent), while most infrequent users in Multnomah County said it was because they mostly bike or walk (56 percent).

Clackamas County respondents were more likely to be commuters (65 percent) compared to 54 percent of Washington County respondents, 53 percent of Clark County respondents and 43 percent of Multnomah County respondents.

Multnomah County respondents were between 8 and 14 percentage points more likely to drive with other passengers when on I-5 or I-205 (36 percent) than other respondents.

Most respondents throughout the region ranked trip length and congestion on the road as the top two factors to consider before driving. Clackamas County and Washington County residents were more likely to rank directness of route as the third highest consideration, while it ranked fourth for Multnomah County respondents and fifth among those from Clark County.

Income: Respondents from metro ZIP codes with household incomes less than two-thirds of the metro median (i.e. less than \$42,697) were much more likely to rarely travel on the interstates (20 percent compared to 8 percent overall). However, those that did use I-5 and I-205 were slightly more likely to travel daily or several times a week. Half of those who rarely use the highways said it is because they mostly bike or walk, and 40 percent said I-5 and I-205 are not near where they need to travel.

Respondents from ZIP codes with median household incomes lower than \$42,697 (68 percent of the metro area median income)⁵ ranked confidence in arrival time higher overall than other respondents (third out of nine), while ranking time of day lower overall (fifth out of nine).

Race/ethnicity: Respondents from communities of color were 12 percentage points more likely to travel on I-5 and I-205 every day than white respondents (39 percent compared to 27 percent). Similarly, 59 percent of respondents from communities of

⁵ This analysis used U.S. Census American Community Survey 2016 data on median household income by ZIP code. A "natural break" classification method was used to identify a subset of ZIP codes with lower median household incomes for further analysis.



color said they travel on the highways to commute to work or school, compared to just under half of white respondents (49 percent). White respondents were also less likely to use the highways to get to medical appointments (33 percent) than non-white respondents (42 percent).

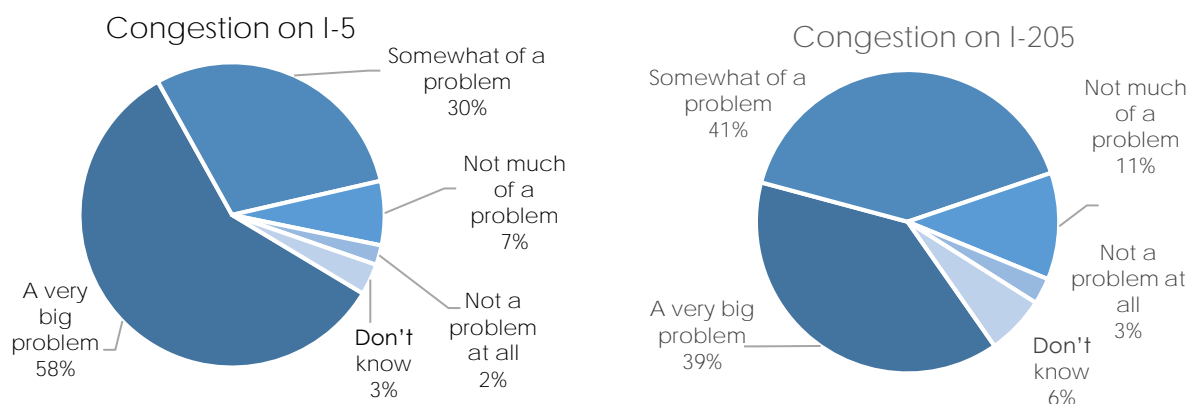
Purpose of trip: Most respondents who are commuters, rideshare/transit/taxi operators, and freight drivers travel on I-5 and I-205 every day or several times a week (between 78 – 89 percent). Commuters are more likely to drive by themselves (80 percent) than those traveling for personal trips (62 percent). Regardless of trip purpose, respondents are most likely to consider trip length and congestion on the road before using I-5 or I-205. Commuters ranked confidence in achieving arrival time third overall, while those taking personal trips were more likely to consider time of day.

Age: Most respondents under age 64 use the highways frequently (58-65 percent use them every day or several times a week). Respondents over age 65 were less likely to be frequent users (44 percent every day or weekly). Among infrequent users (never or rarely), those under 30 were much more likely to say they mostly bike or walk (46 percent compared to 7-28 percent of the other age groups). Younger respondents under age 44 were more likely to be commuters (59 percent of those under 30 and 57 percent of those 30-44). In turn, almost half of respondents (48 percent) over 65 use the highways to get to medical appointments, compared to less than 37 percent for all other age groups.

5.2 Congestion perceptions and impacts

Respondents were asked how big of a problem they feel congestion is on I-5 and I-205. Overall, traffic on I-5 is perceived to be a bigger problem on I-5 than I-205, though the majority think it is problematic on both interstates. Around 58 percent said congestion on I-5 is a “very big” problem, while 30 percent think it is somewhat of a problem. Concerning I-205, 39 percent feel congestion is a “very big” problem, and 41 percent think it is somewhat of a problem. For both highways, less than 3 percent of respondents think congestion is not a problem at all.

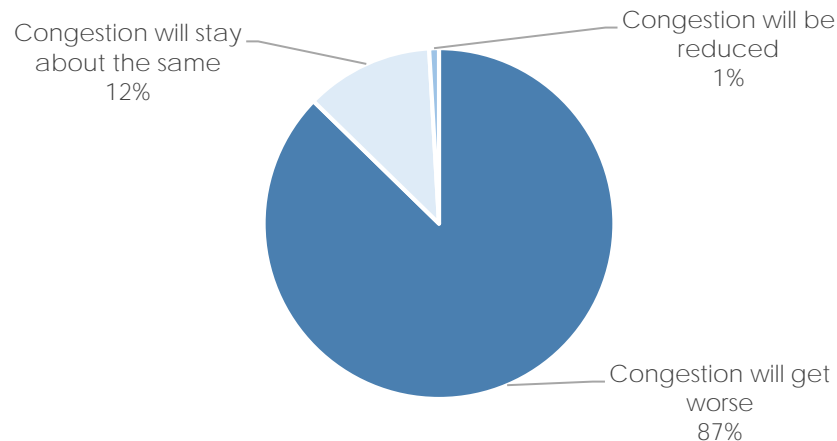
Figures 5-5. Q5-6: Do you consider congestion along I-5/I-205, between the Oregon-Washington border and where I-5 and I-205 meet near Tualatin, to be... (N=2,016)





A large majority of respondents (87 percent) expect congestion to get worse in the Portland metro area over the next few years. Around 12 percent think it will stay about the same, and approximately 1 percent think it will decrease.

Figure 5-6. Q8: How do you think congestion in the Portland metro area will change over the next few years? (N=2,003)



Differences among demographic groups

Geography: Respondents from Clark County and Washington County were more likely to say congestion on I-5 is a “very big problem” (68 and 67 percent) than respondents from Multnomah County (46 percent) and Clackamas County (59 percent) respondents. Around 13 percent of Multnomah County respondents think congestion is “not much of a problem” (9 percent) or “not a problem at all” (4 percent), compared to between 6 and 8 percent of those from other metro counties.

Concerning I-205, more Washington County and Clackamas County respondents felt congestion was “a very big problem” (50 percent and 49 percent) than Clark County (40 percent) and Multnomah County (32 percent) respondents. Similarly to perceptions of I-5, Multnomah County respondents were more likely to feel congestion is not a major problem (12 percent “not much of a problem” and 5 percent said “not a problem at all”). Respondents from Multnomah, Clackamas, Washington and Clark counties all felt strongly that congestion will get worse (87 – 90 percent).

Frequency of use: Respondents who are frequent users (daily/weekly) were about 10 percentage points more likely to feel I-205 congestion is a “very big problem” than infrequent users (43 percent compared to 33 percent). The trend is similar but less pronounced on I-5, with 61 percent of users saying it’s a “very big problem” compared to 55 percent of infrequent users.

Purpose of trip: Respondents who are commuters and professional rideshare/taxi/and transit operators were most likely to say congestion is a “very big problem” on I-5 (63-66 percent) and I-205 (38-44 percent). Freight and delivery driver respondents were slightly less concerned about congestion, with 54 percent thinking congestion is very problematic on I-5 and 35 percent on I-205. Similarly, freight and delivery driver respondents are less likely to think congestion will get worse (71 percent compared to 87-89 percent of other drivers). A quarter of these respondents think congestion will stay the same.



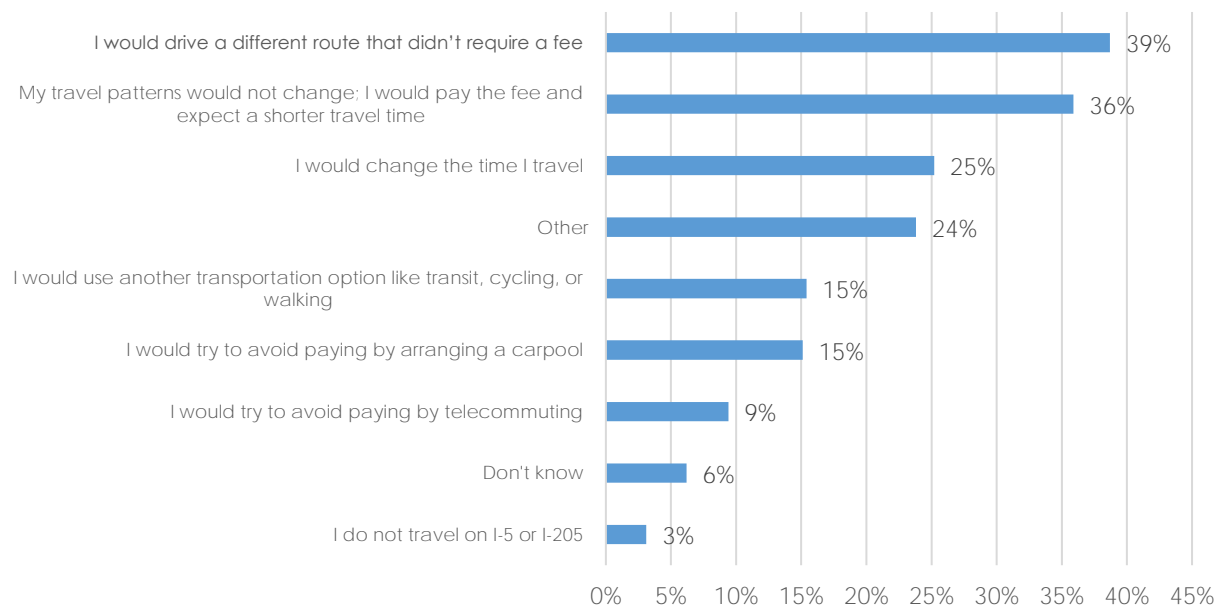
Age: Perceptions of congested conditions are greater among senior respondents than those under 30. Two-thirds of respondents 65 and older think I-5 traffic is “a very big problem” compared to 52 percent of under 30-year-olds. Similarly, seniors are six percent more likely to think I-205 traffic is a “very big problem” (44 percent compared to 38 percent). More than 80 percent of all age groups think congestion will get worse over the next few years.

5.3 Value pricing expectations and considerations

Respondents were asked how they expect their regular trips would change if a user fee was implemented on I-5 and I-205 that resulted in a faster, more reliable trip. The questionnaire asked respondents to assume cars with two or more passengers would be free or discounted, and they could check as many options as applied.

The largest proportion of respondents (39 percent) expect user fees would cause them to drive a different route that didn't require a fee. A similar proportion (36 percent) said their travel patterns would not change and they would pay the fee expecting a shorter travel time. Around a quarter (25 percent) expect they would change the time they travel, thereby improving the likelihood that their fee would be small compared to peak travel times. A similar proportion would consider taking transit (15 percent) or carpooling (15 percent). Around nine percent suggested they would telecommute. Approximately six percent were not sure how their trips would change, and three percent said they don't travel on the interstates.

Figure 5-7. Q9: How would your regular trips change if there were user fees on I-5 and I-205 that resulted in a faster and more reliable trip? Check all that apply. (N=1,836)



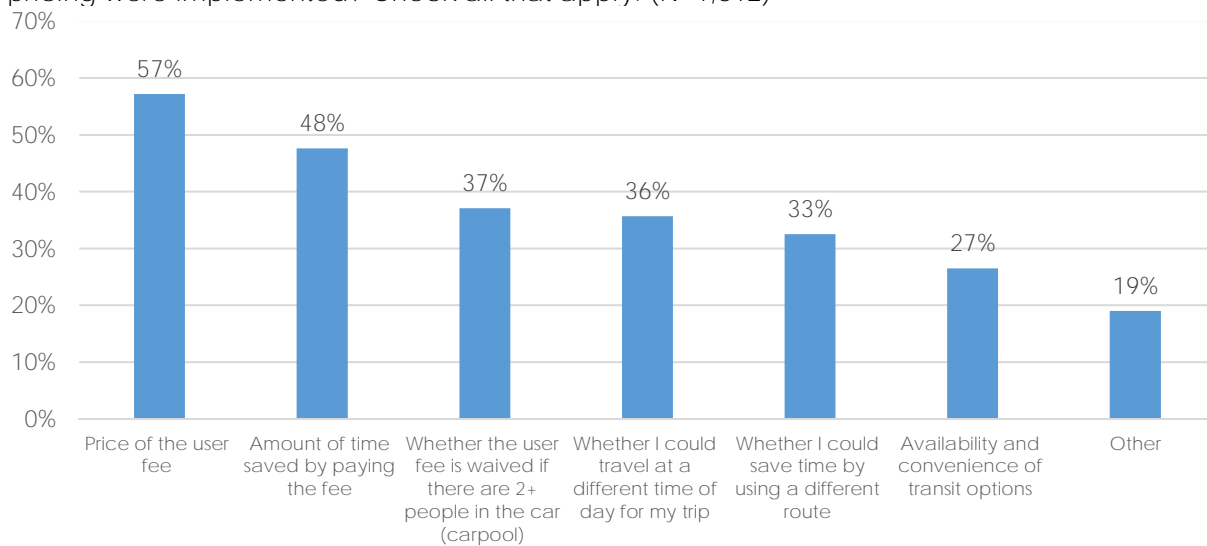
Almost a quarter (23 percent) provided an “other” response. Many used this write-in opportunity to provide general comments about the project, and these themes are captured in the following section of this report. Other comments about how trips may be expected to change if value pricing was implemented included:



- Reduce or eliminate trips to Portland
- Pay the fee because of a lack of options but be angry about doing so
- Find employment elsewhere to avoid paying the toll
- Pay the fee but would pass on the cost to clients
- Commute by bike or motorcycle if they are exempt
- Move to avoid the tolls
- Would not change route because they have no other option
- Several do these things already to avoid traffic
- Encourage their employer to cover the cost or provide transit passes
- Find other doctors and services closer to home
- Shop and recreate elsewhere or online
- Use rideshare services more
- Drive through residential neighborhoods

Respondents were asked what factors would influence their decision to drive on I-5 or I-205 if congestion pricing were implemented. The most selected consideration was the price of the user fee (57 percent). Just under half would consider the amount of time saved by paying the fee (48 percent). Around a third of respondents respectively said they would consider whether the user fee is waived for carpools (37 percent), whether they could change their travel time (36 percent) or whether they could use a different route (32 percent). Just over a quarter (27 percent) said the availability and convenience of transit options would influence their decision.

Figure 5-8. Q10: What factors would influence your decision to drive on I-5 or I-205 if congestion pricing were implemented? Check all that apply. (N=1,812)



Other factors mentioned included the following:

- Their destination
- The time of day traveling
- Whether the fee could be passed along to clients
- Cost of fuel needed to take longer routes
- Whether motorcycles would qualify for a discount or exemption
- Many said they have no viable alternative route to traveling on I-5 and I-205



- Many said they do not have a choice of time or mode
- Where the revenue is being spent (e.g. if they see any personal benefit)
- Whether a rail option was available for commuting across the river
- If the fees were progressive (i.e. based on income, with higher income commuters paying more than lower income commuters)
- If income and equity concerns were accounted for in the fee structure
- **Whether telecommuting is an option (for many, it isn't)**
- Many say they will not pay a fee out of principle

Differences among demographic groups

Geography: Expectations for how typical trips would change differed significantly among respondents from different geographies. Respondents from Multnomah County were more likely to say they would use another transportation mode (32 percent) than respondents from other counties (6-10 percent in Clackamas, Washington and Clark counties). Multnomah County respondents were also 5-13 percentage points more likely to say they would change their travel time than other respondents, 5-11 percentage points more likely to carpool, and 6-14 percentage points more likely to maintain their travel patterns and pay the fee. Almost two-thirds of Clackamas County respondents (65 percent) said they would drive a different route that didn't require a fee, while only half of Washington County (51 percent) and around a third of Multnomah and Clark County (36 and 31 percent) agreed.

Clackamas County respondents (50 percent) were more likely to consider whether they could save time by using a different route before driving on I-5 and I-205, compared to around 27-42 percent of respondents from other counties. Amount of time saved by paying the fee was selected as a key factor by more Multnomah and Washington County respondents (52 and 55 percent) than Clackamas and Clark County respondents (44 and 43 percent). Availability of transit options was a relatively low factor in most counties except for Multnomah County, where 42 percent said they would consider it.

Frequency of use: Respondents who use the highways monthly or rarely reported more flexibility. They were 8 percentage points more likely to say they would change the time they travel and 9 percentage points more likely to consider another transportation option. Related to this, infrequently traveling respondents said they would be more likely to consider whether transit options are available (33 percent to 23 percent), whether the fee was waived for carpools (47 percent to 31 percent), and whether they could change the time they travel (45 percent to 30 percent). These results imply potential flexibility and willingness to change behavior among less frequent metro area drivers.

Purpose of trip: Similar to frequent versus infrequent travelers, respondents taking personal trips on I-5 and I-205 suggested more flexibility in what they would consider if congestion pricing is implemented. Respondents taking personal trips were 12 percentage points more likely than commuters to consider whether fees are waived for carpools (42 percent to 30 percent) and 11 percentage points more likely to consider changing the time they travel (39 percent to 28 percent).



Age: Respondents under the age of 30 were more willing to find ways to avoid paying a congestion charge than other age groups. Younger respondents were between 7-17 percentage points more likely to say they would arrange a carpool, 3-14 percentage points more likely to consider other transportation modes, and 12-16 percentage points more likely to drive a different route to avoid a fee. Around a third of older respondents (33 percent) would change the time they travel, which is 8-10 percentage points more than other age groups. Price and availability of transit options were bigger considerations for respondents under age 45 than for those over 45.

Race/ethnicity: Respondents from communities of color were around 8 percentage points less likely to say they could change the time they travel than white respondents (19 percent to 25 percent). In turn, they were 6 percentage points more likely to say they would drive a different route to avoid a fee (45 percent to 39 percent). White respondents were 16 percentage points more likely to consider the amount of time saved, 13 percentage points more likely to consider traveling at a different time, 10 percentage points more likely to consider carpools and 8 percentage points more likely to consider the price of the fee. In general, respondents from communities of color were less likely to select any of the considerations.

Income: Respondents from ZIP codes with lower median incomes were eight percent more likely to say they would drive a different route to avoid paying a fee (47 percent to 39 percent).



Project staff record feedback at the Vancouver community conversation
Source: ODOT



6 OPEN-ENDED COMMENT ANALYSIS

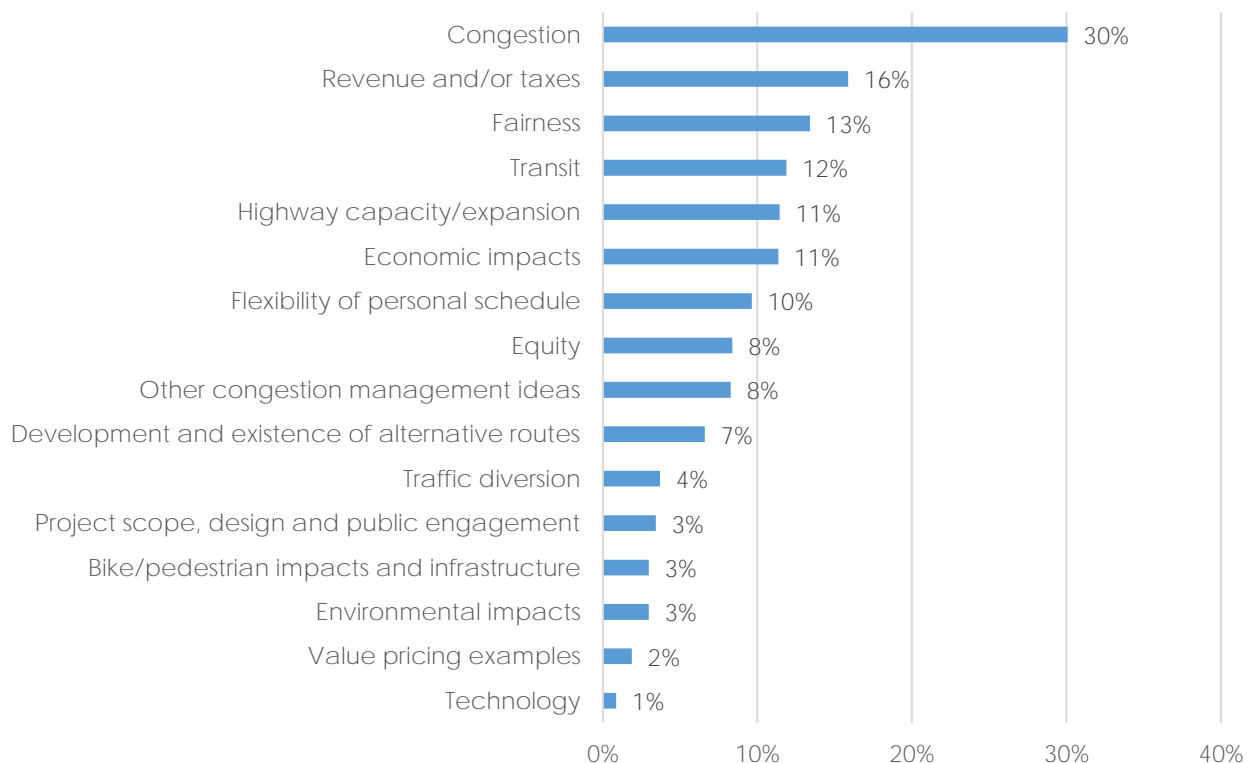
This section summarizes the key topics and themes mentioned in open-ended comments received by the project team between November 2017 and Feb. 5, 2018. Open-ended comments provide detailed insight into public opinion, feedback and user experience. Comments were submitted via email, voicemail, verbal comment at Policy Advisory Committee meetings, the Ask ODOT phone line, in-person community conversations and the outreach questionnaire. Themes did not differ significantly depending on how the comment was transmitted, and the following sections summarize feedback submitted from all sources.

6.1 Key topics and themes

Figure 6-2 shows the distribution of the most frequently mentioned topics in open-ended comments. Most comments discussed multiple topics, and several themes overlap across multiple coding categories. In the summary that follows, some of these topics have been combined to avoid duplication and illustrate connections among themes.

Within each topic and theme, several sub-topics were also identified. The following sections discuss key messages, questions and concerns related to these categories. Each section includes selected quotes from the comments that generally represent the range of responses received. Verbatim comments are presented in Appendix C.

Figure 6-1. Open-ended comments by thematic topic





6.1.1 Congestion perceptions and impacts

Approximately 30 percent all comments discussed congestion, either in terms of experiences and perceptions of congestion; the impact congestion has on people, the economy and the environment; or expectations for congestion in the future.

Comments about congestion most frequently also discussed: highway capacity and expansion; transit; traffic diversion; and flexibility of personal schedule.

Perceptions of congestion

- Echoing the closed-ended questionnaire results, many commenters expressed concern about growing congestion on Portland metro area roads. Many said congestion has been increasing over time, and this is not a new phenomenon. Some, however, said **they don't feel** congestion is a big issue, and a few said Portland congestion is not as bad as congestion in other metro areas.
- Many felt current congestion is exacerbated by road capacity and design. Congestion comments frequently referred to bottlenecks, areas of the highway where they feel additional lanes are needed, or a perceived lack of capacity in the freeway system overall. Several felt the lack of viable alternative routes to bypass I-5 and I-205 increases congestion on these freeways.
- Many discussed the impact they believe value pricing could have on congestion. Several felt value pricing could provide incentive for behavior change and regulate demand for the highways. Several others were skeptical that congestion pricing would be effective at reducing congestion.

Many of these comments said people do not voluntarily drive at congested times; they only do so because they have no other option. Some feel value pricing could make congestion worse, either because they assume it will introduce toll booths or because of bottlenecks as people try to exit/enter before a priced lane or roadways begins.

- Many said they adjust their travel patterns to avoid congestion, either by commuting earlier or later, avoiding personal trips at certain times, or avoiding certain routes. Some said they feel congestion is bad for most of the day rather than just at peak periods, which can make it hard to avoid.
- Many noted congestion occurs on roadways in addition to I-5 and I-205. Several questioned why value pricing is not being considered on these roadways, including US-26, I-84, I-405, and OR-217.

Quotes from comments about congestion:

"[Congestion] causes considerable uncertainty when planning trips on I-5 and I-205, because it is very difficult to predict when congestion will occur."

"I now find myself leaving as much as several hours before a scheduled meeting time to arrive "on time" which then impacts my other daily activities."

"I look elsewhere other than the Portland metro area for entertainment, shopping, and hiking. Nothing is worth getting trapped on a bridge in barely moving traffic for hours."

"I see more bad behavior from drivers [because of congestion], cutting off, tailgating, etc. Lots of impatience."



- Several linked congestion to population growth people moving to the area from other places. Some linked it to planning, housing and land use development. Several others said out of state commuters have a significant impact on congestion levels.
- Some said they feel there are currently no disincentives to traveling on the freeways, which increases congestion.
- A few argued freight and truck traffic exacerbates congestion, and suggested this be limited to certain lanes or times of day.

Personal impacts of congestion

- Many comments about congestion discussed the amount of time spent in traffic each day. Time lost was often discussed in terms of hours spent away from family and friends, work and other activities.
- Many comments mentioned unpredictable or unreliable trip times. Several of these comments noted trip length can differ significantly depending on the time of day, whether a traffic accident has occurred, weather, and other factors. These comments often said congestion can make it difficult to plan trips.
- Several comments said congestion increases feelings of stress, anxiety, frustration and anger when traveling.
- Several comments discussed the impact congestion has on the behavior of other drivers. Some said it makes other drivers more erratic, more likely to use phones and can make driving less safe. Several mentioned behavior they think exacerbates congestion, such as driving in the HOV lane as a single passenger, driving slow in passing lanes, and not merging properly.
- Several noted economic impacts of congestion. Some of these comments focused on personal economic impacts, such as spending more on gas, wasting resources and eliminating productive time. Others linked it to broader economic impacts, such as congestion being a deterrent to travel for shopping trips or recreation activities, particularly into downtown Portland.
- Several comments discussed the impacts congestion has on air quality and pollution.

6.1.2 Revenue and taxes

Approximately 16 percent of comments discussed taxes and/or revenue. This included comments about how existing tax revenue and transportation dollars are spent, as well as comments about expenditure of potential new revenue collected through value pricing.

Taxes and revenue were most frequently linked to: fairness; economic impacts; trust; and highway capacity and expansion.

Expenditure of existing tax revenue

- Many comments discussed how existing transportation funding is spent. Many said tax revenue has not been effectively managed to address congestion and road capacity thus far, and several suggested a lack of trust in government oversight of revenue. Some mentioned poor conditions of roadways, and several others referenced the Columbia River Crossing project. Several implied Oregon has spent very little resources on congestion thus far, indicating a lack of awareness of ODOT's prior and concurrent efforts around this issue.



- Many comments from Southwest Washington commuters referenced Oregon state income tax revenue generated by Washingtonians. Several said it is unfair that they are taxed without representation. Many others felt this was an adequate contribution to Oregon state revenue, and some questioned whether income tax dollars could be spent on roadways.
- Many said they feel taxes are currently too high and said they do not want to pay more. Several suggested more existing tax revenue should be spent on roadways.
- Several comments discussed gas taxes. Some felt gas taxes are a more equitable and fair system for raising transportation revenue, while others felt a new system is needed.
- A few said certain user groups should pay more in taxes, e.g. corporations who transport merchandise on roadways and out of state commuters who may pay less in gas tax.

Quotes from comments about revenue and taxes:

"Paying extra to use roads that my taxes should already be paying for is frustrating."

"If the tolls paid for better roads, more lanes, etc., I would consider it."

"I wish income tax from Washington residents could go to a third bridge over the Columbia River (near Camas and Troutdale) but I believe all income tax goes to education and economic development."

"I am all for bike and transit infrastructure but tolls have got to be used for the infrastructure they are raised on."

Expenditure of potential new revenue

- Many comments asked questions about where and how value pricing revenue could be spent. As summarized in the above sections, commenters expressed opinions about new revenue spent to increase and build new capacity, support transit, address equity concerns and other issues.
- Several comments from Southwest Washingtonians discussed how revenue collected by Washington drivers should be spent. Many commenters from Clark County tied this to issues of fairness and said Oregon shouldn't be able to collect money from out of state residents on federal highways. Some of these commenters suggested revenue should be shared with Washington or directed to projects that benefit Washington commuters.
- Several said value pricing should be considered and referred to as a "tax."
- A few mentioned concerns about private corporations implementing the tolling infrastructure and managing the collection of revenue through a value pricing system.
- A few said roads with value pricing should not "double dip" and have access to gas tax funding.

6.1.3 Fairness

Around 13 percent of comment discussed the fairness of a value pricing system. This included the ethics of a user fee system, the fairness of the feasibility analysis process, whether travelers have a choice and the availability of other options. The concepts of "fairness" and "equity" are related, but distinct. For this analysis, comments were categorized as relating to "fairness" when they discussed the *ethics of value pricing*



systems and the *project design*. Comments about “equity,” instead, focus on whether certain groups will experience disproportionate *outcomes* and *impacts* as a result of value pricing.

Comments about fairness were most commonly linked to taxes, equity, flexibility of personal schedule, revenue and alternative routes.

Fairness of a “user fee” system

- Many comments said systems where users are charged proportional to their **use of a roadway are “fair.”** Some argued this is fairer than other revenue raising systems, like the gas tax, because it is directly tied to use and many frequent users do not buy gas in Oregon. Some others noted pricing systems present all drivers with an equal charge, which is a fairer system than gas taxes, which can vary per user based on the fuel efficiency of one's vehicle.
- Many others, however, said value pricing is not a fair system. Several stated freeways should be free as they are a public good. On the other hand, some said driving is privilege and not a right.
- Many said these roadways have already been paid for, and charging a fee to **use them is “double taxation.”** Some also said they find it unfair that Oregon could implement a fee to use a federal roadway. Many comments said value pricing would only be fair if it was implemented on new infrastructure or roadways as a way to pay for their construction.
- Several comments linked fairness to how and where revenue would be spent. Many of these said it would only be fair if revenue collected from drivers in one part of the study area was spent on improvements in that area. Several comments from Clark County residents stated Washington drivers would not reap as many benefits as Oregon drivers, so Oregonians should pay more. Some comments from Oregonians, on the other hand, said visitors from out of state should pay the same or more.
- A few said tolling is not congruent with Oregon values around fairness.

Quotes from comments about fairness:

“Pay per use is the most fair method of improving roads and reducing driving to only necessary trips.”

“I have an 8 a.m. – 5 p.m. job and I cannot change the hours. I will be forced to pay the maximum toll since I cannot change my hours. You are penalizing those of us who do not have flexible work hours.”

“I disagree with tolls on any highway that has already been bought and paid for with my local and federal tax dollars.”

“I think this is a good idea so long as the funds collected are used to improve these sections of I-5 and I-205. People need to see that the implementation of tolls benefits their experience on these freeways.”

Fairness of the project design

- Many comments said they felt the feasibility analysis' focus on the north/south I-5 and I-205 corridors was unfair as it potentially “**targets**” out-of-state commuters.
- Some comments from Washington residents said the fact that a decision will be made by the Oregon government is unfair because Washingtonians are not represented by the OTC.



Choice and viable alternatives

- Many comments said the fairness of the system would depend on where it was implemented. Several comments from Southwest Washington commuters noted the implementation of pricing at the state line would mean they have no choice but to pay because I-5 and I-205 are the only routes across the Columbia River.
- Several comments said the availability of options and viable alternatives is crucial to the fairness of the project. Some said priced lane systems were fairer because people would have a choice to pay or not. Others said it would only be fair to price a roadway if a viable alternative route existed. Several suggested there are no viable alternatives to I-5 and I-205 in many locations (including across the Columbia River or for those living on Hayden Island).
- Some said the system would only be fair if it was applied at both the northern and southern end of the study area.

6.1.4 Transit

Approximately 12 percent of comments referred to transit. Key themes included the availability and convenience of transit, whether transit is a viable alternative to driving and revenue expenditure on public transportation.

Comments about transit also frequently discussed congestion, active transportation, highway capacity and expansion, equity, and alternative routes.

Availability and convenience of transit

- Many comments discussed the extent of the transit network. Many said transit options are not available or do not extend to where they live. Several tied this to equity concerns as they suggested lower-income residents are pushed farther out from the central city.
- Many said they personally take transit to avoid congestion and were supportive of increased transit opportunities.
- Several discussed the increased time transit travel can take compared to driving. Some of these comments suggested more express options are needed (e.g. express lanes, express bus routes, express MAX trains, etc.).
- Some comments discussed the schedule and reliability of transit. Some said the lack of schedule flexibility can make transit an impractical option for their commute.
- Some expressed concerns about riding transit related to safety and comfort.
- A few noted most transit service connects to Portland but not between other surrounding cities or key destinations.

Quotes from comments about transit:

"Our forward-thinking focus should be on affordable and accessible mass transit. We could become such a cool city if we'd think outside the box and really step up our mass transit instead of investing in ugly, pollution filled, unsafe highways!"

"I used to ride the bus/max and it's not worth the hassle, wait time, indirect routes, smell, inconvenience, lack of safety."

"Expand transit options to Tualatin so they have better evening/weekend coverage, and I would happily take public transit."

Transit as a viable alternative to driving

- Several comments said value pricing is a way to encourage more drivers to consider transit. Many of these comments were supportive of this idea, while



many others felt transit is not a viable alternative for a significant number of drivers.

- Comments that said transit is not a viable alternative most frequently said:
 - Service *doesn't* extend to where they live or go where they need to go
 - Trips would take too long or be too unreliable
 - Tickets or passes are too expensive

Revenue expenditure on transit

- Several comments said too much money has been spent on transit infrastructure at the expense of expanding highway capacity.
- Many others, however, felt additional revenue—including money potentially raised through value pricing—should help fund the expansion and improvement of transit so it can function as a viable alternative to driving.
- Many comments submitted by Southwest Washingtonians discussed light rail expansion to Vancouver. Several suggested public support for this has risen and it is important to help Washington commuters have an alternative to driving. Others noted light rail plans have been unpopular in the past and may still be undesirable.

6.1.5 Highway capacity and expansion

Approximately 11 percent of comments related to highway capacity and expansion. These comments often discussed the capacity of existing infrastructure as well as suggestions for constructing additional, alternative routes to I-5 and I-205.

Highway capacity and expansion was most frequently mentioned in parallel with revenue and taxes, transit, congestion and alternative routes.

Existing infrastructure

- Many comments said the capacity of the existing highway infrastructure in the metro area is inadequate. Several comments said capacity issues have been identifiable for some time and more should have been done to expand the roadways earlier.
- Many comments identified locations where new capacity is needed. The most frequently mentioned areas included:
 - The I-5 bridge across the Columbia River
 - I-5 near the Rose Quarter
 - Abernethy Bridge
 - OR-217
 - US-26

Quotes from comments about highway capacity and expansion:

"The area is growing and so roads need to grow too."

"Adding more lanes of travel alone will not solve the congestion problem. We have to give people better incentives to use public transport, carpool, or just avoid driving all together."

"Another bridge needs to be built to ease congestion. All this fee is going to do is levy a tax on people that rely on these bridges, as they are the only two Columbia River crossings within reasonable distance."

"We cannot build our way out of congestion, we need to reduce the number of cars using the roads we already have."

"I would suggest adding an additional lane on both highways and make it a pay to use during heavy traffic."



- Several called for the development of new capacity on existing roadways, such as:
 - Adding lanes to both I-5 and I-205
 - Adding reversible lanes on key commute routes that could change direction in the morning and afternoon
 - Creating “double decker” bridges to accommodate more cars
 - Removing the HOV lane on I-5 to add capacity
- Several comments said freeways should not be expanded as this will encourage further car use at peak times and new capacity will just fill up quickly. Some noted this has happened already, using I-205 as an example. Several suggested value pricing should be implemented before any road widening or expansion occurs.

Construction of alternative routes

- Many comments said new alternative routes are needed to alleviate congestion on main arterials in the metro area. The most common suggestions included:
 - Construction of additional bridge(s) over the Columbia either on the west side (connecting US-30 with Washington) or the east side (Camas/Washougal to Troutdale).
 - Development of a new Westside route
 - Construction of a new east/west thoroughfare to alleviate congestion on US-26 and I-84

6.1.6 Economic impacts

Approximately 11 percent of comments discussed the economic impact of congestion in the metro area as well as the potential economic effects of introducing value pricing. Economic impacts were most commonly discussed alongside taxes, flexibility of personal schedule and congestion.

- Many comments discussed how existing congestion conditions impact the economy. This includes:
 - People being less likely to travel into Portland to shop or recreate
 - People spending more money on gas and less on other goods
 - Movement of freight and goods is slowed
- Some comments were optimistic about the potential for value pricing to alleviate some of these congestion-related economic impacts.
- Many comments also focused on potentially negative economic impacts of introducing value pricing:

Quotes from comments about economic impact:

“Congestion in both directions between the OR/WA border and the Rose Quarter deters me from making trips to Portland area, so Oregon destinations lose my shopping dollars.”

“Time is of the essence when I drive. Time is money. Traffic congestion costs both time and money.”

“I live in Vancouver and I used to travel to Portland for work, but the commute and the uncertainty of how long it would take made me stop looking there. It has affected my financial life because I am now limited to jobs in Washington.”

“Placing a toll on traveling into Oregon will TAKE a toll from Oregon business. I for one, will no longer shop in Oregon if a toll is placed to travel into your state.”



- Several said they would intentionally choose not to shop or recreate in Portland because of value pricing.
- Some others said the additional cost on their commute could make them have to reconsider where they work unless their employer was able to support them.
- Some said pricing could make Portland a less desirable place to come visit, recreate and vacation, harming tourism revenue.
- Some said they are concerned goods will be more expensive as higher shipping costs are passed on to consumers.
- A few professionals who travel on I-5 and I-205 frequently for work said they may consider passing on the price of the fee to clients.

6.1.7 Equitable impacts

Approximately eight percent of comments discussed the equity impacts of value pricing. The vast majority of these focused on income-based equity, though others referred to impacts to different racial and ethnic groups and persons with disabilities or medical issues.

Equity was most frequently discussed alongside transit, flexibility of personal schedule fairness and taxes.

Income

- Many comments discussed the impact value pricing could have on low income drivers. Many focused on the cost burden to these individuals, with some using figures that suggested tolls would cost \$50 or \$100/week or more. Several noted rising costs of living—including housing, gas and food—and said fees or tolls could make travel unaffordable for them. A few described pricing strategies as regressive.
- Many comments also suggested the benefits of value pricing could be inequitable. These comments noted wealthier drivers would be more likely to be able to choose to pay the fee, and would therefore enjoy the benefits more than lower income drivers. Some suggested this could have compounded impacts as wealthier commuters can have more opportunity, job flexibility and mobility.
- Many comments suggested lower income commuters have less flexible work schedules, so choosing to travel at a different time to pay a lower fee may not be a viable option.

Quotes from comments about equity:

“With my limited income I don't have a choice about where to live and have to take what work I can, so my transport options are dictated by that.”

“Low income people will need to be considered too, maybe with lesser fees based on income.”

“The wealthy get a quicker travel option, while those with lower income are forced to face a longer commute.”

“The neighborhoods surrounding I-5 and I-205 are mostly low income. Commuters already speed through N/S neighborhood streets trying to avoid the freeways and I worry that it will become worse with tolling if not done correctly.”



- Several comments noted low income residents are being displaced to neighborhoods further away from Portland because of rising housing costs. These neighborhoods are not always well served by transit, which means more residents must drive to commute to work.
- Some noted the current system of transportation finance is inequitable, as lower income people may pay more in gas tax relative to their income or if they own less fuel-efficient cars. A few disagreed, though, and said the gas tax is a more equitable system.
- Some said having to drive longer routes to avoid tolls could lead to low income drivers having to spend more on gas and spend more time in the car.

Race/ethnicity

- Some comments discussed disproportionate value pricing impacts on communities of color. Often this was mentioned in conjunction with income equity concerns. Some noted communities of color may be more concentrated along parts of the interstate corridors or farther out where transit access is limited, which reduces options for avoiding the toll.

Persons with disabilities and medical requirements

- Several comments said I-5 and I-205 are used by drivers to access medical appointments in and around Portland. Many of these comments expressed concern about the potential disproportionate impact on those who make these trips regularly to stay healthy.
- A few asked about transportation between the VA hospitals in Washington and Oregon as well as between other medical facilities.
- A few noted people with disabilities and the elderly have less access to vehicular transport, so revenue spent on expanding highways will not benefit them.

Modal equity

- Some said value pricing will have an inequitable impact on drivers compared to bike commuters, people who can walk to amenities and services and transit riders. A few suggested charges should also be levied on bike commuters and at electric charge stations.
- On the other hand, many comments said other modes should be subsidized or incentives should be offered to encourage their use as an alternative to driving on the interstates.

Mitigation

- Many comments that discussed equity concerns asked about mitigation opportunities. The most commonly discussed strategies include:
 - Discounts or incentives for low income commuters
 - Passes or exemptions for those traveling for medical reasons
 - Directing revenue toward transit and increased multi-modal options in communities currently underserved
 - Relief for those who have inflexible schedules



6.1.8 Other congestion management ideas

Approximately eight percent of comments discussed other ideas for managing congestion (beyond those mentioned above related to capacity and transit). These suggestions included:

- Eliminate HOV lanes on I-5 or increase enforcement.
- Introduce HOV lanes on I-205 or elsewhere.
- Make HOV lanes 24-hours.
- Eliminate or move on/off ramps near congested spots (e.g. near bridges).
- Implement lanes on congested highways that can switch direction at peak times.
- Discourage/prohibit freight traffic at certain times of day.
- Use signal lights more effectively on on-ramps.
- Dedicate lanes on the freeway to transit and/or freight traffic.
- Charge studded tire users for impact to roadways.
- Limit bridge lifts during key traffic times.
- Improve highway signage.
- Work with employers to offer incentives for telecommuting.
- Convert shoulders into drivable lanes.
- Consider new solutions for a Columbia River crossing (e.g. double decker bridge, tunnel).
- Improve traffic law enforcement and increase penalties for improperly using passing lanes.
- Charge high polluters and re-direct money for traffic projects.
- Coordinate with WSDOT on alternative solutions.

Quotes from comments about other congestion management ideas:

"Try ending the HOV lane to open up traffic."

"Create bi-directional express lanes in the center of the freeway."

"Reach out to large employers asking them to do more to help their employees not be on the roads at high congestive times."

"Discourage commercial trucks from using the roadway during peak congestion."



6.1.9 Traffic Diversion

Approximately four percent of comments discussed diversion of congestion from I-5 and I-205 to local roadways. Diversion was most frequently also mentioned with congestion, safety and equity.

- Many comments expressed concern that pricing I-5 or I-205 would divert traffic onto neighborhood roadways as people try to avoid the toll. Several commenters said they would personally do this to avoid paying.
- Many said diversion is already happening because of the congestion conditions on the freeways. Examples included OR-43, Highway 99E and 99W, and other routes. Some mentioned apps like Google Maps and Waze encourage this behavior.
- Some comments said diversion would have a disproportionate impact on lower income residents because neighborhoods near freeways typically tend to have lower median incomes. In turn, others said they think more low income drivers will be diverted off the freeways because of inability to pay.
- Some expressed concerns about safety in neighborhoods if congestion is further diverted onto local streets.
- A few discussed examples of tolled roadways in other states where diversion occurred. Some of these noted this is okay if a viable alternative route is available. Others discussed the need to try to mitigate diversion, possibly by implementing penalties.

Quotes from comments about diversion:

“Congestion affects what mode of transportation I take, but also the traffic on the highways makes me take boulevards and other smaller streets in order to get to my destination, even if it takes me a little longer to get there.”

“I think value pricing would be an impactful way to reduce congestion, as long as measures were taken to prevent drivers from simply using side streets and pushing Portland’s traffic onto other roads and into our neighborhoods.”

“If I-205 and I-5 have more predictable travel times, commuters will be less likely to divert onto Sandy and 82nd, and other surface streets.”



6.1.10 Project scope, design and public engagement

Approximately three percent of comments discussed the feasibility analysis project itself and the associated public engagement process.

- Many comments asked why I-5 and I-205 were selected for analysis and not other highways. Several suggested congestion conditions on roadways like I-84, I-405, US-26, OR-217 and more could warrant analysis as well. Several commenters, particularly those from Southwest Washington, said by only looking at the north/south corridors, the project unfairly targets commuters from Washington.
- Several appreciated the opportunity to comment and share their feedback with the project team. Some stated a need for greater notification to ensure all are aware of the process.
- Several asked for additional and more specific information from the project team, including:
 - More specific congestion figures for the two highways
 - Congestion data for other roadways
 - Evidence of success in places where value pricing has been implemented
 - Results from modeling and future forecasts
 - Economic impact analysis
- Some felt the questionnaire was too short or didn't adequately allow for a range of opinions to be collected.
- Some comments said they feel the project is a "done deal" and a decision to implement value pricing has already been made. Others, however, wanted to see more specific proposals. Some were concerned their feedback would not be considered by the project team.
- Some said they found the use of the phrase "value pricing" be misleading and suggested this be called a toll or tax.
- Several comments suggested evaluation criteria they would like to see used as proposals are analyzed, including:
 - Equity and mitigation for disproportionately impacted groups
 - Fairness
 - Impacts on throughput
 - Economic benefits and costs
- Several comments discussed the decision-making process. Some suggested a vote should be held. Others said they do not feel represented by the OTC. Some comments suggested a lack of clarity around who is the eventual decision maker on this project and what is allowed by the FHWA.

Quotes from comments about project scope, design and public engagement:

"Thank you for considering each of our voices!"

"Curious as to why PDX is focusing on tolls for I-5 & 205 when US-26 & I-84 are just as bad if not worse."

"The west side of town contributes a large amount of traffic to the Portland area as does I-84 traffic. Why are you being selective? I notice by your plan you have a very large focus on Washingtonians and "southsiders"."

"I suggest a focus on people and goods movement not vehicles as performance measures."



- A few discussed the cost of the project. Some were concerned the cost to implement and administer a value pricing system is too high.

6.1.11 Bike and pedestrian impacts and infrastructure

Approximately three percent of comments discussed bicycle, pedestrian and other active transportation infrastructure and impacts. These comments were often related to comments about transit, highway capacity and expansion, alternative routes, congestion, revenue, diversion and safety.

- Several comments stated support for improving and increasing active transportation infrastructure to enable more people to use it as an alternative to driving.
- Some others, however, felt it would be unfair to use revenue generated from value pricing to support non-highway related projects. Other comments suggested it is not realistic to expect large numbers to start using active transportation.
- Several comments discussed the impact congestion has on safety for bike users and pedestrians. Many of these comments also said the condition of bike lanes and pedestrian infrastructure is not adequate in many areas, creating safety concerns.
- Some expressed frustration at the emphasis and existing revenue put toward active transportation infrastructure, which may not benefit commuters who live further out.
- Some comments linked increasing incentives for active transportation to environmental benefits of reduced car traffic.

Quotes from comments about bike and pedestrian impacts and infrastructure:

"Build better roads and stop giving road space to the few who bike. Roads are for cars not bikes."

"Portland needs better bike, walking, and mass transit infrastructure."

"I am a regular bike commuter who also uses a car on the weekends. As a biker, I feel unsafe when aggressive drivers, frustrated by congestion, act with little regard to my presence on the road."



6.1.12 Environmental impacts

Approximately three percent of comments discussed the environmental impacts of congestion and value pricing's potential to mitigate these effects. Environmental impacts were frequently discussed alongside congestion, highway capacity/expansion, public health and transit.

- Several comments mentioned concerns about air quality, particularly in neighborhoods close to freeways where congestion is worst.
- Some comments mentioned reducing congestion as a key element in achieving goals related to climate change and carbon emissions. Several of these tied value pricing to the environmental benefits of encouraging more transit and active transportation use.

Quotes from comments about environmental impacts:

"The air quality in the Eliot Neighborhood is already terrible and if we get more cars, the quality is only going to get worse."

"Please implement congestion pricing! Environmental health is important to Oregonians!!"

"The reality and ever-increasing severity of climate change should be the number one consideration when making decisions about congestion pricing."

6.1.13 Other topics

In addition to the themes discussed above, several comments touched on a range of other topics, including:

- Value pricing and tolling examples from other states: These include positive and negative examples from cities such as:
 - Seattle
 - Los Angeles
 - New York
 - Denver
 - Minneapolis
 - Houston
 - Dallas
- Technology: These comments discussed the technology used to collect fees in value pricing systems. Key themes include:
 - Some evidence of misinformation around whether toll booths will be constructed and used to collect fees
 - Interest in learning more about remote sensor and other electronic technologies
 - What technology and what entity would be used to collect tolls, issue refunds and address customer service issues
 - The cost and accessibility of purchasing electronic transponders
 - Questions about how tolls will be collected from non-local users who don't have a transponder

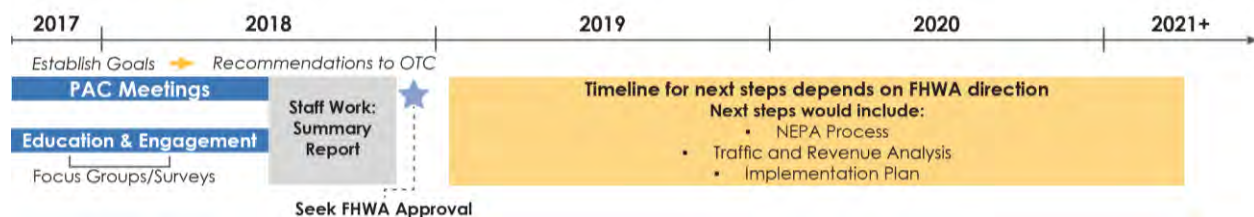


7 NEXT STEPS

The findings from this first phase of public engagement will be considered by the Policy Advisory Committee and technical team as they refine a set of concepts for further analysis. The project team expects to solicit feedback on these refined concepts through online platforms and in-person events in spring 2018. ODOT invites public comment at any time throughout the project via the project website, email or phone.

The Policy Advisory Committee will submit its recommendations to the OTC in mid-2018. After considering technical findings and public input, the OTC will submit a final report and proposal to the federal government by the end of 2018 for review. The timeline for next steps after 2018 depends on direction from the FHWA. Additional work from 2019 onward is likely to include additional public outreach; environmental, traffic, and revenue analysis; and the development of an implementation plan.

Figures 7-3. Timeline for the Portland Metro Area Value Pricing Feasibility Analysis



APPENDIX A: QUESTIONNAIRE TEXT

1. How frequently do you travel on I-5 and I-205, anywhere between the Oregon-Washington border and where I-5 and I-205 meet near Tualatin? (Select one answer)
 - Every day
 - Several times a week
 - Several times a month
 - I rarely travel on I-5 or I-205
 - Please tell us why: _____
 - I never travel on I-5 or I-205
 - Please tell us why: _____

2. For what purposes do you travel on I-5 and I-205? (Check all that apply)
 - Commute to work or school
 - To run errands (e.g. grocery shopping)
 - To get to recreation or social activities
 - To visit family and friends
 - To get to medical appointments
 - As a rideshare driver (e.g. Uber, Lyft, etc.)
 - As a freight/delivery driver
 - As a traditional taxi driver
 - As a transit operator
 - Other: _____

3. When you travel on I-5 or I-205, are you mostly: (Select one answer)
 - Driving yourself in your personal or work vehicle
 - Driving with other passengers in your personal or work vehicle
 - On transit
 - A rideshare passenger

4. When deciding whether to travel by car on I-5 or I-205, what factors do you think most about? Please identify your top three considerations and rank them 1 through 3 using the rank column.

Rank (1, 2 or 3)	Factor
	How long the trip will take
	How confident I am in being able to achieve my expected arrival time
	Congestion/vehicles on the road
	Safety
	Amenities/services along the way
	Transit availability
	Directness of route
	Time of day
	Other:

5. Do you consider congestion along I-5, between the Oregon-Washington border and where I-5 and I-**205 meet near Tualatin, to be...** (Select one answer)

- A very big problem
- Somewhat of a problem
- Not much of a problem
- Not a problem at all
- Don't know

6. Do you consider congestion along I-205, between the Oregon-Washington border and where I-5 and I-**205 meet near Tualatin, to be...** (Select one answer)

- A very big problem
- Somewhat of a problem
- Not much of a problem
- Not a problem at all
- Don't know

7. How does traffic congestion on I-5 and I-205 affect you personally?

8. How do you think congestion in the Portland metro area will change over the next few years? (Select one answer)

- Congestion will get worse
- Congestion will stay about the same
- Congestion will be reduced

12. I describe my gender as:

- Male
- Female
- Non-binary or gender non-conforming
- Transgender
- Other
- I prefer not to say

13. How do you identify yourself culturally?

- African American/Black
- Asian/Pacific Islander
- Hispanic/Latino(a)
- Native American/American Indian
- White/Caucasian
- Mixed Race
- Other
- I prefer not to say

14. In what year were you born? _____

15. What is your ZIP code? _____

Thank you for your feedback!

APPENDIX B: DEMOGRAPHIC CROSS-TABS

Question 1: How frequently do you travel on I-5 and I-205, anywhere between the Oregon-Washington border and where I-5 and I-205 meet near Tualatin?

Table B-1. Geographic cross-tab

	Multnomah Co. (N=574)	Clackamas Co. (N=158)	Washington Co. (N=156)	Clark Co. (N=781)	Rest of Metro Area (N=15)	Out of Metro Area (N=113)
Every day	21%	43%	30%	32%	13%	34%
Several times a week	30%	35%	28%	33%	40%	20%
Several times a month	34%	17%	30%	32%	47%	27%
I rarely travel on I-5 or I-205	14%	6%	12%	4%	0%	19%
I never travel on I-5 or I-205	1%	0%	0%	0%	0%	1%

Table B-2. Lower-income ZIP codes cross-tab

	Lower-income ZIP codes (N=55) ZIP codes with median income <68% metro area median: 97216, 97266, 97233, 97236, 97005, 97205, 97014
Every day	36%
Several times a week	33%
Several times a month	11%
I rarely travel on I-5 or I-205	20%
I never travel on I-5 or I-205	0%

Table B-3. Trip purpose cross-tab

	Commuters (N=907)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,454)	Rideshare, transit or taxi operators (N=32)	Freight/delivery drivers (N=48)
Every day	54%	23%	44%	40%
Several times a week	35%	30%	34%	46%
Several times a month	10%	37%	19%	13%
I rarely travel on I-5 or I-205	1%	10%	3%	2%
I never travel on I-5 or I-205	0%	0%	0%	0%



Table B-4. Age cross-tab

	Under 30 (N=200)	30-44 (N=679)	45-64 (N=588)	65+ (N=203)
Every day	38%	32%	28%	9%
Several times a week	27%	32%	30%	35%
Several times a month	24%	27%	32%	49%
I rarely travel on I-5 or I-205	11%	9%	9%	7%
I never travel on I-5 or I-205	1%	0%	0%	0%

Table B-5. Gender cross-tab

	Male (N= 950)	Female (N=610)	Other (N=33)
Every day	29%	27%	36%
Several times a week	31%	31%	18%
Several times a month	32%	32%	30%
I rarely travel on I-5 or I-205	9%	11%	15%
I never travel on I-5 or I-205	0%	0%	0%

Table B-6. Race/ethnicity cross-tab

	White (N=1,321)	Communities of Color (N=208)
Every day	27%	39%
Several times a week	32%	22%
Several times a month	32%	26%
I rarely travel on I-5 or I-205	9%	12%
I never travel on I-5 or I-205	0%	1%

Question 1a: (For those who rarely or never travel on I-5 or I-205) I rarely or never travel on I-5 or I-205 because:

Table B-7. Geographic cross-tab

	Multnomah Co. (N=81)	Clackamas Co. (N=9)	Washington Co. (N=19)	Clark Co. (N=31)	Rest of Metro Area (N=0)	Out of Metro Area (N=22)
These roadways are not near where I need to travel	25%	33%	68%	45%	0%	59%
I work/study from home	6%	0%	5%	29%	0%	5%
I travel on surface streets or other routes to avoid I-5 or I-205	5%	11%	5%	3%	0%	9%
I mostly bike or walk	56%	11%	0%	0%	0%	0%
Other:	9%	44%	21%	23%	0%	27%



Table B-8. Lower-income ZIP codes cross-tab

	Lower-income ZIP codes (N=10)
These roadways are not near where I need to travel	40%
I work/study from home	0%
I travel on surface streets or other routes to avoid I-5 or I-205	10%
I mostly bike or walk	50%
Other:	0%

Table B-9. Trip purpose cross-tab

	Commuters (N=58)	Personal trips (errands, visits to friends and family, medical appointments) (N=145)	Rideshare, transit or taxi operators (N=1)	Freight/delivery drivers (N=1)
These roadways are not near where I need to travel	56%	40%	0%	100%
I work/study from home	0%	10%	0%	0%
I travel on surface streets or other routes to avoid I-5 or I-205	22%	6%	0%	0%
I mostly bike or walk	11%	28%	0%	0%
Other:	11%	17%	100%	0%

Table B-10. Age cross-tab

	Under 30 (N=22)	30-44 (N=64)	45-64 (N=51)	65+ (N=15)
These roadways are not near where I need to travel	41%	47%	29%	33%
I work/study from home	5%	9%	12%	7%
I travel on surface streets or other routes to avoid I-5 or I-205	0%	5%	4%	27%
I mostly bike or walk	46%	28%	28%	7%
Other:	9%	11%	28%	27%

Table B-11. Gender cross-tab

	Male (N= 84)	Female (N=63)	Other (N=5)
These roadways are not near where I need to travel	35%	43%	60%
I work/study from home	6%	14%	20%
I travel on surface streets or other routes to avoid I-5 or I-205	7%	3%	0%
I mostly bike or walk	33%	22%	20%
Other:	19%	18%	0%



Table B-12. Race/ethnicity cross-tab

	White (N=123)	Communities of Color (N=23)
These roadways are not near where I need to travel	38%	44%
I work/study from home	11%	4%
I travel on surface streets or other routes to avoid I-5 or I-205	4%	13%
I mostly bike or walk	29%	13%
Other:	18%	26%

Question 2: For what purposes do you travel on I-5 and I-205? Check all that apply:

Table B-13. Geographic cross-tab

	Multnomah Co. (N=571)	Clackamas Co. (N=159)	Washington Co. (N=156)	Clark Co. (N=785)	Rest of Metro Area (N=15)	Out of Metro Area (N=112)
Commute to work or school	43%	65%	54%	53%	40%	47%
To run errands (e.g. grocery shopping)	54%	59%	40%	44%	53%	33%
To get to recreation or social activities	70%	64%	63%	61%	73%	46%
To visit family and friends	65%	59%	53%	49%	47%	48%
To get to medical appointments	33%	45%	28%	37%	40%	31%
As a rideshare driver (e.g. Uber, Lyft, etc.)	2%	1%	1%	1%	0%	0%
As a freight/delivery driver	2%	3%	4%	2%	20%	5%
As a traditional taxi driver	0%	0%	1%	0%	0%	0%
As a transit operator	0%	1%	0%	1%	0%	0%
Other	10%	9%	12%	9%	7%	19%



Table B-14. Lower-income ZIP codes cross-tab

	Lower-income ZIP codes (N=55)
Commute to work or school	50%
To run errands (e.g. grocery shopping)	47%
To get to recreation or social activities	60%
To visit family and friends	56%
To get to medical appointments	36%
As a rideshare driver (e.g. Uber, Lyft, etc.)	7%
As a freight/delivery driver	6%
As a traditional taxi driver	0%
As a transit operator	2%
Other	11%

Table B-15. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,077)	Infrequent users (monthly/rarely) (N=720)	Non-users (N=5)
Commute to work or school	76%	13%	0%
To run errands (e.g. grocery shopping)	46%	50%	0%
To get to recreation or social activities	55%	76%	25%
To visit family and friends	51%	63%	25%
To get to medical appointments	37%	34%	0%
As a rideshare driver (e.g. Uber, Lyft, etc.)	2%	1%	0%
As a freight/delivery driver	4%	1%	0%
As a traditional taxi driver	0%	0%	0%
As a transit operator	1%	0%	0%
Other	8%	12%	75%

Table B-16. Age cross-tab

	Under 30 (N=199)	30-44 (N=679)	45-64 (N=587)	65+ (N=206)
Commute to work or school	59%	57%	50%	16%
To run errands (e.g. grocery shopping)	49%	47%	45%	52%
To get to recreation or social activities	69%	63%	63%	63%
To visit family and friends	59%	59%	50%	55%
To get to medical appointments	29%	31%	37%	48%
As a rideshare driver (e.g. Uber, Lyft, etc.)	3%	1%	1%	0%
As a freight/delivery driver	3%	3%	3%	2%
As a traditional taxi driver	0%	0%	0%	0%
As a transit operator	0%	0%	1%	0%
Other	7%	7%	11%	18%



Table B-17. Gender cross-tab

	Male (N=949)	Female (N=610)	Other (N=33)
Commute to work or school	50%	48%	55%
To run errands (e.g. grocery shopping)	48%	48%	55%
To get to recreation or social activities	64%	67%	64%
To visit family and friends	54%	59%	70%
To get to medical appointments	32%	39%	52%
As a rideshare driver (e.g. Uber, Lyft, etc.)	2%	0%	0%
As a freight/delivery driver	3%	2%	3%
As a traditional taxi driver	0%	0%	0%
As a transit operator	1%	0%	0%
Other	11%	9%	6%

Table B-18. Race/ethnicity cross-tab

	White (N=1,320)	Communities of Color (N=210)
Commute to work or school	49%	59%
To run errands (e.g. grocery shopping)	48%	49%
To get to recreation or social activities	66%	60%
To visit family and friends	56%	58%
To get to medical appointments	33%	42%
As a rideshare driver (e.g. Uber, Lyft, etc.)	1%	2%
As a freight/delivery driver	2%	4%
As a traditional taxi driver	0%	0%
As a transit operator	1%	0%
Other	10%	9%

Question 3: When you travel on I-5 or I-205, are you mostly?

Table B-19. Geographic cross-tab

	Multnomah Co. (N=573)	Clackamas Co. (N=159)	Washington Co. (N=155)	Clark Co. (N=779)	Rest of Metro Area (N=15)	Out of Metro Area (N=112)
Driving yourself in your personal or work vehicle	59%	76%	72%	69%	73%	64%
Driving with other passengers in your personal or work vehicle	36%	22%	28%	28%	27%	32%
On transit	3%	1%	1%	3%	0%	4%
A rideshare passenger	2%	1%	0%	0%	0%	0%



Table B-20. Lower-income ZIP codes

	Lower-income ZIP codes (N=56)
Driving yourself in your personal or work vehicle	64%
Driving with other passengers in your personal or work vehicle	25%
On transit	5%
A rideshare passenger	5%

Table B-21. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,075)	Infrequent users (monthly/rarely) (N=712)	Non-users (N=5)
Driving yourself in your personal or work vehicle	79%	48%	0%
Driving with other passengers in your personal or work vehicle	18%	49%	0%
On transit	2%	2%	80%
A rideshare passenger	1%	1%	20%

Table B-22. Trip purpose cross-tab

	Commuters (N=909)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,449)	Rideshare, transit or taxi operators (N=32)	Freight/delivery drivers (N=47)
Driving yourself in your personal or work vehicle	80%	62%	72%	83%
Driving with other passengers in your personal or work vehicle	16%	35%	22%	15%
On transit	3%	2%	0%	2%
A rideshare passenger	1%	1%	6%	0%

Table B-23. Age cross-tab

	Under 30 (N=200)	30-44 (N=680)	45-64 (N=583)	65+ (N=204)
Driving yourself in your personal or work vehicle	62%	64%	69%	68%
Driving with other passengers in your personal or work vehicle	35%	32%	28%	29%
On transit	3%	3%	2%	3%
A rideshare passenger	1%	2%	1%	1%



Table B-24. Gender cross-tab

	Male (N=949)	Female (N=605)	Other (N=33)
Driving yourself in your personal or work vehicle	67%	65%	55%
Driving with other passengers in your personal or work vehicle	30%	31%	39%
On transit	2%	3%	3%
A rideshare passenger	1%	1%	3%

Table B-25. Race/ethnicity cross-tab

	White (N=1,316)	Communities of Color (N=210)
Driving yourself in your personal or work vehicle	65%	64%
Driving with other passengers in your personal or work vehicle	31%	32%
On transit	3%	4%
A rideshare passenger	1%	1%

Question 4: When deciding whether to travel by car on I-5 or I-205, what factors do you think most about? Please rank your top 3 considerations.

Table B-26. Geographic cross-tab

	Multnomah Co. (N=571)	Clackamas Co. (N=159)	Washington Co. (N=156)	Clark Co. (N=785)	Rest of Metro Area (N=15)	Out of Metro Area (N=112)
1	How long the trip will take	How long the trip will take	How long the trip will take	How long the trip will take	How long the trip will take	How long the trip will take
2	Congestion/vehicles on the road	Congestion/vehicles on the road	Congestion/vehicles on the road	Congestion/vehicles on the road	How confident I am in being able to achieve my expected arrival time	Congestion/vehicles on the road
3	Time of day	Directness of route	Directness of route	Time of day	Congestion/vehicles on the road	How confident I am in being able to achieve my expected arrival time
4	Directness of route	How confident I am in being able to achieve my expected arrival time	Time of day	How confident I am in being able to achieve my expected arrival time	Directness of route	Time of day



5	How confident I am in being able to achieve my expected arrival time	Time of day	How confident I am in being able to achieve my expected arrival time	Directness of route	Safety	Directness of route
6	Transit availability	Transit availability	Safety	Safety	Time of day	Safety
7	Safety	Safety	Transit availability	Transit availability	Transit availability	Transit availability
8	Other	Other	Other	Other		Other
9	Amenities/services along the way	Amenities/services along the way	Amenities/services along the way	Amenities/services along the way		Amenities/services along the way

Table B-283. Lower-income ZIP codes cross-tab

Lower-income ZIP codes (N=55)	
1	How long the trip will take
2	Congestion/vehicles on the road
3	How confident I am in being able to achieve my expected arrival time
4	Directness of route
5	Time of day
6	Transit availability
7	Safety
8	Other
9	Amenities/services along the way

Table B-29. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,077)	Infrequent users (monthly/rarely) (N=720)	Non-users (N=5)
1	How long the trip will take	How long the trip will take	Other
2	Congestion/vehicles on the road	Congestion/vehicles on the road	Safety
3	How confident I am in being able to achieve my expected arrival time	Time of day	Transit availability
4	Directness of route	Directness of route	Directness of route
5	Time of day	How confident I am in being able to achieve my expected arrival time	Time of day
6	Safety	Safety	How confident I am in being able to achieve my expected arrival time



7	Transit availability	Transit availability	How long the trip will take
8	Other	Other	
9	Amenities/services along the way	Amenities/services along the way	

Table B-30. Purpose of trip cross-tab

	Commuters (N=907)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,454)	Rideshare, transit or taxi operators (N=32)	Freight/delivery drivers (N=48)
1	How long the trip will take	How long the trip will take	Congestion/vehicles on the road	How long the trip will take
2	Congestion/vehicles on the road	Congestion/vehicles on the road	How long the trip will take	Congestion/vehicles on the road
3	How confident I am in being able to achieve my expected arrival time	Time of day	Time of day	How confident I am in being able to achieve my expected arrival time
4	Directness of route	How confident I am in being able to achieve my expected arrival time	How confident I am in being able to achieve my expected arrival time	Directness of route
5	Time of day	Directness of route	Directness of route	Time of day
6	Safety	Safety	Safety	Safety
7	Transit availability	Transit availability	Transit availability	Other
8	Other	Other	Other	Transit availability
9	Amenities/services along the way	Amenities/services along the way	Congestion/vehicles on the road	Amenities/services along the way

Table B-31. Age cross-tab

	Under 30 (N=200)	30-44 (N=679)	45-64 (N=588)	65+ (N=203)
1	How long the trip will take	How long the trip will take	How long the trip will take	How long the trip will take
2	Congestion/vehicles on the road	Congestion/vehicles on the road	Congestion/vehicles on the road	Congestion/vehicles on the road
3	Time of day	Directness of route	How confident I am in being able to achieve my expected arrival time	How confident I am in being able to achieve my expected arrival time
4	Directness of route	Time of day	Time of day	Time of day



5	How confident I am in being able to achieve my expected arrival time	How confident I am in being able to achieve my expected arrival time	Directness of route	Directness of route
6	Transit availability	Transit availability	Safety	Safety
7	Safety	Safety	Transit availability	Other
8	Other	Other	Other	Transit availability
9	Amenities/services along the way	Amenities/services along the way	Amenities/services along the way	Amenities/services along the way

Table B-32. Gender cross-tab

	Male (N= 950)	Female (N=610)	Other (N=33)
1	How long the trip will take	How long the trip will take	How long the trip will take
2	Congestion/vehicles on the road	Congestion/vehicles on the road	Congestion/vehicles on the road
3	How confident I am in being able to achieve my expected arrival time	Time of day	Directness of route
4	Time of day	How confident I am in being able to achieve my expected arrival time	Time of day
5	Directness of route	Directness of route	Transit availability
6	Safety	Safety	How confident I am in being able to achieve my expected arrival time
7	Transit availability	Transit availability	Safety
8	Other	Other	Other
9	Amenities/services along the way	Amenities/services along the way	Amenities/services along the way

Table B-33. Race/ethnicity cross-tab

	White (N=1,321)	Communities of Color (N=208)
1	How long the trip will take	How long the trip will take
2	Congestion/vehicles on the road	Congestion/vehicles on the road
3	Time of day	Time of day
4	How confident I am in being able to achieve my expected arrival time	How confident I am in being able to achieve my expected arrival time
5	Directness of route	Directness of route
6	Transit availability	Safety
7	Safety	Transit availability
8	Other	Other
9	Amenities/services along the way	Amenities/services along the way



Question 5: Do you consider congestion along I-5, between the Oregon-Washington border and where I-5 and I-205 meet near Tualatin, to be...

Table B-34. Geographic cross-tab

	Multnomah Co. (N=571)	Clackamas Co. (N=159)	Washington Co. (N=155)	Clark Co. (N=783)	Rest of Metro Area (N=15)	Out of Metro Area (N=113)
A very big problem	46%	59%	67%	68%	53%	49%
Somewhat of a problem	39%	27%	28%	22%	40%	36%
Not much of a problem	9%	8%	5%	5%	7%	7%
Not a problem at all	4%	0%	1%	1%	0%	4%
Don't know	2%	6%	1%	4%	0%	4%

Table B-35. Lower-income ZIP code cross-tab

	Lower-income ZIP codes (N=56)
A very big problem	54%
Somewhat of a problem	38%
Not much of a problem	9%
Not a problem at all	0%
Don't know	0%

Table B-36. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,071)	Infrequent users (monthly/rarely) (N=718)	Non-users (N=5)
A very big problem	61%	55%	20%
Somewhat of a problem	29%	31%	20%
Not much of a problem	6%	8%	0%
Not a problem at all	2%	2%	40%
Don't know	3%	4%	20%

Table B-37. Purpose of trip cross-tab

	Commuters (N=905)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,455)	Rideshare, transit or taxi operators (N=32)	Freight/delivery drivers (N=48)
A very big problem	63%	57%	66%	54%
Somewhat of a problem	27%	31%	28%	33%
Not much of a problem	6%	7%	6%	6%
Not a problem at all	2%	2%	0%	4%
Don't know	3%	3%	0%	2%



Table B-38. Age cross-tab

	Under 30 (N=200)	30-44 (N=679)	45-64 (N=584)	65+ (N=205)
A very big problem	52%	54%	63%	66%
Somewhat of a problem	31%	33%	27%	25%
Not much of a problem	10%	9%	4%	5%
Not a problem at all	5%	2%	2%	1%
Don't know	3%	3%	4%	3%

Table B-39. Gender cross-tab

	Male (N= 951)	Female (N=609)	Other (N=32)
A very big problem	57%	60%	56%
Somewhat of a problem	31%	28%	28%
Not much of a problem	8%	5%	6%
Not a problem at all	2%	1%	6%
Don't know	2%	6%	3%

Table B-40. Race/ethnicity cross-tab

	White (N=1,321)	Communities of Color (N=207)
A very big problem	58%	59%
Somewhat of a problem	30%	30%
Not much of a problem	6%	7%
Not a problem at all	2%	2%
Don't know	4%	2%

Question 6: Do you consider congestion along I-205, between the Oregon-Washington border and where I-5 and I-**205 meet near Tualatin, to be...**

Table B-41. Geographic cross-tab

	Multnomah Co. (N=572)	Clackamas Co. (N=158)	Washington Co. (N=155)	Clark Co. (N=784)	Rest of Metro Area (N=15)	Out of Metro Area (N=113)
A very big problem	32%	49%	50%	40%	47%	35%
Somewhat of a problem	42%	35%	36%	41%	33%	47%
Not much of a problem	12%	11%	6%	12%	20%	12%
Not a problem at all	5%	1%	1%	2%	0%	2%
Don't know	10%	3%	7%	5%	0%	4%



Table B-42. Lower-income ZIP code cross-tab

	Lower-income ZIP codes (N=55)
A very big problem	46%
Somewhat of a problem	43%
Not much of a problem	9%
Not a problem at all	2%
Don't know	0%

Table B-43. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,071)	Infrequent users (monthly/rarely) (N=719)	Non-users (N=5)
A very big problem	43%	33%	20%
Somewhat of a problem	39%	44%	20%
Not much of a problem	11%	13%	0%
Not a problem at all	2%	3%	40%
Don't know	5%	8%	20%

Table B-44. Purpose of trip cross-tab

	Commuters (N=905)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,452)	Rideshare, transit or taxi operators (N=32)	Freight/deliv ery drivers (N=48)
A very big problem	44%	37%	38%	35%
Somewhat of a problem	37%	43%	47%	46%
Not much of a problem	11%	12%	9%	15%
Not a problem at all	2%	2%	0%	2%
Don't know	6%	6%	6%	2%

Table B-45. Age cross-tab

	Under 30 (N=199)	30-44 (N=680)	45-64 (N=587)	65+ (N=205)
A very big problem	38%	34%	42%	44%
Somewhat of a problem	36%	43%	40%	41%
Not much of a problem	15%	13%	9%	11%
Not a problem at all	6%	3%	2%	2%
Don't know	5%	8%	7%	2%



Table B-46. Gender cross-tab

	Male (N= 948)	Female (N=610)	Other (N=33)
A very big problem	41%	37%	46%
Somewhat of a problem	39%	42%	33%
Not much of a problem	12%	10%	9%
Not a problem at all	3%	2%	6%
Don't know	5%	9%	6%

Table B-47. Race/ethnicity cross-tab

	White (N=1,320)	Communities of Color (N=210)
A very big problem	39%	43%
Somewhat of a problem	40%	38%
Not much of a problem	11%	11%
Not a problem at all	3%	2%
Don't know	7%	6%

Question 7: How do you think congestion in the Portland metro area will change over the next few years?

Table B-48. Geographic cross-tab

	Multnomah Co. (N=569)	Clackamas Co. (N=159)	Washington Co. (N=154)	Clark Co. (N=783)	Rest of Metro Area (N=15)	Out of Metro Area (N=112)
Congestion will get worse	87%	89%	90%	88%	73%	83%
Congestion will stay about the same	12%	9%	8%	12%	27%	16%
Congestion will be reduced	1%	1%	2%	1%	0%	1%

Table B-49. Lower-income ZIP codes

	Lower-income ZIP codes (N=55)
Congestion will get worse	78%
Congestion will stay about the same	18%
Congestion will be reduced	4%

Table B-50. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,070)	Infrequent users (monthly/rarely) (N=714)	Non-users (N=5)
Congestion will get worse	87%	89%	60%
Congestion will stay about the same	12%	11%	40%
Congestion will be reduced	1%	1%	0%



Table B-51. Purpose of trip cross-tab

	Commuters (N=903)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,446)	Rideshare, transit or taxi operators (N=30)	Freight/ delivery drivers (N=48)
Congestion will get worse	89%	88%	87%	71%
Congestion will stay about the same	11%	11%	13%	25%
Congestion will be reduced	1%	1%	0%	4%

Table B-52. Age cross-tab

	Under 30 (N=198)	30-44 (N=675)	45-64 (N=586)	65+ (N=205)
Congestion will get worse	84%	87%	89%	88%
Congestion will stay about the same	15%	12%	10%	12%
Congestion will be reduced	2%	1%	1%	1%

Table B-53. Gender cross-tab

	Male (N= 947)	Female (N=607)	Other (N=32)
Congestion will get worse	88%	90%	88%
Congestion will stay about the same	11%	10%	6%
Congestion will be reduced	1%	0%	6%

Table B-54. Race/ethnicity cross-tab

	White (N=1,314)	Communities of Color (N=209)
Congestion will get worse	89%	85%
Congestion will stay about the same	10%	14%
Congestion will be reduced	1%	1%

Question 8: How would your regular trips change if there were user fees on I-5 and I-205 that resulted in a faster and more reliable trip? For this question, assume that cars with two or more people would be free or discounted. Check all that apply.

Table B-55. Geographic cross-tab

	Multnomah Co. (N=570)	Clackamas Co. (N=159)	Washington Co. (N=154)	Clark Co. (N=780)	Rest of Metro Area (N=15)	Out of Metro Area (N=112)
I would change the time I travel	30%	21%	17%	25%	20%	17%
I would try to avoid paying by telecommuting	9%	4%	8%	11%	20%	7%
I would try to avoid paying by arranging a carpool	20%	9%	9%	15%	20%	13%



I would use another transportation option like transit, cycling, or walking	32%	6%	10%	7%	7%	8%
I would drive a different route that didn't require a fee	36%	65%	51%	31%	33%	58%
My travel patterns would not change; I would pay the fee and expect a shorter travel time	41%	33%	30%	35%	27%	30%
I do not travel on I-5 or I-205	5%	4%	3%	1%	7%	4%
Other:	15%	14%	27%	32%	33%	20%
Don't know	5%	8%	10%	6%	13%	5%

Table B-56. Lower-income ZIP codes cross tab

	Lower-income ZIP codes (N=55)
I would change the time I travel	27%
I would try to avoid paying by telecommuting	13%
I would try to avoid paying by arranging a carpool	18%
I would use another transportation option like transit, cycling, or walking	18%
I would drive a different route that didn't require a fee	47%
My travel patterns would not change; I would pay the fee and expect a shorter travel time	33%
I do not travel on I-5 or I-205	9%
Other:	22%
Don't know	5%

Table B-57. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,071)	Infrequent users (monthly/rarely) (N=713)	Non-users (N=5)
I would change the time I travel	22%	30%	0%
I would try to avoid paying by telecommuting	11%	7%	20%
I would try to avoid paying by arranging a carpool	13%	19%	0%
I would use another transportation option like transit, cycling, or walking	12%	21%	40%
I would drive a different route that didn't require a fee	41%	36%	20%
My travel patterns would not change; I would pay the fee and expect a shorter travel time	36%	36%	0%
I do not travel on I-5 or I-205	1%	6%	60%
Other:	27%	18%	0%



Don't know	7%	5%	0%
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Table B-58. Purpose of trip cross-tab

	Commuters (N=904)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,447)	Rideshare, transit or taxi operators (N=32)	Freight/delivery drivers (N=47)
I would change the time I travel	21%	28%	31%	26%
I would try to avoid paying by telecommuting	12%	9%	6%	6%
I would try to avoid paying by arranging a carpool	13%	17%	13%	9%
I would use another transportation option like transit, cycling, or walking	12%	17%	28%	6%
I would drive a different route that didn't require a fee	41%	40%	38%	55%
My travel patterns would not change; I would pay the fee and expect a shorter travel time	36%	37%	22%	32%
I do not travel on I-5 or I-205	1%	3%	3%	2%
Other:	28%	21%	22%	21%
Don't know	7%	6%	9%	9%

Table B-59. Age cross-tab

	Under 30 (N=198)	30-44 (N=679)	45-64 (N=585)	65+ (N=204)
I would change the time I travel	23%	25%	24%	33%
I would try to avoid paying by telecommuting	7%	11%	12%	2%
I would try to avoid paying by arranging a carpool	26%	19%	11%	9%
I would use another transportation option like transit, cycling, or walking	22%	19%	12%	8%
I would drive a different route that didn't require a fee	50%	38%	34%	37%
My travel patterns would not change; I would pay the fee and expect a shorter travel time	29%	42%	37%	31%
I do not travel on I-5 or I-205	9%	3%	2%	2%
Other:	20%	21%	26%	26%
Don't know	6%	6%	5%	7%



Table B-60. Gender cross-tab

	Male (N= 945)	Female (N=608)	Other (N=33)
I would change the time I travel	27%	25%	12%
I would try to avoid paying by telecommuting	9%	10%	9%
I would try to avoid paying by arranging a carpool	15%	18%	21%
I would use another transportation option like transit, cycling, or walking	19%	12%	27%
I would drive a different route that didn't require a fee	40%	34%	42%
My travel patterns would not change; I would pay the fee and expect a shorter travel time	36%	41%	27%
I do not travel on I-5 or I-205	3%	3%	9%
Other:	21%	24%	21%
Don't know	5%	6%	6%

Table B-61. Race/ethnicity cross-tab

	White (N=1,315)	Communities of Color (N=210)
I would change the time I travel	27%	19%
I would try to avoid paying by telecommuting	10%	5%
I would try to avoid paying by arranging a carpool	17%	15%
I would use another transportation option like transit, cycling, or walking	18%	15%
I would drive a different route that didn't require a fee	36%	45%
My travel patterns would not change; I would pay the fee and expect a shorter travel time	40%	33%
I do not travel on I-5 or I-205	3%	4%
Other:	22%	29%
Don't know	5%	8%

Question 9: What factors would influence your decision to drive on I-5 or I-205 if congestion pricing were implemented? Check all that apply.

Table B-62. Geographic cross-tab

	Multnomah Co. (N=561)	Clackamas Co. (N=158)	Washington Co. (N=151)	Clark Co. (N=775)	Rest of Metro Area (N=15)	Out of Metro Area (N=109)
Price of the user fee	57%	54%	54%	60%	47%	49%
Amount of time saved by paying the fee	55%	44%	52%	43%	53%	39%
Availability and convenience of transit options	42%	17%	17%	21%	13%	17%



Whether the user fee is waived if there are 2+ people in the car (carpool)	37%	30%	33%	41%	20%	28%
Whether I could save time by using a different route	32%	50%	42%	27%	53%	39%
Whether I could travel at a different time of day for my trip	41%	26%	30%	37%	33%	27%
Other:	13%	21%	19%	22%	13%	21%

Table B-63. Lower-income ZIP codes cross-tab

	Lower-income ZIP codes (N=51)
Price of the user fee	49%
Amount of time saved by paying the fee	47%
Availability and convenience of transit options	33%
Whether the user fee is waived if there are 2+ people in the car (carpool)	35%
Whether I could save time by using a different route	43%
Whether I could travel at a different time of day for my trip	31%
Other:	20%

Table B-64. Frequency of use cross-tab

	Frequent users (daily/weekly) (N=1,059)	Infrequent users (monthly/rarely) (N=705)	Non- users (N=5)
Price of the user fee	57%	59%	20%
Amount of time saved by paying the fee	45%	52%	20%
Availability and convenience of transit options	23%	33%	40%
Whether the user fee is waived if there are 2+ people in the car (carpool)	31%	47%	0%
Whether I could save time by using a different route	33%	32%	0%
Whether I could travel at a different time of day for my trip	30%	45%	20%
Other:	22%	13%	40%



Table B-65. Purpose of trip cross-tab

	Commuters (N=893)	Personal trips (errands, visits to friends and family, medical appointments) (N=1,436)	Rideshare, transit or taxi operators (N=32)	Freight/ delivery drivers (N=47)
Price of the user fee	57%	59%	56%	57%
Amount of time saved by paying the fee	46%	50%	38%	45%
Availability and convenience of transit options	23%	28%	25%	19%
Whether the user fee is waived if there are 2+ people in the car (carpool)	30%	42%	34%	26%
Whether I could save time by using a different route	32%	34%	22%	49%
Whether I could travel at a different time of day for my trip	28%	39%	22%	26%
Other:	23%	16%	22%	21%

Table B-66. Age cross-tab

	Under 30 (N=198)	30-44 (N=670)	45-64 (N=579)	65+ (N=201)
Price of the user fee	66%	61%	53%	53%
Amount of time saved by paying the fee	48%	52%	47%	43%
Availability and convenience of transit options	31%	34%	20%	20%
Whether the user fee is waived if there are 2+ people in the car (carpool)	41%	40%	35%	37%
Whether I could save time by using a different route	36%	34%	30%	33%
Whether I could travel at a different time of day for my trip	33%	35%	36%	43%
Other:	19%	15%	22%	19%

Table B-67. Gender cross-tab

	Male (N= 936)	Female (N=605)	Other (N=31)
Price of the user fee	57%	61%	61%
Amount of time saved by paying the fee	50%	49%	39%
Availability and convenience of transit options	25%	32%	29%
Whether the user fee is waived if there are 2+ people in the car (carpool)	36%	43%	29%
Whether I could save time by using a different route	33%	34%	32%
Whether I could travel at a different time of day for my trip	38%	38%	16%
Other:	18%	15%	29%



Table B-68. Race/ethnicity cross-tab

	White (N=1,306)	Communities of Color (N=207)
Price of the user fee	61%	53%
Amount of time saved by paying the fee	53%	37%
Availability and convenience of transit options	30%	30%
Whether the user fee is waived if there are 2+ people in the car (carpool)	41%	31%
Whether I could save time by using a different route	34%	30%
Whether I could travel at a different time of day for my trip	38%	25%
Other:	15%	22%

APPENDIX D: COMMENTS RECEIVED ON THE ONLINE INTERACTIVE MAP

Table D1. Comments received through online interactive map

Comment	Latitude	Longitude
Crossing into Oregon is always a challenge on either bridge, Delta Park with it's improvements is still seems to be the choke point as well as Airport Way and 33-60th on 84. I am all for shifting the additional cost of congestion to drivers and and businesses that use Oregon roads. If the cost is sufficient business operating on the downtown area would be encouraged to introduce branch offices closer to were their employees live. A branch office in Vancouver! Think about how much we could save!	45.61596	-122.647
Traffic starts where the merge from 205 to 84, moajority of the traffic is due to people who can't merge and are just simply inconsiderate.	45.53521	-122.576
Congestion getting on the Burnside Bridge.	45.53022	-122.667
Evening I-5 south traffic	45.54098	-122.672
Slow downs during rush hour on I-84 near Lloyd Center	45.53058	-122.64
Congestion starting here, heading west in the AM	45.49724	-122.635
1-5 roads bottleneck. not sufficient for interstate freeway.	45.57848	-122.683
84 near providence hospital bottle necks	45.51982	-122.61
I-205 Southbound near airport exits. Airport traffic converging onto I-205. Shopping development at Cascade Station has increased the problem	45.55445	-122.554
The pedestrian and bicycle access along Hwy 10 is needlessly dangerous. There are improvements further east, but in this corridor, non motorized traffic has to make hard choices to stay safe.	45.48683	-122.774
Congestion has increased drastically due to commercial development and the Nike expansion. This area is no longer safe for pedestrians and cyclists. During the evening commute it can take close to a half an hour to go a couple of miles.	45.49829	-122.807
Any part of 217 is problematic, but the lineups to get on can back up B-H Hwy in both directions	45.48617	-122.792
During afternoon rush, southbound lanes are often quite congested, particularly at the point where lanes merge in	45.50582	-122.661
Eastbound traffic often cannot move at all due to north and southbound traffic turning onto Madison	45.51563	-122.68
On I-5 just south of the Rosa Parks off ramp there seems to often be a backup. Most of the time I detour onto Interstate Ave. to bypass the congestion	45.56863	-122.678
Challenging location	45.5191	-122.538
traffic slows down when getting to three lanes. always congested, moving slow and clears up around 8pm. yikes.	45.50635	-122.714
All up and down i-5, especially after 3pm	45.54543	-122.678
usually backed up with cars trying to get on ramp.	45.52433	-122.687
The position of 217 is probably just bad, in general, and no amount of widening will help it due to the bottlenecks on both ends (at 26 and I-5) since you can't widen the entire length of it. Plus, this area is ripe for congestion pricing since there are a lot of businesses and residents along the way, and Tri-Met is looking to expand service there in both bus and rail...and has plenty of underutilized services there already in bus and WES service.	45.41484	-122.783
Pretty much always around Murray Blvd in the AM going into PDX, there is a slowdown as a result of the descent into downtown. The backup goes back for miles. In the evening, the effect is close to the same in BOTH directions, interestingly, due to the high tech employment in Hillsboro & Beaverton.	45.48613	-122.837
N/A	45.53137	-122.579
N/A	45.54002	-122.557
Jonathan Phillips travels this road every day and slows down the entire traffic pattern. JP IS RESPONSIBLE FOR ALL THE TRAFFIC	45.60773	-122.681



This street has a lot of pedestrians trying to cross 21st. Cars drive by too fast to see or stop for them.	45.53291	-122.645
This is a dangerous area for cyclists and drivers. Drivers rarely yield to cyclists. This is a dangerous right hook area.	45.48054	-122.68
The lack of bike lanes going across the bridges on Barbur is very unsafe and prohibits me from safely getting groceries on my bike. Motor vehicles travel very fast along this road.	45.47985	-122.68
There is no sidewalk here. People walk in the bushes and balance along the curb.	45.485	-122.675
Cars do not yield to peds here. There is no marked crosswalk at this high usage intersection	45.5211	-122.681
Drivers block the bike lane while waiting for pedestrians here, and right hook cyclists when the driver attempts to make a right turn onto Columbia	45.51424	-122.68
Delivery trucks regularly block the bike lane here	45.51383	-122.68
I have been right hooked and hit by several cars in this and other intersections along SW 5th avenue while in the bike lane.	45.51084	-122.682
As a cyclist, merging with traffic here is scary and feels unsafe.	45.50601	-122.682
Drivers speed through here, using Terwilliger as a shortcut around Barbur during commute hours.	45.49705	-122.68
I have almost been hit by cars in this spot many times. This crosswalk is unsafe. Drivers go too fast and getting both lanes to stop for a pedestrian is difficult. You have to play chicken with cars here.	45.49541	-122.678
Drivers block the bike lane here regularly during commute times	45.49147	-122.678
Drivers speed on this narrow street. It is unsafe to ride a bike up the hill because there is not enough room for drivers to pass. I have been yelled at, honked at, intimidated by drivers here many times.	45.49181	-122.676
There are no bike lanes here and cars drive very aggressively up this hill after getting off of the freeway. It is scary and I feel unsafe.	45.48851	-122.676
Cars do not yield to pedestrians at this intersection. It is dangerous and scary to use.	45.49088	-122.676
I use this crosswalk every day after taking the bus. I am frequently (at least once per week) put in a dangerous position by drivers running red lights and blocking the crosswalk here.	45.49106	-122.678
Northbound on-ramps to I205 from airport way seem to work better when ramp stoplights are disabled.	45.53959	-122.551
I commute from SE Portland to Salem on weekdays (7a and 5p), and I encounter congestion on I-205 between Oregon City and I-5 both southbound in the mornings and northbound in the evenings.	45.36517	-122.696
From 6:30-7, this area becomes congested as the I-405 entrance backs up.	45.5056	-122.682
Traffic is backed up in all directions at evening rush hour attempting to cross the Broadway bridge which leads to dangerous situations for bicyclists, pedestrians and auto traffic.	45.52923	-122.678
Traffic on MLK and Grand Ave slows down the #6 bus. A dedicated lane should be considered.	45.53521	-122.661
Congestion on I-205 North usually begins before the I-84 interchange and continues to the Glenn Jackson bridge during the evening commute.	45.52006	-122.565
HWY 99/Grand Ave congestion near Burnside bridge and into Lloyd District during PM peak hour	45.52006	-122.661
Backups leading to Abernethy bridge on southbound I-205	45.35745	-122.6
Traffic merging from 405 to 26 or 26 to 405 depending on which way you are going or coming from. traffic forms line up that go 20 MPH slower then the flow of traffic which in turn causes everyone to slow down creating a cluster of slow moving cars.	45.51633	-122.689
Back up from SR-14 merging onto I-5 due to various reasons (bridge lift, traffic congestions due to going from higher speed in Washington to slower speeds in Oregon as just two examples)	45.62304	-122.67
This area is not metered. If there was a light, congestion would definitely decrease on I-5. Too many people are exiting I-205, and trying to enter I-5 at once. This junction needs attention.	45.37422	-122.755



I-5 NB from Fremont Bridge through to Interstate Bridge. Constant congestion in afternoons and evenings. HOV lane provides little to no relief (and, in fact, essentially runs from nowhere to nowhere useful) and is largely ignored.	45.55637	-122.684
Airport way to I205N always backed up, even with recent improvements to the on ramp	45.56954	-122.549
My parents live in SW and I live in NE. We don't make plans to see each other during the work week in the evenings because of the traffic. I would love to be able to have them over for dinner during the week!	45.53696	-122.683
The traffic trying to get onto i-205 NB can be substantial in the afternoon hours. My wish would be that driver behavior be less desperate; specifically referring to drivers that stay in the right-most westbound lane on i-84 only to dart over to the lane feeding into i-205 NB. I know there are only minimal roadway design tweaks that could improve this, but I hope if it were not previously on your radar as an unsafe area because of unsafe behaviors, it now is. :)	45.54765	-122.548
The area of I-205 just as you cross the bridge and pass into Oregon has become very congested. We notice it at all times of the day and on weekends (and that never used to be the case). The whole area, including the bridge, has gotten so much worse, but we always notice traffic tightening just as the bridge ends.	45.57037	-122.55
Congestion commonly backs up going westbound from the i-5 split. I feel fortunate to be able to easily access MAX to go downtown to avoid traffic. I am supportive of congestion pricing, but hope that there will be alternative transportation options for the people in the outlying areas that would be adversely impacted by an additional cost.	45.53196	-122.618
I5 - am / south; pm/north	45.66109	-122.642
Not enough lanes! No tolls without a plan for new lanes.	45.54652	-122.679
Too many Trucks during commute times, limit truck traffic to one lane from 6 to 9am would help alot	45.56743	-122.679
This section can get really tied up. I understand there will be a light added to the on-ramp for the Hawthorne bridge. I think that is great! I'm also a cyclist and I think a light would make some of the crossing areas safer. Thanks for working on this.	45.51196	-122.675
I recently changed jobs to avoid having to travel to Salem regularly for work. I-5 North in the afternoon/evening is very congested and could add 45 minutes to my drive. I looked for transit alternatives, but from the Mt Tabor area there aren't viable alternatives to driving. I wish the new light rail to Milwaukie went all the way to Salem, or there were express buses from downtown to Salem (with bathrooms!). I looked at Amtrak, but the times are limited, reliability is a concern.	45.46422	-122.678
Rush hour congestion here has increased as the economy has rebounded. We need more safe alternatives to single-occupancy vehicles for people to get north/south here in this area. E.g. crossing the clackamas river and having safer routes. Some of this is local traffic that doesn't need 205 but the presence of 205 creates this congestion. Regardless of the merits of bumping up to 3 lanes on 205, doing so will have unfortunate impacts on 99E and other local roads. (Dedicated bus lane?)	45.36582	-122.601
Morning bottleneck	45.60475	-122.554
bottleneck!	45.57285	-122.553
The 205 on-ramp from I-84 east has been a bottleneck since I started commuting to downtown Portland in 2001. There have been no improvements made to the bottleneck during that time... whereas in Salt Lake City, the I-5 corridor between Salt Lake City and Provo has been expanded 4-5 times during that same time period. OR is already pillaging WA commuters with income tax, no representation, and limited services... now its proposing to toll the bridges for extraneous budget shortfalls...	45.5614	-122.564
Buses are stuck in traffic and it affects the entire line. Please add bus-only lanes to relieve congestion and emissions.	45.51261	-122.669
Traffic on westbound hwy 26 in the morning is very slow. This is due to lack of grade separation, plus signal timing at SE 17th. Please put in dedicated bus lanes so transit can move through here quickly, and take steps to disallow people to cut through	45.49979	-122.65



neighborhoods (which happens at high speed) which endangers kids walking and biking.		
Cut-through traffic when I-84 is congested has a spillover effect on NE Glisan, slowing down my bus in the morning and making the commute hellish	45.52668	-122.58
Cars regularly turn eastbound on red, despite this being a bike box and no turns on red allowed. Drivers often block the bike box in order to do this.	45.4979	-122.64
Cars continually drive illegally into the bike-only lane heading eastbound on the Hawthorne Bridge. Please sign this section better. Also, merging across the lane of auto traffic trying to head southbound on McLoughlin Blvd is dangerous for cyclists. The angle is wrong for cyclists and there's too little signage for cars to feel confident they will actually yield.	45.51297	-122.67
Add an additional lane to the I-205 Abernathy Bridge and make it a dedicated bus-only lane to help much more people per vehicle during all hours of the day.	45.36456	-122.604
It is over 9 miles between the Sellwood Bridge and the I-205 Abernathy Bridge crossing of the Willamette River. Clackamas County needs to build another bridge into Lake Oswego from Milwaukie. The amount of people seeking to avoid I-5, I-84, OR-99, and OR-224 via commutes across SE Portland and the Sellwood Bridge needs to be better dispersed throughout the region.	45.41847	-122.655
Heading to I5 North via 405 on ramp to Freemont Bridge daily from 2:30-6:30 pm during the week.	45.53533	-122.692
As a cyclist who bikes this daily for my morning commute, drivers use this section down to Cesar Chavez at high speeds, posing dangerous situations for cyclists and pedestrians. Especially near 40th, where there is a crossing next to a school. After dangerously passing bikes, the car drivers are then just backed up at the light at Cesar Chavez. It's uncalled for drivers to use a bike-priority road with aggression and high speeds, putting other road users at risk.	45.50802	-122.612
Woodstock Blvd in 2013 experienced more than 300 additional vehicles in the evening commute than in the morning commute as rush hour commuters sought out alternate, surface routes through neighborhoods in a bid to avoid traffic as they accessed I-205 and other destinations. This has only gotten worse since then. Congestion pricing must happen and it will result in more people cutting through. PBOT must include better bicycle, pedestrian, & mobility device access through the Woodstock center.	45.4793	-122.623
This is for PBOT as they deal with spillover traffic routing through surface streets to access OR-99E, I5, and I205. The SE 19th Avenue Greenway needs two sets of diverters. Cars will insist on passing cyclists at full clip despite a posted speed limit of 20 and narrow street width. Install diverters such as those on SE Clinton at the intersection with 33rd Avenue to keep Sellwood safe from aggressive, cut through traffic.	45.46827	-122.645
Close SE 23rd Avenue northbound from SE Bybee and turn it into a one-way (southbound) to permit exit from OR-99E. It is dangerous having cars turn across a bike lane on a steep downhill. The engineer team has created a major design liability issue here. There have been too many close calls from cars turning without checking their blindspot. Keep the on-ramp but remove access from this particular intersection. Route it up SE 22nd Avenue if it must remain open. My recommendation would be to not.	45.47434	-122.641
Dedicated bus-only lanes would do much to move more people per square foot than any other solution. If tolls are added, make one of the lanes dedicated to public transit (i.e. busses) during peak commute hours. Having a guaranteed quick commute mode option will provide an incentive to avoid the tolls and reduce the demand placed upon the existing, finite infrastructure. Without a visible, cheap alternative that is given priority no one will give up their single occupant cars for the commute.	45.57779	-122.544
Continuing to access the multi-use path is very challenging here. Active transit users are forced onto the sidewalk and to use the pedestrian crossings. Vehicles attempting to turn right from NE Sandy onto I-205 NB constantly block the crosswalk even on red light cycles.	45.55965	-122.561



Frequent backups from people trying to merge	45.64615	-122.661
155th & Weir? More like 155th and PIR.	45.44762	-122.836
Hocken used to be an easy road to bike, & the line 62 bus goes along here every 30 minutes, so lots of people bike, walk & bus to shop, etc. Yet as of 2017, at the brand new Nike driveway at Hall & Hocken, there's a Yellow Flashing Left Turn Arrow on Hocken. Those signals needlessly endanger people on bike & foot. We need to feel safe using non-car modes, which in turn help relieve congestion. Safety of people not in cars should come first before "auto traffic flow."	45.4946	-122.813
Not only was Hwy 26 widened, but Evergreen Pkwy & NE Cornelius Pass are HUGE yet there's still congestion. Clearly road widening isn't solving it. Can we have more alternatives to driving, like frequent-service transit? The separated bikeway on NE Cornelius Pass is a start but 1. it's only a mile long 2. it ends right at the 26 with no improved biking facilities to cross the freeway 3. bike crossings across the huge Cornelius Pass intersections feel stressful. Please eliminate right-hook risk.	45.55217	-122.9
Cars now cut through residential neighborhoods to cut in line for Sellwood Bridge. They speed and ignore stop signs putting cyclists and pedestrians at risk.	45.46572	-122.655
This is where the am commute gridlock generally begins weekdays and continues until the Powell @ Milwaukie Ave-- there are no bus only lanes, so people on buses sit stuck alongside SOVs	45.49657	-122.631
Going north on I-5 to Vancouver from 2:30-6:30 pm is a nightmare.	45.58713	-122.682
99E approaching I-205 in both directions is congested during the morning and evening rush hours. Many buses are routinely stuck in this traffic.	45.36617	-122.601
During the evening rush hour traffic backs up significantly at the stop sign for Willamette Falls Drive at highway 43.	45.36065	-122.61
I-205 northbound during the evening rush is often show and over congested from Stafford northward to Oregon City and beyond	45.36768	-122.698
afternoon congestion	45.59626	-122.684
Late afternoons, the northbound traffic is slower than molassas in January. There are too few lanes to handle the ever increasing traffic. The slow speeds around the curves only add to the problem. I have left as early as 2PM and still have taken an hour to drive 15 miles to Vancouver.	45.50635	-122.676
Traffic backup every morning, no matter whether I begin at Rt 500 or off of Rt 14. that old bridge, with rickety narrow lanes and slow speeds- is a killer. Entry onto I-5 is reduced at both entry points and the merge is extremely difficult because of the heavy traffic and trucks.	45.61308	-122.661
Lots of traffic coming in from the Pearl and merging left at high speeds, much of it truck traffic while those coming over the bridge are merging right to get off at Everett or Burnside or Hwy 26 toward Beaverton. Too much high speed lane changing in a short space of less than 3/4 mile.	45.52535	-122.688
Climbing onto the Marquam Bridge can be very dicey at 50-60 miles/hour in heavy traffic. The curves are a bit too tight for comfort and the interchange for those going to Beaverton vs those merging onto I-5 and Macadam can be scary, Too much traffic adjusting lanes at high speeds climbing onto a bridge.	45.53155	-122.666
Moda Center was poorly located and it preventing additional southbound lanes from being built.	45.53335	-122.666
I move to the far left as quickly as possible. Many drivers in center and far left lanes seem to believe that they must match the speed of the right lane traffic. Some drivers, even in cars, rather than trucks transporting hazardous materials, believe they need to maintain a long stopping distance in front of them while on the NB bridge. They don't realize that driving well below speed limit here can back up traffic all the way to Lombard St overpass.	45.61018	-122.678
Far right lane approaching SB bridge is a bottleneck most of the time. Center usually has large trucks which need more stopping space than cars, so they are travelling below speed limit. I always try to go to far left lane, and even here some drivers are hypnotized to drive slowly by the cars changing lanes, the narrowness of the lanes, the curve in hte approach.	45.62051	-122.672



Late afternoon and delays on northbound I-5 beginning in downtown Portland all the way through until crossing the bridge, then like magic traffic opens up and am able to travel at maximum highway speed	45.54555	-122.675
Late afternoon and evening Northbound I-205 delays and heavy congestion. I usually use I-205 from Mill Plain, Highway 14, or from Portland. Congestion and delays on the weekends too.	45.62941	-122.559
Delays in the morning I-5 Southbound starting between NE 78th Street and Main Street Exits.	45.6246	-122.666
Tualatin Sherwood Road needs to be revamped. It is only one lane most of the way and there is always backed up traffic now. There needs to be a new bypass or lanes added to accommodate the growth.	45.36964	-122.799
The two exit lanes for 26 back all the way up to the Fremont bridge causing major congestion for those trying to go south on 405.	45.51654	-122.688
I-5 is a joke all the way from Vancouver to Wilsonville, but especially through Portland. A major Interstate Hwy that goes down to two lanes is a disgrace.	45.53539	-122.668
99 W from I-5 to King City is awful. Very few improvements in over 15 years.	45.44183	-122.748
If carpool lanes work??? (questionable??) Why don't we have one THROUGH all this mess northbound and southbound?	45.60095	-122.683
If carpool lanes work??? (questionable??) Why don't we have one THROUGH all this mess northbound and southbound?	45.6232	-122.671
Traveling from Washington to Clackamas in the evenings.	45.56118	-122.569
The merges from all directions to access the one lane to get I-405 north is a nightmare. The signal timing works as such that there is always a back up from previous parts of the cycle that cars driving west from 7th never have an opportunity to use their green cycle	45.50725	-122.684
Merge from Lombard is short, there is always quite a bit of slowing at this location during rush how	45.57711	-122.679
Merging lanes/ weaves create issues	45.54176	-122.673
This entire area has congestion due to bridge lifts in the middle of the day. Once the traffic has been backed up form the lift the flow can not recover until well after rush hour. I have been taking this route for over 20 years and have seen it backed up as early as 1:00 PM and not recover until 6:30PM. While this can be caused by an accident/stall, I have noticed for the last few years it has been mainly caused by bridge lifts (even when a ship isn't passing through).	45.6053	-122.682
The merge with Hwy 14 before the i5 bridge is a major choke point	45.62184	-122.673
The split to 84 is too narrow	45.53245	-122.667
Getting across the I5 bridge going either direction	45.61176	-122.678
Here's where I-5 southbound narrows from 3 lanes to 2 lanes as it gets closer to the Rose Quarter. It is the source of most of I-5 southbound's congestion and accidents. There needs to be a third auxiliary lane through the Rose Quarter.	45.53782	-122.669
All the I-5 southbound traffic comes in from the left and has to merge into the right two lanes to continue on I-5 southbound. Meanwhile, all the I-84 westbound traffic comes in the right and has to merge to the left to lanes in order to continue westbound to I-405 & the tunnel. That's just asking for trouble.	45.5235	-122.665
One of the problems here is that I-405 is merging into an Exit-Only lane. Traffic could be significantly alleviated by changing into an auxiliary lane through to the Rose Quarter. Also, lifting the HOV restriction on the left lane could help a little.	45.54771	-122.678
Sending all north Portland and east Portland and some south Portland traffic bound for Washington County thru the 3-lane Vista Ridge Tunnel is nuts.		
We need a westside bypass, similar to what I-205 did. Here's the map of the "plan" from 35 years ago. http://johnley.us/wp-content/uploads/2014/03/1990-PDX-Vancouver-Plan.jpg		
It's common sense. Not everyone wants to go thru the crowded inner core of Portland.	45.51311	-122.691



<p>The Rose Quarter is the TRUE bottle neck, and source of the regions major congestion nightmares. Sadly, the planned \$450 million "fix" will do little to reduce congestion, because they're adding ZERO new through lanes to I-5 in the area.</p> <p>You have TWO interstate freeways merging and only 2 through lanes in each direction? Insanity!!!!</p> <p>You need at least 4 lanes in each direction to handle existing traffic; and that doesn't count for future growth.</p>		
Building two LIDS over the top of I-5 does zip	45.52006	-122.665
I-5 at Terwilliger is a significant bottleneck.	45.46982	-122.684
I-5 at Rose Quarter is a significant bottleneck.	45.53076	-122.665
<p>The insanity of having SR-14 merge onto I-5 plus the Mill Plain onramp and the Washington St. onramps, all within about a quarter of a mile is ridiculous.</p> <p>On the Oregon side, you need to eliminate the Hayden Island onramp to I-5 north. Have those vehicles get on to I-5 further south, so they can get up to speed.</p>	45.56695	-122.669
Instate bridge is a serious bottleneck with narrow lanes, no shoulders, short on ramp from Jantzen Beach, and immediate exit ramp at hwy 14.	45.61435	-122.678
<p>We need an east county bridge, so all east-bound traffic on I-84 doesn't have to congest Airport Way and the I-205/I-84 interchanges. Transportation architect Kevin Peterson shared that an east county bridge would reduce I-205 congestion by 15-20%.</p> <p>The afternoon commute is a nightmare getting off I-84 eastbound and on to I-205. You need TWO lanes for the exit, and a complete new lane for merging on to I-205. Ditto for the westbound I-84 to I-205 merge.</p>	45.53233	-122.554
Drivers frequently cross into the bike lane when turning right onto Everett from 14th. Ave. This intersection needs a bike box and a no turn on red configuration.	45.525	-122.685
This set of intersections is confusing and non-functional for pedestrians and cyclists. It would be vastly improved by a flyover ramp from Clinton to SE Tillikum Way that allows foot and bike traffic to pass over the roads and tracks here for improved east/west flow.	45.50349	-122.654
When coming from Hewett, cyclists have to make a fast merge across the turn lane on green to reach the bike lane on the overpass.	45.50818	-122.736
The sidewalks along Cesar Chavez in this stretch are excessively narrow with no buffer from fast-moving traffic.	45.5152	-122.623
Crossing Powell at Cesar Chavez on foot is challenging with the high number of lanes. There are also no good places to wait on the corners, with signage and poles blocking much of the visibility.	45.49727	-122.623
Getting to or across the Columbia River is challenging for much of the day any day of the week.	45.59954	-122.684
Heavy congestion at rush hour	45.52628	-122.661
evening rush hour going north	45.55756	-122.693
Drivers enter the intersection from the 12th Ave. overcrossing heading east on Irving when the road is full to the intersection. Some choose to get out of the way by turning into the bike lane, and blocking that, too. This did not happen prior to installation of the stop signs at the 16th/Irving freeway entrance. Close the entrance, or signalize it and time the signals to coordinate with those on Lloyd and 9th, 11th, and 12th/Irving.	45.52791	-122.654
Any # of drivers are either ignorant or dismissive of bike boxes, esp. this one on E bd Lloyd. The same impatient drivers who are heading for the freeway entrance at Irving/16th? Some crowd into the intersection when there is no room to get out of it, the next driver pulls into the bike box when there is no time or space to get to that same hotly contested center of the intersection, and cannot or will not back out of it. Close that freeway entrance to solve this problem.	45.52905	-122.654



The stretch of I-5 from the Fremont Bridge Northbound is horrible from 1pm until at least 6:30. It gets worse every day. I am SO willing to pay my fair share to improve traffic conditions in any way possible. Because of my hours, I can't ride the MAX to work, or I would. If MAX expanded into Washington, and opened up the hours it runs, I would ride every day.	45.58918	-122.683
There is way too much traffic for the bridge. I leave several house before work to miss morning traffic, but after 2, it takes me over an hour to get from work to home across the bridge. After 2:30, it takes me at least 15 minutes more. Once a week, I leave at 4pm, and it takes me until 5:30-5:45 to get to Hazel Dell.	45.59146	-122.675
This is not a split roadway - just a very wide intersection. Southbound it is striped for 2 lanes, but effectively works as shown here - with the addition of an unofficial right turn lane. Unfortunately, some drivers turn right from rather further to the left.	45.52857	-122.657
In the afternoon, Killingworth and Sandy are gridlocked, feeding into NB I-205. The ramp fills up, and the streets' traffic signals are unable to keep traffic from backing up into the intersection. This prevents cross-traffic from moving. A longer ramp would help, but the whole intersection is not suited for a freeway entrance.	45.48998	-122.583
This is the place where congestion starts on Southbound I5 as early as 7am.	45.63037	-122.668
This is the worst place when coming home on Northbound I5, anytime after 3:30pm.	45.5583	-122.672
I205 bridge and connection to 84 east bound. A lot of rush hour traffic from 3-6pm at the 84 connector to 205 north.	45.45196	-122.644
Bottlenecks on I-5 North from the Rose Quarter to the Interstate bridge. Needs improvement NOT tolls,	45.5881	-122.683
Tolling should also be implemented on Highway 217. Please expand the project scope to include all divided highways within the region.	45.44183	-122.774
Tolling should also be implemented on I-84. Please expand the project scope to include all divided highways within the region.	45.528	-122.608
Tolling should also be implemented on Highway 30. Please expand the project scope to include all divided highways within the region.	45.55565	-122.735
Tolling should also be implemented on Highway 26. Please expand the project scope to include all divided highways within the region.	45.50695	-122.714
Both I-5 and I-205 should be tolled along their complete length through the Portland-Vancouver metro region, all the way north to the Salmon Creek interchange. Since so many commute trips originate in Clark Co, we need to implement tolling there to help curb demand and shift folks over to alternative modes or travel times.	45.62004	-122.613
S bound I-5 autos use N Vancouver to NE Wheeler and then re-enter freeway to S as a means to bypass congestion on I-5 through the Rose Quarter. This overwhelms and disrupts surface street traffic, especially for folks traveling by bike and foot through this area. ODOT and PBOT should work to remedy this abuse.	45.53502	-122.668
This tunnel from N Interstate, combined with the merge from North Whitaker Rd is horrible.	45.59795	-122.684
I like to call this the death spiral. Getting onto I-5 north from MLK in the evening is so painful you just want to shoot yourself.	45.60389	-122.682
Southbound in the mornings, all the merging here between people trying to get on I-5 South at Mill Plain, off to 14 East, and on at "Washington/West 5th street" is ridiculous. All it takes is one accident on the bridge to turn this area into a parking lot that extends deep into the local streets downtown.	45.62403	-122.671
Lloyd eastbound to MLK gets backed up almost all the way to the steel bridge. I feel this is a combination of traffic backed up on MLK southbound backing up and also the light on Lloyd only allows about 4 cars at a time.	45.52649	-122.663
Crossing bridge to s always stop and go.	45.59068	-122.547
People don't know how to use the on ramp when it's entered and it causes long delays. Also merging here has caused fender bender.	45.57111	-122.548
Trying to find alternate routes to 205 and still get stuck.	45.56791	-122.545
Backup can occur trying to get to marine drive	45.55589	-122.536
The merge with 405 and into Portland is notoriously slow	45.5175	-122.69
The Sylvan Merge often slows traffic into Portland	45.50878	-122.737



narrow short merge into narrow lanes	45.61344	-122.675
Traffic going southbound can become congested due to traffic being backed up trying to get onto interstate 84.	45.56659	-122.556
From here until you get into Vancouver traffic is severely congested.	45.5765	-122.678
As soon as you hit the bridge going southbound traffic begins to slow down or comes to a stop.	45.61764	-122.675
I 5 N and S, hours of back ups every weekday, choosing to use arterials instead of freeways as they are faster. If choose to not improve freeways, need to improve neighborhood streets to increase capacity, safety	45.48882	-122.663
Airport Way interchange from East onto I205 N has been reduced to 1 lane - 1-2 hr backups multiple hours of day, every day, just driving W from NE 139th to this interchange.	45.52701	-122.531
Transition from I84 to I205 N dangerous, frequent backups	45.50814	-122.505
I84 congested much of day, on and off ramps too. Dangerous lack of shoulders.	45.49939	-122.616
Congested roadway leads to cross traffic failing to obey traffic laws.	45.56204	-122.696
SR26 always congested, dangerous, in and outbound.	45.45637	-122.835
Traffic across the I5 bridge is a regular nightmare going north and south.	45.61524	-122.676
Narrowing of lanes to two	45.44953	-122.669
morning traffic backs up at bridge	45.59739	-122.662
This area backs up frequently due to local workers or stadium visitors heading for HWY 26, frequently leaving the intersection of Century and Evergreen blocked and preventing anyone from turning safely onto evergreen. If Imbrie would be changed to right turn only onto Cornelius pass, the drivers heading for Hwy 26 would have to use the two left turn lanes on evergreen that were designed to handle this traffic load, reducing the congestion on Imbrie Drive.	45.54907	-122.908
congestion issue. made worse by poor light cycle timing at SE Stephens street and North on N bound; made worse by poor light cycle timing at SE Holgate and SE 17th for S-Bound.	45.49582	-122.659
Washington residents who commute and work in Oregon contribute 9% of our income in taxes to Oregon and largely reap none of the benefits. Tolling commuters without improving infrastructure or getting housing costs under control so people don't have to commute is absurd.	45.62173	-122.673
The biggest issue with our commute is not on the interstate, it's trying to get onto the interstate. Access is limited and cannot handle high volume.	45.63191	-122.667
There is congestion here from people in cars trying to get on to I-84 Eastbound. It impacts the bike lane, people are trying to cram in and make the light so they often block the bike lane	45.52837	-122.656
Burnside Bridge backs up during the morning rush hour, especially now that there is one lane closed off due to bridge work.	45.52297	-122.664
During the morning rush hour McLoughlin Boulevard backs up past Holgate.	45.49877	-122.66
Something needs to be done to speed buses during rush hour. Skip stops that require merging all the way over to the right? It's crazy to hold up a bus full of people in the huge line of cars waiting to get on Naito.	45.49164	-122.678
My morning commute from North Portland has become less safe due to drivers cutting through neighborhood streets.	45.5878	-122.67
Marine Dr trying to access I-5 North	45.60781	-122.689
The I-5 Bridge.	45.69624	-122.65
We live on Columbia Street and can tell when I-5 SB has failed during the peak hour as I-5 (Hazel Dell/ Salmon Ck to Portland) commuter traffic jumps off I-5 to rat-run through the City Center streets on Columbia (plus Main, Franklin, etc.) and back to I-5 via the Washington/ 5th Street on-ramp. This condition manifests its self as one long platoon of cars streams past our dining room window (often at 35 mph). We need the solutions promised during the CoVs 2015 West Side Mobility Study.	45.64531	-122.673
A majority of the vehicles that I see on I-5 are vehicles with Washington plates. I have to drive a short distance on I-5 in order to get to Jantzen Beach. There is no other option to get to that area.	45.58064	-122.68



A bridge from here to Rivergate might eliminate a lot of freight and cut-through traffic in downtown St. Johns, but only if traffic were encouraged to use Marine and Columbia.	45.61309	-122.799
The I5 bridge as a whole....where do I start? Bridge lifts, badly designed on and off ramps, too many cars, it all sucks	45.61254	-122.679
This should be a school speed zone.	45.49788	-122.639
Too many cars - back up can be a mile long	45.59909	-122.674
This should be a critical connection for commuter cyclists, but instead is far too dangerous to be of much use. I ride an extra 12 miles a day out of my way to avoid using Cornell. Most people probably just drive instead.	45.52686	-122.727
Merging traffic from downtown Vancouver to I5 South too close to bridge, merge causes big trucks to come to a stop and they have a hard time getting back up to append due to incline of bridge	45.62274	-122.671
This road connects to the Sunset Transit Center, but is terrifying to bike on. Car lanes are wide and encourage speeding, and the speed limit is too high to begin with. Really should have separated bike infrastructure on Barnes from Cedar Mill to St Vincent's.	45.51275	-122.786
The traffic lights at SE 52nd and Foster and SE 52nd and Powell often leave motorists waiting for multiple cycles. Often, folks turning from Powell onto SE 52nd turn into the bike lane, bus lane, sidewalk or intersection making the intersection for all road users. Also, this stretch of SE 52nd there are multiple left-hand turn lanes (e.g. for Foster, Powell, Rhone, and Lafayette) that are either not long enough which results in many near head-on collisions.	45.49682	-122.609
I like to see Trimet leased this rail line for use a commuter service from Vancouver, through St. Johns and then out to Hillsboro and Banks, etc? That has the potential to take a lot of traffic off the St. Johns Bridge as well as off I-5 and 26.	45.64687	-122.852
Get rid of the bottle neck. ODOT needs to construct an additional lane. I-5 going down to 2 lanes is nuts!	45.54855	-122.679
High vehicular traffic here, much of it cut-through if the Washington plates are any indication, makes it hard to cross the street here. When congestion pricing is implemented I-5, really hope it is done in such a way that more people headed to Hillsboro aren't tempted to jump off at Marine Drive or Columbia and use the St. Johns Bridge.	45.59409	-122.756
Any tolls/value pricing near the I-5/I-205 interstate bridges should prioritize revenues on replacement projects that improve mobility and reduce congestion between the two states.	45.6198	-122.676
Pm commute congestion throughout Hayden island.	45.61206	-122.679
Weekday or bridgelift northbound congestion	45.60236	-122.679
1-205 south, always have a slow down from airport merge and the 84 exit with the slow of 205 south	45.56797	-122.555
Weekday pm eastbound congestion	45.56264	-122.569
When traveling 1-5, I always slow down here as a result of the bottleneck from 405 merge	45.59566	-122.684
Weekday pm northbound congestion	45.55556	-122.571
Weekday westbound congestion in afternoon. Excaburated anytime with accidents or other slowdowns on i205	45.54724	-122.544
1-5 south, problem with one lane and/or gettingvto 84z	45.53097	-122.666
Traffic	45.5631	-122.683
significant congestion eastbound late afternoon to evening	45.51567	-122.695
Significant congestion from late afternoon through evening.	45.5271	-122.687
Daily north and southbound congestion.	45.59296	-122.549
Significant congestion some mornings going south	45.59284	-122.684
Daily north bound and south bound congestion. North bound congestion when there is i5 bridge lifts	45.59374	-122.684
Significant congestion from mid afternoon through evening	45.56491	-122.678



15 bridge lifts. Daily commuter volume	45.62046	-122.673
The source of, and destination for, all the traffic problems that plague Oregon. A nice, big, fat toll here would be lovely. Sincerely, All Oregonians	45.6218	-122.673
The source of, and destination for, all the traffic problems that plague Oregon. A nice, big, fat toll here would be lovely. Sincerely, All Oregonians	45.60898	-122.681
The merge at Germantown Road the NW Bridge Avenue introduces serious backups. Personally, I'd like to see Germantown closed to through traffic at Lief Erikson. Perhaps leave a bikeway through the area. In other words, make Germantown a park-access road rather than a through-way. You can get to Forest park from from the top or bottom but can't drive though. While this would not reduce the traffic up to the bridge, it would largely eliminate the slow-down due to mixing at this intersection.	45.58513	-122.772
The Flint Ave overpass is a critical link in the Portland bike thoroughfares. There is NO reason to remove it as part of I-5 work -- it won't help cars get anywhere faster, and it will increase both travel time and danger for bicyclists trying to go south on Vancouver and then over the Broadway Bridge. This is NOT a challenging location unless ODOT makes it so!	45.53726	-122.669
Trucks are apparently allowed (or at least not cited for) completely blocking traffic in both directions for as long as they like. Why they don't use Davis St for deliveries I do not know, but this holds up cars, buses and pedestrians in both directions throughout the day.	45.52397	-122.654
My son lives in downtown Portland and says he would come to Vancouver more often but it's just such a painful experience driving through traffic from downtown Portland to Vancouver. After visiting him in Portland, driving back to Vancouver I could see his point.	45.58515	-122.68
A pedestrian was killed by a driver here while legally crossing in the cross walk in January 2018. Serious steps need to be taken here and at countless other East Portland intersections to mitigate the deadly threat by drivers. The vehicular deaths need to stop!	45.51914	-122.511
Cars mostly refuse to stop for pedestrians along Division. This is true all along Division from 21st to 30th (with the exception of the light at 26th).	45.50481	-122.641
Traffic on Greeley causes massive delays for TriMet buses during the evening rush hour. Create a northbound bus only lane from the Going St overpass to near Adidas to improve reliability for the 35, 72, and 85.	45.5563	-122.693
After leaving I-5 in the afternoon, starting about 3:00 traffic becomes very heavy and it takes several light changes to move past the intersections.	45.64213	-122.612
Drivers seem to believe they can run the red light here in order to turn right a half-block later, at 21st Ave. Signage needs to be clear that right-turn-on-red does not permit going straight through a red light to later turn right.	45.50481	-122.645
St Johns Bridge is unsafe for cyclists. Remove a vehicular lane and reallocate it to pedestrians and cyclists.	45.58559	-122.764
Cars waiting to turn right block traffic on Division when the train crossing on Milwaukie is down. Parking should be removed along this side of Division to mitigate.	45.50481	-122.655
N Lombard and Greeley is an incredibly dangerous intersection for pedestrians. Extend the curb, add a crosswalk, and adjust signal timing. My daughter was nearly hit here twice in three weeks yet ODOT is worried about vehicle throughput, not safety. This intersection is under the jurisdiction of ODOT.	45.57702	-122.696
The bike lane here floods whenever it rains and requires constant servicing by ODOT. During larger rain events the standing water extends into the auto lanes and it is necessary for cyclists to "take the lane" when other vehicles are traveling at 50+ MPH.	45.48411	-122.681



During heavy rain events the roadway here floods and creates a severe hazard for all road users, though especially bicyclists due to cars and trucks traveling at unsafe (high) speeds and hydroplaning on up to an inch of water.	45.48224	-122.681
SW Harrison St is a huge bottleneck for buses entering or leaving the transit mall at rush hours. Remove parking to make space for buses to have a proper stop and a dedicated lane between 4th and 6th. Also adjust signal timing so that buses turning right onto 6th don't have to plow through pedestrians crossing.	45.51081	-122.682
This intersection is the site of many near misses where drivers seem to be unaware of bicyclists going straight on Barbur. Right hooks are dangerous and very real, creating a bike box, adding bollards, and increased signage would go a long way to protecting everyone on the road instead of only the people taking up the majority of the space.	45.49103	-122.678
Everett St is a huge bottleneck for buses getting on the Steel Bridge in the evening rush hour. Make one lane a bus only lane between 6th and the bridge to increase reliability for the 4, 8, 16, 35, 44, and 77 buses.	45.52517	-122.672
Needs a mid-block crosswalk. This is a very popular crossing point for pedestrians.	45.53256	-122.657
Too many cars and no space for bicyclists to merge over to the bike lane if traveling on Naito from Barbur Blvd. Also the speed limit of 40 MPH is higher than Barbur (35) and Naito after the merge (30) which needs to be corrected.	45.50575	-122.677
This should be a 'no turn on right' for cars, with a stop line that is a few feet back from the crosswalk. I can't tell you how many times I've seen cars roll through the crosswalk here without stopping while I'm in the crosswalk, and this is a major bicycle route, as well as a crosswalk for kids coming home from school. Drivers are racing to get onto the highway onramp and completely ignore people walking/biking here.	45.50924	-122.735
Too many cars during rush hour in the afternoon. Needs to be made easier for other road users (pedestrians and cyclists) to encourage people to not just hop in the car and go.	45.52223	-122.655
I have to carefully schedule and reduce business trips to Corvallis to avoid early afternoon and evening slow traffic in this area of I-205 northbound.	45.36678	-122.693
The challenge here is the weave as traffic from I-5 Northbound tries to move right to get into the I-84 Eastbound off ramp. It gets more complicated when there is backup on that off ramp, so you have to get to the right quickly or you're stranded with no merge option... or blocking an I-5 north lane while trying to get into the queue!	45.5073	-122.67
I try to avoid doing business visits in Hillsboro/Beaverton because of the US26 bottlenecks near the tunnels in both directions. I sometimes shortchange those visits in an attempt to not get caught in the daily clog. I would strongly prefer to be able to drive north (for example in the Cornelius Pass area) and cross the Columbia to Clark County WA using an added west side bridge. I would bring significantly more business to Oregon if that were an option.	45.511	-122.707
Constant bottleneck at almost any hour of the day , any day of the week. Used to be at just limited consistent times. Now it can be any time.	45.55708	-122.659
Lots of traffic! I205 southbound when merging onto I84 either direction.	45.555	-122.567
I frequently see backups driving from westbound I84 to northbound I205.	45.54751	-122.545
The bridge is a significant source of congestion, especially durin I5 bridge lifts	45.59511	-122.551
Backups to I205 Northbound when exiting PDX	45.57485	-122.556
I-5 north bound section, from the Fremont Bridge to Vancouver; if congestion pricing tolling is done: if it (cars, trucks, buses, light rail, pedestrians, bicycles, etc.)crosses the Columbia River, it pays, & ALL funds go to replacing the existing I-5 bridges; if WA residents who work in/pay taxes to OR don't get a credit against their OR income tax equal to the toll tax, we (and many others) will not spend another penny in OR, so ultimately it will be OR businesses that will pay this new tax.	45.60935	-122.674
Do away with the southbound on ramp from downtown Vancouver. The short length of the on ramp and the speed of the traffic in the other lanes makes that far right lane dangerous and impedes the flow of traffic getting onto the bridge. Those wanting to connect from SR 14 would need to head North to Mill Plain and	45.62139	-122.673



get on Southbound I-5 from there. We have to do a similar redirect when going from Westbound SR-500 to I-5 North.		
major truck onramp where lanes are at a minimum. This is a major congestion point on weekday mornings.	45.58231	-122.679
Merging traffic from I-405, exiting traffic from I-5 and the inability for most vehicles to utilize the left lane (due to the HOV restriction) causes a huge bottleneck.	45.54796	-122.679
On-ramp merging traffic can back up onto Macadam AVE causing congested all along this intersection exchange. Sometimes the metered light causes unnecessary back and other times it is due to congested along I-5 preventing on-ramp traffic from being able to merge efficiently.	45.49966	-122.673
traffic is congested from SR 500, across the I-5 bridge through the Rosa Parks Way exit most mornings. I am usually on this stretch of road around 6:30 am and it can take 30 minutes to travel just a few miles.	45.63145	-122.665
The traffic delay metering by this onramp is far too generously allowing traffic to crowd in and causes 95% of the perceived bridge congestion. In fact, traffic on the bridge flows pretty well except in exceptional conditions a few times per year. The "stuff merging" from this onramp stops I-5's right lane south of here, causes frequent accidents, and initiates extreme slowing the middle and left lanes. Solution: Be way more aggressive in reducing flow from the onramp.	45.60428	-122.683
Beating a dead horse here, but the Interstate Bridge and surrounding on/off-ramps are completely awful whether driving, commuting, or biking/walking.	45.61692	-122.673
This would be a great place for another Columbia River bridge crossing (between NE 223rd and SR-14) as a highly effective way to reduce traffic on the I-205 crossing.	45.56707	-122.436
Slowing in both directions any time of day or night	45.50827	-122.728
The backups caused in the afternoons (7 days a week lately) begin here and spread throughout northbound I-205 to I-84. The congestion here (slightly before the northbound exit to SR-14) is stupidly caused by the right lanes preparing to exit at SR-14 tangling with traffic not exiting. A dedicated exit lane is likely to help, but the cheaters/push-into-line after passing will probably not all be discouraged.	45.59479	-122.549
I-5 southbound lane reduction congestion	45.59554	-122.682
Always a slowdown approaching the interstate bridge from the south. Do cars just evaporate on the bridge? There's always much less traffic on the Washington side.	45.59674	-122.683
Congestion transitioning from 405 North to I-5 in either direction	45.54483	-122.675
long wait to transition from I-84 eastbound to I-205 northbound	45.547	-122.56
congestion on ramp to I 5 north	45.6041	-122.683
Even though we are retired, in Salmon Creek, we still have to use I5 on occasion to conduct business in the Portland metro area. AM rush hour seems to get larger and larger, starting @6:00am and ending (usually) around 9:00am. This on both I5 and 205. We use Downtown Portland and PDX. We try not to use it too often. Could take an hour or longer to get from Salmon Creek to Downtown Portland.	45.65533	-122.658
I have started to avoid SR-14 and SE 164th during peak commute times, as the back up is challenging. I have tried to get to the airport after dropping my dog off at the boarding kennel and almost missed my flight due to traffic. I schedule plane travel much earlier in the mornings now or in the early afternoons.	45.58413	-122.504
Right at the border, going north, the traffic slows without fail. Another bridge would help this issue!	45.59819	-122.681
I live on F Street and E 31st. Traffic in the mornings has increased on this quiet side street because commuters try to avoid the back ups on Main Street heading south. If I need to leave my home between 6:30 and 8:00 am, I often need to wait for a break in the line of cars or wait for a kind stranger to stop and let me back out of my driveway, which enters F. Traffic approaching the I-5 bridge most mornings backs up for miles and drivers find ways to avoid Main Street.	45.64285	-122.666
I rarely travel south from Vancouver to Portland on I-5 unless it is during less congested times, which are becoming difficult to predict. I am retired now, but used to work in Portland. I moved to a job in Vancouver for the last 6 years of my career to avoid this grueling and unpredictable commute.	45.61812	-122.672



This area is backed up every afternoon. Takes about 75 mins to drive from downtown to Vancouver regularly.	45.61173	-122.679
Everyday. Even weekends. This is the worst location in the metro area, especially in the afternoon coming back from Portland	45.6216	-122.672
I5 bridge into portland from Vancouver. Challenging nearly everyday.	45.61536	-122.671
Challenging location from fremont bridge through the rose quarter.	45.53261	-122.666
Morning traffic on the Hawthorne bridge is so slow I often want to get off the bus and walk. A bus lane would do wonders!	45.51266	-122.67
Northbound I-5 is a nightmare all afternoon. Summer Fridays are even more horrible. Enforcement of the carpool lane is non-existent	45.58641	-122.682
Southbound I-5 from Vancouver to Portland. Congestion caused by curves in road, short on ramps, and no E-lane on the bridge.	45.61788	-122.672
The congestion in the morning is on the Washington side of the bridge but the afternoon commute is much worse going north.	45.60251	-122.668
Always slow here but biggest problem is when bridge is up, it's icy, or there's an accident.	45.6215	-122.673
I-5 South is backed up for hours in the mornings and afternoons. I only travel to Portland from 11 am - 2 pm because the traffic is terrible.	45.63162	-122.665
I84 Westbound Sunday afternoons (especially warm season) is terrible. Only one lane NB to I-205 backs up and jams lanes going SB and WB on I-84 too. Might be bad weekday PM commute too, but I don't travel at that time.	45.54002	-122.535
Blending two lanes to five and back to two in 4 miles can not be fixed by tolling. Two bridges bypassing Portland city center will do the trick. Allow through traffic to bypass.	45.5631	-122.676
The backup caused by northbound I-205 spreads to Airport Way westbound back to 122nd or further during congestion hours. This is the last of a series of dominoes which start with congestion in Washington with the right lanes of I-205 preparing to exit at SR-14 tangling with traffic not exiting.	45.56833	-122.545
Difficult to use mass transit to beyond downtown Portland. Using mass transit for over an hour each way is untenable	45.52452	-122.513
It's often incredibly challenging to get across the river.	45.62278	-122.672
This is a bottleneck on the I-5 bridge, traffic always slows down, causing miles of traffic, and then becomes free flowing once you reach the Washington side. This bridge definitely needs to be widened at least.	45.57945	-122.68
Terrible when getting off 84 and you need to get into the far left lane to turn onto Glisan. You have to cross through traffic coming off of 205. Not everyone slows down when they get off at that exit.	45.52784	-122.566
This area is very congested. When getting on 205 North from Airport Way, you are pretty much stuck in the two far right lanes. Traffic moves pretty quick in the two left lanes, and if you aren't able to move to one of those lanes when you just get on the freeway, you end up stuck in the right lanes that move really slow. Some days in the evening, there isn't much space between getting on the freeway and the closest car in the right lanes going slow.	45.57302	-122.547
Heading East on Washington from 82nd, and then turning to go North on I-205, sometimes cars are backed up all the way from Stark to Glisan. Then once getting on ramp to go North, people in right lane headed East to Downtown cut into that lane, nearly causing accidents. That is a very dangerous on-ramp, and i drive it every week.	45.51808	-122.565
I'5 both south and north, Marine drive to SR500 in Washington.	45.61932	-122.666
delays in evening commute for no apparent reason? excessive water on roadway during heavy rains	45.61533	-122.638
long delays in am weekdays	45.59182	-122.51
SO MUCH CONGESTION	45.60923	-122.676
I5 is no longer an option to commute to Portland. The continued growth in the east side of Vancouver, now makes the commute across 205 as challenging. It has taken up to 3.5 hours when an accident occurs	45.5954	-122.553



Express lanes through the city would help a lot in getting people moving through the city who don't need access to the exits, similar to what Seattle has done downtown with I5.	45.56056	-122.678
The merger of I5 North bound and I405 is a pain because a lot of people on I5 want to get off at the exit but a lot of people on I405 want to merge over to the left lanes.	45.54779	-122.679
I experience congestion during my evening commute on I-205 North starting around Glisan all the way to the Glenn Jackson bridge Monday - Thursday between 6 and 6:30 pm.	45.53521	-122.552
Because both EB and WB traffic from I-84 are merging onto I-205 NB so close in proximity to each other, traffic in all three directions is problematic at all times of day and every day of the week.	45.54606	-122.56
I-84 EB where the hwy begins is constantly backed up, regardless of the time of day or day of the week.	45.52553	-122.661
Traffic on I-5 SB coming across the bridge from Washington is more often than not backed up into Washington, both on I-5 and onto Hwy 14 WB due to the narrowness of/congestion on the bridge and drivers unwilling to go speed limit.	45.61776	-122.675
Traffic here due to I-5 bridge	45.59722	-122.69
I-5 NB from Delta Park north is always backed up, regardless of the time of day or day of the week. Traffic on the bridge, even when not congested, is often slower than 50 mph due to the narrowness of the bridge and the larger vehicles that traverse it.	45.60386	-122.683
Traffic	45.60568	-122.682
Always backed up on this on ramp at rush hour	45.54996	-122.562
With the boom of housing in Happy Valley, Sunnyside Rd will soon be over capacity during rush hour times. Expansion is already necessary on Sunnyside in front of Kaiser Hospital and on the on-ramps to I-205	45.42315	-122.534
More lanes or better flow of traffic are needed on I-5 in both directions from the I-205 connection to Hwy 217.	45.40412	-122.744
An additional lane is needed on I-205 Northbound from I-5 to Oregon City, including expansion of the Abernathy Bridge.	45.36089	-122.608
People get backed up all the way to here from the inability to merge and the two on ramps further up 84 east that also merge on to a two lane road in quick succession.	45.52535	-122.661
the area of I-205 and Hwy 84, all the merges cause a lot of backup.	45.53329	-122.55
I-205 - where it goes from 3 lanes to 2 (in both directions).	45.34442	-122.599
heading north on I-5 in the PM, all the way from downtown, but especially approaching the Columbia River area, not enough lanes, especially for merges.	45.5631	-122.679
in the AM heading south across Columbia River all the way to Portland	45.61692	-122.666
I have never driven into or out of Oregon on I-5 without slowing to a crawl at the bridge. Most other congestion I have experienced around Portland is limited to rush hour or quickly clears, but the bridge is a consistent pain point.	45.61212	-122.673
going from 3 lanes to two lane along with the merge onto Hwy 84 clogs traffic down	45.53239	-122.666
only one lane going south from I-5 onto Morrison bridge and onto MLK. Make traffic unbearable	45.52102	-122.666
During times of heavy congestion, the north bound fast lane is solid Washington plates. Middle lane is congested with semi trucks and trailers. You should give trucks incentives to travel through during night time hours.	45.49588	-122.567
At one point in time, coming from hwy 30 Eastbound to get to the St. Johns Bridge there were 2 lanes for turning. One lane was taken away and ever since that time the backup has been a nightmare. There is now only half utilization on the bridge. Traffic sometimes backs up to almost the 7/11.		
Almost the same from Hwy 30 wb to St. Johns Br. There is only half utilization on the bridge.	45.58329	-122.769



There needs to be SOME PLACE A N E W ROAD on the west side!		
Bridge congestion is terrible	45.60598	-122.682
Getting onto 205 S from East Vancouver from 6:30-8:30AM is very difficult. Then, getting onto 84 to PDX during that time is sometimes even worse.	45.59002	-122.533
The HOV lane is limited from this point until Portland Meadows. There are no other HOV lanes available through the most congested areas of the I-5 Corridor (This includes Northbound and Southbound lanes between Tigard and the WA state line).	45.55465	-122.678
Merging to I-5 north to get to east side of Portland from West side downtown district. Even taking an alternate route along Kerby exit can be congested at times. taking longer than walking the same distance	45.53896	-122.682
COME ON! REPLACE THE BRIDGE! INCLUDE THE MAX!	45.61068	-122.676
I-5 is a nightmare, particularly the Rose Quarter and 84/405 interchanges areas. Its' almost worse now than the bridge to/from Vancouver! I fully support an "all of the above" approach (expand to 3 lanes, congestion surge pricing, commercial truck ban during certain hours,etc)	45.52126	-122.677
Try something simple! Extend the carpool lane across the bridge some distance. Force THROUGH TRUCKS IN THE CARPOOL LANE! Same thing southbound. If a carpool lane works(?questionable?), it should not deadend until traffic is able to spread out. Just THROUGH TRUCKS IN LEFT LANE may help the trucks get through and stop stop/start slowdown.	45.606	-122.682
I-5 from Tigard to the Marquam bridge is crowded often. Generally in the afternoon but often times it can be mornings or evenings. The top lanes of the Marquam Bridge can be messy and a challenge.	45.46824	-122.685
Hard to get on freeway, especially after 1pm, back up on freeway northbound	45.60343	-122.683
Ugly traffic all the way into Washington. Do not like taking freeway unless no other choice.	45.54247	-122.674
So busy, so backed up, hard to get onto I 5	45.54117	-122.679
North and South bound I 5 is terrible, not worth hitting freeway at all, so slow.	45.5098	-122.667
Horrible back ups, all the way from Oregon City exit to I 5.	45.36877	-122.758
Backs up where becomes 2 lanes, all the way to I-5, long waits	45.36566	-122.6
So busy with traffic trying to get onto I205, long waits on surface road trying to get to freeway	45.4099	-122.572
Traffic off Sunnyside merging onto I205 backs up the freeway, terrible back ups	45.44255	-122.569
Sunnyside exit backed up at times, slows down I205	45.43556	-122.567
Horrible back ups, all the way back to Killingsworth sometimes, from traffic trying to get on I84	45.53629	-122.564
Horrible backups on Sandy from traffic trying to get onto I205	45.56055	-122.563
Long back ups after 3pm from I205 traffic, backing up Sandy blvd	45.55937	-122.561
Horrible back ups from merging traffic	45.54689	-122.56
Always hard with those merging from I84 onto I205, horrible backups.	45.54991	-122.562
Hard merging onto I205	45.55863	-122.566
Backed up trying to get to I205	45.56238	-122.568
Horrible traffic. Lots of license plates with Oregon plates, indicating a mass migration of Oregon folks moving to Vancouver. Congestion so bad the past 4 years that I have had to get up 1 hour earlier and leave about 45 minutes earlier than I used to. I'm lucky that my work is not rigid about start time. Having to arrive by 7:00 am now.	45.58629	-122.548
The amount of lost revenue to Washington can be seen daily with a very large percentage of Oregon license plates on cars leaving Vancouver from 164th and Mill Plain along Hwy 14 to cross over to Portland. This is an extremely congested area and what should take a lot less time is now averaging 25 to 30 minutes from 162nd in Vancouver to Sandy at Parkrose Max Station. Conversely, the traffic coming home is horrendous as well.	45.56599	-122.68



I'm not sure why but people seem to be afraid to cross the I-5 bridge. I've noticed traffic can be flowing along great until you approach the bridge, then it crawls across the bridge, opening to normal speed after crossing.	45.62018	-122.674
merge lanes need to be added	45.57179	-122.548
Traffic is almost a complete standstill when I leave work at approximately 1745. Also, if a bridge lift happens, it causes even more traffic. The traffic seems to be at a standstill due to all the merge points onto I-5 and is stop and go until you get over the I-5 bridge in Washington.	45.59951	-122.685
This intersection is called "Kamikaze Corner" for a reason. You could tear down the old Safeway maybe and put a detour road through there to eliminate the dangerous intersection.	45.48658	-122.747
Poor design placing the ramps merging traffic from I-84 EB and I-84 WB onto I-205 NB so close together causes significant traffic backup and frequent fender benders.	45.54676	-122.56
Highway 26 westbound needs a total rethink to the 405 merge. It's absolutely stupid that only one lane can merge onto 405, and this routinely causes a 10-20 minute delay.	45.50064	-122.675
The left turn signals from Powell to Cesar Chavez are way too short. Sometimes only 2-3 cars can go at a time before the left turn signal turns red!	45.49735	-122.623
Here's another great place for a toll!	45.60141	-122.551
Here's a great place for a toll!	45.62172	-122.672
I can't remember the last time I drove past the exit for 84 and didn't see congestion.	45.52728	-122.663
Slowdowns almost any hour day or night heading from downtown Portland to Vancouver.	45.59578	-122.681
Cornelius Pass should be extended with a brand new bridge and Hwy across the Columbia and meet up with I5 North of Vancouver.	45.65101	-122.852
Put the Moda center in the industrial NW> Every time there is something here it adds to the already clogged up traffic. Horrible having only 1.5 exits to this.	45.5314	-122.668
Need new multi-lane bridge. There's already a commuter and doesn't work because all of the lane go down to 2 on the bridge. Make the bridge iconic, like Golden Gate/St. Johns/, something that will add to the culture and personality of this region.	45.60635	-122.682
Afternoon/evening traffic southbound is almost always a near standstill. It is challenging to get anywhere southbound	45.4152	-122.743
Traffic bottlenecks here on evening commute going Southbound	45.54994	-122.562
The signaling at the intersection of SE 12th, SE Gideon, freight and Max rail lines, SE Clinton and SE 11th is not efficient and causes backups. Wait times are too long and the signals are not working together to facilitate traffic flow. Union Pacific also is in the habit of parking freight trains in the middle of the intersection during rush hour, blocking all other transit. When this happens the gridlock quickly backs up to Powell and onto SE Division.	45.50247	-122.654
McLoughlin, like 82nd and Powell, needs more safe crossings for pedestrians. It's 9 football fields and up between safe crossings along McLoughlin. This is very dangerous, and needs to be addressed.	45.40375	-122.623
Not nearly enough Crossings for pedestrians along the length of 82nd Ave. It can be 5 football fields or more between pedestrian crossings! We need to improve safety for Pedestrians.	45.44914	-122.579
Not sure if this is an ODOT responsibility or if it's Clackamas County's, but the Sunnyside Rd overpass is in desperate need of better sidewalks and added bike lanes. Bicyclist are forced onto narrow sidewalks where they then are a hazard for Pedestrians.	45.43321	-122.566
Bike lanes are needed along Lombard St. Today the are almost non existent.	45.57709	-122.683
Sidewalk disappears.	45.49844	-122.512
Sidewalk disappears for a couple blocks here	45.49356	-122.491
There is no sidewalk, there isn't any bike lane. This is an issue for most of Powell east of 205	45.49564	-122.559



Under I205, on 99E, bike lane and sidewalks disappear, It's quite scary, and very dangerous riding a bicycle under here.	45.36529	-122.601
82nd Ave is extremely unsafe for pedestrians and bicyclists, there isn't adequate sidewalk north from SE Clatsop St, nor is there any bike lane.	45.46189	-122.579
Make Adidas wait longer for their traffic light! It will help the northbound flow on Greeley!	45.5589	-122.694
Needs a green GO sign here I5 to eastbound Weidler because people keep stopping, and backing up traffic! Also put a curb in instead of the fat white line because no one knows what the fat white line means!	45.53427	-122.666
I get frowns when riding my under 35.01cc gas scooter on the springwater trail because the signs say no motorized vehicles but do not include the exceptions defining what kind of motorized vehicles are allowed....	45.48394	-122.418
Tell the railroad we want a bike lane down here!	45.52843	-122.654
This light at MLK and Lloyd blvd westbound is inefficient! The far right lane (straight only) just sits there on red while the eastbound light (straight only) is green. Then when the westbound lights turn green, the race is ON to jockey into that left lane to the steel bridge!	45.52641	-122.662
Paint in a 4th lane eastbound on the ban field at the beginning, keep the left two lanes flowing, keep the inner right lane flowing from I-5 south, and keep the on ramp people in their own lane for a few miles. No need for shoulders, Southern California freeways don't use shoulders in tight areas!	45.52491	-122.661
Eliminate the dangerous left turns on 185th 158th 148th 138th. They can use Airport way or Sandy!	45.55876	-122.473
This is a MERGE but yet there is a Yield sign posted. All on ramps are Yield but when people see a Yield sign, they slow down.... no one realizes that this is a 55mph zone until Interlachen Lane....	45.55796	-122.438
There's an end speed zone sign here eastbound, no one knows that it means speed up to 55 now by default so people keep poking along.... its very inefficient!	45.55878	-122.449
Marine drive needs a Left turn lane so that others can pass efficiently. 33rd Avenue needs a right turn only lane so we don't have to wait for Washingtonians to make their left turns.	45.60005	-122.635
Highway 219 needs a connection to US26, a bypass of Hillsboro's many intersections.	45.51178	-122.991
A long backup here on certain weeknights, as much as a quarter mile	45.40831	-122.92
Half the vehicles have Washington plates. Start charging on I-5 and/or I-205, this will drive even more congestion on the back roads, which are packed already.	45.57598	-122.765
I think that if someone would look closely at enforcing the law (slower traffic stay to the right) in all of Oregon it would reduce accidents, road rage, increase flow, and make it easier for the police to nab speeders. I know this isn't exactly what you are looking for but it wouldn't cost anything and will help if someone really thought about it.	45.48517	-122.688
Tolling on I-5 will probably make the connection between 26 and I-5 even worse. It is almost a 24 a day hour problem now. Decreasing traffic on I-5 by tolling during rush hour will not correct the problem that exist at this intersection during non rush hour periods.	45.50581	-122.723
Tolling will not even begin to solve the present situation, much less in the future. Only an outer bypass to the northwest similar to 205 on the east will really improve this situation.	45.48036	-122.675
Only real solution here is a new bridge north of the present one. Tolling etc will NOT improve this only at the margin, and not at all in the future	45.58329	-122.697
with amazon and intel just off of Brookwood. HWY 26 between Cornelius Pass RD and Brookwood Parkway, this area is becoming a bottle neck	45.56286	-122.938
hwy 26 from Cornelius Pass Rd to Brookwood. With Amazon and intel, this section is becoming another bottle neck.	45.54098	-122.868



This area is poorly designed due to the merging from US30 on to the 405 SB, and with traffic exiting to Glisan/Everett and Couch exits. This is an issue with not having separate merge and exit space for this area.	45.53067	-122.687
Ross Island Bridge, Barbur and Powell are backed up much of the day in both directions.	45.50015	-122.665
Much of the day traffic is way backed up from Ross Island Bridge heading east.	45.49053	-122.678
Ramps at Hayden Island not long enough. Lanes on Interstate bridge too narrow.	45.57945	-122.68
morning and night congestion. on ramp from airport not adequate when there is both large shopping crowds at Cascade Center and heavy congestion from landings/take offs	45.58689	-122.549
On Airport Way from 122 to the I 205 entrance. There used to be two lanes to turn right but when the new entrance was made a few years ago, there became only one and it is a mess most eve commutes.	45.56238	-122.534
Afternoon commute from Swan Island to the Interstate bridge is painfully slow. A commute which takes me fifteen minutes in the morning takes forty five to sixty minutes at 3:00pm in the afternoon heading north.	45.58233	-122.694
Getting to and from 217 on Scholl's Ferry Road from our to the West is full of congestion and waiting at every stoplight, sometimes several cycles, only getting worse.	45.4435	-122.806
Washington Drivers cross into Portland here	45.6207	-122.674
This on ramp is too short. Drivers have no time with congestion to get up to speed to merge onto the highway	45.44815	-122.784
This on-ramp is too short. Cars must merge over two lanes to stay on free way. Cars pile on and have a hard time merging here	45.49574	-122.792
Cars merge in mass here, all at one time. Causes flow of traffic to stop	45.51993	-122.81
People turning right at the 13th & Tacoma intersection often illegally turn into the intersection and/or on red as soon as a tiny space opens, further backing up traffic along 17th.		
I've watched the bus take 30 minutes to move 2-3 car lengths closer to (but not across!) this intersection.	45.46433	-122.653
Traffic from 17th and 99E cuts through the neighborhood at high speeds to get around Tacoma, and slows everything down when they force their way back in.		
Diverters preventing people from turning onto (but not off of) Tacoma would reduce the dangerous cut-through traffic significantly.	45.46392	-122.648
North bound 205 starts at Johnson Creek any day any time. Need to add auxiliary lanes from Johnson Creek to foster and foster to Powell. You have the room for expansion on most of 205 both north and south. The original overpasses were built for more lanes. You need to remove the barriers over these passes and add a fourth lane on 205. Okay. You might not get an emergency lane on the inside, but it isn't needed. See how tight we are on 84 on the inside lane. This needs to be done ASAP.	45.47482	-122.566
205 at Stanford Rd. THREE lanes would help ease the congestion but then that would require widening all the bridges and still providing an emergency lane. This is up through Oregon City.	45.36566	-122.707
Congestion occurs as slow-moving trucks climbing up the hill have to move out of the way for merging traffic on the Barbur/Capitol on-ramp. This squeezes the I-5 SB mainline traffic into the far left lane. Need a truck lane here...	45.45366	-122.722
If you create toll roads on I-5 & 205, the congestion on 99 will increase. That road is like a highway since there aren't many main road options in that area (and very difficult to get to 405 without taking side roads). I feel like many drivers will just take secondary roads instead of driving at different times like you predict. 84 will also get worse.	45.49016	-122.654
Why the Beaverton-Hillsdale/Scholls Ferry/Oleson Road interchange still hasn't been fixed is beyond me. Major safety AND congestion problems have existed here for	45.48589	-122.748



decades. Re-route Scholls Ferry South to meet up with Beaverton-Hillsdale just east of Fred Meyer (where their auxiliary building is on the east side of the parking lot). Re-route Scholls Ferry North to the old Safeway parking lot; re-route Oleson to meet up with Scholls Fy there.		
Poor traffic throughput on the SB 217 offramp to Scholls Ferry Road causes backups onto the 217 mainline. Consider making this off-ramp a right-turn only onto Scholls Ferry westbound and eliminate the traffic signal/left turn (since traffic going NB on Scholls Ferry can use the Hall exit which has more space for queueing.) Add a 3rd lane on Scholls Ferry Road from the off-ramp to at least Cascade Avenue, maybe to Fanno Creek.	45.45053	-122.785
The merge from Oregon 8/10 SB onto Oregon 217 is too short and consistently causes backups on 217 between Beaverton-Hillsdale Highway and Denney Road. I am increasingly in the belief the Allen and Denney interchanges should be eliminated (along with Walker and 72nd) to improve traffic flow.	45.48034	-122.792
I see many cars on early mornings cut through the parking lot of the 76 gas station because they don't want to wait for the left turn light. Make it a flashing yellow light again when appropriate (6am for sure) and figure out a way to block traffic from going into the gas station to keep them safer. That's an accident waiting to happen.	45.54808	-122.579
Ever since ODOT removed a lane from the Oregon 99W NB to I-5 NB ramp, it has caused confusion, as well as caused backups by motorists who aren't properly accelerating for the freeway merge. Coupled with poor enforcement of the truck lane (trucks not using it) and NB I-5 traffic using the right lane making it difficult to merge onto I-5 causes a lot of congestion and delay here that is avoidable. Put the 2nd lane back in...	45.44399	-122.738
Highway 99W needs to continue 3rd NB lane across Highway 217. Too many motorists get in the #3 lane to get onto 217 NB only to discover the lane ends at the SB on-ramp. This causes a lot of lane-weaving as people get out of the #3 lane into the #2 lane, and then turn right again. Traffic on 99W north of 217 opens up...	45.43475	-122.762
Traffic signals on Greenburg Road are not timed, causing backups and inefficient traffic flow. Part of problem is there are three different Transportation jurisdictions - Tigard maintains signals @ Tiedeman and Cascade; ODOT maintains the signals for the 217 ramps; Washington County maintains the signals at Washington Square and Locust. Need to find one agency to take lead and tie these signals together in one system.	45.44324	-122.777
Traffic is always slow southbound between Powell & Foster during rush hour just because people are getting on and off the highway. There's plenty of land there to make the ramps connect just like they do from Washington to Division which has less congestion because of the 4 lanes. Just try it. It's cost effective. Most of the congestion on 205 north and south is because people are entering the highway.	45.48788	-122.566
Durham Road is becoming congested due to Yamhill County, Sherwood traffic finding alternate routes to I-5 rather than through Tigard. Coupled with increased population in King City and west Tualatin. Southwest Corridor MAX will only make Durham worse, by attracting even more development as well as attracting people to "free" parking at MAX stations.	45.40195	-122.772
Highway 99W congestion through Tigard getting worse as more people live in Sherwood, Newberg, Dundee, McMinnville and beyond - but few to no alternatives to driving. No good transit service in the corridor. Tigard residents have few options due to poor TriMet service within Tigard.	45.4246	-122.778
McLoughlin northbound weekday mornings	45.50317	-122.661
McLoughlin SB at Bybee, weeknights: difficult to find a gap in traffic to enter McLoughlin	45.47479	-122.641
OR43 northbound merge onto Sellwood Bridge on weeknights: southbound traffic onto bridge blocks intersection so that signal does not function well.	45.46416	-122.668
OR43 southbound through West Linn on weeknights	45.36532	-122.612
OR43 btwn A Ave and McVey. Express bus and separated bike facility would ease congestion.	45.41828	-122.663



US26 WB, between Ross Island Bridge and merge with 405N. The traffic through these surface street curves is slow and provides so many opportunities for delay. A more direct entrance to 405 and/or the Sunset Tunnel would be ideal.	45.50526	-122.681
US 26 EB merge to 405-S. Drivers have a hard time keeping speeds up through the small tunnel and again in the weave that occurs with 405 traffic.	45.51463	-122.691
During the morning & evening commute, Tacoma is often bumper-to-bumper, with drivers cutting people off to get ahead, corking intersections or slipping through under a red light, or zipping through residential side streets where there are children.	45.46362	-122.659
Between 3pm and 6pm, Airport Way eastbound can be stand still for hours. It once took me 2 hours to get from the airport to the 14 via 205 north.	45.575	-122.558
Peak time backups in the evening from 43 to Rosemont roundabout	45.4101	-122.667
Getting on sellwood br backed up evenings	45.46707	-122.67
I 84 e and w depending on time	45.52121	-122.647
N bound 205 just n of foster	45.48095	-122.565
I-5 southbound absolutely needs a 4th continuous lane to continue from here at Bridgeport down across the Willamette River bridge, south of Wilsonville... a good case can be made for adding a 5th continuous lane from OR 217 to south of Wilsonville... maybe as a managed/tolled lane?	45.39978	-122.746
Boone Bridge southbound needs an extra lane and/or closure of the Wilsonville Road SB on-ramp and replacing with new Wilsonville local bridge over the Willamette or both. This is one of the major southbound I5 bottlenecks that stretches back into Portland and up OR 217.	45.29204	-122.77
traffic at this Ramp is often backed onto the freeway up due to trucks going to the truck stops via the via a single lane southbound offramp. Frustrated drivers often squeeze past the trucks by diving on the shoulder of the offramp. Northbound onramp is too short to get up to speed with the freeway traffic. Controls(stop signs) are insufficient to handle the volume of traffic. The overpass over Ehellin Rd is too narrow to safely allow drivers to see oncoming traffic from both directions.	45.23413	-122.807
It is congested but pricing but charging people to go to work and then home after work is ridiculous. If you put congestion pricing in place I will do my best to find surface routs to where I need to go so clog the city and residential streets.	45.48421	-122.657
Sunset highway inbound, congested mornings, afternoon peak, evenings, and weekends.	45.50641	-122.722
205 between Division & I 84 late afternoon & other times even on weekends.	45.51116	-122.567
Creating local access from Portland to Hayden Island would dramatically decrease congestion on I-5	45.60668	-122.681
I drive from central Vancouver to the Parkrose transit center, so congestion on the Glenn Jackson bridge is frequently a problem.	45.57993	-122.545
I live in Vancouver and work in Portland. I drive across the Columbia River to connect to Max. Both the Interstate and Glenn Jackson bridges are my biggest problems.	45.60539	-122.683
The exit to 405 is always backed up.	45.54522	-122.677
I-5 south from 78th to the Interstate bridge is congested every morning.	45.62136	-122.671
All of 217 needs more lanes not a toll. I drive from happy valley to tanesborne for work, for almost 20yrs and can guage the economy by traffic flow. Give business a greater incentive to vary start and stop times to unload traffic from the roads rather than shooting fish in a barrel for your profit , and our suffering...	45.43797	-122.778
Need more lanes over bridge on 205. Is 3>2>3! Clear the bottle neck you created	45.36312	-122.606
Highway 26 westbound in the left and right lanes	45.51355	-122.702
Hawthorne is generally congested during the evening rush hour, which encourages cars to cross the bike lane in dangerous ways.	45.51197	-122.654
This Nike campus perimeter [Murray, Walker, 158th, Jenkins] lacks a 24/7 frequent service Trimet bus line around it. Same with other big campuses like Intel in Washington County. However, these companies have employees working round	45.51338	-122.828



the clock who might like to use the bus instead of drive. ODOT should work with Trimet to put in bus lines to reduce congestion, so we don't have to pay for road expansions in land use & tax dollars, or pay in time spent on buses trapped in congestion.		
This intersection is neither car friendly nor pedestrian friendly. We need a re-design of this interchange to facilitate the inevitable increase in bridge vehicle traffic, but it needs to be done in a way that enhances the core of St. Johns to make it more walkable and bike friendly.	45.58952	-122.756
This bridge is responsible for many of the I-5 bridge lifts since ships going under the higher part of the I-5 Bridge can't turn quick enough to line up for the gap in this bridge. So they need an I5 lift. It would be much cheaper to replace this bridge with a multimodal bridge than build a huge freeway bridge. Allow heavy rail, MAX and car traffic here.	45.62463	-122.691
Traffic on the southbound offramp backs onto I-5 almost every day. Best I can see, much of the cause is how tight the cloverleaf is which significantly slows traffic. We may not be able to do much about how sharp the curve is, but if it were widened to two lanes than cars would be able to take the corner two at a time. Those headed south on MLK would move right and those headed West past the expo center would move left. The pavement may be wide enough so costs would just be signage & stripes	45.6038	-122.684
We need another bridge across the river. Connecting 181st/Airport Way on the oregon side to 192nd on the Washington side might be a promising location.	45.55998	-122.477
There are two lanes across the bridge in each direction but due to the stop lights only one lane can get onto the bridge at a time. The backup every day doubles my commute time. To increase flow there should be two lanes turning left onto the bridge from the germantown side and two lanes turning right onto the bridge from the westbound side.	45.58328	-122.769
Using this main arterial bridge has proven troublesome given the County/City have reduced traffic multiple years in a row here while also reducing traffic on other major bridges that serve N-NE Portland. Wonders how many decades from now until the bridge fully reopens.	45.53145	-122.675
Used to be so much easier to get into NoPo/St. Johns. Know which lane you need to be in and prepare to idle here anytime afternoonish.	45.58077	-122.766
Bridge should have an extension just for local traffic trying to cross the channel to get into Jantzen Beach. Anyone who has been stuck in a bridge lift and/or during commute hours with the Washington plates knows to avoid when trying to get from Oregon to Oregon here.	45.60755	-122.681
Couplet does not seem to work this direction (toward downtown). The old 5-way interchange at Sandy/Burnside seemed to result in quicker travel to downtown from the eastside. Seems like more lights and less available car lanes as many vehicles either seem to backup with right turns at 12th Ave or waiting behind the bus at the stop at 12th Ave.	45.52357	-122.652
The final right-hand merge lane leading up to the bridge should be improved and/or incorporated into other merges just south; traffic speeds and variability in lanes this area North during evening commute can be dangerous.	45.53289	-122.687
When a school event is happening or when stuck behind a bus; expect to double travel time on 33rd Ave northbound during evening commutes. Expect to get stuck waiting southbound during morning commutes due to either traffic changes on Broadway or the Apartment complexes recently built.	45.53788	-122.631
Long waits to turn left as local N-NE Portland traffic tries to route onto Williams (and its reduced car lanes) in order to avoid I-5 North during commute hours.	45.54695	-122.669
Right Hand lanes southbound regularly backed up at any time of day as people try to get on the Fremont Bridge to avoid the mess at the I-84/Rose Garden interchange.	45.57737	-122.679
The only stop in my commute is at exit 8 to merge on 205 north. If That merge was more than one lane traffickers would flow smoother	45.52535	-122.568



Nightly traffic jams eastbound at evening rush hour and other times. Delays of an hour or even more. Narrowing of the roadway causes daily traffic jams. Add a lane each direction at the west end of Route 205	45.35408	-122.613
Cars back up on SW Clay every evening, trying to get onto US26. Challenging for residents to cross streets safely and get into and out of downtown residential building garages.	45.514	-122.683
Traffic heading south out of downtown to Barbur gets very backed up in afternoons, especially if freeway incident pushes traffic back into surface streets. Impacts on bikes and peds. This whole zone needs comprehensive study.	45.50699	-122.684
The couplet does not work during peak traffic times, which is the problem that it was trying to solve in the first place. Expecting 4 lanes of traffic (2 from each direction on Burnside) to merge into 3 lanes in less than 200' is something that should not have been presented as an option, let alone approved and built.	45.52325	-122.652
The bus service on Powell serves so many and is so slow.	45.49793	-122.584
Taking the #9 bus to work is an exercise in extreme patience as it fights its way through single occupancy vehicle congestion. It's often my last resort (if I'm sick or my bike has a flat), but it shouldn't be. Good transit serves everyone; old, young, rich, poor, able-bodied, and not; and we should prioritize its effectiveness.	45.4979	-122.631
This crosswalk marking is rubbed out from the pavement and very dangerous in the mornings due to the volumes of fast traffic trying to get on the Fremont Bridge.	45.54754	-122.668
People have a lot of trouble getting to the right turn lane across the bike lane in the morning commute hour. This sometimes creates a hazard for cyclists and, I assume, an inconvenience for drivers.	45.54688	-122.668
People coming westbound on Fremont and turning left on Vancouver to get on the Fremont Bridge sometimes run this red light and cause hazards for pedestrians and cyclists. This is my observation as a cyclist during commute hours.	45.54808	-122.668
Oregon City - I-205 South bound from Park Place exit to the 10th Street becomes extremely congested because several lanes have to merge to become 2 lanes of traffic to get over the bridge and up the hill.	45.39418	-122.594
I commute between Vancouver and OHSU. I regularly get stuck (on the bus) in this area. The HOV lane significantly helps going north but I'd like to see the same going south.	45.60563	-122.681
Wilsonville traffic is egregious during peak hours, particularly rush hour Southbound.	45.30598	-122.769
High congestion near exit 297 some weekdays.	45.46922	-122.68
Canby to Wilsonville, It takes 45 minutes to an hour to reach North Wilsonville exit from 551 and Arndt road.	45.29904	-122.768
sunnyside interchange morning and evening	45.42737	-122.563
By 6am on Weekdays, westbound traffic is backed up already on I-84. It often takes 15+ minutes to get from 102nd to the I-5N ramp ... at 6am. Any later, and you're looking at 25+ minutes.	45.54633	-122.54
Just another spot that backs up both east and west because of Washington drivers trying to get to I-205. There's been talk of putting in a light here, but it won't help - they regularly block the intersection no matter what.	45.56788	-122.532
With traffic commonly backed up from Interstate Bridge to Downtown Portland, this stretch of highway is a pain - anyone who lives in North Portland gets the short end of the stick in trying to get home. I've spent 30+ minutes just getting from the Marquam Bridge to Lombard. It's ridiculous - and 99% of cars? Washington plates.	45.5762	-122.678
The right hand lane of Southbound I-5 should be exit only before the bridge, and continue separated over the bridge so that traffic that exits at the Canby/Charbonneau and Hubbard exits must already be in that lane before they arrive at the bridge.	45.31293	-122.77
Every morning this is congested during rain. A lane that goes expressly from the south side of the river and dumps off I-5 on the north side (without a return to I-5) would be GREAT.	45.27924	-122.77
Traveling in to beaverton is unpredictable at best and a nightmare often. We can never predict when we are going to be in front of the traffic bubble or behind it	45.52102	-122.816
Difficult crossing for pedestrians	45.52265	-122.662



Traffic slows to a crawl starting at 217 and I5 through Wilson as you travel south on I5.	45.41605	-122.744
Drivers attempting to access I-84 and drivers attempting to travel north lead to absurdly long wait times at this light and one block north, even when I'm on my bike. Additionally, motorists choose to exceed the speed limit and make unsignaled lane changes, putting other road users in danger. We should consider closing the ramp at 16th & Irving so that Benson students can safely cross Lloyd Ave.	45.52787	-122.654
Aggressive drivers on this neighborhood street during the evening rush hour make this a scary bike route. It's too narrow for safe passing but drivers pass anyway, honking and yelling as if I'm the problem.	45.54082	-122.657
Evening rush hour on 405 S often has huge speed differentials, with motorists making sudden unsignaled movements. Besides congestion pricing to tackle volumes, clear signage and lower enforced speed limits here could help safety.	45.52926	-122.687
Long queue lines waiting to turn left onto Foster Rd from the northbound lane of 172nd Ave. There have been several accidents with little room for emergency vehicles.	45.46224	-122.486
Queue lines are backed up between Sunnybrook Blvd. and 122nd Ave.	45.42966	-122.541
east bound towards both north and south is always challenging. It would make sense for the city to implement a congestion tax. However, there are also people who live far away enough that commuting with MAX or bus is just not feasible. If we were to limit cars that are traveling to Portland on Hwy 26, it would make it much better if there is a more frequent service of the blue line like one every 3-5 minute overlapping with congested hours so that it increase people's willingness.	45.50803	-122.729
Build a new road westside, limited access all the way Salem? to the Ilani casino!!!! Come on, it is 2018 Build it now before there is more development. Less eminent domain now as opposed to the future.	45.59278	-122.867
The SW Scholls Ferry/Skyline/US26 overpass/interchange is challenging to navigate between 7:30 and 9:00 most mornings during the school year. The nearby East Sylvan school contributes to the congestion. Drivers make illegal U-turns and block the intersection at the ODOT Sylvan yard/Humphrey/Scholls Ferry light, adding congestion and blocking traffic for those who want to travel on Humphrey to downtown.	45.50797	-122.736
People merging onto 205 & Getting off at this exit people are always trying to merge right away and not leaving any space for others either.	45.37361	-122.583
I 5 and 217	45.41605	-122.744
I5 southbound at merge at N Wilsonville exit	45.33212	-122.768
I205 near Stanford Road	45.36517	-122.723
Boone Bridge area, I5	45.28793	-122.776
Barbur Blvd needs continuous bike lanes and bus bypass lanes, not spare car lanes and racing through the woods (to wait at stop lights at either end.) This is the biggest obstacle to people choosing a different mode of transportation from southwest and a major source of induced demand. Tolling I5 without restricting car traffic on Barbur would be a step backwards.	45.48968	-122.682
Highway traffic near here causes pollution problems that are especially acute at Tubman school	45.53849	-122.669
This interchange is popular but spending half a billion dollars on it is insane. Leave it how it is and use the money to any other purpose. Otherwise the public will wonder why we're giving you or tax dollars	45.53485	-122.667
Traffic backs-up on I5 and starts overflowing through the neighborhoods of SW Portland. We need a HOV/HOT/transit lane from Tigard to Portland.	45.46988	-122.688
Traffic trying to get into 84 often blocks cars trying to get through on i5. Maybe some paint could help	45.50789	-122.668
The sellwood bridge is congested for hours per day. Traffic backs up into neighborhoods and blocks the bus from getting through	45.46157	-122.665
So many people jump off I-5 onto here when I-5 gets backed up.	45.34684	-122.723



Congestion makes bicycling along 26 challenging between the zoo and downtown. Better facilities needed to allow bikes to get through. This should provide another alternative to driving	45.50929	-122.704
I405 backs up to the i5 merge a lot.	45.5245	-122.685
217 is a mess each weekday evening. I don't take it, fortunately, since I live in Tigard, but I do take the Kruse exit to take 72nd to Hunziker to Hall, and people trying to get on from the Carman Drive on ramp, plus the people waiting too long to try to get into the exit lanes, make I-5 N dangerous.	45.4158	-122.743
Highway immediately slows due to the reduction in lanes	45.54441	-122.678
I travel from 84 to 205N, once on 205, it jams to a stop at the Marine and Killingsworth exits	45.55397	-122.566
3-way stop (traffic eastbound on Woodward does not have a stop sign) that is highly dangerous, due to the almost constant stream of vehicles exiting SE McLoughlin. Lots of close calls.	45.50178	-122.658
Vehicles waiting to turn right onto the Hawthorne Bridge congest SW 4th and make cycling on this otherwise convenient N-S route unsafe, uncomfortable, and thoroughly unpleasant.	45.51393	-122.679
#70 bus (northbound) gets stuck in traffic here (especially at PM rush hour) on account of cars trying to access I-84.	45.52595	-122.654
Very difficult to cross SE Hawthorne (especially between 20th and 27th) due to the constant stream of cars from both directions: few drivers stop for people attempting to cross on foot.	45.5117	-122.643
Extremely difficult to turn right onto MLK/Grand and then have to merge across four lanes to turn left (or vice-versa). These streets should be two lanes of through traffic apiece, tops (with the spare lanes being used for turning traffic and public transportation, or wider sidewalks).	45.51363	-122.661
TriMet buses (#4, 6, 10, 14, and occasionally 15) get stuck in traffic on the Hawthorne Bridge and Hawthorne Viaduct frequently, both on- and off-peak.	45.51296	-122.671
The streetcar and #6 bus get stuck behind vehicles frequently on SE/NE Grand and MLK through the Central Eastside and Lloyd District, but especially behind vehicles turning onto I-84 East.	45.52211	-122.661
Attempting to get onto I-205 NB from I-84 EB is always a challenge in the evening. This location seems to be consistently congested from 4:00 PM to about 6:30PM. There are times when I leave the downtown area around 5PM that it takes an hour to get onto I-205.	45.53689	-122.56
As I come across the bridge most mornings, there is heavy back up getting onto the bridge on the Vancouver side, then it starts to break up as you get over the bridge, then immediately becomes stop and go as you pass the Interstate Ave exit. Then continues to be stop and go through the Rose Quarter area, where I get off the interstate.	45.60188	-122.683
Traffic on the approach to US-26 eastbound (Ross Island Bridge) faces a STOP sign. Yet between aggressive motorists trying to enter from the approach and others already on US-26 giving up their right-of-way, this create a lengthy back up into Downtown Portland.	45.50033	-122.675
US-26 (SE Powell Blvd) westbound is consistently gridlocked weekday mornings from about SE 26th Ave to (and across) the Ross Island Bridge.	45.49997	-122.649
Inadequate merging distance provided from I-84 westbound to I-205 northbound creates significant congestion on both freeways.	45.55003	-122.561
Daily afternoon gridlock in right (exit only) lane on I-84 eastbound leading up to exit 8 I-205 north. Some motorists will proceed in the center lane and then either significantly slow down or stop in the center lane in order to merge into the right lane. Not only is this practice illegal it is very unsafe!	45.54044	-122.56
Daily congestion bordering on gridlock on US-26 (SE Powell Blvd) eastbound in the afternoon in the vicinity of 26th Ave and 50th Ave/Foster Rd.	45.49777	-122.64
Physical delineators, such as white "candlesticks" are necessary on US-26 eastbound where it is signed "NO LANE CHANGES." Very often motorists will proceed in the center lane (marked exit 74 - Market St ONLY) then at the last second they insert	45.51534	-122.694



themselves into one of the other lanes. This not only causes congestion, it is dangerous!		
I-5 is only two lanes each direction. This is hardly adequate in the core of what is now considered a major metropolitan area, and some studies suggest it is the worse pinch point anywhere on I-5 between Canada and Mexico.	45.52628	-122.665
US-26 (SE Powell Blvd) is gridlocked weekday afternoons between SE 112th Ave and SE 122nd Ave.	45.4969	-122.541
US-26 (SE Powell Blvd) eastbound is consistently gridlocked afternoons between SE 82nd Ave (OR-213) and I-205.	45.49728	-122.573
7 days a week I-84 westbound is congested from I-205 to I-5. What's more, there are only two exits - exit 2 43rd Ave (which actually empties onto Halsey St) and exit 1 Lloyd Center.	45.53222	-122.575
I would like to see 212 turned more into a highway and not a residential road needs to be wider as well	45.41364	-122.454
With happy valley growing this has increased congestion at anytime of the day and week	45.40608	-122.537
205 south bound gets congested in the mornings and early afternoons	45.36679	-122.686
Hwy 26 through sw Portland is too curvy and has too many lights and intersections. 26 needs to be redesigned to be a highway and not local access to Portland	45.5014	-122.676
Access to the Ross island bridge is too slow during rush hour	45.50016	-122.668
Highway 99W is terrible from the point you leave I-5 through King City any time of day, but is especially bad on Friday. Signals should be synced to keep traffic flowing more efficiently.	45.44194	-122.747
I-5 through terwilliger curves is horrendous. Traffic begins by 6:30 am and lasts until after 7 p.m.	45.4666	-122.693
Highway 224 merger with 99 E	45.46663	-122.64
Weekend trips to Bend have started to take noticeably longer due to the amount of traffic on 26 heading towards Sandy & Boring.	45.43821	-122.353
Trying to get from 405N to 26W is a nightmare every evening. I always feel bad for anyone wanting to get on SW 12th since they get stuck in all this traffic.	45.51053	-122.688
Significant congestion along NE Killingsworth/ Sandy on both sides of I205 due to traffic trying to get on the freeway. This heavy traffic causes unsafe conditions for people using the I205 multi use path.	45.56	-122.563
The backup from the onramp to 84 from NE Irving daily causes daily significant congestion on NE Irving, NE 16th, NE 12th, & NE Lloyd. If I have a late afternoon at my doctor near Lloyd Center it can take me 20 minutes to just get out of the area.	45.52787	-122.65
99W is just a mess, particularly through downtown Tigard. If you hit it at the wrong time it is literally a parking lot.	45.43388	-122.765
At any point the connection from 205 to 5-south causing significant delays.	45.3683	-122.759
NE Glisan regularly backs east and west of 205/84 due to traffic wanting to get on the freeways. NE Glisan is also a major thoroughfare for emergency vehicles causing additional challenges.	45.52629	-122.562
Afternoon traffic on Jenkins westbound is gridlock even without construction on SW 158th.	45.49696	-122.829
Going south bound from Tualatin to Hubbard my gps will sometimes direct me into Boones Ferry Rd or 65th Ave to get south quicker than I-5 but then we are going through side streets. We then get dumped onto I-5 to cross Boones Bridge and then I-5 opens up right after. I'm not sure if we get congested because the exits through Wilsonville are close together or because there's only a few roads that go over the river. Going from Tualatin to Hubbard often takes 45+ minutes in 2011 it took 20 minutes.	45.29258	-122.77
The way I-205 dumps into north I-5 right before Nyburg Rd Exit for Tualatin is awful in the mornings. I leave Hubbard and travel north to this exit. It can take anywhere from 18 minutes to an hour to get to work depending on when I leave in the morning.	45.38417	-122.751
Continual congestion on Hwy 26, both directions, 185th to the Tunnels in PDX. I travel from Banks, Oregon to NE PDX for work-- and now take Cornelius Pass Road	45.52174	-122.841



to Hwy 30 to avoid congestion and unpredictability. This increases my mileage 6 miles each way- but guarantees I will get to work or home in 50 minutes.		
Hwy 26 especially bad during Spring and Fall when the Sun hits your line of vision-- and Sunset Hwy really earns its name.		
Will Max ever extend further out Hwy 26?		
I5 north gets very backed up during rush hour especially in the summer. We need additional lanes and another bypass option.	45.46856	-122.677
217 is always congested. Needs at least 2 additional lanes each direction.	45.46952	-122.788
Very challenging to get out of town (south) in afternoons, especially Friday's between noon to 7 PM	45.28069	-122.778
US-26 (SE Powell Blvd) westbound between SE 130th Ave and SE 122nd Ave is gridlock every morning.	45.49732	-122.53
Gridlock on US-26 (SE Powell Blvd) eastbound between SE Nargeli Dr and SE 174th Ave every afternoon.	45.49254	-122.486
I 84 is a constant mess from gateway to downtown. Way too many Washington plated cars	45.52824	-122.649
We need more than two lanes	45.34611	-122.629
Hwy 217 - please make it so that if you are in the right lane to take the Beaverton exit that you cannot move over to the left. Sometimes it takes as long as 30 minutes to get from the 217 exit from Hwy 26 to the Beaverton off ramp. I am tired of people waiting until the last minute to move to the left.	45.45531	-122.796
Hwy 26 is a parking lot, no matter which direction you are going, but especially inbound around 3pm.	45.50827	-122.811
the light sequencing @ Fremont & NE MLK is disadvantageous for people driving north, especially during rush hour! the south bound lanes of MLK and left turn lane (SB MLK turning to go east on fremont) have a longer green, and first green arrow (to go east on fremont). This causes traffic heading north on MLK to back up big time! the 2 lanes for NB MLK have the shortest green light in the sequence. the "accordion effect" happens really bad here as cars stop and go. Longer green needed for NB MLK!	45.54814	-122.662
The freeway at I-5 Northbound where the Macadam ramp joins to head over the marquam bridge is a nightmare. Folks are trying to merge into the 2 right lanes (84East) at the same time folks just 1/4 mile back are waiting to get onto I-5 north from Macadam. this creates congestion that runs all the way up to the Terwilliger curves. everyday. between 3:45pm- 7pm. it's insane.	45.50196	-122.673
205 Southbound from hwy 212 on bumper to bumper am.	45.37469	-122.581
Weidler under and overpass will need to be completely redesigned. Unless the capacity is increased here a new I-5 bridge would create a disaster. Until something is done, make a high accuracy travel time sign encouraging southbound traffic onto 405 if it's faster. It's such a mess through the Rose Quarter I'm at a loss for words or ideas.	45.53279	-122.666
This northbound I-5 approach can take 30 or more minutes at peak times. There is a terrible conflict with traffic leaving N. Vancouver Ave. crossing northbound queue to southbound I-5.	45.6023	-122.679
Where the I-84 on ramp from I-5 south is, it is always backed up/stopped. There is too much traffic for two lanes, when you have people merging onto I-5 from the Moda Center area and off of I-5 onto I-84 all in the same place.	45.53128	-122.665
I often exit 224EB to 205SB to then exit at 212 ramp to get to 82ndDR/212 intersection. This on-ramp is shared with drivers coming from 82ndAve and they merge as the traffic is trying to merge with 205 in a very wide shoulder. The wide shoulder allows you to go around the congested traffic to take the exit but it feels dangerous due to cars also trying to merge from 205 to exit. Suggest an alternate way to get to 82ndDR/212 from 224 without having to use 205 to further congest traffic on 205.	45.41415	-122.574



NB 99W. Evening commute. Cars wanting to turn left onto Beef Bend Rd are over capacity for left turn lane and begin to block straight-thru traffic.	45.4046	-122.795
NB 99W. Evening commute. Cars wanting to turn left onto Fischer Rd are over capacity for left turn lane and begin to block straight-thru traffic.	45.39074	-122.799
Traffic slows to 30 mph nearly every day on my commute home (NB 217). Cars use right entrance/exit lane to pass traffic making it difficult for cars to merge onto highway or enter exit lane. On morning commute, 217 is nearly always at a crawl through this area.	45.45905	-122.786
Lots of drivers waiting to go from I-5 to I-84. It makes no sense to have a giant freeway through the city here. We should tear out these freeways.	45.53293	-122.666
Long waits for freight trains	45.50493	-122.655
Almost every single day when I round the corner passing sunnyside traffic slows at least or comes to a screeching halt. This area drives me insane, There is over 100 feet of grass median for miles. I would be willing to be we could have another lane in each direction all the way to the Washington border.		
DO NOT TOLL us, taxes and fees are already too high, raise speed limits slightly so people can clear areas faster, add lanes so more people can fit on the roads without clogging them.	45.44315	-122.57
The road is a joke for 2018! There should be a real traffic mover road WEST SIDE WILSONVILLE TO RIDGEFIELD!	45.57344	-122.886
Merging lanes on the Ross Island Bridge on both side in addition to access to I-5 and the 405/26 traffic always seems to be slow and/or backed up, especially during rush hour.	45.50021	-122.666
The 5 South is frequently packed with traffic, but particularly during rush hour. Many cars are idling and just inching along during high congestion periods.	45.61794	-122.675
This point of the 26 Eastbound is always congested and always stressful. During rushhour, it is an absolute nightmare.	45.51477	-122.701
Traffic on I-5 South and I-5 North for that matter back up at this bottleneck at the Willamette river more and more everyday which affects the rest of the system. The amount of homes and apartments being built in Wilsonville, Woodburn and Canby just keep adding to the congestion. It even backs up on weekends. Even people in Wilsonville are having a hard time getting out because of this mess. There is no other bridge to cross the Willamette that is close. We need another bridge.	45.27585	-122.769
Abernathy Bridge. No surprise since 205 between Stafford Rd & Oregon City is the only section of 205 that is 2 lanes wide.		
Now that Metro & Clackamas County have added the Stafford area as urban reserves, and most everyone who will live in that area will be upper income+, that means lots of cars. Future proof the bridge and WL cut-through for 4-lanes in each direction.	45.36258	-122.604
I try to avoid OR-217 as much as possible; it was slow 10 years ago; now it feels like a parking lot, and not helped that it is largely a 4-lane highway (2-lanes in each direction). It is more a rural highway in design than a urban highway.	45.48132	-122.793
I-84 splits in essentially three ways. The I-5N / Rose Garden exit is frustrating for having a single lane for both, while I-5S / City Center offers two lanes. In any case, it tends to slow traffic significantly.	45.52531	-122.662
Converging onto I-205 from I-84 is often a mess, and surprisingly so on weekends.	45.54135	-122.563
Weekend travel from Hood River, I'm often surprised by this bottle-neck on I-84. I'm accustomed to seeing heavy traffic in this area on weekdays.	45.54739	-122.547
US 26 eastbound is always a nightmare. There is no good day or good time of day. It is always terrible. Commuting in to Portland from Beaverton is the most frustrating part of my day.	45.50779	-122.725
It's hard to merge onto I5 before the curves in the morning; dangerous in rain	45.46687	-122.679
Usually gets backed-up starting here headed north on the weekend	45.46296	-122.569



Portland Metro Area Value Pricing Feasibility Analysis Title VI/Environmental Justice Engagement Summary Report





Portland Metro Area Value Pricing Feasibility Analysis

Title VI/Environmental Justice Engagement Summary Report

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1 OVERVIEW

1.1 Introduction

As part of the Portland Metro Area Value Pricing Feasibility Analysis, the Oregon Department of Transportation (ODOT) seeks to reach and hear from a diversity of people from throughout the region because of the project’s potential benefits and adverse impacts for a large portion of the population. ODOT is conducting general public outreach through in-person open houses and online input opportunities throughout the Portland region. In addition to these opportunities, ODOT specifically sought to reach those who traditionally have not engaged in public input processes and those who may have barriers to participation because of limited English proficiency or other reasons.

This report summarizes input received from November 2017 through March 2018, as ODOT engaged Title VI/Environmental Justice communities.¹ Activities included:

- Stakeholder interviews with representatives from six multicultural organizations (see Appendix A)
- Discussion groups with representatives from the African-American, Chinese, Hispanic, Native American, Slavic and Vietnamese communities
- Online and paper surveys distributed by community liaisons to their networks

More than 400 people participated in this equity-focused engagement from throughout the Portland metro area. Seventy-five percent self-identified as low income by having annual household incomes below \$45,000 (to be considered low income according to federal HUD guidelines, a family of four in Portland must be earning less than 80 percent of the median household average, or under \$59,760 in 2017).



*Vietnamese discussion group.
Source: ODOT*

¹ Title VI/Environmental Justice communities have been defined by ODOT for the purposes of this analysis as people with disabilities, people of color, low income and limited English proficiency populations.



1.2 Context and purpose

Through the Title VI/Environmental Justice engagement, the project team sought to:

- Reach and hear from historically underrepresented population groups such as communities of color, low income people, persons with limited ability to communicate in English and immigrants. The purpose was to understand needs, issues, concerns and opportunities around congestion and the potential benefits and adverse impacts for these communities of implementing congestion pricing.
- Create accessibility and awareness by working with individuals and organizations that specialize in grassroots engagement; conducting this outreach in multiple languages; and meeting at dates, times and locations convenient to participants.
- Provide education about the congestion problem, congestion pricing and why ODOT is considering the tool, and the range of pricing concepts under consideration.
- Establish an informed network of Title VI/Environmental Justice community groups/individuals for future engagement on this project.

1.3 Participation by the numbers

Stakeholder interviews	6
Discussion group participants	114 total
<i>Vietnamese</i>	23
<i>Chinese</i>	24
<i>Hispanic</i>	16
<i>Russian</i>	16
<i>African-American</i>	14
<i>Native American</i>	21
Completed surveys (online and hard copy)	286
TOTAL PARTICIPATION	406



*Chinese discussion group.
Source: EnviroIssues*



2 KEY TAKEAWAYS AND THEMES

The top issues heard during this round of Title VI/Environmental Justice engagement are consistent with frequently mentioned comments received from this project's winter 2018 outreach and engagement with the general population:

- Congestion is a problem in this region that needs to be addressed
- Population growth in the Portland region is putting tremendous pressure on the existing highway network and there is a need for additional capacity and development of alternative routes
- There are concerns about value pricing as an effective congestion management tool
- There are concerns about social equity and inability to afford tolls

Differences exist between the Title VI/Environmental Justice feedback and the winter engagement general population feedback. The discussion groups and surveys highlighted the following distinctions for Title VI/Environmental Justice communities:

- Stronger reliance on I-5 and I-205 as primary commuting routes to work and school
- Rising housing prices and gentrification are pushing low income people further away from the city center, greatly increasing travel times to work and school
- Higher degrees of skepticism and requests for proof that value pricing is an effective congestion management tool
- Higher degree of uncertainty about how user fees might disrupt their trip planning
- More sensitivity to the financial burden of paying tolls
- Less flexibility to alter their time, mode or route of travel

Similar to results of engagement with the general population, comments from the discussion groups and surveys fell into broad categories of key themes:

1. Travel patterns and behavior
2. Congestion perceptions and impacts
3. Value pricing impressions and expectations
4. Equity considerations
5. Mitigation ideas
6. Future engagement

Feedback was largely consistent between discussion groups and surveys. Where discussion group conversations raised issues not addressed by the survey, these are called out below.

2.1 Travel patterns and behavior

- Over half of participants use I-5 and I-205 as their primary commute to work or school, especially I-205 for low income populations living or working in the east side of the Portland metro region. I-5 generally was more frequently used for running errands, visiting family and for recreation for these populations. This is consistent with the results from the winter outreach survey, which indicated that respondents from communities of color are 12 percentage points more likely to use the highways every day than white respondents.
- Participants engaged through Title VI/Environmental Justice outreach were more likely to be commuters and students than respondents to the general winter



outreach survey, who said they most often use the highways for recreational or social trips. This could indicate less flexibility in travel times or travel patterns among lower income and diverse populations, assuming workers and students have set times and days when they need a predictable arrival time.

- The vast majority of participants indicated that they typically drive alone, which is consistent with the results from the winter outreach survey. This is observed regardless of income level and especially true for commuters and students. A smaller number travel with other passengers, more often for medical appointments. Very few participants said they routinely bike, walk or use transit.
- Transit was viewed as inconvenient for nearly all discussion group participants, who stated that routes are not close enough to them or require too many transfers and/or simply take too long to reach their preferred destinations. Similar sentiments were shared by a number of respondents to the winter outreach survey. At half of the discussion groups, not a single person indicated they use transit or bike, the exception being the African-American and Hispanic meetings where a third or more of participants frequently use transit, with some indicating they don't own a car.

2.2 Congestion perceptions and impacts

- Congestion affects participants the most by causing them to leave early and/or arrive late when they make their trips. Arriving late was the most significant impact, with negative consequences for those who commute every day to work and school, as opposed to those who are late for other reasons.
- Impacts associated with congestion include unpredictable travel time, having less personal time, wear and tear on vehicles, increased trip length and (to a much lesser extent) noise and air quality impacts.
- Currently, diversion impacts from traffic on neighborhood streets do not appear to impact most participants in a significant way. Hispanic and African-American participants mentioned existing diversion concerns in higher numbers than the other groups.
- Changing routes to avoid current congestion was reported frequently by drivers from Washington and Multnomah counties but described much less often by drivers in Clackamas County and hardly anyone from Clark County. The responses for Clark County would indicate fewer available alternatives for Washington residents traveling to Oregon and back.

2.3 Value pricing impressions and expectations

- Although there was widespread recognition that the region has a congestion problem, participants were skeptical that congestion pricing will work to reduce congestion on the freeways. They were inclined to believe the purpose of congestion pricing is to generate revenue rather than congestion relief. Many envision drivers still sitting in traffic, just paying to do so. Many also believe tolling will make current congestion worse by forcing more drivers into already congested, but un-tolled lanes.
- The vast majority of participants want proof that tolling is effective elsewhere and will work here. They have questions about how the funds raised will be spent and



want to see those benefits demonstrated. Some people requested annual public reports from ODOT detailing funds raised and spent.

- The price of the user fee is the top influencing factor identified by participants for driving on I-5 and I-205 if congestion pricing is implemented. This is consistent with the results of the winter outreach survey where this was the number one reported factor. Some people wanted to know the cost of the toll first before offering opinions about how they might respond to congestion pricing. For many, tolls are perceived to be unaffordable, no matter the cost.
- There is a high degree of uncertainty about how lower income residents and non-English speakers would respond to tolling, with many indicating that set employment hours are an issue or that they would try to avoid the user fees by driving a different route that isn't tolled if that is available.
- Participants expressed a clear preference for choice. If tolling is enacted, nearly all prefer priced lanes instead of priced roadways so there is choice whether to pay a toll. Similarly, tolling during peak travel hours only was viewed more favorably than tolling 24-hours a day.
- Discussion group participants expressed near unanimous, unsolicited support for directing tolling revenue to highway widening projects such as adding new lanes instead of tolling existing lanes without adding freeway capacity. Many believe only the newly-added lanes should be the ones that are tolled.

2.4 Equity considerations

- Participants had many questions and concerns about equity impacts to their communities. They said many people are less able to afford paying tolls. Some viewed priced lanes as another form of "classism" that favors wealthier drivers who can afford to pay the toll over lower income people with fewer means.
- Discussion group participants expressed concern for persons with limited English proficiency who might inadvertently use a priced lane or priced roadway and asked how this might be mitigated. Lane striping and obvious signage were suggested.
- Some expressed concerns about privacy and the safety of undocumented persons if the process of tolling exposes personal and sensitive information for the government to track.

2.5 Mitigation ideas

- The example of transit improvements as tolling mitigation options in other parts of the U.S. was introduced in the meetings. Participants were less likely to be influenced by the availability or convenience of transit options and indicated less flexibility to consider traveling at a different time of day for their trips. This suggests these participants are challenged by limited access to transit where they live and limited flexibility in the time of day they can travel. By comparison, around a quarter of all respondents to the general winter outreach survey said they would change the time they travel and 15 percent would consider transit. Respondents to the winter outreach survey from communities of color were less likely to say they could change the time or mode they travel.
- Some in the discussion groups suggested diverting toll funds to subsidize low-income transit or freeway commuting as a possible form of mitigation. It was



noted that a \$5 per day transit pass adds up quickly and is challenging for many people to afford. If the tolls are cheaper than a bus pass, then people may prefer to drive for the savings and convenience.

- Some discussion group participants requested that “the state” work with employers to form partnerships to provide incentives for transit, biking or walking, or help cut the cost for employees who commute to work on tolled freeways and don’t have another option.
- Discounts for carpools was suggested by some discussion group participants as a potential form of mitigation. Results from the Title VI/Environmental Justice survey indicated that approximately one in five drivers who travel for work or school might benefit by a carpool discount since more than 70 percent indicate they drive alone.



*Hispanic discussion group.
Source: ODOT*



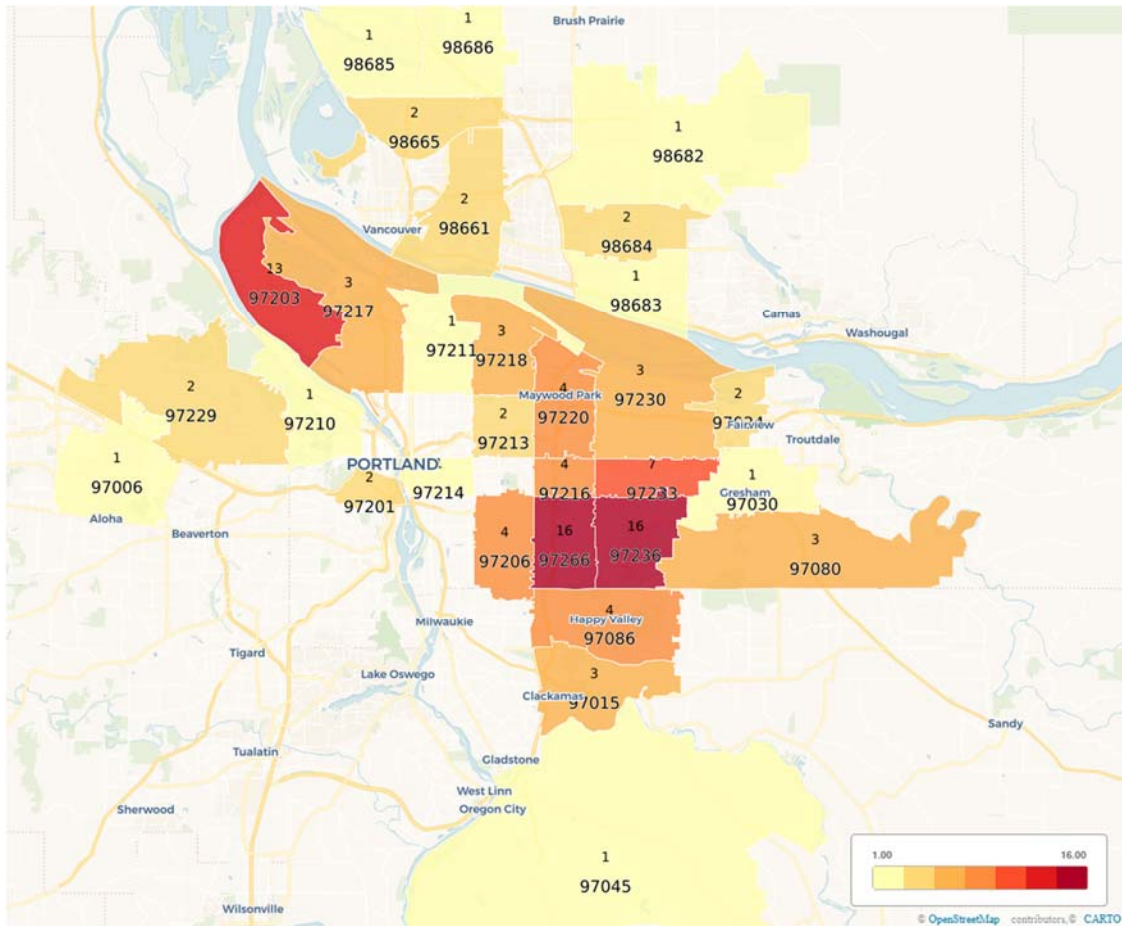
3 COMMUNITY PARTICIPATION: DEMOGRAPHICS

3.1 Discussion group participants

Community Engagement Liaisons were asked to recruit individuals who commute on or use I-5 and I-205 to participate in the discussion groups. In total, 114 people attended the six meetings.

Participants at the discussion groups were asked to provide their ZIP code (in total, 107 of the 114 participants did). Most participants live in Multnomah County, specifically outer east Portland. There was some representation from Clackamas County in the Happy Valley/Clackamas area. Fewer participants represented Washington and Clark counties.

Figures 1 and 2: Geographic distribution of discussion group participants (by ZIP code and county) (N=107)



County	Number	Percent
Clackamas County	8	7%
Clark County	10	9%
Multnomah County	86	80%
Washington County	3	3%
Total (providing ZIPs)	107	100%



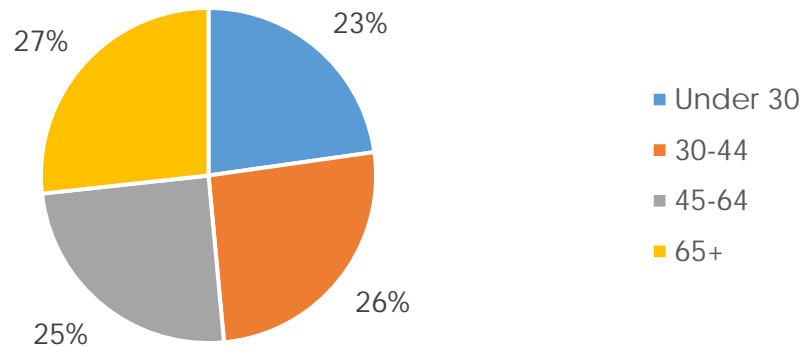
In total, 75 percent of discussion group participants have household incomes of less than \$45,000, and half earn less than \$25,000.

Figure 3: Household income ranges of discussion group participants (N=88)

Income	Number	Percent
Less than \$25,000	53	50%
\$25,000 to \$45,000	38	35%
\$45,000 to \$75,000	7	7%
Greater than \$75,000	9	8%

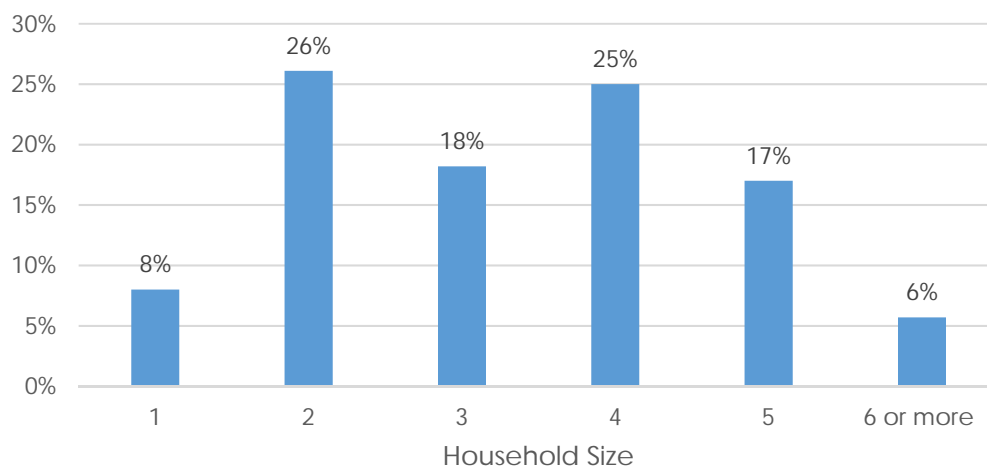
Discussion group participants represented a range of ages, with an average age of 49. Just over a quarter (27 percent) are senior citizens (65 and older). The youngest participant was 20 years old and the oldest was 84.

Figure 4: Age of discussion group participants (N=101)



Around two thirds (63 percent) of discussion group participants come from households with three or more people.

Figure 5: Discussion group participant household size (N=107)

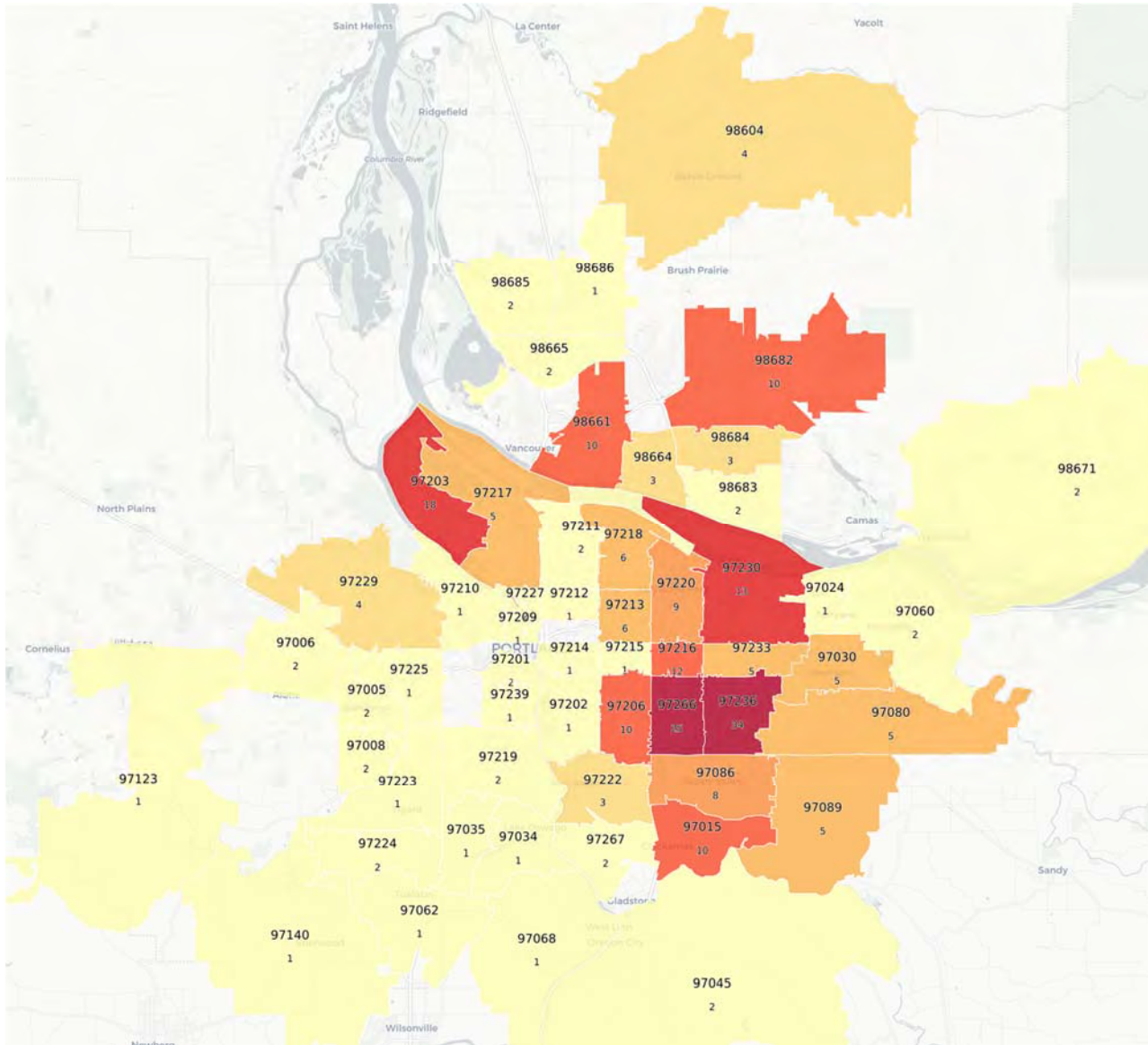




3.2 Survey respondents

Survey respondents also were asked to provide their ZIP code. With 286 completed surveys, participation represents a wider part of the Portland region, with higher totals and greater percentages in all four metropolitan area counties than the discussion groups.

Figures 6 and 7: Geographic distribution of survey respondents (by ZIP code and county) (N=265)



County	Number	Percent
Clackamas County	20	8%
Clark County	40	15%
Multnomah County	188	71%
Washington County	17	6%
Total	265	100%



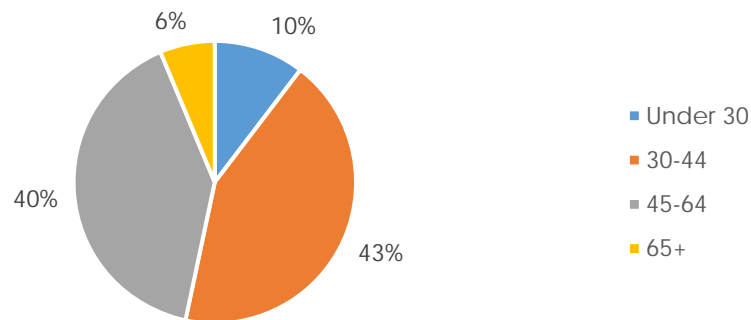
The majority of survey respondents came from households making less than \$45,000 a year (71 percent), though this proportion was smaller than discussion group participants.

Figure 8: Household income ranges of survey respondents (N=276)

Income	Number	Percent
Less than \$25,000	66	24%
\$25,000 to \$45,000	129	47%
\$45,000 to \$75,000	44	16%
Greater than \$75,000	37	13%

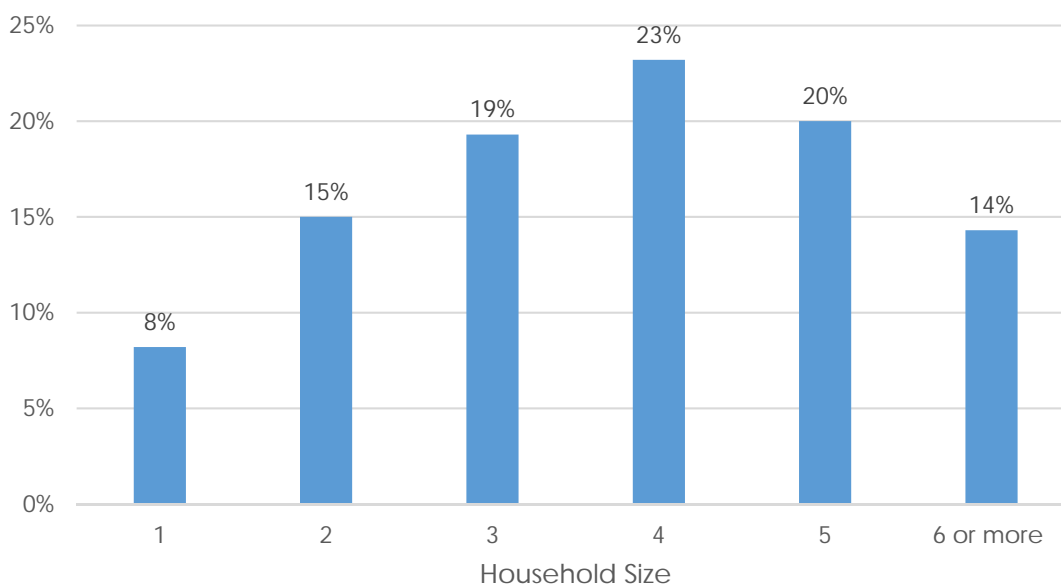
The average age of survey respondents was 44. Approximately 6 percent were senior citizens (65 years or older). The youngest respondent was 19 and the oldest was 90.

Figure 4: Age of survey respondents (N=276)



The majority of survey respondents come from households with four or more people, including 14 percent from households of six or more.

Figure 10: Survey respondent household size (N=280)



4 FUTURE ENGAGEMENT

Discussion group participants expressed appreciation to ODOT for including their voices early during planning. They expressed interest in staying involved in this project and being invited back for future conversations. Each of the community engagement liaisons offered their assistance in re-convening their community groups. Some asked to be consulted at each future stage of planning. Opportunities exist to leverage these community networks with updated, translated materials and additional meetings in the future.



*Native American discussion group.
Source: ODOT*



APPENDIX A: STAKEHOLDER INTERVIEWS

To provide early guidance and inform the Title VI/Environmental Justice outreach, the project team interviewed select key stakeholders affiliated with local agencies and organizations who work directly with community groups that are least likely to engage in traditional outreach efforts such as online open houses and community forums. Interviewees who agreed to be interviewed included representatives with:

- Coalition for Communities of Color
- Asian Pacific Network of Oregon
- Human Solutions
- Portland Housing Bureau
- Immigrant and Refugee Community Organization
- Community Engagement Liaison program

Interviews were conducted by phone and lasted between 45-60 minutes.

A.1 Objectives

The objectives of the interviews were to:

- Introduce the Value Pricing Feasibility Analysis
- Gather stakeholder input to inform Title VI/Environmental Justice engagement design process and the Education and Engagement Plan
- Identify stakeholder ideas, suggestions and specific issues of concern or opportunity about value pricing
- Better understand methods of reaching potential communities of concern and other stakeholders
- Identify other communities of interest and key stakeholders to reach

A.2 Interview questions

The following questions were asked during the interviews:

1. Do you think that congestion is currently a problem for our region? Does it affect you/your community members? If so, how?
2. What is your experience with value pricing? What comes to mind?
3. Do you and members of your community use I-5 or I-205? For what reasons and where are you traveling?
4. What potential benefits of value pricing do you think might be most important to members of your community?
5. What concerns might some of your community members have about value pricing?
6. What are the best methods to include you/your community members in this current process?
7. If value pricing were to be implemented in this region, what are the best ways to reach you or your community members to provide information?
8. What questions or opinions about value pricing would you like to convey to this project's decision makers?
9. Who else should we be talking to about this project?



A.3 Interview findings

Several key themes emerged during the interview process:

- Interviewees had a general level of familiarity with value pricing as a congestion relief tool.
- All interviewees emphasized the need for an authentic engagement process
- Title VI/Environmental Justice communities should be engaged before decisions are made
- There is a shared desire to understand potential health and equity impacts to specific populations
- Community members want to see fairness in outcomes (benefits and impacts) and are interested in mitigation options for low income people
- There is a strong correlation between transportation and housing costs: as housing costs rise, some communities are displaced, reducing their transportation options
- It is important to work through and with established community groups and leaders to engage Environmental Justice communities
- Participants should be compensated for their time
- The project team should utilize non-technical terminology whenever possible to increase accessibility
- Relationship building and one-on-one outreach are important for engagement success

A.4 Messages for decision makers

Interviewees were asked if they wanted to convey any messages directly to project decision makers, including the Policy Advisory Committee, ODOT and the Oregon Transportation Commission. Responses included the following:

- "I understand the need to address congestion, but I ask the decision makers to consider creative ways to address the health and equity impacts of value pricing on vulnerable populations (e.g. tax credits or rebates for people who have to use I-5 and I-205 for work). TriMet's low income fare is an example of one way to mitigate this."
- "Too often project plans are produced before there is public engagement. Please don't do it this way. I suggest involving the community earlier rather than later. Even if plans aren't set it is nice for community members to have an idea of what ODOT intends or is doing. Work with community organizations to do this."
- "Keep in mind how all community members are affected (social economics)."
- "As someone who works on the low-income housing side, it is really important that we continually emphasize the nexus between housing and transportation. We are becoming an increasingly segregated society and implementing a freeway pricing mechanism only adds to the household burden of people who are being displaced further away from the city due to gentrification."
- "If transportation projects begin with the least able, most vulnerable users in mind, those benefits trickle up and benefit everyone using the system."
- "I hope ODOT will analyze the true benefits and costs of value pricing to better understand who will be using it and affected by it."



A.5 Engagement recommendations

Based on this stakeholder interview feedback, the following actions formed the basis for the Title VI/Environmental Justice community engagement strategy:

- Engage diverse populations in this project after the impacts associated with the value pricing concepts are relatively known but before project decisions are made.
- Utilize the services of paid community engagement liaisons who have standing in their respective communities to organize discussion groups and survey low income, minority and immigrant populations.
- Translate information materials into languages other than English using easy-to-understand, non-technical terminology.
- Compensate discussion group participants for their time and schedule meetings at locations and times convenient to them.
- Use this initial engagement as a foundation for ongoing relationship building between ODOT and Title VI/Environmental Justice communities.



*Slavic discussion group.
Source: EnviroIssues*



APPENDIX B: ENGAGEMENT OF COMMUNITY LIAISONS AND COMMUNITY DISCUSSION GROUPS

B.1 Community Engagement Liaisons

Based on guidance received through stakeholder interviews, ODOT engaged the services of six community engagement liaisons (CELs) as the core component of the Title VI/Environmental Justice stakeholder engagement process. Four CELs were contracted via the Community Engagement Liaison program managed by Ping Khaw (non-English speaking: Vietnamese, Chinese, Slavic and Hispanic). Two additional CELs were contracted directly by the project team (English speaking: African-American, Native American). CELs were chosen based on their existing relationships, experience doing this engagement and knowledge of their communities.

Community Group	Language	Date	Location
Vietnamese	Vietnamese	March 14, 2018	Lincoln Park Elementary School, SE Portland
Russian/Slavic	Russian	March 15, 2018	Eastridge Church, Clackamas, OR
Hispanic	Spanish (Latin American)	March 17, 2018	Immigrant and Refugee Community Organization, NE Portland
African-American	English	March 17, 2018	New Columbia N. Portland
Chinese	Cantonese	March 21, 2018	Suey Sing Association SE Portland
Native American	English	April 2, 2018	Native American Youth and Family Center NE Portland

Each CEL was paid for their time to prepare for, invite participation from, facilitate and translate (if necessary) a two-hour focused, in-person conversation with at least 16 and up to 25 people from their constituent community groups. Specifically, they were asked to reach low income commuters and/or people who live near the freeways. "Low income" was defined in accordance with federal guidelines as people earning 80 percent of the area annual median household income (See Section 1.1). Participants from the community



groups in the table above were compensated for their time with \$40 gift cards from WalMart or Fred Meyer.

Additionally, CELs distributed and collected online and paper copy surveys from other members of their community groups. Surveys and the results were translated as necessary. See Appendix C for a summary of the survey results.

Liaisons agreed to complete the following tasks associated with this work:

- Attend a mandatory orientation meeting with ODOT to learn about the project and ask questions.
- Reach out to as many low-income commuters as necessary in any way they see fit to attract 16 - 25 people to attend the discussion group – seniors, students, and youth (at parent’s discretion). Children ages 16 and up could count as part of the number if they actively participate and provide ODOT with feedback.
- Schedule a date and location for the discussion group in consultation with ODOT. Meetings could be day or evening, weekday or weekend. (Note: two were on a Saturday and the rest were on weekday nights.)
- Collect and confirm RSVPs from attendees to ensure participation from at least 16 people.
- Provide the meeting plan and participant list to ODOT at least one week in advance of the meeting indicating where the participants live/work, and how they generally use I-5, I-205 and the neighborhood street network.
- Order and provide light food refreshments.
- Provide guidance/feedback on how participants want to be informed about how their input will be used.
- Be present at the discussion group, help lead the conversation, ensure adequate individual participation and be prepared to provide language interpretation (if needed).
- Utilize an ODOT-furnished value pricing fact sheet (translated) and sign-up sheet to promote the discussion group and survey.
- Translate the sign-up sheets, survey and responses if needed. The consultant team prepared the meeting summaries.
- Identify at least 40 people outside of the discussion group, and representing the Portland region, to complete a survey on value pricing and provide results to ODOT.

B.2 Discussion group questions

The following questions were asked at each discussion group:

1. What are your thoughts on each of the five tolling concepts that we have shown you?
2. How often do you travel on I-5 and/or I-205 in the Portland area?
3. Where are you usually going/for what purpose are you using I-5 and/or I-205?
4. How does traffic congestion on these highways affect you personally and do you think it affects others in your community in the same way or differently?
5. Do you change your travel plans because of traffic congestion? How?
6. How do you feel about the idea of paying a toll (fee) to use these highways?
7. If tolls were charged on I-5 and I-205, how might that change how you travel?
8. What would most influence your decision to drive on I-5 and I-205 if there are tolls?

9. What is the best way for us to keep you and other people in your community informed about this project?
10. Is there anything else that you would like us to know?

B.3 Discussion group summaries

B.3.1 Vietnamese Discussion Group (March 14)



Vietnamese discussion group participants. Source: ODOT

The first Discussion Group was held with the Vietnamese community on Wednesday, March 14, 2018 from 5-7 p.m. at Lincoln Park Elementary School, 13200 SE Lincoln St. in outer SE Portland.

Thi Luong, Vietnamese community liaison with the Portland Community Engagement Liaison (CEL) program arranged and hosted the meeting. Thi provided the Vietnamese/English translations since everyone spoke Vietnamese as their primary language. Dinner was provided. Twenty-three members of the Vietnamese community attended, representing Multnomah and Clackamas County neighborhoods. Almost all (96 percent) self-identified on the meeting sign-in form as being low income according to Federal guidelines (50 percent earn less than \$25,000 in

household income annually). Two ODOT staff and two EnviroIssues staff attended to present information, facilitate and document the conversation.

The meeting began with a welcome from ODOT followed by an informal introduction to congestion pricing using display boards as visual aids. Following the presentation, participants were asked a series of questions to promote discussion. Notes were taken on a laptop and projected on a screen (in English) so that participants could see that their feedback was being documented.



ODOT welcomes the Vietnamese discussion group. Source: ODOT

Key themes

- Participants included a broad cross-section of daily and occasional users of both I-5 and I-205. Participants use I-5 for errands more than commuting for work, while they use I-205 more for commuting.
- Broad skepticism exists among participants for how well value pricing will work to reduce congestion on the freeways. Value pricing was generally seen as a tax on the driving public.



- Participants asked for more information about how well value pricing is alleviating congestion elsewhere in the U.S.
- Participants raised questions about how much the potential tolls might be, how and where the funds collected would be spent, and whether the tolls would end once the improvements are paid for. One person requested an annual report from ODOT detailing how much money was collected and how it is being spent. This idea was well received. Participants expressed unanimous, unsolicited support for funneling the funds collected into highway widening projects such as adding new lanes.
- Participants generally view priced lanes more favorably than priced roadways because they provide drivers with choice about whether to use them and pay the fee.
- The group generally does not see diversion as a potential impact, although a few participants felt that diversion is impacting them today.
- Participants did not view transit improvements as effective mitigation for them – when asked, not a single participant indicated that they ride transit. It is not seen as a convenient alternative to driving.
- Participants expressed concern for persons with limited English proficiency (LEP) who might inadvertently use a priced lane or priced roadway. They requested obvious signage and striping for LEP populations if managed lanes are built.
- Participants in the Vietnamese discussion group expressed appreciation for the opportunity to provide input and indicated future interest in participating in the project.

Key questions and concerns

Throughout the conversation

- How is a toll different than a priced roadway?
- Why would you have a toll/fee on one lane?
- If an existing lane is tolled, the other lanes will have more traffic. How will people who don't know the language know one lane is tolled and the others aren't?
- What happens if you have tolls and there's still traffic?
- In California there are toll lanes and the other lanes have so much traffic they have to use the toll lane.
- Has been here over 20 years and hasn't seen the freeways expanded in that time. The freeways have been the same for 20 years. Now more people are coming here. Why not expand the roads?
- Why doesn't government build a new lane, and those who use the new lane, not everyone, pay the tolls?
- Will the new lane be painted green (so people know if they're in the priced lane)?



Vietnamese discussion group participants. Source: ODOT



- In California there is a sign about tolling, but it's very small and not easy to understand for people who don't speak English.
- When the toll starts in a lane, must have a sign to let everybody know that it is tolled.

Option A: I-5 Priced Lanes in North Portland

- Where will the money go?
- The fee will be for certain hours and days? Or all the time?
- If you go through the neighborhood to avoid the fee if would make it not possible. Don't like it.

Why don't you like it?

- I don't have other options.
- I don't have enough money
- How about Washington residents who work in Portland and don't have money to pay, what can you do? It is the only way to get to Oregon.
- Do you have to pay every day? How often would you have to pay the toll?

Option B: Priced Roadway on I-5 through Downtown

- If you're low income, just stay at home. (laughs)
- This option doesn't work because they will use the neighborhood and it will take more time to get through.
- Option B is the best option because it will help congestion the most. One other agreed, but just for a priced lane on Option B.
- Prefer B more than A because but the priced road is better than the priced lane. If everybody wants to go to downtown if there's a choice of whether to pay or not.

Would you be worried about more traffic in your neighborhood if there are tolls?

- Yes (nearly everyone).

Option C: Priced Roadway on the I-5 and I-205 Study Area

- No benefit. Thousands of cars have to go to work, and everybody has to pay. At least if it's just one lane you can choose. It's just going to make money for the government. Oregon tries to collect a lot of money for some reason that we don't know.
- Would like to know how the money is used. You get what you pay for. If you get nothing, it's not fair.
- This option has less choice.
- If the project goes forward will the government expand the freeway because of the money raised?
- Agrees with this option because everybody will avoid the road and there will be less congestion.
- Non-Oregon residents, how will they pay if they rent a car? Don't want to impose a burden on people who visit Oregon. How will we make sure that tourists pay the toll?



- The priced roadway is better than priced lane. If everybody pays the price can be lower.

Option D: Priced Lane on I-205 from OR99E to Stafford Rd.

- Good. We don't drive that.
- Husband would use it. But likes the idea because there's a lot of traffic and there's not another road.

Option E: Priced Roadway on I-205 over the Abernethy Bridge

- Okay, most people here don't use it. People like it, but it won't raise much money.
- Would tolling I-205 make more traffic on I-5?

How does traffic congestion on these highways affect you personally and do you think it affects others in your community in the same way or differently?

- Go to work early and come home late. Tired
- Pay more for gas.
- Baby cries
- Hungry.
- Takes more time.
- Yes, angry/bad mood

Do any of you live in areas with potential diversion?

- No.
- Not really in the Powell area, but other streets, like 82nd that they use.

Do you change your travel plans because of traffic congestion? Some How?

- Show of hands: Do you alter your route? 4
- Show of hands: Do you change what time you travel? 6
- Show of hands: Do you ever use transit (MAX or bus)? None
- No. It takes more time than driving.

How do you feel about the idea of paying a toll (fee) to use these highways?

- Depends on the situation. How much does it cost and how the fee can reduce congestion. Not sure yet.
- One benefit is building a new lane. If you toll an existing lane there won't be a benefit.
- Concern is that it will or won't solve the problem. Want to make sure it will solve congestion.
- If you have a fee and there's still congestion, what will you do with the money? Still collect it, or give up?
- For example, a toll fee for a while, and there's still congestion, where does the money go and do you continue to collect it?

Does the price concern you (how much)?

- Yes, everybody



- Would like to see a report of how much money you collect each year and what you did with the money.
- Suggests a website with information in other languages

If tolls were charged on I-5 and I-205, how might that change how you travel?

- Depends on how much it cost. If it costs a lot they will avoid.

Any considerations besides cost?

- Car pool
- Discount for some that are low income
- Willing to pay if there's a new lane. (all agree)
- Expanding the roadway could reduce property values for people living nearby.

Do you like B because you don't travel there?

- No, my husband uses it every day. He can go to work faster and has other options like public transportation.
- Priced lane will make more traffic in the other lanes. Likes the priced lane for all options.

If you knew it would improve travel time would it matter?

- Yes, if it can solve the problem it would be better, but don't know yet.
- When you study the other places around the US, what do they tell you about the results? Is it working?
- We need information about the other projects so it's easier to imagine.
- More benefits to tolling new lanes.
- Would like to know that the project will be helpful in the long run, not just for a year or two.

What is the best way for us to keep you and other people in your community informed about this project?

- Website, flier, all in different languages.
- Add more information on school district websites, in different languages.
- Newspaper (Vietnamese)

Do you want to continue to get information or talk to us more?

- As long as you have a gift card (laughs)
- Agree to keep coming and have a meeting like this when you have more information.
- After you pay for the new lane with toll revenue, would you continue to collect money?

Anything else?

- If you have a toll-free option, that's good. Must be worth the price.

B.3.2 Russian/Slavic Discussion Group (March 15)

The second Discussion Group was held with the Slavic community on Thursday, March 15, 2018, from 5:30 to 7:30 p.m. at the Eastridge Church, 14100 SE Sunnyside Road, Clackamas.

Hanna Grishkevich, Slavic community liaison with the Portland Community Engagement Liaison (CEL) program arranged and hosted the meeting. Hanna provided the Russian/English translations. Sixteen members of the Slavic community attended, representing Multnomah, Clackamas and Clark county neighborhoods.

Several of the participants could speak conversational English, but many could not so the entire meeting was translated into Russian. Dinner was provided. Slightly over half (58 percent) of participants self-identified on the meeting sign-in form as being low income according to Federal guidelines (29 percent are in households earning less than \$25,000 annually). One ODOT staff and two EnviroIssues staff attended to present information, facilitate and document the conversation.

The meeting began with a welcome from ODOT followed by an informal introduction to congestion pricing using display boards as visual aids. Following the presentation, participants were asked a series of questions to promote discussion. Notes were taken on a laptop in English and projected on a screen so that participants could see that their feedback was being documented.

Key Themes

- Most of the participants indicated that they drive I-5 and I-205 daily for work or running errands. Just a few rarely or never drive the freeways.
- About half of the participants have experienced tolling in other states and countries. They do not believe it has worked in other cities and want to see proof for how well it will work in Portland. Broad skepticism exists among all participants for how well value pricing works to reduce congestion on the freeways.



Hanna Grishkevich interprets for the Slavic discussion group participants. Source: EnviroIssues



Slavic discussion group participants. Source: ODOT



- Since most were unconvinced about value pricing's ability to provide congestion relief, they instead viewed it as a tax on the driving public or simply a Band-Aid approach to managing traffic.
- Participants expressed unanimous, unsolicited support for funneling any funds collected into highway widening projects such as adding new lanes. Tolling existing lanes without adding freeway capacity was not well received.
- Some participants felt that tolling would make congestion worse by forcing more drivers into the un-tolled freeway lanes.
- Some expressed concerns that other people coming from other states will not know about the system and would unknowingly be charged a toll.
- One participant represented a trucking business and she feels that the trucking industry already pays too much in fees.
- When asked what would help them get on board with tolling, participants asked how tolling fits into the larger picture of population growth in the region and how decision makers are planning for the influx of future residents. Some preferred to see a slower growth approach as a way to manage congestion.
- There was some support for allowing carpools free use of the tolled lanes.
- Participants did not view transit improvements as effective mitigation for them individually – when asked, only one participant indicated that she occasionally rides transit and she feels that transit is congested too.
- Participants expressed concern for persons with limited English proficiency (LEP) who might inadvertently use a priced lane or priced roadway and asked how this might be mitigated.

Afterward, participants in the Slavic discussion group expressed appreciation for the opportunity to provide input and indicated future interest in participating in the project.

Key Questions and Concerns

Throughout the conversation

- What other projects are in HB2017?
- Didn't you just spend a quarter billion dollars on I-205 (study)? Then didn't go through with project due to not having funding? (within the last year or two)
- Why are you looking only at I-5 and I-205?
- How much do tolls cost in Seattle?
- Does tolling depend on accidents? Is that why you are looking at doing this?
- Is it even possible to add another lane to I-205?
- Would the size of the vehicle affect the toll fee?
- What does the state think about this idea...is there an underlying desire?
- Would you be able to build a bridge over the highway, similar to Seattle where lanes are stacked on top of each other?
- How would people choose a different lane once there is a bridge?
- Will it bring relief for other things we pay for (i.e. lowering gas tax or other tax deductions)?
- If driving around the city is part of your job (taxis, uber, lyft, etc.) will they have a special pass/tolling fee exception?
- When population increased...congestion increased – why haven't the roads kept up with population growth? Where are we going in the future?
- What kind of feedback has been received so far about this?

***Option A: I-5 Priced Lanes in North Portland***

- There were negative reactions to Concept A. Several people assumed that this option must mean that the current HOV lane is not working as planned.
- What will Plan B look like if tolling is enacted and congestion remains bad?
- Will tolling be referred to the ballot for voters to decide on?

Option B: Priced Roadway on I-5 through Downtown

- Why is Concept A, the northern part, not included in this concept? It seems that you would want to make it as long as possible.
- Maybe Portland population will decrease due to this project – people will want to move away.
- Tolling doesn't work.

Option C: Priced Roadway on the I-5 and I-205 Study Area

- Rich people can afford to pay in this area.
- Gresham/Fairview will not be able to afford.
- Poor people live everywhere.
- There isn't room to add another lane on I-205.
- The bike bridge (Tillikum Crossing) did not relieve highway congestion. Why are we spending money on that and not widening the freeways?
- People won't like this concept. There is no choice.
- Will there be a trial period for any of the concepts to see how effective they are?
- Will we be invited back when these concepts are refined?
- Should we be afraid of overpricing?

Option D: Priced Lane on I-205 from OR99E to Stafford Rd.

- Less concern was expressed about this concept because fewer people would be impacted by tolling in this area. Only two people did use the highway being tolled in this concept.

Option E: Priced Roadway on I-205 over the Abernethy Bridge

- I like this one – never drive it.
- No, there is a potential for high fees since everyone pays.
- I prefer because it's only in Oregon City.

How does traffic congestion on these highways affect you personally and do you think it affects others in your community in the same way or differently?

- Avoid the highways
- Very Stressful
- Always stuck in traffic
- I must leave 45 mins. earlier than I would otherwise. When asked, nearly everyone stated that they have to adjust their expected travel times due to congestion. Only a couple said they altered their routes.
- I get used to it when I am in it every day.
- Cuts into personal time.



- Yes, it impacts most people who live near the freeways – noise impacts and extra traffic from others avoiding freeway

If tolls were charged on I-5 and I-205, how might that change how you travel?

- Most said that they cannot change their travel times or routes but were unsure if they would pay a toll. Many said that they'd have to see what the toll rates were before deciding.

If you knew it would improve travel time would you support tolling?

- Free or not free...there will still be traffic
- Prefer a trial of the toll in action.

What is the best way for us to keep you and other people in your community informed about this project?

- Have another meeting like this that we can attend. Send us emails or put this on Facebook.
- If you pay us, we will come back!
- Thank you for talking to us; we know we gave you a hard time.

Anything else you would like us to know?

- Build new bridges. We need more bridges in this region.
- Don't charge fees for people using the freeways.
- Put monitors/signage around to tell people to avoid the highways when the delays are bad.

B.3.3 Hispanic Discussion Group (March 17)

The third Discussion Group was held with the Hispanic community on Saturday, March 17, 2018, from 10 a.m. to noon at the Immigrant and Refugee Community Organization, 10301 NE Glisan Street in NE Portland.



ODOT welcomes the Hispanic discussion group.

Source: EnviroIssues



Genie Gomez, Hispanic community liaison with the Portland Community Engagement Liaison (CEL) program arranged and hosted the meeting. Genie provided the Spanish/English translations. A number of the participants could speak fluent English, but several could not so the entire meeting was translated into Spanish. Refreshments were provided. Sixteen members of the Hispanic community attended, representing Multnomah and Clark county neighborhoods. All participants self-identified on the meeting sign-in form as being low income according to Federal guidelines (61 percent are in households earning less than \$25,000 annually). Two ODOT staff and two EnviroIssues staff attended to present information, facilitate and document the conversation.

The meeting began with a welcome from ODOT followed by an informal introduction to congestion pricing using display boards as visual aids. Following the presentation, participants were asked a series of questions to promote discussion. Notes were taken on a laptop in English and projected on a screen so that participants could see their comments being recorded.

Key Themes

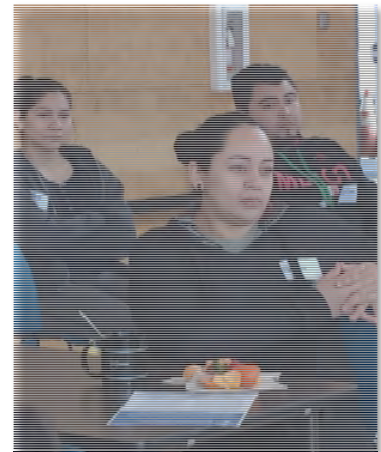
- The majority of the participants indicated that they drive I-5 and I-205 regularly, many for work. A few had jobs driving delivery vehicles and cleaning houses, which requires them to travel the freeways around the region daily.
- Several families attended with young children. Two of the children present had disabilities. These families with children said that everything is expensive and that costs add up. Tolling would be just another financial burden on them.
- Participants had many questions and concerns about equity impacts to low income populations and communities of color who are less able to afford paying tolls.
- Participants were not convinced that value pricing will work to reduce congestion on the freeways. It is generally viewed as a user tax to drive and they envision people still sitting in traffic, just paying to do so.
- If tolling is enacted, all participants prefer priced lanes instead of priced roadways so there is choice whether to pay a toll.
- Many participants felt that the people who would opt to pay the toll would have more means and that those who would not would further congest the two untolled lanes or contribute to cut-through traffic on the local transportation system which brings its own set of concerns.
- Regardless, most stated that if they had to drive, they would look to alternative routes on surface streets to avoid the tolls, depending on the cost.
- There were questions about how transponders work and how the tolls are collected. Several people wondered whether they would be charged multiple times per trip or per day for using the system.
- Many participants did not view transit improvements as effective mitigation. When asked, six participants indicated that they ride transit. Most people felt that transit is not convenient because of the amount of time it takes to get to destinations.
- Several participants mentioned feeling negative and overwhelmed about the idea of the freeways being tolled. This meeting was characterized by an undercurrent of sad resignation among participants.

Participants in the Hispanic discussion group expressed appreciation for the opportunity to provide input in the project.

Key Questions and Concerns

Throughout the conversation

- In the 40 places that have implemented tolling, how well has it worked in reducing congestion?
- Will there be tolls from Beaverton to Portland?
- Why are only I-5 and I-205 being studied?
- Why aren't you looking at OR 217 and US 26, which are also congested?
- How will the technology work? Will there be an app?
- What is the low-income population that will be studied in this area?
- How will the funding raised by tolling be spent?
- How much will the toll cost me? When will I find out?
- Do people have to pay twice when you enter and exit the freeway?
- Won't residential streets be impacted by so many people choosing to not pay the toll?
- If I have to get a transponder, do I have to pay for that too?
- My husband has to drive a company vehicle. Would he be responsible for paying the tolls?
- Would the tolls be tax deductible if I had to pay them? Will any subsidies be available?



Hispanic discussion group participants. Source: ODOT

Option A: I-5 Priced Lanes in North Portland

- Several people use this stretch of I-5 regularly.
- My support for this would depend on the price of the toll.
- Why would you not extend the tolled area further south?

Option B: Priced Roadway on I-5 through Downtown

- Two people drive through this area regularly.
- People would divert onto I-405 to avoid the toll.
- I would like for project team to study the impacts for people who use these highways like me. I clean homes and must commute to different areas for this work (i.e. Beaverton to Hillsboro, to Portland, etc.).
- The congestion will impact residential streets and impacts include safety for children, pedestrians, etc.
- I feel overwhelmed with the presentation and you have no answers to important questions (i.e. tolling price, locations, impacts). The possibility of being charged is overwhelming given my current financial burden. (All in the room agreed with this statement).
- Lower income will be impacted by this project. Elderly or people with disabilities will be negatively impacted.

***Option C: Priced Roadway on the I-5 and I-205 Study Area***

- The majority of participants said this option would impact them more than the others.
- Is this to relieve congestion or to make profit for the state?
- This will cause more congestion/traffic.
- I am understanding that this project seems to be that ODOT only wants those using the roadways to pay. Others that don't use should not be there.
- Will the price of the toll be tax deductible?

Option D: Priced Lane on I-205 from OR99E to Stafford Rd.

- Six participants regularly drive this portion of I-205 for work and to visit family.
- Would you pay the toll twice (at the entrance and again at the exit)?
- Would I have to pay the toll multiple times in a day if I use I-5 and I-205 on my commute multiple times during the day? My job requires driving around the region.
- Tolls would impact our personal lives such as visiting family members and for recreating.

Option E: Priced Roadway on I-205 over the Abernethy Bridge

- Three participants drive across the Abernethy Bridge daily for work and would be impacted by tolling here.
- There are no real options to detour because the nearest bridges are far away.
- Can we choose a no toll option?

How does traffic congestion on these highways affect you personally and do you think it affects others in your community in the same way or differently?

- Use more gas because I am sitting in traffic.
- Losing too much time.
- I have to leave the house earlier and get home later due to traffic.
- Congestion increases accidents.
- More traffic congestion due to construction also.
- Public transportation takes too long (1.5 hour) and I would need to take multiple buses to get to my destination.
- Spending less time with family.
- Half of the group stated that they change their routes because of congestion if they can.
- Half of the group indicated that they currently experience diversion on their neighborhood streets today.

If tolls were charged on I-5 and I-205, how might that change how you travel?

- Six people said they use public transit today.
- Many others said that transit takes them too long to make it a viable travel option for them.
- Will TriMet raise their fares because of tolling?

- No one indicated that they regularly walk or ride a bike as their form of transportation.
- Six people said that they have no flexibility for when they can leave the house for work.

If you knew it would improve travel time would you support tolling?

- I can't afford it.
- I would be forced to pay the toll, not because I want to or can.
- Half of participants stated that they would avoid paying the tolls and use surface streets instead.

What is the best way for us to keep you and other people in your community informed about this project?

- Phone calls and text messages.
- Radio stations (El Rey, 93.1, 94.3, KBOO).

B.3.4 African-American Discussion Group (March 17)



*ODOT welcomes the African-American discussion group.
Source: EnviroIssues*

The fourth Discussion Group was held with the African-American community on Saturday, March 17, 2018, from 3:00 to 5:00 p.m. at the New Columbia Community Room, 4605 N. Trenton Street in north Portland.

LaQuida Landford and Rashaan Muhammad, African-American community liaisons, arranged and hosted the meeting. Since everyone spoke English, no translation was needed. Refreshments were provided. Fourteen members of the African-American community attended, representing mostly Multnomah (and one Clark county)

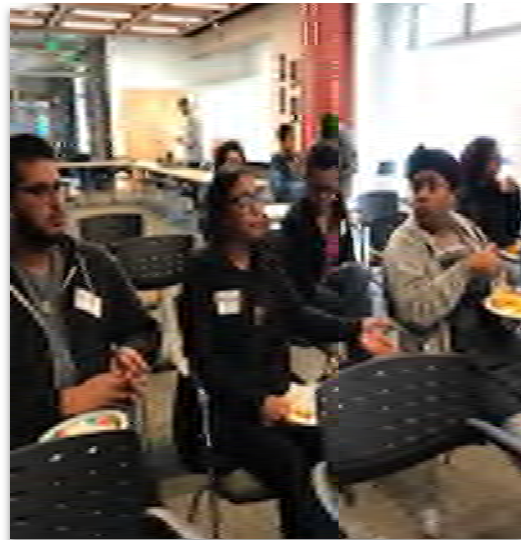


neighborhoods. All participants self-identified on the meeting sign-in form as being low income according to Federal guidelines (40 percent are in households earning less than \$25,000 annually). One ODOT staff and two EnviroIssues staff attended to present information, facilitate and document the conversation.

The meeting began with a welcome from ODOT followed by an informal introduction to congestion pricing using display boards as visual aids. Following the presentation, participants were asked a series of questions to prompt discussion. Notes were taken on a laptop and projected on a screen so that participants could see their comments being recorded.

Key Themes

- This meeting was equally represented by people who drive I-5 and I-205 regularly and those who don't own a car and/or are transit dependent. Some of the discussion group participants had taken a TriMet bus across town to get there.
- Participants were skeptical for how well value pricing works as a tool to reduce freeway congestion. They asked for proof that it works elsewhere.
- Several participants had experience in other areas with tolls and high traffic congestion. They requested side-by-side comparisons of cities with similar circumstances to Portland that have proven that tolls reduce traffic congestion.
- Someone pointed out that for the toll to actually reduce traffic, it will need to be expensive enough to price people off the road. There was concern that if people are priced off the road then other modes of transportation will be negatively impacted by the influx of ridership and neighborhood streets will be impacted by diversion.
- Participants also raised frustration over losing the prospect of transportation convenience. Additionally, there was concern about the inequity of low income people being required to pay the same toll price as wealthier commuters.
- One person specifically asked, "I need to use the freeway, I don't have the money, I want to get there faster, how do I balance that? What am I going to do?"
- Questions about possible penalties for not paying tolls were raised. Some in the room recognized that letting traffic/parking tickets pile up into the thousands of dollars is not always a deterrent for low income people. This toll would be another undue burden for them. "If someone can't afford the toll, they will never be able to afford the ticket for (not paying) the toll."



African-American discussion group participants. Source: ODOT



- There was concern that tolls would go to funding a TriMet jail or a fare evading jail, and there was an uneasiness of this being code for prison for low-income and people of color.
- There was also a concern about the safety of undocumented persons because the process of tolling could expose a lot of personal and sensitive information for the government to track.
- One person observed that tolling is simply another way of injecting classism into society. Many agreed with this notion. "How is somebody's commute to work more important than my attending my nephew's birthday party in Vancouver?"

Participants in the African-American discussion group expressed appreciation for the opportunity to provide input in the project and want to remain involved.

Key Questions and Concerns

Throughout the conversation

- What does ODOT plan to do with the money raised?
- Where will it go and how will it be spent?
- Why are only I-5 and I-205 being studied?
- How much will the toll cost?
- Can there be waivers or discounts for people who can't afford to pay a toll?

Option A: I-5 Priced Lanes in North Portland

- I am still having to sit in traffic to get to the tolled lane, or perhaps still sitting in traffic in the tolled lane. The same amount of people will still be traveling, even with the tolled lane.
- Does this mean that the HOV lane doesn't work the way it is now?

Option B: Priced Roadway on I-5 through Downtown

- People will divert onto I-405 to avoid the toll.
- Don't see this working. It's very congested as it is now and then you will be asking people to pay a fee to sit in the congestion.

Option C: Priced Roadway on the I-5 and I-205 Study Area

- This is the most equitable option: Lower the fee and spread it out to everyone who uses the system.
- Would there be several tolls throughout the highway system? How would it work if you travelled on multiple freeways?

Option D: Priced Lane on I-205 from OR99E to Stafford Rd.

- No opinions were offered about this option. Several people noted they don't travel I-205 in the Oregon City area.

Option E: Priced Roadway on I-205 over the Abernethy Bridge

- Same as Option E. No opinions were offered. Several people noted they don't travel I-205 in the Oregon City area.



How does traffic congestion on these highways affect you personally and do you think it affects others in your community in the same way or differently?

- The real impact is diversion. “Just walking on streets near my house now is deadly.” Participants felt that their children couldn’t be sent outside to play for fear of getting hit and killed by cars avoiding congestion.

How do you feel about the idea of paying a toll (fee) to use these highways?

- People were really concerned about where the toll money would go, noting that “it never seems to come back to us.” When asked what they would do with the money, it was said that “of course, I want it to go into fixing up my neighborhood roads. There are potholes four feet wide that my car can fall in to. I’m tired of swerving around potholes.”

If tolling is implemented, can you think of ideas that would address your concerns?

- There was a general sentiment that more buses and routes should be implemented should tolling come to fruition. This would provide convenient mobility, taking people where they needed to go in a timely manner.
- Diverting toll funds to subsidize low-income transit commuting also was preferred as a form of mitigation. It was noted that \$5 a day adds up quickly and is challenging for folks, and that the new hop pass system is confusing. If the tolls are cheaper than a bus pass, then people will opt in to driving for the convenience.
- Additionally, participants requested that the state work with employers to form partnerships to incentivize either alternative modes of transportation or help cut the cost for employees who commute to work on tolled freeways and don’t have another option.

Are you concerned about diversion?

- There was much concern about safety in neighborhoods bordering highly trafficked freeways. People felt that their kids weren’t safe playing outside, and they didn’t feel safe walking down the road due to the increase in vehicles diverting through neighborhood streets. Tolls were viewed as potentially exacerbating a current concern for this community.

What is the best way for us to keep you and other people in your community informed about this project?

- Participants indicated interest in further meetings on this topic and the liaisons are interested in convening them. The group requested to be kept in the loop at each stage of the project.
- Some participants offered to share project information with their communities and organizations, such as Southeast Uplift, East Portland Action Plan and PAALF.

Is there anything else that you would like us to know?

- Is a third tolled bridge being considered between Oregon and Washington in the region?
- Will new or newer cars be required to be compatible with tolls, and how will older model cars work with the technology? How will ODOT ensure accuracy of tolls?

- There was a question about current conditions including, “If nothing changes, no tolls are implemented, no roads are widened, will that encourage people to leave and move back to where they came from?”

B.3.5 Chinese Discussion Group (March 21)



*Chinese discussion group participants.
Source: ODOT*

The fifth Discussion Group was held with the Chinese community on Wednesday, March 21, 2018, 5-7 p.m. at the Suey Sing Association, 8743 SE Powell Blvd. in outer SE Portland.

Timmy Tso, Chinese community liaison with the Portland Community Engagement Liaison (CEL) program arranged and hosted the meeting. Timmy provided the Chinese/English translations because everyone spoke Cantonese as their primary language. Refreshments were provided. Twenty-four members of the Chinese community attended, representing Multnomah, Washington and Clackamas county neighborhoods. Seventy-nine percent self-identified on the meeting sign-in form as being low income according to

Federal guidelines (58 percent are in households earning less than \$25,000 annually. Two ODOT staff and two EnviroIssues staff attended to present information, facilitate and document the conversation.

The meeting began with a welcome from ODOT followed by an informal introduction to congestion pricing using display boards as visual aids. Following the presentation, participants were asked a series of questions to promote discussion. Notes were taken on a laptop.

Key Themes

- Most of the participants indicated that they don't drive I-5 very often. They use I-205 more frequently; most of them drive it daily for work or running errands. Many prefer to use surface streets instead of the freeways.
- One participant, a doctor, observed that many in the local Chinese community work in the restaurant/food service industry and therefore are not commuting during peak travel times. He noted that they typically travel mid-morning and after 10 p.m. at night. Most live in SE Portland but they go to work throughout the metro area. All of the meeting participants agreed with his statement when asked for confirmation. Several people thought they should not have to pay tolls because of this.
- The majority of participants were over the age of 50 and many were retired. Many had concerns about the financial burden of tolling on people with fixed incomes.
- If tolling is implemented, participants said they would support tolling during peak hour travel only and not all hours of the day, even if variable.



- Broad skepticism exists among participants for how well value pricing will work to reduce congestion on the freeways. If tolling is enacted, all participants prefer priced lanes instead of priced roadways so there is choice whether to pay a toll.
- Participants asked for more information about how well value pricing is alleviating congestion elsewhere in the U.S., and specifically the managed lane projects in Seattle.
- Participants expressed unanimous, unsolicited support for funneling the funds collected into highway widening projects such as adding new lanes. Specifically, they requested that the newly-added lanes should be the ones that are tolled. Tolling existing lanes without adding freeway capacity was not well received.
- Diversion generally was viewed as more of an opportunity than a concern. One person asked for clear signage for convenient detour routes to avoid paying tolls. Many participants supported his suggestion.
- Participants did not view transit improvements as effective mitigation for them individually. When asked, not a single participant indicated that they ride transit. However, one person asked if more light rail lines could be built along congested freeway corridors.
- Participants expressed concern for persons with limited English proficiency (LEP) who might inadvertently use a priced lane or priced roadway and asked how this might be mitigated.
- In a lighthearted moment, when shown the project schedule including a potential NEPA phase, one gentleman noted that if this project was being implemented in China, it would only require two months (laughter ensued).



Chinese discussion group participants. Source: EnviroIssues

Participants in the Chinese discussion group expressed appreciation for the opportunity to provide input and indicated future interest in participating in the project.

Key Questions and Concerns

Throughout the conversation

- Would it be a 24-hour charge or just during specific times of day?
- Can a waiver be offered to exempt people who have no other choice but to drive I-5 or I-25?
- Is the government going to build additional lanes to toll?
- I use I-5 and I-205 often; is it possible that one lane is tolled and not all of them?

***Option A: I-5 Priced Lanes in North Portland***

- They probably will want to use dynamic pricing to decide the price so that during specific times it is fairer for the people driving.
- It is probably better to charge the whole road because currently the HOV lane is wasted and sits empty and the toll will probably have the same effect.
- How successful is the HOV lane today? Can we see an express lane before we start tolling the lane?

Option B: Priced Roadway on I-5 through Downtown

- This option would not affect many people in this community.
- This is not as fair because you have no choice.

Option C: Priced Roadway on the I-5 and I-205 Study Area

- After you start tolling, you'll never take it back.
- If everyone pays, then what is the big difference?
- If the fee is low then can't everyone afford it?
- This option, if all lanes are tolled, the people who are driving this area have no choice and have to pay the fee, so the congestion is not solved.
- This just means we have no choice.
- Every time I use this area, especially 205, during the busy time it is very congested. This plan seems like the best funding for the government, not much benefit for people because they do not have a choice. This will make a lot of people upset because they have no choice. A lot of frustration. This doesn't feel like democracy. I suggest using a priced lane in this whole area to offer more of a choice. If you're in a hurry then you can choose to use the toll lane and if you're not in a hurry you can wait longer and not pay. This should be able to help relieve the traffic congestion. I prefer the priced lane in the study area. (Most of the room agreed because they wanted choice.)
- One woman, who did not agree with the previous statement, said if you build additional lanes for the toll, it's fine – people can have choice. If you use the existing lanes and toll one of the two lanes, the traffic congestion will be even worse. Build additional toll lanes instead of using existing lanes for tolls. Do not decrease the options for lanes; it will make congestion much worse.
- It's a good idea to build extra lanes (everyone agreed).

Option D: Priced Lane on I-205 from OR99E to Stafford Rd.

- Not much reaction – this option only affects four people in the room.

Option E: Priced Roadway on I-205 over the Abernethy Bridge

- I agree that during congested times you should collect a fee, but I drive this way in the middle of the night. It would not be fair to charge me a fee at that time.

How does traffic congestion on these highways affect you personally and do you think it affects others in your community in the same way or differently?

- I live in Milwaukie so I can take surface streets.



- I live in Beaverton and drive to 82nd Avenue very often. Normally, I can drive 84 to 205 and get to 82nd very quickly unless during rush hour. To avoid the freeway, I drive Powell. But now Ross Island Bridge is also very congested. It makes me very upset. I commute between Beaverton and 122nd Avenue. The traffic makes it very difficult and is very stressful and I need something to help relieve stress.
- From what I understand, is that from Columbia River on the I-5 to Tualatin, that section is always congested. Is the intention behind this study to solve congestion or raise money? My suggestion is that the only way to solve the problem is to add additional lanes. Create diversion signs to help drivers take other routes to detour around congestion. Make it really obvious how to avoid the toll. If you collect a fee and don't solve congestion, then it doesn't work. If people live in Vancouver and work in Portland then they don't ever have an option besides those roads during peak hours. That is a lot of money to have to pay every day. To solve this problem, maybe you can offer a waived fee or a pass to exempt the fee for people who have to drive all the time.
- It is unfair for Oregon to have to pay and yet get Washington exempt? Not fair.
- I am retired, I worked very hard my whole life and I now have a fixed income. It is unfair for people, who don't work ever to get a bigger financial relief than I get.
- In China, they use techniques during certain hours; specific cars cannot use the roads during specific times. For example, even numbered license plates aren't allowed to use certain roads during certain days and vice versa.
- Keep the lanes free, if you want to collect a fee then build a new lane.

How do you feel about the idea of paying a toll (fee) to use these highways?

- Depends on the situation. How much does it cost and how the fee can reduce congestion. Not sure yet.
- One benefit is building a new lane. If you toll an existing lane there won't be a benefit.
- Concern is that it won't solve the problem. Want to make sure it will solve congestion.
- If you have a fee and there's still congestion, what will you do with the money? Still collect it, or give it back?
- For example, a toll fee for a while, and there's still congestion, where does the money go and do you continue to collect it?

If tolls were charged on I-5 and I-205, how might that change how you travel?

- Seven people said they would avoid the freeway if they can. Many said they avoid the freeways now.
- I would have to move, I couldn't afford it.

If you knew it would improve travel time would you support tolling?

- Depends on the price.
- All the traffic congestion is always during the commuting hours 6-9 and 3-7. The rest of the time it is okay. Tolls shouldn't happen all the time. Traffic during those hours comes from people going downtown to work. The government should change their working schedule to spread out when people commute to work.



- Another problem is that we don't have enough bridges across the river. Another bridge would solve all the problems.
- Would like to know that the project will be helpful in the long run, not just for a year or two.

What is the best way for us to keep you and other people in your community informed about this project?

- Have another meeting like this that we can attend.
- Newspaper (Chinese)

Anything else you would like us to know?

- Portland, Oregon's population is growing quickly with lots of people moving here. More houses are being built and property taxes are rising higher than other places. Where do property taxes go and does this money go to funding road improvements?
- What happens if I accidentally go on a tolled road and don't know it? How will I know which lane is a tolled lane? It needs to be very obvious for me so that I do not accidentally drive in a tolled lane.
- Emphasis on signage being VERY clear about which lanes are tolled and how much people are expected to pay in the tolled lanes.
- In California, if someone doesn't have the device to pay the fee, how does the fee get paid? What about when they send you a bill and you're a foreign driver, how do they pay the bill?
- A big issue is also that two lanes are not enough for the amount of cars during rush hour between exit 12 and exit 8 on I-205. It's currently too narrow.
- To solve congestion you need to build more lanes because two lanes are just not enough, especially to add a toll to one lane or more.
- Get Artificial Intelligence involved for fee charging. It will be good, it will be charting the travelers and frequency of use, and it will be fairer. It will track the timing, and people will know when it is expensive. A universal charge is not good.

B.3.6 Native American Discussion Group (April 2)



*Native American discussion group.
Source: ODOT*



The sixth and final discussion group was held with the Native American community on Monday, April 2, 2018, from 6:00 to 8:00 p.m. at the office of the Native American Youth and Family Center on NE Columbia Blvd. in northeast Portland.

Cary Watters, NAYA community engagement coordinator and Native American community liaison, arranged and hosted the meeting. Since everyone spoke English, no translation was needed. Dinner was provided. Twenty-one members of the Native American community attended, representing multiple tribal nations through participation from 14 different tribes (Cherokee, Blackfeet, Navajo, Lakota, Shoshone Bannock, Celilo, Ute, Carrizo, Choctaw, Tolowa, Turtle Mountain Chippewa, Athabascan, Santee Sioux, Oglala Lakota). Five people indicated they live in Clark County; the rest live in Multnomah.

Almost 80 percent of the participants self-identified on the meeting sign-in form as being low income according to Federal guidelines (47 percent are in households earning less than \$25,000 annually). Two ODOT staff and two EnviroIssues staff attended to present information, facilitate and document the conversation.

The meeting began with a welcome from ODOT followed by an informal introduction to congestion pricing using display boards as visual aids. Following the presentation, participants were asked a series of questions to prompt discussion. Notes were taken on a laptop and projected on a screen so that participants could see their comments being recorded.

Key Themes

- All participants agreed that congestion in the Portland area is getting worse and negatively affecting people's lives.
- Of the 21 participants at this discussion group, 16 indicated that they drive I-5 and/or I-205 daily. Some people said that they routinely divert to surface streets to avoid freeway congestion even though the freeway provides the most direct route to their destination.
- This group was very price sensitive toward the idea of paying tolls to commute and travel around the region for individuals and families who are struggling financially. The connection between affordable housing and job location was well understood by participants, who feel the poor are paying the biggest price for the current housing crisis. They feel that tolls would only make the financial burden worse for them.
- A number of participants provided personal stories describing the tradeoffs and personal sacrifices they would be making if they were forced to limit their travel to avoid tolls.
- Participants were skeptical for how well value pricing works as a tool to reduce freeway congestion. They also indicated that they don't trust the government to manage a tolling system well or use the funds collected in a transparent manner.
- Participants expressed some support for funneling tolling funds collected into highway improvements. Building a third major bridge connecting Vancouver and Portland was a popular suggestion.
- Several people expressed concerns that visitors to Portland and persons with limited English proficiency might inadvertently use a priced lane or roadway and be charged without their knowledge. One woman told a story about visiting

relatives in Dallas and returning to Portland to find a \$60 toll bill in the mail from her rental car company in Texas.

Participants in the Native American discussion group expressed appreciation for the opportunity to provide input in the project and want to remain involved.

Key Questions and Concerns

Throughout the conversation

- Are you also studying health effects or road rage due to congestion?
- Is this just to raise money to build a new bridge? That's what is needed. Otherwise, tolling will add to the congestion that's already there.
- It doesn't help that we only have three lanes. Seattle has 5 lanes.
- More exits give drivers more options to move around. The amount of exits on I-84 is lacking. Westbound, 181st Ave. is the last exit until Hollywood. That's a contributor. People might get off sooner if there were more exits that match the eastbound exits.
- Do we know how much extra freight traffic on the freeways has been caused by the closing of Port of Portland container shipping?
- Who is on the PAC and are there any representatives from Washington?
- How much will the tolls cost?
- Was there consideration of climate change and how is it weighted in the decision-making process?
- Why isn't another bridge part of the plan? They've built other new bridges in Portland (Sellwood, Tillkum). It affects the whole route between Mexico and Canada.



State Rep. Tawna Sanchez speaking at the Native American discussion group.

Source: EnviroIssues

Option A: I-5 Priced Lanes in North Portland

- Six people said they use this stretch of highway daily for commuting or personal trips.
- Could you still carpool in the HOV lane under this concept?
- It's eliminating the carpool lane for a toll lane?
- If you're driving in the carpool lane, they can fine you now.
- It would discourage carpooling and increase congestion.
- How would they designate if you pay or don't pay?
- It would reduce congestion for those who can pay. An upper-class lane and others are stuck in traffic. We're still sitting in traffic.
- Would commercial vehicles pay more or the same toll as low wage workers?
- Tolls are benefitting Oregon. The people paying are from WA. How does it affect small businesses in Portland if people no longer want to drive in and pay a toll to



shop at Oregon businesses? Portland has a lot of small businesses and those are the ones that will suffer the most.

- Are you talking to people in Clark County about this?

Option B: Priced Roadway on I-5 through Downtown

- Ten people said they use this stretch of highway daily for commuting or personal trips.
- They use a lot of the HOV lanes in WA. It seems to work. Why have people pay if you can use an HOV lane?
- I don't like the priced roadway because it's going to disenfranchise our communities even more. Any concept that moves forward should be a priced lane. The priced roadway would further divide our community. Many agreed.
- When you toll all the lanes in that section you create a need for diversion. Concern with air quality on side roads and the ability of people to move through local streets. People will use MLK. I don't go to that part of town because of the amount of congestion. I definitely won't go if I have to pay. Choice is important.
- You don't get to go downtown unless you take the side streets. Concern about diversion and impacts to the bridges.
- As a non-profit, will NAYA pay tolls? Will our funders pay the tolls? Will we be able to sustain it? It wouldn't even be a choice for our staff and for other non-profits and the city itself.
- It would be a hassle to visit 15th and Alberta. Diversion is bad now - It's dangerous for my cousins to play, and then increased traffic will make the traffic safety worse.
- Anxious about this. I go downtown once a week to the courthouse. If I have to go there regularly and pay a toll each time, it's unrealistic. That's a main thing and the only way to get there is to use that section of I-5. That's horrible.
- Right now I do activist work. I go down there every other day at least. I couldn't afford to do that anymore.
- This is a federal highway and a known choke point. What part is the FHWA putting into this effort to alleviate the choke point?
- Are you talking to the big employers? These corporations with thousands of employees, do they talk about what it takes to get their employees to work and the impact on the system and their responsibility for it?
- Two problems: federal highway system and local highway system.
- Look at how those other cities do it and if the federal government can kick in.
- What happens to people who are on post-jail supervision and must report to a parole officer downtown? How does it affect their livelihood to be forced to pay a toll? They don't have a choice.

Option C: Priced Roadway on the I-5 and I-205 Study Area

- Everyone in the room said they drive some portion of the study area on a regular basis. They all felt impacted by Option C.
- At least the people in Lake Oswego would have to pay under this option.
- It won't happen because the rich areas won't let it. We get all the dirt.
- Was there a consideration of a priced lane instead of priced roadway through the whole system? Do the one tolled lane option through the entire system.



- The rich people use US26. The yuppies that drive out there are rude. Why is tolling only being considered where the poor people live?

Option D: Priced Lane on I-205 from OR99E to Stafford Rd.

- Six people indicated they regularly use this section of freeway.
- Would that be the only pricing point on the map?
- Let's do that one.
- How did they come up with these options? Why do these work best?
- The people who made the concepts, what is their income bracket?
- They are planners and engineers.

Option E: Priced Roadway on I-205 over the Abernethy Bridge

- Four participants said they regularly use this portion of freeway.
- That's silly.
- Where does the bridge take you?
- Doesn't make any sense to me. I don't understand the concept.
- It seems that if the bridge is tolled the revenue should be to the bridge maintenance.
- Looking at this area, I haven't been here long, but I have to depend on Google maps to get around. I would be lost trying to avoid that toll.
- There is an alternative to using that bridge by using 99E.

How often do you travel on I-5 and/or I-205 in the Portland area?

- I use both every day to avoid congestion.
- I don't get on I-205 after 3 pm.
- Congestion backs up the side roads for people trying to get to the bridge. It affects local travel too.
- Used to travel I-5 every day and changed my lifestyle to not use the freeway as much. I quit working in Portland. I had to live in Vancouver to take care of family. Had a choice of not getting on the highway every day. I'd have to leave earlier to avoid traffic rather than sit in traffic. I ended up being away from home 14-15 hours a day.
- I take I-5 south twice a week. Have to be there by 5:30 pm. If I leave at 4:30 I get on at Killingworth. There's a little traffic. 10 minutes later I take Prescott because it's faster to get to my destination using local streets when the freeway is actually more direct. I'd rather be on the freeway, but time won't allow. It's faster to take city streets than get on the highway.
- When asked, about half of this group takes local streets instead of the highway.
- Around 5:30 pm, coming north on I-205 I use 92nd and 82nd. It's slower, but less stressful. When the freeways are congested it's stressful. Harder for semis to go at slower speed.
- Use 82nd to avoid much of the freeway, but have to use it to get to Vancouver.
- Use MLK/Grand, 122nd, rather than freeways. Marine Drive. Columbia Blvd.
- After 1 or 2 pm, north of Glisan is a parking lot on I-205. Makes sense to use the surface streets. No expressways. 205 is a parking lot and there's no way around it.
- I-5 is worse.



How does traffic congestion on these highways affect you personally and do you think it affects others in your community in the same way or differently?

- The real impact is diversion. “Just walking on streets near my house now is deadly.” Participants felt that their children couldn’t be sent outside to play for fear of getting hit and killed by cars avoiding congestion.
- It’s hard on my asthma. The second hour sitting in traffic, I can’t do it anymore.

How do you feel about the idea of paying a toll (fee) to use these highways?

- I have lived in a lot of different states with toll roads where you don’t use cash and bill you later. The congestion here is the same as other places that do have tolling. It didn’t help. Texas, OK, KS, MO, and others.
- In SE Asia, Singapore has toll bridges and you can pay with transponders or at booths. In Malaysia, they had those as well. Singapore has been using this since 1993.
- Say I visit my mother from Vancouver. Would that be different than visiting someone who lives somewhere else? Would a long trip be tolled differently than a short trip?
- If you go through one corridor that tolled and then another, do you pay for one, or both? What if you use two tolled roads in one day?
- We’ll be having Christmas dinner at 6 am to avoid tolls.
- I don’t appreciate the toll prices and value pricing at all. We lowered the speed limits on city streets. It’s going to cause problems. I won’t be happy to get a bill in the mail if it’s the only option for me. People in poverty will struggle. If you spend all you have to get to an event in the city and then they have a bill that they know nothing about, that will be really hard for people who live paycheck to paycheck. It’s a way for the poor to be poorer. If you have to choose between kids’ shoes and this, it will not be paid. It’s inappropriate to charge unrecoverable money. It’s a hardship for folks.
- It’s offensive because of where poor people live too – further and further away. It’s a huge issue, we have to recognize we have a problem and how to pay for things. We’re one of only two states without a sales tax. If we’re going to tax poor people who have no choice but take those roads, it’s a problem.
- When the toll bill arrives and they don’t pay, will it go to collections and the cops come?
- Does your license get suspended? That’s a huge concern.
- We live in an economy that’s so expensive. It’s impossible to have a place without a roommate anymore. Vancouver is a little cheaper but then you are forced to drive into Oregon.
- You pay double taxes from working in Oregon. I have to cross the bridge and do it all the time. The traffic impacts my life. To work here and be taxed again, and tolled, I don’t think it’s sustainable and would have to re-evaluate how I live. People barely scrape by. More people live in poverty and it’s growing. Those will be affected the most and will have to quit Oregon jobs.
- In Clark County we discussed this a lot. Like taxes, do you give a rebate or exception? Have you discussed what that looks like? I think the bulk of the cost should be on commercial enterprises. They are the most destructive and make the money. We keep them going by working for them. Nike and tech industry are



making big profits and getting tax subsidies (like Boeing). What kind of talk is happening about not making poor people taking the brunt of things as usual?

- I go see my grandson twice a week. If I had to pay a toll, I wouldn't go. I'd have to use Skype and the phone. I'm on a fixed income and have to be careful. It affects your life as a whole. It's about families too.
- TriMet uses a tiered system. Can something like that be implemented based on income. More should be put on commercial. Where will the money go and how will it be used and who gets access to it?
- Would it be spent in Portland, or statewide?
- Frustrating that we didn't get specific money for the Rose Quarter. It will be used to deal with roads and congestion. People statewide get cranky that Portland uses most of the money. The facilities elsewhere need to be repaired too. We want the roads to be repaired and usable statewide. We don't spend enough in the Portland metro.
- Tribal members have to come to Oregon for medical care. 60,000 people cross the river each day. We're part of Metro. Is this roadway going to Clark County too? They pay Oregon taxes, but don't have representation. This affects them daily. How can they have input?
- I live in North Portland. One of the only poor families as people have moved to Gresham. People come back to visit their community. I can't comprehend how they could do this to people. Williams and Vancouver are so congested I can't leave my house because it's so congested.
- The concept is to reduce congestion, where are the cars going? Are people just not traveling?
- The people with more money would still travel.
- You're comparing this to other cities. We're different because we have the river with only two paths across. So many people from Vancouver who work in Portland don't have a choice. It's not the same as cities with more choices.
- Why aren't the rich people who live on US Hwy. 26 asked to pay too?
- What demographics are you controlling for in the study? Are you looking at income and education and jobs that people have?
- A lot of people I know work multiple jobs to get by. Costs are increasing and wages are stagnant. Housing is farther away from jobs. The constant travel would add up to a lot of tolling.

If tolling is implemented, is taking transit a viable mitigation strategy for you?

- Depends on time of day. I don't ride at night; I don't feel safe.
- If there was rapid transit across the river I would use it.
- They keep cutting places I would go on transit. You have to drive because of the bus schedule.
- The bus stopped running to NAYA's office at 6:30 p.m. You have to walk a way down Columbia Blvd. if you want to catch the bus. It's not convenient or safe. It needs to be convenient for people to bother using it.
- I move too fast and have to use the roads. I can't use transit.
- If the tolls are charged, is it tax deductible?
- TriMet has us prove our income for lower cost transit passes. Can that be done here?



- They encourage us to use transit, but it's getting more dangerous with pedestrians hit and crossing dark streets at night. The MAX has a lot of dangers.
- A lot of youth of color are targeted on transit. That's an issue. Safety, security and racial profiling on public transportation.

Are you concerned about diversion?

- There was some concern about safety in neighborhoods bordering highly trafficked freeways. People felt that their kids weren't safe playing outside, and they didn't feel safe walking down the road due to the increase in vehicles diverting through neighborhood streets.
- Concern was also expressed about diversion from tolling contributing to current diversion happening due to freeway congestion.

Is there anything else that you would like us to know?

- I've been to a meeting where they said we want input, and then I find that they wanted it after the fact and things were already decided. How do I know that's not what's happening here?
- We want to make sure it's not just lip service and our input is taken into account.

APPENDIX C: RESULTS FROM TITLE VI/ENVIRONMENTAL JUSTICE SURVEY

ODOT conducted an outreach survey specifically for Title VI/Environmental Justice communities to supplement the findings from the discussion groups. The community engagement liaisons assisted in distributing paper copies of the survey and the online link.

The questions asked of participants in the Title VI/Environmental Justice engagement survey were similar to those asked of the community in the Winter 2017-2018 online survey. This provides useful comparisons between feedback about value pricing from the general public and underrepresented populations. The 13 questions can be grouped around three distinct categories:

- Travel patterns and behaviors
- Value pricing expectations and considerations
- Participant demographics

C.1 Survey questions

The following questions were included in the online surveys and on paper copies. Questions 1-7 featured choices for answers, question 8 was open-ended, and questions 9-13 asked for demographic information.

1. How often do you travel on I-5 and I-205 in the Portland area?
2. Where are you usually going when you travel on I-5 and I-205?
3. When you travel on I-5 or I-205, are you mostly driving alone, with others, on transit, or through a ride sharing service?
4. How does traffic on I-5 and I-205 affect you personally?
5. If there were tolls on I-5 and I-205 that resulted in a faster, more reliable trip for you, how might that change your behavior?
6. What might affect your decision the most about driving on I-5 or I-205 if there are tolls?
7. Consider your level of agreement with the following statements. Choose your top five. [forced choice ranking of Travel Options, Cost and Other Concerns – 12 options]
8. Do you have additional thoughts you would like to share with the Portland Metro Area Value Pricing Feasibility Analysis project team?
9. What is your ZIP code?
10. What is your annual household income?
11. Including yourself, how many people live in your household?
12. How do you identify yourself culturally?
13. What year were you born?



Chinese community members complete the value pricing survey. Source: Timmy Tso



C.2 Survey results (closed-ended questions)

The questions asked of participants in the Title VI/Environmental Justice Engagement Survey were almost identical to those asked of the community in the Winter 2017-2018 online survey. In the following paragraphs, results of the seven closed-ended questions are presented in summary form around two distinct categories:

- Travel patterns and behaviors
- Value pricing expectations and considerations

Following the topline results from each category, subgroup analysis is noted at the end of each section. Relevant comparisons between the Winter 2017-2018 results and the Title VI/Environmental Justice results are integrated throughout this chapter.

C.2.1 Travel patterns and behaviors

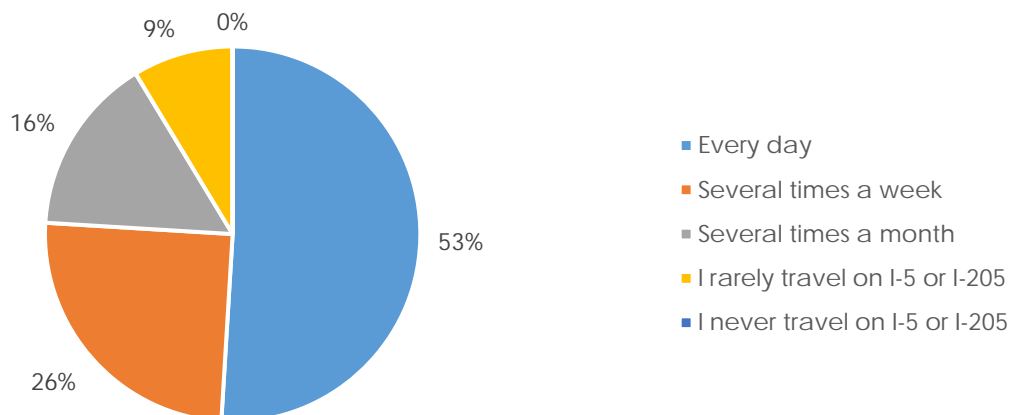
Four questions are included in this category. Three of the four questions were asked of the larger community in the Winter 2017-2018 online survey with identical wording. One question was unique to the Title VI/Environmental Justice Engagement Survey version and will be presented independently.

In the first question designed to assess travel patterns and behaviors of the participant group, the most significant finding is that over half of all survey takers travel on I-5 and I-205, anywhere between the Oregon and Washington border every day (53 percent).

Compared to the broader community results from the Winter 2017-2018 online survey, this group shows a much more frequent daily use of I-5 and I-205 (30 percent were daily users from the Winter 2017-2018 survey).

A very small percentage, less than 10 percent, said they rarely or never travel on I-5 or I-205. The open-ended comments provided suggest these drivers use other freeways rather than I-5 or I-205.

Q1: How frequently do you travel on I-5 and I-205, anywhere between the Oregon-Washington border and where I-5 and I-205 meet near Tualatin?





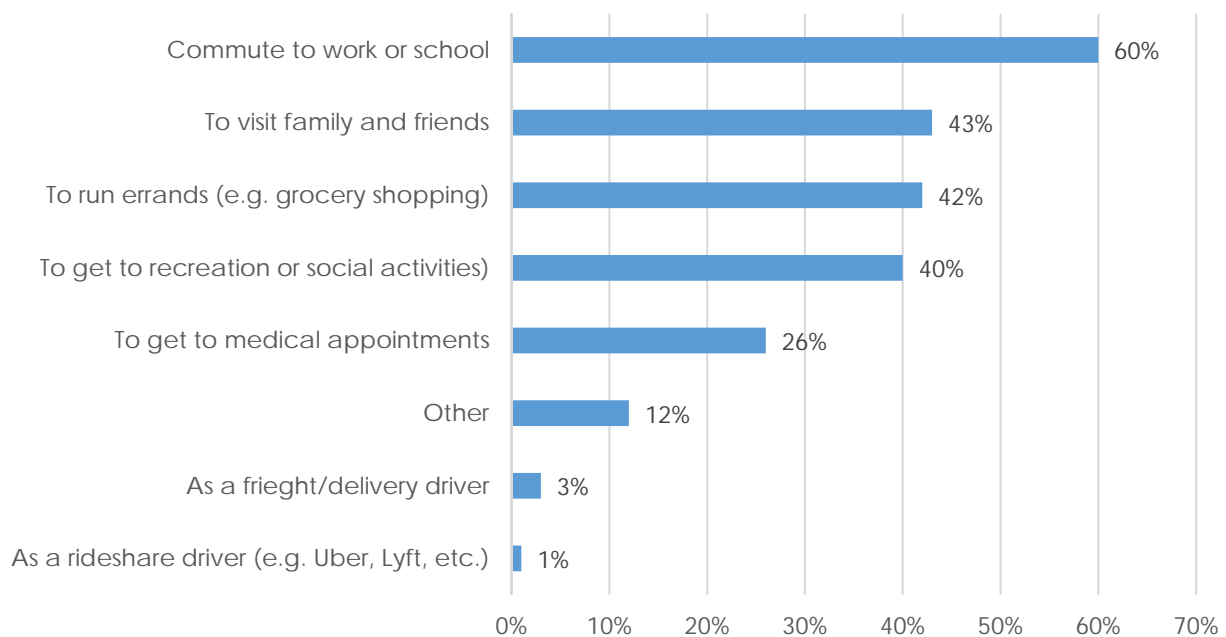
Next, in the second question of the series, all respondents to the survey were asked about the purpose of their trips on I-5 and I-205. There were eight closed-ended choices offered and respondents could select multiple answer choices. Included in the set of eight options was an “other” trip purpose that could also be checked but more specific answers were not collected.

Sixty percent of all respondents to this question indicated they travel on I-5 or I-205 to commute to work or school. This response aligns well with the results from the prior question showing a high percentage of drivers using the freeways daily. The result is important because it differs from the results from the Winter 2017-2018 survey where 51 percent of drivers indicated a similar trip purpose.

Between 40 and 43 percent of all respondents reported non-work or non-school related trips on I-5 and I-205, which included errands, driving to recreational and social activities, and travel to visit friends and family.

Just over one-quarter of respondents (26 percent) travel the corridors to and from medical appointments.

Q2: Where are you usually going when you travel on I-5 and I-205? Check all that apply.



A higher percentage of commuters and students could indicate less flexibility in travel times or travel patterns assuming workers and students have set times and days when they need a predictable arrival time. Value pricing will uniquely and directly affect this population. More questions later in the survey will provide a good understanding of the group’s flexibility to consider alternatives.

Compared to the Winter 2017-2018 survey, the Title VI/Environmental Justice survey respondents were less likely to travel on I-5 and I-205 for recreational trips. Other appointments, visits with family or friends and errands were reported at near the same frequency as the public. Drivers with Lyft, Uber or other delivery companies comprise less



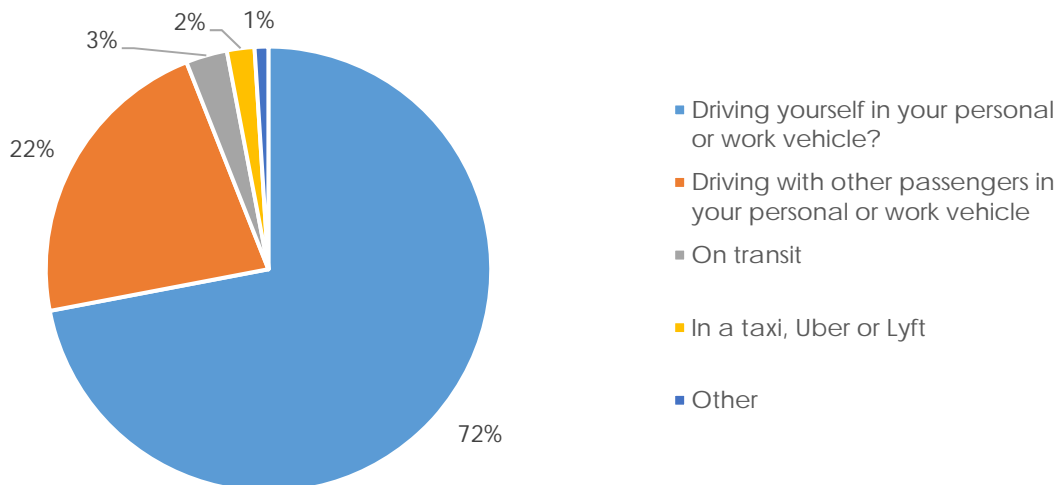
than 5 percent of the Title VI/Environmental Justice survey audience, which is comparable to the public results.

The third question in this category asked respondents to share if they typically drive alone, drive with other passengers or in any other arrangement on their regular trips on I-5 and I-205.

Over 70 percent of respondents indicated that they typically drive alone along the corridor, which is within same range of response to the Winter 2017-2018 survey data in which 66 percent of drivers reported solo occupancy.

The next largest subgroup (22 percent) drive with other passengers in their vehicle. Overall, less than 5 percent of all respondents travel on I-5 or I-205 using alternative modes such as cycling, biking, walking or in a rideshare.

Q3: When you travel on I-5 or I-205, are you mostly: ____? Check one answer.



The last question of this series focused on trip behavior and patterns asked participants to select all the ways in which congestion on I-5 and I-205 impacts them personally. Six choices were offered, along with an “other” (marked by less than 10 percent of respondents). This question was not asked in the survey to the public in the Winter 2017-2018.

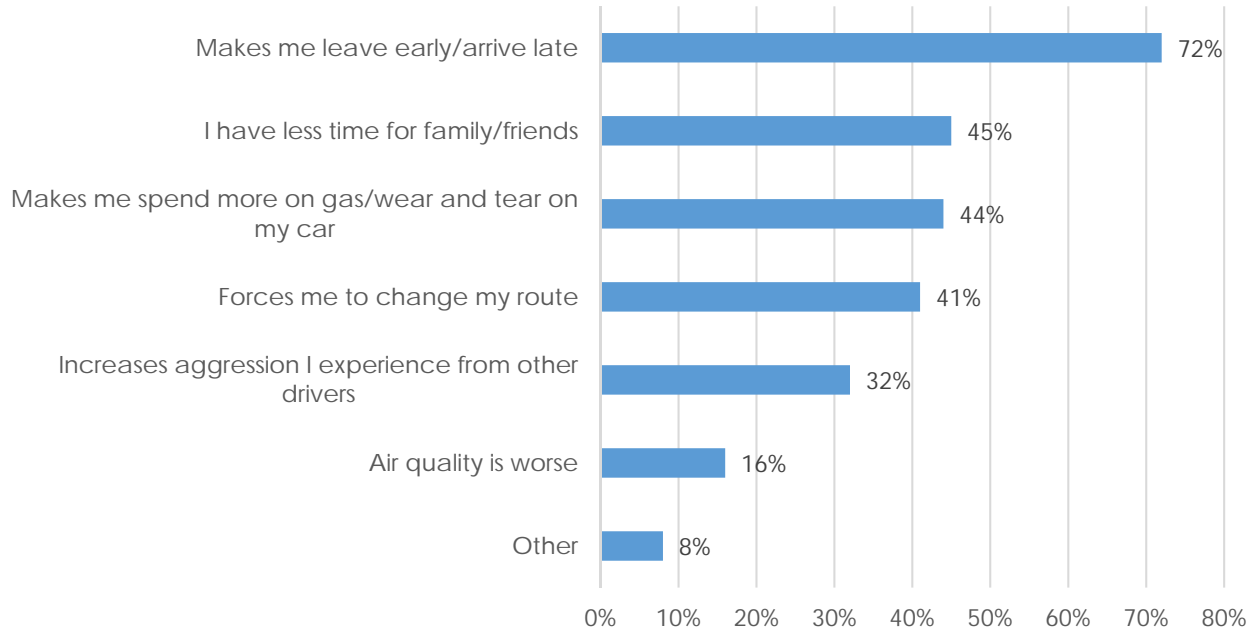
Three of the choices offered were selected by at least half of all respondents, with the top impact as “Makes me leave early/arrive late” (72 percent). This is an impact with significant consequences for those who commute every day to work and school, as opposed to those who are late for other types of appointments.

Next, 45 percent said congestion means they have less time for family and friends. A similar percent (44 percent) indicated that congestion brings about more wear and tear on their cars and higher gas bills. Rounding out the top four answers was a response from 40 percent of survey takers that congestion forces drivers to re-route to streets that are less congested.



Less than a third of drivers indicated that they were personally affected by air quality (16 percent) or aggression from other drivers (31 percent).

Q4: How does traffic congestion on I-5 and I-205 affect you personally? Check all that apply.



Differences among demographic groups

Geography:

- Daily travel on I-5 and I-205 is highest for residents living in Clark and Clackamas counties (between 63 percent and 65 percent, respectively). In comparison, just over half of residents from Multnomah County (51 percent) travel the freeways daily. In Washington County, use of the I-5 and I-205 freeways is the least frequent with roughly a third traveling daily, a third making weekly trips and another third only driving a few times a month.
- Over 60 percent of the trips by residents living in Clark, Clackamas and Multnomah counties are for work or school. In contrast, 47 percent of trips made by Washington county residents are work or school-related. Multnomah county also has a high percentage of residents who travel on I-205 and I-5 for medical appointments and social visits.
- Over 70 percent of residents in each county agreed that congestion makes drivers leave early or arrive late for appointments or meetings. This was perceived to be the most serious impact across the region. Changing routes was an impact felt most strongly by drivers from Washington and Multnomah counties (53 and 52 percent, respectively) but described much less often by drivers in Clackamas (28 percent) and Clark (5 percent) counties. Wear and tear on cars was felt most strongly by drivers who travel on I-205 and I-5 the most frequently—those living in Clark and Multnomah counties.



Income:

Of the 313 surveys completed or partially completed, 272 individuals answered the demographic question about household income at the end of the survey. Among this group, 192 indicated their household income was under \$45,000 per year. The rest, 79, had incomes above \$45,000. This distribution, with more than two times the respondents in the lowest two income groups as the highest two income groups, provides some important context in reviewing the correlations to follow regarding income.

- Question 1 by income subgroup shows that households earning less than \$25,000 a year are the least likely income group to use I-205 and I-5 daily. Daily use of the freeways increases with income, with up daily travel common for 50 percent of households earning \$25,000 to \$45,000. Above the \$45,000 marker, daily use of I-5 and I-205 increases considerably, with 65 percent of all households reporting daily use when household income is over \$45,000.
- Question 2 by income subgroup reveals two important findings. First, almost two-thirds of residents with incomes above \$25,000 use the I-205 and I-5 corridors for trips to work or school. However, for those earning less than \$25,000, only 36 percent are driving for work or school. Instead, this group is more likely to be driving for errands (55 percent) or social appointments (44 percent) both of which may be less likely to occur during weekday rush hours. A second finding is that households earning at least \$25,000 may be making more trips in an average week or month as measured by the number of trip purposes each individual checked off in their answer. More specifically, errands and social appointments were mentioned by at least 40 percent of individuals in the lowest income group earning less than \$25,000 but four unique answers (work/school, errands, social appointments and visits to family) were mentioned by at least 40 percent of individuals in the highest income group earning more than \$75,000. This finding suggests that higher income drivers may be logging more car trips on average and would have a higher likelihood of opting in to a priced lane or needing to consider an alternative.
- The responses to Question 3, analyzed by income, indicate that lower income households are slightly more likely to be using transit and carpooling and less likely to be driving solo, but only by a few percentage points. Among households earning less than \$25,000, 66 percent drive alone. The drive alone percentage climbs with income, topping out at 80 percent for those earning above \$45,000. It is accurate and fair to conclude from this question that the clear majority of all drivers, regardless of income, continue to drive alone for most of their trips.
- Finally, Question 4 shows strong correlation between income with higher income residents indicating higher degrees of perceived impact compared with low income drivers. For instance, 65 percent of drivers from households with the highest income report being forced to change their routes due to congestion, but 33 percent of drivers with the lowest income report this as an impact. Question 4 also shows that even when controlling for income, leaving early or being late and having less time for family and friends are the top two or in top three impacts for all drivers.



Language

This survey was provided online and on paper in five languages: English, Spanish, Vietnamese, Russian and Chinese. Significant relationships between language and travel patterns and behavior are summarized below.

- At least half of English speakers, Vietnamese, Russian and Chinese speakers use I-5 and I-205 daily, with the majority of the trips taken for work or school.
- Spanish-speakers are also making most of their trips for work or school. However, Spanish speakers indicated less frequent use of I-5 and I-205 (39 percent travel on the freeways daily, 31 percent use them a few times a week). It is almost impossible to know why this is; more Spanish-speakers in the area may live further away from I-5 and I-205 routes, for example.
- Over half of all subgroups indicated they are driving alone on most of their trips. Among Vietnamese and Chinese respondents, over 90 percent said they mostly drive alone. Carpooling was much more common among Spanish-speakers (21 percent), Russian-speakers (41 percent), and English-speakers (24 percent).
- Being late or arriving late to appointments because of congestion impacts was one of the top two impacts mentioned by all respondents, regardless of language spoken. Being late was mentioned by over half of all respondents; the only impact tested that was experienced so deeply and by all groups.

Purpose of Trip

Survey takers provided several descriptions of the reasons they travel on I-205 and I-5, including work/school, driving for a rideshare, taxi or freight company; recreation, social or family visits; and medical appointments. To analyze trends by trip type, some similar groupings have been combined. For example, "Work/school trips" and "Driving for Uber, Lyft, taxi or freight" are similar enough to be examined as one category.

- The largest percentage of daily highway trips (73 percent) are by those commuting to work or school. Next, 57 percent of those using I-205 and I-5 for medical appointments are traveling daily. Finally, 42 percent of trips under the family/friends, social and errands category are occurring daily. One important finding from this distribution is that while medical appointments may not be a high volume of trips total, those traveling for this purpose have higher frequency than might be expected.
- Commuters and students are the most likely to be driving solo (78 percent). In comparison, those needing to use I-205 and I-5 for medical trips are less likely to be driving themselves (62 percent) and slightly more likely to be carpooling with others (32 percent). Transit, walking or cycling does not pop as an alternative for any group for any purpose; it occurs because of high accessibility and convenience rather than someone's trip type. Among those currently using I-205 or I-5 for errands, recreation, or to visit family, a full 67 percent are driving alone and 26 percent are traveling with passengers. In context of congestion pricing, less than one in five drivers who travel for work or school would likely benefit by a carpool discount since almost 80 percent indicate they drive alone. A carpool waiver or discount may provide some relief to drivers getting to medical appointments, but again, this is not the majority of all trips being made today.



- Controlling for trip purpose reinforces that the #1 congestion impact across all trip types is that drivers are needing to leave early for their appointments or risk arriving late. Over 70 percent of drivers in all three trip type subgroups agreed with this, with the impact being most acute for those getting to medical appointments (83 percent indicated leaving early/being late was an impact). The impacts in the #2 and #3 spots shifted a bit depending on trip type but included having less time for friends/family and spending more money on gas and car maintenance (again, with drivers going to medical appointments as the most impacted subgroup). All three of these impacts are a distinct top tier for drivers across all trip types.

Age

Three age groups were created after survey participants provided their birth year in the demographic section of survey questions. The age groups include: Over 50 years old (N=73), 35 to 49 years old (N=123) and Under 35 years old (N=61).

- There were no differences in frequency of travel by age.
- There were no differences in trip type by age.
- Older drivers are slightly more likely to be driving alone for most of their trips (89 percent), compared to the drive alone tendencies of younger drivers (76 percent for 35-49 year olds and 79 percent among under 35 year olds).
- Among respondents under 35, almost 10 percent indicated the use I-205 and I-5 as a transit rider or rideshare passenger, compared to less than 3 percent from the 35 to 49 age group or over 50 age group.

C.2.2 Value pricing expectations and considerations

The first two questions in this category help build an understanding of the group's driving behavior in a value pricing environment and what factors impact that driving behavior. Important key findings emerged from asking these two questions:

- Almost 40 percent of respondents overall are unsure how their driving behavior would change if there were user fees on I-5 and I-205, with 22 percent indicating that set employment hours are an issue. Compared to the Winter 2017-2018 survey results, this audience is more unsure about how user fees would disrupt their trip planning
- Almost two-thirds of all respondents say price of the user fee would be the top influencing factor in driving on I-5 and I-205 if congestion pricing were implemented (64 percent). This is not only the top factor above all other factors mentioned, but it is seven percentage points higher than what was recorded in the Winter 2017-2018 survey of the general public.

In Question 5, while over 39 percent said they weren't sure what they would do, it is notable that 37 percent said they would avoid the user fees by driving a different route that isn't tolled. This 37 percent is almost identical to the 39 percent of the general public who said they would try to avoid a priced lane.

Approximately 22 percent say they would pay the toll and expect a faster trip. In comparison with the results from the general public (36 percent said they would pay), these

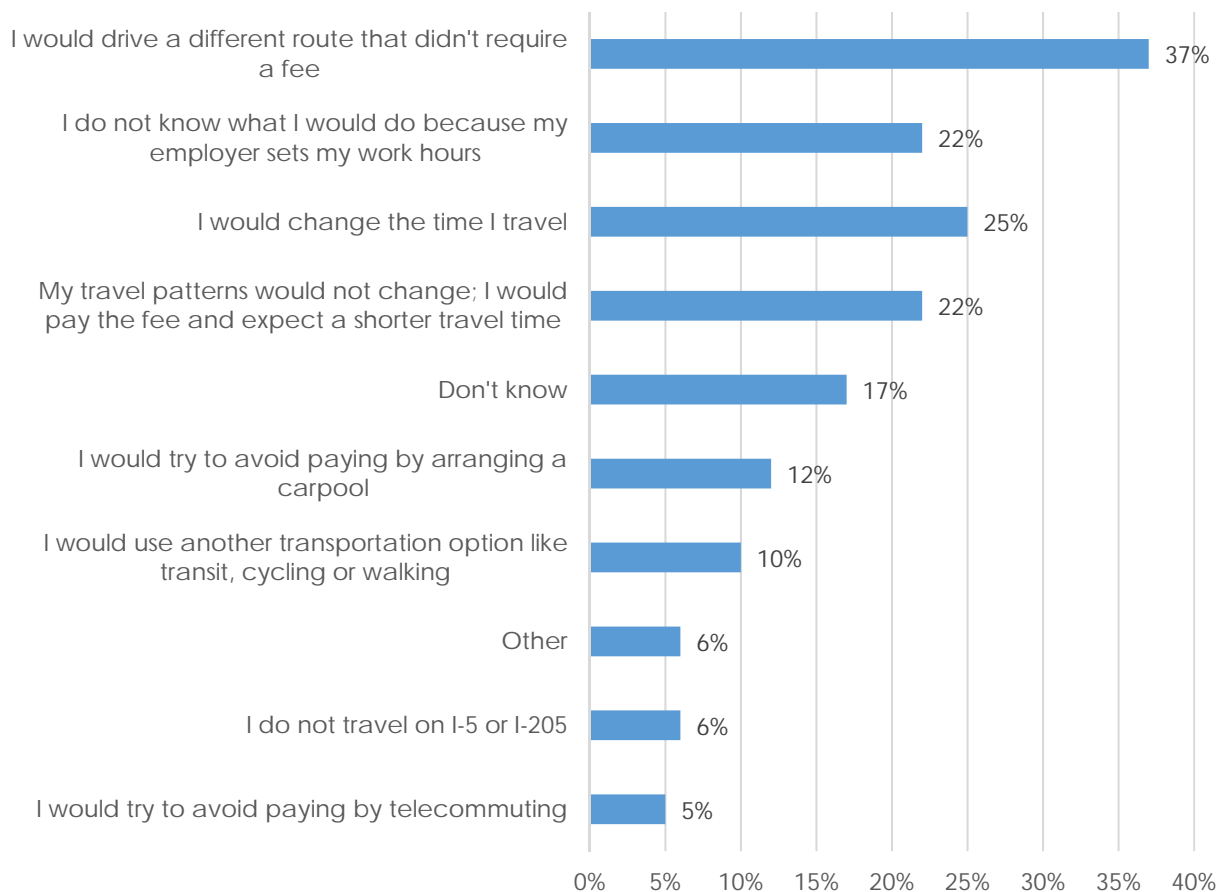


survey results indicate a much lower willingness or ability to pay the fee to drive in a priced lane.

Finally, all of the alternatives to paying the toll such as transit, cycling, or walking (-5 points less); carpooling (-3 points less); and telecommuting (-4 points) were less likely to be mentioned as viable choices for the participants to this survey when compared to the responses from the general public in the Winter 2017-2018 survey.

The results from this question in the Winter 2017-2018 survey showed a baseline level of avoidance at roughly 40 percent and an almost equal level of willingness to pay and expect a shorter trip. A very small percentage of the public were unsure what they would do. In contrast, surveying lower income residents and non-English speakers reveals similar avoidance levels, but more than three times the uncertainty about how they would respond and a lower chance (-14 points) that drivers would pay to drive in a priced lane.

Q5. If there were tolls on I-5 and I-205 that resulted in a faster and more reliable trip for you, how might that change your behavior? Check all that apply.

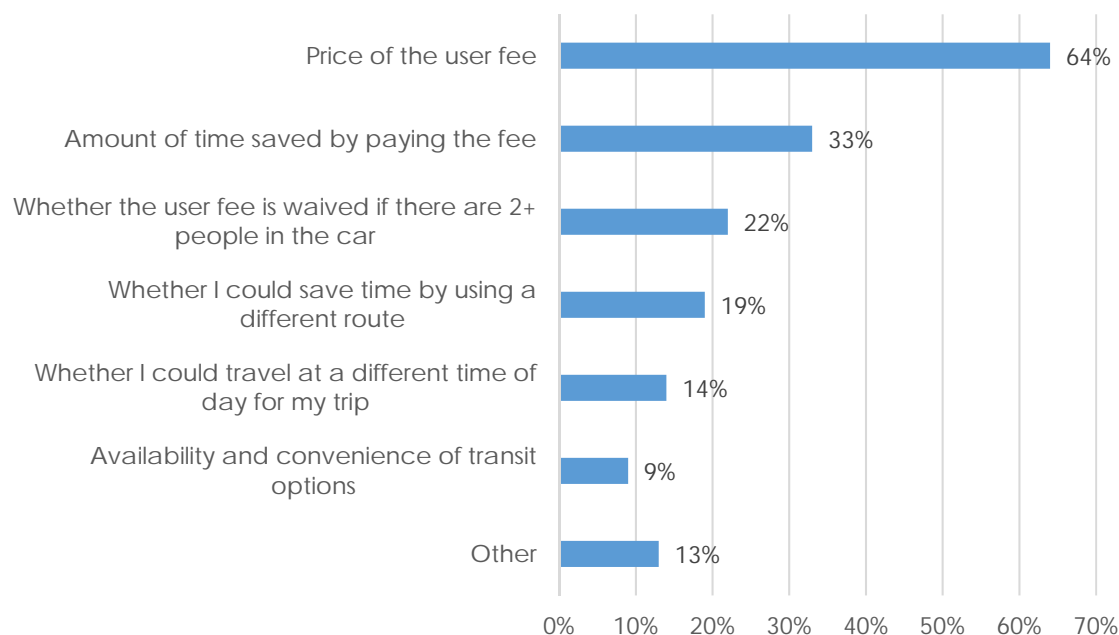


In the next question, participants were asked about the factors that would influence their choice in paying to drive in a priced lane or trying to avoid it. One of the most notable findings from this round of surveys is that 64 percent of all participants are heavily influenced



by the price of the proposed user fee or toll. While this was the number one factor with the public in the Winter 2017-2018 survey, there were two other factors within a 20-point range that were shown to be strong influencers of driving decisions. In contrast, in reviewing the Title VI/Environmental Justice survey results, not only is “price” a much stronger factor in driving behavior, but there is a gap of more than 31 percentage points between “price” as the top factor and then next highest factor (“time saved” at 33 percent). The public was also impacted by time saved, but the gap between time saved and price was only nine percentage points.

Q6. What might affect your decision the most about driving on I-5 or I-205 if there are tolls? Check all that apply.



In addition to the key findings noted above the chart, 33 percent say they would be influenced by the amount of time saved by paying the fee and 22 percent would be influenced by carpool waivers if they were available to cars with at least two passengers. Compared to the influencing factors shared by the general public, two specific comparisons stand out:

- The respondents to the Title VI/Environmental Justice survey were less likely to be influenced by the availability or convenience of transit options (9 percent compared to 27 percent); and
- The respondents to the Title VI/Environmental Justice survey were less likely to have flexibility to consider traveling at a different time of day for their trips (14 percent compared to 36 percent)

Both of these findings suggest this audience is challenged by limited access to transit where they live and limited flexibility in the time of day they travel.

In the last closed-ended survey question, participants were asked to read 11 separate statements that may impact an individual’s choice to drive in a priced lane or find another



alternative. Each participant was asked to select five statements from the list of 11 and then rank the five from one to five, with one indicating the strongest level of agreement. The Winter 2017-2018 did not include this question, so comparisons are not available.

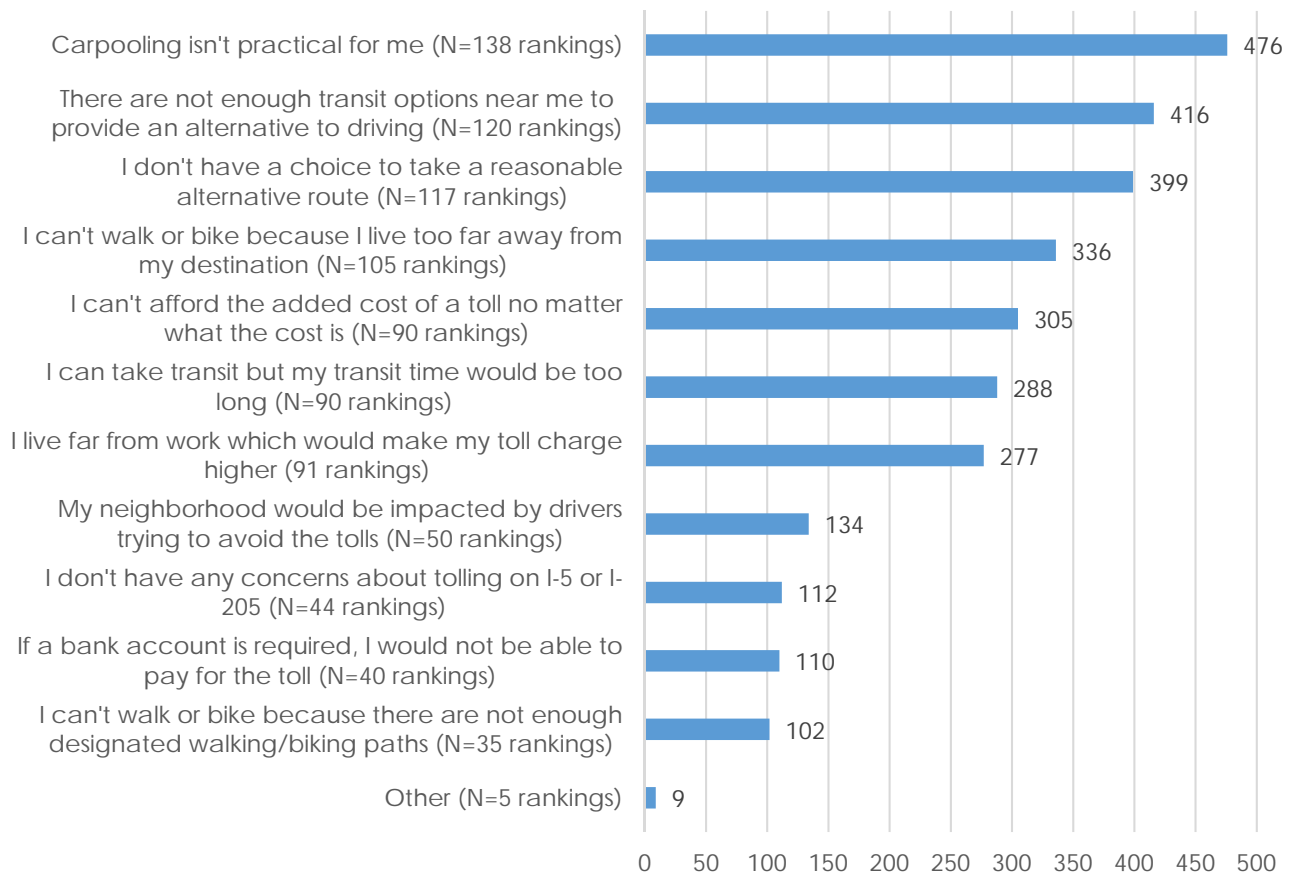
The five statements (in order of highest level of agreement) that received the most number of rankings included:

- Carpooling isn't practical for me
- There are not enough transit options near me to provide an alternative to driving
- I don't have a choice to take a reasonable alternative route
- I can't walk or bike because I live too far away from my destination
- I can't afford the added cost of a toll no matter what the cost is

The cluster of five highly-ranked statements confirm two points: first, this audience would like more choices to use alternative transportation modes that take cars off the road; and second, tolls are perceived to be unaffordable no matter what the cost. Neighborhood cut-throughs, lack of access to bank credit or the availability of walking/bike paths do not appear to impact participants in a strong way.

The bar chart below shows the rank score for each statement (a high score is a blended representation of a high number of rankings and stronger agreement) and how many participants selected each statement.

Q. 7. Consider your level of agreement with the statements below. Rank your top five statements by numbering them 1 through 5, with 1 being the statement you agree the most.





Differences among demographic groups

Geography:

Approximately 20 percent of drivers in each county say they plan to pay a congestion pricing fee and will expect a shorter trip. There was very little variation by county. Among those who do not want to drive in a priced lane, there were some differences by region:

- Approximately 40 percent of drivers in Multnomah, Clark and Washington counties report they plan to drive different routes to avoid priced lanes. Avoidance tendencies seem a little lower in Clark county where uncertainty is the dominant reaction (over 50 percent unsure or indicated that their employers set their hours).
- Telecommuting was the most frequently mentioned by residents of Clackamas county (17 percent) and was almost double the rate in any other region.
- About a third of residents in Multnomah and Washington counties thought they could change their time of travel (29 percent and 31 percent, respectively).
- Interest in transit alternatives were consistently low—between five and 15 percent—in each region.
- The price of the user fee was the #1 factor for residents of Clark, Multnomah, and Washington counties in their decision to drive in a priced lane. For drivers from Clackamas county, whether or not there would be a carpool waiver and how much time would be saved were more or equally important to the price of the toll.

Income:

Income is a strong predictor of attitudes on value pricing and congestion impacts.

- In general, higher income residents earning over \$75,000 a year are much more likely to pay to drive in a priced lane (53 percent) and less likely to re-route or adjust their travel pattern to avoid the fee (32 percent say they would drive a different route). Among individuals earning less than \$25,000 a year, 7 percent say they would pay the toll and almost half (47 percent) would try to drive a different route. Willingness to pay the toll increases 20 percentage points (to 38 percent willing) among households earning at least \$45,000 a year. This is a clear tipping point when paying the toll eclipses avoidance (31 percent).
- The price of the user fee was the most significant influencer for those earning \$25,000 or less and between \$25,000 and \$45,000 (68 percent and 70 percent, respective) but falls to between 46 percent and 56 percent among higher income cohorts. Higher income participants earning \$45,000 for their household begin to factor in time savings, alongside the price of the fee whereas lower income participants don't come close to saving enough time to make the fee affordable.
- All income groups agreed that carpooling wasn't a practical option for them. Lack of transit options and other "reasonable alternative" routes were also areas of agreement across income categories. When asked if participants agreed with the statement "I can't afford the added cost of a toll no matter what the cost", the participants in the lowest income group said this was very compelling (ranked #2 of all 11 statement) but it was not ranked in the top five among high income earning participants and ranked fourth and fifth for those earning between \$25,000 and \$75,000.



Language:

Participants from the survey completed questions in five different languages and represent multiple cultures and a cross-section of other demographic subgroups. Analysis of the results by language spoken reveal some common experiences and attitudes about congestion pricing. Among them:

- Roughly a third of all participants indicate they will try and drive other routes to avoid paying a congestion pricing fee.
- Between 15-20 percent of Spanish, Russian, Chinese and English speakers say they will likely pay the fee with a higher percentage of Vietnamese drivers willing to pay to save time. Indeed, the time savings factor was highest among Vietnamese drivers (39 percent) compared to responses from all other language groups.
- The price of the user fee was the overall #1 factor in determining whether someone would consider driving in a priced lane, ranging from 51 percent among Chinese speakers to upwards of 80 percent among Spanish speakers. It is relevant that the Spanish-speaking cohort reported the lowest average income across language groups.
- Spanish speakers reported the highest degree of uncertainty when asked what they would do in response to congestion pricing, with 40 percent saying they were unsure or that their employer set their hours thereby limiting their choices to travel at different times or the day or carpool.

Purpose of Trip:

Trip type illustrates some important relationships between opinions on value pricing and the trips participants are making on I-205 and I-5.

- Survey participants driving to and from medical appointments appear to have some flexibility in when they travel (31 percent would consider changing the time they are on the road, compared to 22 percent of students and workers). This group also indicates they would be more likely to try and avoid paying a congestion pricing fee if possible (58 percent) but their answer does not provide more explanation.
- In Question 6, all three groups show price sensitivity with “the price of the user fee” being the number one influential factor in deciding whether to opt into a priced lane or consider alternatives. Price was mentioned by 66 percent of students/workers, by 71 percent of those running errands/visiting family/or traveling for social appointments and by 81 percent of those traveling to/from doctor appointments. It is likely those making frequent medical trips are older and may be experiencing higher health costs. These factors elevate affordability as a significant concern.
- The inconvenience of carpooling was a consensus item for all participants, regardless of the type of trip they are making. Lack of transit access and alternative routes were also common areas of agreement for drivers making all types of trips.
- The statement “I can’t afford the added cost of a toll no matter what the cost” was ranked #2 among those traveling for doctor appointments, but less of a factor for workers/students and those making social trips, running errands, or visiting family.



Age:

Cost to drive in a priced lane and perceptions of affordability are important to all age groups but were more critical factors for youth and young adults under 35.

- Those under 35 are more willing to try carpooling and transit than older drivers. As a group, they appear to have the least willingness to alter the time they travel on I-205 or I-5.
- Over 40 percent of younger drivers under 35 and older drivers over 50 said they would drive other roads to avoid the tolls. Among 35-49 year olds who are the greatest share of daily commuters, avoidance is less likely (29 percent).
- “The cost of the user fee” was the number one factor in determining whether to drive in a priced lane. This was a factor mentioned by all age groups, but declined slightly with age (49 percent mentioning cost among 50+ year olds, 62 percent among 35-49 year olds and 80 percent among residents under 35). Older drivers appear to be more persuaded by the option to drive a different route (mentioned by 27 percent of those over 50) compared to younger drivers who are more motivated by time savings (33 percent) and the chance to carpool (28 percent).

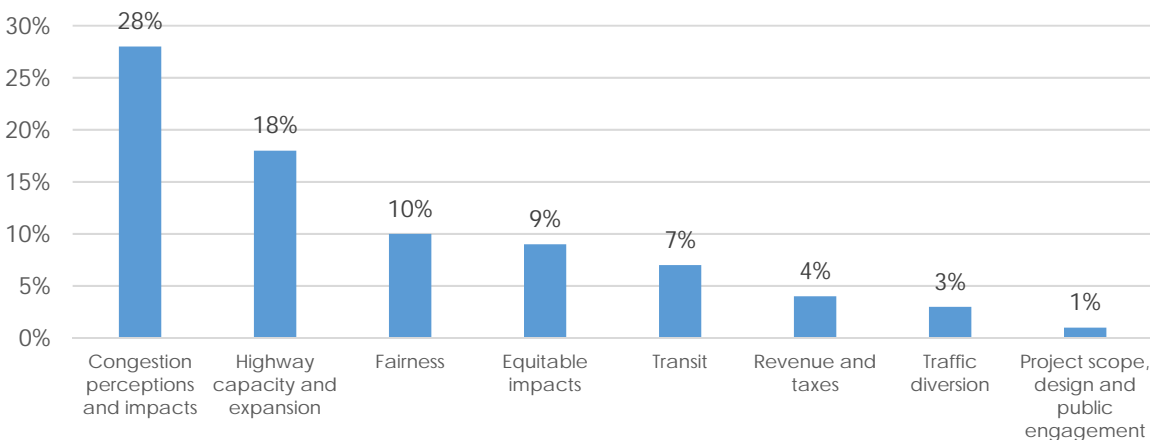
C.3 Survey results (open-ended question)

This section summarizes the key topics and themes mentioned in open-ended responses to Question 8 on the outreach survey, which asked, “do you have any additional thoughts you would like to share with the Portland Area Value Pricing Project Team?”. Around a third of all survey respondents submitted an answer to this question (96 responses in total).

C.3.1 Key topics and themes

Figure 6.1 shows the distribution of the most frequently mentioned topics in open-ended responses. Some comments discussed multiple topics, and several themes overlap across multiple coding categories. Within each topic and theme, several sub-topics were also identified. The following sections discuss key messages, questions and concerns related to these topics. Each section includes selected quotes from comments that generally represent the range of responses received.

Figure 0-1. Thematic topics most frequently mentioned in question 8 responses





The themes discussed in the responses to Question 8 by EJ and Title VI communities were very similar to those mentioned in open-ended comments submitted to the project during the winter outreach period. However, respondents to the EJ/Title VI community survey were less likely to discuss revenue and taxes than those who commented during the winter outreach period (16 percent of comments received during the winter period discussed revenue/taxes, compared to 4 percent of respondents to this survey).

Congestion perceptions and impacts

Approximately 28 percent of all comments discussed congestion. These comments discussed existing traffic conditions or expectations for the future.

Perceptions of congestion

- Many commenters felt that current congestion is partly the result of insufficient road capacity. Several felt that a residual effect of inadequate road capacity is diversion onto surface streets, which has significantly damaged the roadways. Some mentioned that this has, in turn, pushed more people onto the freeway who may otherwise use surface streets.
- Some noted congestion occurs on other roadways beyond I-5 and I-205. A few questioned why value pricing is not being considered on I-84.
- Some said that congestion in the Portland Metro Area makes living here undesirable.

Expectation for congestion in the future

- Many commenters expect congestion to increase with the growing population, noting that something needs to be done to address it.
- Some feel that value pricing will not help alleviate congestion, and some others feel value pricing will make congestion worse. Some, however, disagreed and said they were hopeful value pricing will reduce congestion.

Highway capacity and expansion

Approximately 18 percent of comments related to the capacity of existing roadways. These comments often addressed expanding capacity by adding lanes or by constructing additional, alternative routes to I-5 and I-205.

Existing infrastructure

- Many comments said existing roadways cannot accommodate traffic today.
- Many identified locations where new capacity is needed. The most frequently mentioned areas included:
 - The I-5 bridge across the Columbia River
 - I-5 near the Rose Quarter
 - I-205 northbound between Exit 12 and the airport.
- Several called for the development of new capacity on existing roadways, such as:
 - Adding lanes to both I-5 and I-205

Quotes from comments about highway capacity and expansion:

“Build a bridge – Camas – Gresham, which has been promised for years.”

“Add more lanes!”

“Build more bridges or expand the freeways.”



- Creating “double decker” bridges to accommodate more cars
- Removing the HOV lane on I-5 to add capacity

Construction of alternative routes

- Many comments said new alternative routes are needed to alleviate congestion on main arterials in the metro area. The most common suggestion was to construct an additional bridge over the Columbia on the east side (Camas/Washougal to Troutdale/Gresham).

Fairness

Around 10 percent of comments mentioned fairness. Comments about fairness discussed the ethics of a user fee system, who “should” and “should not” have to pay, and whether travelers have a choice in travel route due to their personal schedules, needs or the availability of other options. The concepts of “fairness” and “equity” are related, but distinct. Comments about “equity” focus on whether historically disenfranchised populations will experience disproportionate *outcomes* and *impacts* as a result of value pricing.

- Many respondents from Southwest Washington said that the tolls will have an unfair impact on them, while some Oregon respondents said it is fair to toll out of state commuters more than Oregonians (though reasoning was not provided).
- Many commenters feel that value pricing is not fair to those who must travel between Oregon and Washington because there are no other routes available.
- Many commenters discussed tolling only during peak hours being more fair than a constant toll that increased and decreased around the clock based on traffic. However, a few said that tolling during peak hours is unfair because many cannot change their commuting hours.
- Some commenters expressed that freeways should be free.
- A few linked fairness to how and where potential revenue would be spent. Some of these commenters said they did not trust that money collected would benefit their communities or neighborhoods based on historical allocation of tax revenues.
- Some felt that a user fee system, particularly one that tolls an entire roadway, removes the user’s choice and freedoms to access public goods.
- A few respondents noted that carpooling is not feasible for them.

Quotes from comments about fairness:

“Toll fee in rush hour only.”

“Make Vancouver pay for toll only.”

“There are no other options except for 205 and 5 as to how to move from Vancouver to Portland and vice versa. So the traffic will persist, but it will be a “paid” traffic.”



Equitable impacts

Approximately 9 percent of comments discussed equity impacts. Most of these responses focused on income-based equity, though others referred to impacts to different racial and ethnic groups.

Income

- Many comments discussed the impact value pricing could have on low income drivers, particularly in terms of an additional cost burden. A few mentioned increases in housing and gas prices and expressed worry that tolls could make travel unaffordable.
- Many comments also suggested value pricing could disproportionately benefit higher-income individuals because wealthier drivers would be more likely to be able to pay the fee.
- Many comments suggested lower income commuters may not be able to travel at a different time to pay a lower fee due to their work schedules.
- Several comments noted low income residents often have to live further out and have to travel farther because of rising housing costs. Many neighborhoods are not always well served by transit, which means more residents must drive to commute to work.

Quotes from comments about equity:

"This would ultimately disenfranchise communities of color, low income individuals, and people struggling to make ends meet. Those with the means to pay a toll will do so, however, it will disproportionately impact those who will not be able to afford the cost of a toll."

"Fee [should be] waived for low income families who have to drive I-5 or I-205 every day."

Race/ethnicity

- Some comments discussed potential disproportionate impacts on communities of color, often in conjunction with concerns around income equity. Some said these impacts may be greater because persons of color may be more likely to live near the proposed concepts or where transit access is limited.

Mitigation

- Many comments that discussed equity concerns asked about or suggested possible mitigation strategies, including:
 - Discounts or incentives for drivers with lower incomes
 - Passes or exemptions for those traveling from Washington for work
 - Using revenue to increase multi-modal options in current underserved neighborhoods
 - Options or opportunities to reduce impacts on those with less flexible schedules



Transit

Approximately 7 percent of comments discussed transit.

Availability and convenience of transit

- Many comments discussed the extent of the transit network. Many said transit options are not available or do not extend to where they live.
- Many discussed the increased time transit travel can take compared to driving. Some of these comments suggest more express options are needed (e.g. express lanes, express bus routes, express MAX trains, etc.)
- A few expressed interests in a public-private partnership for more employers to subsidize public transit.

Revenue expenditure on public transit

- Some commenters expressed an interest in value pricing tolls being used to subsidize low-income transit fare.
- Some commenters, however, said they did not want revenue to be allocated to transit, suggesting funds should go exclusively toward highway expansion.

Quotes from comments about transit:

"Maybe if TriMet could actually get people where and when they need to be somewhere it would help."

"High speed train better."

"This probably will not alleviate congestion unless public transit is greatly increased and affordable with diverse routes that don't require hubs."

Revenue and taxes

Approximately 4 percent of comments discussed taxes and/or revenue. This included comments about how existing tax revenue and transportation dollars are spent, as well as comments about expenditure of potential new revenue collected through value pricing.

Expenditure of existing tax revenue

- Many said tax revenue has not been effectively managed to address congestion and road capacity, and several suggested a lack of trust in government oversight of revenue.
- Some commenters from Southwest Washington said they already pay Oregon state income tax. There is confusion as to what income tax funds.
- Some commenters would like to see tolls be tax deductible.

Expenditure of potential new revenue

- Many commenters feel that all revenue from value pricing should be spent on new infrastructure, with some commenters noting

Quotes from comments about revenue and taxes:

"You had money before constructing the bridges through taxpayer revenue. We already pay way too many high taxes that don't maintain the roadways, this toll would be another burden."

"No tolls. Our local taxes should pay for our roads. We have to do with what we have."

"We should use tolling for the new road, don't use tolling for existing roads."



that large infrastructure projects should be higher priority than minor improvements.

- Some others advocated for revenue to be spent on enhancing multi-modal options.

Traffic Diversion

Approximately 3 percent of comments discussed diversion of congestion from I-5 and I-205 to local roadways.

- Many comments expressed concern that pricing I-5 or I-205 would divert traffic onto neighborhood roadways as people try to avoid the toll.
- Many said diversion is already happening because of the congestion conditions on the freeways.
- Some felt that value pricing will increase diversion and reduce safety on local streets.
- Some expressed concerns about safety in neighborhoods if congestion is further diverted onto local streets, disproportionately affecting communities of color who are concentrated near freeways.

Quote from comments about diversion:

“Portland just started a program to decrease deaths from accidents. And now you will be redirecting many more cars to streets away from freeways. Increased traffic on streets and people taking shortcuts through neighborhoods will lead to more accidents and possibly deaths. Does not make sense.”

“This encourages unsafe driving. This region cannot control their anger properly and will certainly overreact to tolls in place and lose their {minds}. They will direct their anxiety and rage at maneuvering around the city to avoid tolls.”

Public engagement

It was recommended that multiple liaisons be engaged to include as many participants as possible. Approximately 1 percent of open-ended comments mentioned the desire for continued outreach to communities of color.



Portland Metro Area Value Pricing Feasibility Analysis

Join the conversation

We have a congestion problem. The Oregon Department of Transportation is working to improve travel times and get you where you need to go – reliably.

Share your thoughts on five proposed tolling concepts and how congestion pricing could work for the Portland metro area.

Engage online or in-person

Join the online open house conversation April 5 – 19 at www.ODOTValuePricing.org

Drop-in to an open house event

ODOT is gathering community input to inform a proposal for using congestion pricing, also called value pricing, on I-5 and I-205. Learn the latest and lend your voice on how ODOT is analyzing congestion pricing as one part of a comprehensive strategy to reduce traffic congestion.

Thursday, April 12, 5:30 - 7:30 pm
Museum of Oregon Territory
211 Tumwater Drive, Oregon City

Saturday, April 14, 10 am – 12 pm
Ron Russell Middle School
3955 SE 112th Avenue, Portland

Wednesday, April 18, 5:30 - 7:30 pm
Tigard Public Works Auditorium
8777 SW Burnham Street, Tigard

Saturday, April 21, 9:30 am - 12:30 pm
Embassy Suites Airport, Pine Room
7900 NE 82nd Avenue, Portland



www.ODOTValuePricing.org

For more information, contact April deLeon-Galloway
503-731-3117 or april.m.deleon@odot.state.or.us

Portland Area Value Pricing Feasibility Analysis Policy Advisory Committee – Comment Report

DATES: April 4, 2018 – May 6, 2018

NUMBER OF COMMUNICATIONS: 32

CONTENT ANALYSIS:

Geography

Descriptor*	Number of Communications
I-205	16
I-5	15
Southwest Washington	11
Out of Project Area	5
Multnomah County	2
Clackamas County	2

Topic

Descriptor*	Number of Times Mentioned
Fairness	16
Transit	7
Equity	7
Expanding existing roadways	6
Revenue and taxes	6
General economic impacts	5
Trust	5
Project scope and public engagement	5
Personal financial impacts	5
Adding additional roadways	5
Congestion observation	4
Mitigation strategies	4
Congestion impacts	3
Lane conversion	3
Diversion	3
Technology	1
Other concurrent projects	1
Environmental impacts	1

**Communications are coded by the consultant team. During comment analysis, individual ideas within each communication are assigned a topic and/or geography "tag". Multiple topics and geographies may be discussed within a single communication, meaning the total number of "tags" may be higher than the number of communications.*

ODOT - Value Pricing - Communications (32 Total)

Created

5/7/2018 : 11:15 AM
by Megan Burns

Date Received

from 4/4/2018 to 5/6/2018

Communication ID: 276549 - PAC comment from Mark Budnick**Communication (4/17/2018)**

PAC comment from Mark Budnick

Subject: RE: Washington Commuter on Value Pricing
Hi,

I just wanted to resend my comments as I never received a confirmation back that they were seen.

Thanks,

Mark Budnick

Subject: Washington Commuter on Value Pricing

Hi,

My name is Mark Budnick and I live in Vancouver, Wa and commute over the I-5 bridge every week day for work. I just wanted to provide my comments as I will not be able to attend the meetings due to the meeting times. I definitely understand the need to reduce congestion going through Portland but I have some concerns on how this may be implemented.

- My main concern is the check points that the Value Pricing will be placed at. I believe the check points should be after accessible Public Transportation Hubs. Mainly allowing commuters the option to use a Trimet Park and Ride Station. I am most familiar with my own route to work which is using I-5 southbound over the Columbia River bridge. I park at the Delta Park Station Park and Ride where I take the train into Portland. If you want to encourage drivers to use Public Transportation please make all checkpoints for value pricing starting after an area such as this. Otherwise you are punishing drivers who do use Public Transportation. I would suggest just to the North of the I-5 and I-405 split to encourage southbound drivers to use public transportation or use alternative routes through Portland. I am not familiar with the I-205 southbound route out of Washington or the routes coming North on I-5 or I-205 from the south of Portland. But I would suggest similar areas that are after commuters have the option for public transportation or alternative routes.

- Will I-84 into Portland be considered for Value Pricing? If not it makes it look like Washington drivers are the specific target as we have no other route into Portland other than I-5 and I-205. Oregon drivers would have the option to take surface streets to I-84 and then into Portland without being affected by Value Pricing.

- Has expanding TriMet bus service into Vancouver been considered to help with reducing congestion? While Vancouver's Public Transportation does have service into Portland it is much more limited than what Trimet could provide in terms of service times and route connections. Also for commuters from Vancouver who already pay for a monthly TriMet pass this would allow us to use this coming out of Vancouver rather than needing to drive into Oregon first.

Thank you for taking the time to read this and if possible I would like to receive a confirmation that this email has been received.

Communication ID: 293688 - from Lori Korab with questions about public engagement

Communication (4/5/2018)

from Lori Korab with questions about public engagement

Subject: Meetings

Hi, which meetings allow for the public to formally present their comments in person? Also, wasn't there a meeting planned for Vancouver, Wa? There should be some located there as it affects these commuters 100%.

Communication ID: 293692 - Email from Craig about alternative options to tolls

Communication (4/5/2018)

Email from Craig about alternative options to tolls

Subject: Road tolls

Road tolls in Portland is a horrible idea. Why aren't we discussing better options?

Communication ID: 293694 - Email from Vanessa McClelland opposing tolls

Communication (4/5/2018)

Email from Vanessa McClelland opposing tolls

Subject: Why are you doing this?

My first question is "why do we need to toll?" questioning how badly our government is mishandling our taxes to throw this at us.

Tolling to 'reduce traffic' mainly hurts those who have to be on the roads due to jobs. Portland is expensive. People who work in the city can't afford to live in the city. All in all, this tolling concept is an attack on those with jobs who have to commute. An attack on those already paying taxes. We should be helping out the working class, not punishing them.

Tolling the highways will not reduce our traffic issue. It will increase traffic problems on surface streets, streets that are systematically being removed. The flow of traffic in Portland is being monkey-wrenched and I wonder why? It seems a method to instill inefficiency for some ulterior motive. The idea that you think less roads means better traffic stupefies me. Do you live in Portland? Do you have to commute? Are you out there at all?

This punishing commuters as well as removing roads scheme someone thought up, is not Keeping Portland Moving. It's gridlocking us. Time to pull your attention away from some pie in the sky 'if only things were perfect' concept and look at reality. All in all, this is a money-making push on your hands. It's hurtful, short sighted, and frustrating to people who have to travel to work.

Communication ID: 293905 - Email from Toby Kolstad opposing tolls**Communication (4/9/2018)**

Email from Toby Kolstad opposing tolls

Cc: 'Roberta Schwarz'
Subject: Value Pricing

Please note that efforts to increase taxes on Oregonians by any means will be noted and proponents rejected in future elections. The way to pay for the generous retirement benefits of state employees is NOT THROUGH TAXES!.

Toll roads are a regressive tax, hurting those least able to pay for the misguided generosity of state legislators to their biggest supporters. My solution to such roads will simply be to take surface streets instead.

Communication ID: 293909 - Email from Jan Levine opposing tolls**Communication (4/7/2018)**

Email from Jan Levine opposing tolls

Cc: roberta.schwarz@comcast.net
Subject: Toll Roads

I am a resident of West Linn. I'm very upset that you might be adding tolls to I-5 and I-205, especially for the Abernethy Bridge and the stretch of I-205 between the bridge and Stafford.

To go anywhere east of West Linn, we have only three alternatives:

- The Abernethy Bridge
- The old Oregon City bridge,
- Take Hwy 43 north to another bridge.

If people try to avoid paying a toll on the Abernethy Bridge, the old Oregon City bridge and the streets that surround it are much too narrow to accommodate more traffic. Hwy 43 through West Linn and Lake Oswego is also very narrow and is already very congested. If more cars are diverted from I-205 to Hwy 43, traffic will come to a complete stand still.

Adding a toll for the new lane on I-205 between the Abernethy Bridge and Stafford would also be disastrous. Right now, traffic on that stretch of highway is terribly congested for much of the day. Another lane is needed desperately. However, if you put a toll on that lane, a lot of people won't use it, and the existing lanes will just continue to get more congested.

I appreciate your desire to reduce traffic in the area. However, I must point out that there is virtually no public transportation in the West Linn area. Residents can't just hop on a bus to avoid paying tolls.

Thank you for your consideration.

Communication ID: 294178 - Comment Form from Joseph McGinley**Communication (4/11/2018)**

Comment Form from Joseph McGinley

Subject: I support congestion pricing in the Portland area

Dear Committee, I am a resident of Portland, Oregon and I fully support a congestion pricing plan on Portland area highways. Congestion pricing can work as a useful tool that optimizes flow of vehicular traffic. I have had firsthand experience with congestion pricing in Osaka, Japan. There, all of the limited access highways are tolled. The result seemed to be a higher use of public transportation and free-flowing freeways. My main concern with congestion pricing is that there will not be adequate alternatives available for residents. I would like to see express buses from Vancouver to Portland running seven days a week. Currently, C-Tran only runs express buses five days a week. The MAX light rail should also be extended into Vancouver. As Portland's largest suburb, more needs to be done to connect the two cities with various mobility options. I would also like to see plans to build a local access bridge from Vancouver to Hayden Island and then from Hayden Island to North Portland. With adequate planning for and implementation of alternatives, congestion pricing will be a powerful tool to keep our regional freeways moving.

Communication ID: 294184 - Email from Ted Timmons about diversion**Communication (4/11/2018)**

Email from Ted Timmons about diversion

Subject: value pricing comments

Hi. I live in Portland, and because I work I can't attend meetings that may be important.

I'm concerned about the public comments that were in support of adding lanes or adding new highways. A second argument was that we aren't doing enough, that there would be spillover effects.

If nothing is done, we'll have spillover effects as traffic increases. If we add lanes, we'll still have congestion and traffic.

Tolling is an obvious win for all parties. It removes some of the externalities caused by driving-traffic congestion being a big one of those. It doesn't disproportionately affect low-income groups, who both drive less and tend to drive off-peak.

Communication ID: 294670 - Email from Brian Hayes about taxes and fairness**Communication (4/12/2018)**

Email from Brian Hayes about taxes and fairness

Subject: tolls

to whom it concerns,
re; <http://www.oregon.gov/ODOT/Pages/VP-Feasibility-Analysis.aspx>

To whom it concerns,

Taxing drivers for commuting to work that already generate local, state, and federal taxes as well as fuel taxes, will not change traffic congestion on the interstates in Oregon, I5 and I205. This idea does not properly address the problem at its root:

1. time of day that people commute as designated by their employer.
2. People moving into areas of lower cost due to over priced housing.(Largest generator of traffic)
3. Areas that have Amtrak but do not have a commuter train available.
4. Interstates that contain on/off ramps on the same side of the freeway and within 1 mile of each other.

All I can say is this another tax on top of people already paying all kinds of taxes to drive to work on a poorly designed road system. And I have been making the commute from Salem to Portland, OR for 14 years. That's 288120 miles commuting therefore I have seen the issues everyday with the road design.

Communication ID: 294671 - Comment form submission from Teresa Patton about fairness**Communication (4/12/2018)**

Comment form submission from Teresa Patton about fairness

Subject: Vancouver Residents who work in OR already pay dearly...

Vancouver residents who happen to work in OR already pay full OR state taxes to a state that we do not even reside in, when I moved there I was told this is because we "use Oregon roads" which is true - I do travel a few miles each day on Oregon roads which should be well covered and then some by the thousands that I am required to pay on OR taxes each year. This already seems disproportionate, ...why would we have to pay road tolls on top of this to cross the only way that is possible to cross into OR and at the maximum rate just because we are required to work at that time and are not fortunate enough to have a flexible schedule? It seems very unfair and disproportionate when we are already paying more than our fair share as out of state residents. I would think OR would want to encourage us to continue to work in OR so they can collect all those thousands in taxes from us rather than discourage us from doing so. How will imposing such a penalty upon those unfortunate enough to work during specific time frames without flexibility - which includes many of the working poor improve the traffic on the roads that are clearly inadequate for a city that continues to grow at this rate? Not everyone is able to take the max since it does not exist in our area and we are spending hours and hours in traffic decreasing our quality of life, time with our families and increasing our childcare costs. What about some planning and improvements that will actually improve commute time and quality of life for the residents of this city? I had to move to Vancouver because Portland is too expensive and now this??? It is no wonder so many in our area are homeless and discouraged - is this what the working middle class has to look forward to - paying more and more to use our roads and increasing our already extended commute time at the same time? It is extremely discouraging to see funding go to less critical needs over and over again while citizens of OR and WA continue to pay more for everything and see their quality of life further reduced and their hard earned wages depleted.

Communication ID: 294672 - Email from Frank Mounce about congestion

Communication (4/13/2018)

Email from Frank Mounce about congestion

Subject: PAC Suggestions

Hello PAC Committee,

I want to say thanks for allowing me to speak Wed. at the Portland office PAC meeting.

With that said I also am a bit upset and frankly disgusted with the way things were done. Maybe I just don't understand the workings of the committee. But ninety seconds really was not much time.

I know Penny told me she let everyone run about two minutes, but still no time. Like I said maybe I just don't understand, but it just seems to me if ODOT really wanted to know the opinions of the people then they would at least give a person maybe four minutes.

So they told me to write here. I will see just how many of the committee members read what I think and respond to my email.

To begin with I drive the I-5 corridor every day from Tigard to Vancouver. My normal work hours are 8AM to 5PM. I despise traffic and therefore I take it on my own to try and miss some of it. I usually leave my home before 5:30AM and get to my office by 6AM or so. That means I have to do what ever I want for the amount of time before 8AM. Then I leave my office at 5PM and if I am lucky I am home by 6:15PM. Many times later than that. I am an analyst by nature. But I have always been an engineer. I was in the automotive industry for close to thirty years before I decided to move to the IT industry where now I am a Systems/network engineer. So I feel that I have a lot of experience and knowledge when it comes to analyzing issues in just about every subject. I see the traffic going home every day. I have always noticed that the largest amount of the traffic are trucks and trailers. I decided to kind of keep track of just how many trucks I see going north on I-5 while I am going south. I enter I-5 at Mill Plain in Vancouver and exit I-5 at 99-W at the Portland/Tigard city lines. The first night I did this I was blown away. Just shy of 2600, yes that is correct twenty-six hundred trucks and trailers that one night. The next night was less but still close to seventeen hundred. The point is I wonder just how much real traffic there would be if you removed the trucks from traveling through the downtown area of Portland. To make things even worse the poor truck drivers must deal with the curves and hills that I-5 is built on. I am sure most people understand that because the trucks are large and heavy, it is more difficult for them to manage I-5. For instance, when you first get onto I-5 at 99W, there is a truck lane that enters at the same place. What I see happen most of the time is there will be a truck with its flashers on and slowly moving up the hill in the far right (truck lane). Then there will be a second truck but he is moving a bit faster than the first truck. Well the second truck driver does not want to lose any momentum that his truck has gained and then pulls out into the next lane. Now we are down to two lanes causing a backup in traffic. When traffic is congested to begin with, it just got worse. Then the closer the traffic gets to the downtown area the slower it gets. The traffic never has a chance to regain any momentum thus again causing even more congestion. If we remove about ninety percent of the trucks from the this section of I-5 traffic it would be much better. Vehicles would be able to enter and leave the interstate a lot faster and more evenly. The best way to achieve this is build a much needed and helpful west side beltway. Restricting trucks from traveling through the downtown area, would open things up for smaller vehicles. This would make things so much easier for the people of the Portland metro area.

Everyone should know that the great and stupid city of Portland really does not care about people that have to travel I-5 to commute for their work. In fact it is my opinion that the mayor of Portland and the his elites have simply declared WAR on cars in the city. Of course that means the poor people that own and must drive them, are just casualties of this said WAR. The mayor simply does NOT want cars in his city. Yes I said his city. The heck with the real people that work here so he has a city to run (into the ground). You might ask how I know this or what causes me to feel this way. Besides the obvious, I have it on good resources, that The Kaiser Foundation owns four city blocks close to the convention center. Kaiser was proposing to build on the properties to make the city nicer place to live and work. On one block, they were going to build a new apartment building with medium income housing. Then they were going to build on another one of the lots new retail shops. Another block was going to be a nice park for children adults, and pets to enjoy. Then they wanted to build a parking garage to house the increase in the number of vehicles in the area. This is where things went stupid. The mayor and his cronies said if a parking garage was part of the proposed project then the city said no. The mayor only wants people to be in the city if they walk, ride a bus, or ride one of the trains. Of course if you live as most do outside of the city do to the high housing cost, this is almost impossible. Not to mention the crime that plagues this kind of transportation. I use to work for the City of Tigard's IT department and knew several of the police officers that worked trimet for police work. Trust me when I say there is a lot more crime than what

is ever reported on the news. So why would anyone with good common sense want to put themselves in a path of danger. Not me for sure. You see, I am handicapped and cannot simply walk nor do I want to ride the crime ridden trimet transit system. The closest bus stop to my home is about a mile away. Just not feasible.

So after looking at this and looking at other cities, the best way is to make things better is to make a new west side beltway (305??) that goes around the city of Portland on the west side. This would run from just below Wilsonville. To just north of Vancouver. With a minimum of three lanes the entire distance with some areas having four or five lanes as needed. This would also give the area a new bridge that will cross the mighty Columbia into Washington. The bridge should be a minimum of ten lanes. Five lanes in each direction. This would open up the area for more economic growth, not to mention the making traffic easier. Now this, would be just part of the needed travel space. I know that the east side is growing with leaps and bounds. Thus, creating a traffic nightmare for areas like West Lynn. Therefore, 205 needs to have expansion as well, that will start to relieve the tension. Adding two more lanes to both sides would help. Since a lot of the trucking traffic seems to be heading to the river area, and since the truck traffic a major cause of the congestion, it makes since to give the trucks an easier and more effective way to arrive at their destinations.

Two interstates that circle the city requiring trucks to go either east or west would relieve a major amount of the I-5 Portland metro traffic nightmare. ODOT really needs to look for the future. STOP living in the past or even the present. For once look into the future and plan for the inevitable traffic that comes with growth. This issue does NOT need another Band-Aid that will plain and simply make things worse not to mention steal money from the hard working people that need this new highway to travel to and from work. Now there is a lot of other things having the new highway would add to the area.

Communication ID: 294673 - Email from Richard Sherman about value pricing

Communication (4/14/2018)

Email from Richard Sherman about value pricing

Subject: Congestion Pricing

I believe that the idea of further charging fees associated with using the road systems that we already pay for is absolutely ridiculous.

There is and has been enough money to continue to build and fix the road systems and it has routinely been siphoned away to projects that have minimal effects and do not handle the underlying issues..we need more, larger roads and less, expensive "pet" projects, like much of the Tri-Met system which must be subsidized additionally by tax revenue for it to continue to run.

Communication ID: 294674 - Email from David Tooze about fairness**Communication (4/14/2018)**

Email from David Tooze about fairness

Subject: Congestion pricing

No, no, no.

We taxpayers have already paid for the roads. Now you want to charge us for an asset we already own? Stupid and unfair.

How many times.... No, no, no!

Communication ID: 294675 - Email from David Tooze about congestion pricing**Communication (4/14/2018)**

Email from David Tooze about congestion pricing

Subject: Congestion pricing

Don't do it!!!!

No, no no

Communication ID: 294676 - Comment form submission from David Tooze about congestion pricing**Communication (4/14/2018)**

Comment form submission from David Tooze about congestion pricing

Subject Congestion pricing

No! But you've already made up your mind, right? No matter how many taxpayers ssy this is a bad idea,vuou will move forward with what you want to do. For the record... Don't do it!!!!!!

Communication ID: 294677 - Comment form submission from David Brook about Concept A

Communication (4/14/2018)

Comment form submission from David Brook about Concept A

Subject Concept A

I've been reviewing some of the reports of this project. In the PAC meeting 3 minutes, references are made to several concepts being studies A, B, C, etc. However, in other documents, the concepts are number 1, 2, 3, etc. Where can I find info on the lettered concepts? Thanks.

Communication ID: 294680 - Email from Kyle Nickels about trust

Communication (4/16/2018)

Email from Kyle Nickels about trust

Subject: Value Pricing, AKA Oregon doesn't care anyway

Why go through the BS of holding meetings when it does not matter what the citizens say, Oregon legislature and DOT will do what ever they want, regardless of the cost.

Communication ID: 294681 - Email from Josh Peck about fairness

Communication (4/16/2018)

Email from Josh Peck about fairness

Subject: Tolling Interstates

Hello,

I would like to weigh in on OTC's idea of tolling I-5 and I-205. I do not think the current interstates should be tolled. I pay income taxes in Oregon but live in Washington, I believe the taxes that I pay should be allocated to the maintenance of roads and infrastructure of Oregon. I-205 and SR-224 are the only roads I drive on coming and leaving work.

I would support the construction and tolling of an additional lane on I-205, even better, an additional bridge over the Columbia River from Oregon to Washington.

Communication ID: 294682 - Email from Robert Stewart about trust

Communication (4/16/2018)

Email from Robert Stewart about trust

Subject: Who's Value is benefiting from this ridiculous taxation scheme?

I am now retired but used to be employed by an Oregon Based business transporting medical supplies. My typical routing covered Salem South to and North to Longview and occasionally Seattle. That kind of area coverage could have me traveling through the roadways listed in this proposal. If my company had to pay for all the drivers traveling on the listed roadways, it would cause severe expense.

If it did not cost the company then who praytell would pay the "value pricing"?? The driver?? If the Driver was was exempted (unlikely) who would be selected to pay the "value pricing"? How does a state 'member' of the Federal Highway System, unilaterally decide to create a special taxation for a portion of a Federal Highway? Please help me understand the rationale!!

Communication ID: 294683 - Email from Christina Moffett

Communication (4/16/2018)

Email from Christina Moffett

Subject: I-5/I-205 tolls

I grew up in NJ with tolls on the Garden State Pkwy & NJ Turnpike, then moved to Cleveland OH (I-80/90). I am not averse to tolls. However:

1. I moved here within the year (from OH) and often drive to see one child in Scio and one in Raleigh Hills. As a senior on fixed income the additional cost to my budget does concern me.
2. Even more worrisome, however, is the increased traffic on "side" streets, e.g US 43 and 99, which I use far more often than the interstates. I will be paying tolls on the Interstates AND for road development/repair in my community.

At the least, please coordinate the tolling with near-by communities: I see in the Pamplin news (4/12/18) that West Linn is already investigating "traffic circulation options" -- and this without the congestion added by tolling on Interstates.

Has there yet been an opportunity for Calckamas Co folk near I-5/205 to meet with ODOT about this? (Again, I am new here.)

Communication ID: 294788 - Email from Vonnie Sheadel about fairness**Communication (4/17/2018)**

Email from Vonnie Sheadel about fairness

Subject: toll input from Washington resident

I appreciate this opportunity to comment.

My husband and I are self employed in Clark County, Washington (age 60+). Tolls, fees, etc would definitely effect my family and business in the following way:

Changes:

Shop far less in Oregon for products

Shop far less in Oregon for services

Not go to Oregon restaurants for meals

Not to go to Oregon for nightlife

Less likely to go to Oregon for other entertainment

Decrease number of visits to Oregon to visit family and friends

It will not change:

Routes or times to travel beyond Portland to visit family

in Oregon and beyond

We always avoid high traffic times for social occasions to see family in and beyond Portland

A DIFFERENT LOOK AT RAISING MONEY FOR TRAFFIC IMPROVEMENT

People who live in Washington and work in Portland already pay Oregon income tax without receiving benefit of those taxes. The only benefit they receive from Oregon IS the road system. It seems to me that the structure for taxing Washington residents working in Oregon needs to be changed. Designate that income for road improvements to increase traffic flow on I-5 and I-205. then you won't need fees and tolls (or at least less) and the taxes will be more fairly used for services that effect those Washington residents paying them.

IMPORTANT RE GOODS AND SERVICES

Increasing the cost of transportation and delivery of goods and services in Oregon will increase the cost of those goods and services to everyone. Add that to the increase in cost for people to get TO those goods and services. It's a double problem!

Communication ID: 295951 - Email from Doug about tolling sentiments**Communication (4/30/2018)**

Email from Doug about tolling sentiments

Subject line: Tolling

In the past ten years of my fifty nine years in Oregon I have witnessed more and more fees. Last summer for example, I was at Fort Steven's. 8 dollars to park. Then went to a lighthouse, another amount. Fee, fee and more fees. My property and state taxes are climbing. You must do better with the money you have. No TOLLING me to drive from Oregon City to Portland.

Thank you for listening.

Communication ID: 295952 - Email from Dave Ganslein about tolling opposition**Communication (4/30/2018)**

Email from Dave Ganslein about tolling opposition

Subject line: I oppose all freeway tolling

I oppose all freeway tolling

I attended a Portland development and sustainability committee meeting on 03/27/18
At this meeting, a representative of Portland Bureau Of transportation spoke to the committee in what was reported to be an open house, but was only a briefing. Public comment was denied.

It was my understanding that this representative stated that " pbot favored tolling all lanes, all the time, at the highest rate possible" and siphoning off as much funding as possible to finance "other transportation projects" (assumedly pedestrian, bicycle & transit). The odot representative seemed somewhat taken aback by this remark and advised the committee that that "would be unconstitutional" two committee members chuckled and said "they didn't recommend bypassing the constitution, but it could be done". Again, this is what i took away from the conversation.

There is no accountability in Portland government, and pet projects receive priority.
Tolls are inequitable and unfairly harm the poor and working families. They will also be an economic disincentive to business in Oregon's fragile economy.
I believe that tolls would be used to bludgeon people out of their own vehicles and onto public transportation, thereby restricting mobility and freedom of travel as a symbolic environmental political statement.

If odot wants to reduce congestion, please consider a third bridge at Troutdale or even a fourth bridge at terminal 4 or 5.

Communication ID: 295960 - Email from Scott Pfeiffer about tolling opposition

Communication (4/30/2018)

Email from Scott Pfeiffer about tolling opposition

Subject line: Toll booth

Not in favor of toll booth. I pay plenty of taxes already and taxes to work in oregon even though I live in WA. Now you want to charge me to get to work.

No thanks. Add to gas tax that everyone can share the expense.

Communication ID: 295964 - Email from Sandy Leaptrott about congestion observations

Communication (4/30/2018)

Email from Sandy Leaptrott about congestion observations

Subject line: Toll on I205 and I5 in Oregon

Hello,

My name is Sandy Leaptrott. I live at 3309 NE 157th Place, Portland, Oregon 97230.

I am against tolling either of these freeways. I drive a portion of each of these freeways at least five days a week. I often drive them during rush hours. I never drive these stretches of road for pleasure, I drive them out of necessity. There are so many construction projects blocking the main arterial streets in NE Portland its hard to find a way out.

Lately, in the last year or so, I have taken to driving the surface streets as much as possible because people driving the freeways are crazy. I am forced to exceed the speed limit on the freeways (while driving in the right/slow lane) to avoid becoming a speed bump.

I think you could ease congestion on both sides of the Columbia River by closing the on ramps to I-5 and I-205 that join the freeway just before the freeways cross the river during peak traffic hours. It would also help with congestion on surface roads around those entrances. On the Oregon side for I-205 this would be the ramps from Airport Way to I-205 and possibly the ramps from Sandy Boulevard/Killingsworth. I'm not sure what ramps join I-5 north of downtown Portland because I gave up driving that stretch of road years ago.

If you want to speed up traffic on I-5 North in the afternoon and evening, try closing the I-84 east ramps from the Morrison Bridge and NE MLK Junior Blvd. (I think that's the street) at peak hours in the afternoon, it would speed I-5 along. I currently cut through downtown Portland and catch I-84 east from the Morrison Bridge when driving from the Beaverton area to NE Portland in the afternoon. Saves a lot of time to avoid 405 and the Marquam Bridge. I'm sure a lot of people do this.

A suggestion to help short-term would be to have Oregon State Police and Washington State Police crack down on people who speed and weave through traffic on I-5, and I-205. If an unmarked police car, try using a sea-foam green Toyota Yaris, was used you would not believe how much money would be collected. I-84 and the Marquam bridge are in desperate need of policing to slow traffic to prevent the current chaos. When people weave through traffic and speed it slows everyone else down, we have to brake and take evasive action to avoid being hit by these wild drivers. If this suggestion does not fall within the scope of your project, please forward the suggestion to the Oregon State Police.

Anyway, thanks or listening,

Communication ID: 295965 - Email from Lori Korab posing a question**Communication (5/1/2018)**

Email from Lori Korab posing a question

Subject line: Meetings

Hello, I attended last night's open house but am left with several questions. How can I get these answered?
Lori

Communication ID: 296355 - Email from Richard Vial about the project**Communication (4/26/2018) Project: z_Westlake Cycle Track**

Email from Richard Vial about the project

[A PDF containing the comment was attached to the email; see PDF attachment to communication for comment. - AA 5/2/18]

Cc: Rep Vial
Subject: Rich Vial testimony
Dear Committee Members,

Attached, please find an electronic copy of Representative Rich Vial's comments regarding the feasibility analysis process and the Portland Metro Area Value Pricing Advisory Committee's recommendations to the Oregon Transportation Commission and the Oregon Department of Transportation.

Please do not hesitate to contact our office with any questions.

Sincerely,

Caleb Huegel
Legislative Assistant
Representative Rich Vial, District 26
Office: (503) 986-1426
caleb.huegel@oregonlegislature.gov

Documents: Rich Vial testimony.pdf

Communication ID: 296359 - Email from Elvia Ganda about fairness**Communication (4/30/2018) Project: z_Westlake Cycle Track**

Email from Elvia Ganda about fairness

Subject: Value Pricing Comment

I do not support value pricing for use of public roads. We already pay taxes for road and infrastructure expenses through various methods and creating a pricing schedule for use of highways will not reduce congestion but increase it as most people will not choose to pay more for preferred access. For example in California where both toll roads and carpool lanes exist, traffic is more congested because the highway is now reduced by one lane for all drivers. The few that are willing to pay the extra fees impact the majority of drivers. The average person cannot spend the extra money daily to commute to and from work.

All public roads should be free of use fees.

Communication ID: 296360 - Email from Anita Calnan about fairness**Communication (5/2/2018) Project: z_Westlake Cycle Track**

Email from Anita Calnan about fairness

Subject: I-5; I-205 tills

As a native Oregonian currently living in Clark County, Washington, I am informing you that I am opposed to a toll on either of these interstates.

My husband and I are both seniors and paying a toll, probably more than one, every time we drive to the west side of Portland to visit our grandchildren, sometimes twice a week, would be an undue financial hardship for us.

As Clark county residents, we are a big part of the PDX metro region. We probably know more about Oregon news and politics than we do about Washington's. Many of us in Washington work in Oregon, conduct business in Oregon, see health care providers in Oregon, attend cultural events, and visit with friends and loved ones. I feel as much that I am a citizen of Oregon as well as Washington.

I implore you to please consider the many citizens your decisions will affect.

Communication ID: 296362 - Email from Ruth Flemming about Washingtonian impacts**Communication (5/2/2018) Project: z_Westlake Cycle Track**

Email from Ruth Flemming about Washingtonian impacts

Subject: tolls

I am in favor of funding the I-5 bridge with the addition of Max train into Vancouver. A lot of people that I know are wanting the max train service. I would also like to be able to walk and ride my bike over the bridge. This could be paid with tolls.

If you use tolls and do not do the above, I am not in favor of it. You have stated that you were going to add tolls to Washington residents that would fix things at the I-5 and I-205 merger south of Lake Oswego. You also had some other plans to use the tolls to fix congestion around the Rose Quarter. In both instances, you are just trying to toll another state's residents for your own road work so Oregon residents can again get what they want without being taxed. That also shows when we notice that I-84 and 26 are not being tolled.

I am trying to change my physicians and other professionals/services involved in my life to WA to avoid paying tolls. I imagine others will need to do the same to cut back driving on the interstate. On the one hand you might have fewer people on the interstate. On the other hand, you will be losing business from WA residents.

It is really going to hurt people with lower incomes or lower disposable incomes. I often meet people at Gateway to go hiking. A toll would add an additional cost to that activity.

I already tend to take the Max train into downtown Portland. I still have to get over a bridge to realistically do it.

I am not going to have the money to pay tolls all the time. This is not an area where we can simply take an alternate route. This is a river that we have to cross.

I noticed that you were saying that tolls would be collected beginning at Marine Drive. It is impossible to get off on Marine Drive on I-205. Airport way would be possible. Can you imagine what the congestion would be like? It is already really bad there with airport traffic.

This is all a mess. I would like better public transportation before tolls. . . especially a MAX train going through Vancouver from I-5 to I-205 like was originally planned.

Communication ID: 296394 - Signed electronic letter from No More Freeway Expansions Coalition in support of 'Option 2'

Communication (4/30/2018)

Signed electronic letter from No More Freeway Expansions Coalition in support of 'Option 2'

---[EMAIL MESSAGE]---

To: Value pricing Policy Advisory Committee; OTC Admin; Value pricing information Cc: ted.wheeler@portlandoregon.gov; chloe.eudaly@portlandoregon.gov; nick.fish@portlandoregon.gov; dan.saltzman@portlandoregon.gov; amanda.fritz@portlandoregon.gov; metro council@oregonmetro.gov; CHANNELL Megan Subject: No More Freeway Expansions - Value Pricing PAC Community Testimony

Please find our letter in support of Option 2, with particular policy recommendations for designing appropriate, equitable, and climate-smart decongestion pricing policy, attached to this email. We request that this letter be added to ODOT's formal Open House public testimony.

Our grassroots organization's letter has been endorsed and co-signed by 225 community members across the state. Their comments, names and zip codes are included in the document.

Tremendous thanks for your consideration on this important issue, and for your public service.

Aaron Brown - No More Freeway Expansions Coalition www.nomorefreewayspx.com

---[SUBMITTED LETTER AND SIGNATURES]---

Date: Monday, April 30, 2018
 To: Portland Region Value Pricing Policy Advisory Committee
 Oregon Transportation Commission
 CC: Portland City Council
 Oregon Metro Council
 Megan Channell, Project Manager, Oregon Department of Transportation
 From: No More Freeway Expansions Coalition

The No More Freeway Expansions Coalition is submitting this letter outlining our grassroots organization's position to be included in public testimony for the current Oregon Department of Transportation (ODOT) Value Pricing Open House. It has been cosigned by 225 community members who support our position, outlined below, in which we ask ODOT to move forward with Option 2 and direct revenue raised from decongestion pricing towards transit investments instead of freeway expansion.

Traffic congestion is miserable, and without policy change, it will only get worse. There is only one transportation policy that has ever been proven to improve traffic and stop congestion. We are heartened to see the Oregon Department of Transportation (ODOT) move forward under the direction of the Oregon State Legislature to convene this committee of community partners to discuss how to implement decongestion pricing thoughtfully and equitably.

DECONGESTION PRICING INSTEAD OF FREEWAY EXPANSION: FASTER COMMUTES INSTEAD OF FREEWAY CONGESTION

Our advocacy in support of thoughtful decongestion pricing policy stems from our stark belief that the Portland metropolitan area needs to avoid giving the Oregon Department of Transportation a blank check to spend billions of dollars to expand freeways across the region. There isn't a single city anywhere on the planet that has alleviated traffic gridlock by expanding their freeways. It's important to be explicit here - every dollar the region can wrestle away from regional proposals to expand I-205, I-5, and Highway 217 is a dollar we can instead spend on transportation investments quantitatively proven to lead to healthier communities, cleaner air quality, anti-poverty initiatives, traffic safety, a reduction in carbon emissions, preservation of farmland, and (most importantly in the context of this advisory committee), less traffic congestion. Freeway expansion will do none of these things.

Given that we know this to be true, our coalition has taken a stance that we are opposed to

any expansion of capacity on the freeways inside the urban growth boundary unless decongestion pricing has been implemented and studied first before expansion. It's senseless for our region to embark on these costly, dangerous, environmentally disastrous freeway expansions that won't solve congestion without first determining if decongestion pricing and robust investments in transit won't solve our traffic gridlock problems first.

Our organization's statement in opposition to the \$450 million Rose Quarter Freeway Expansion Plan has been endorsed by over 1,000 community members, dozens of local advocacy organizations and 9 of the eleven candidates running for Portland's two city council seats; this letter represents the specific opinions solely of the names signed below. Skepticism about ODOT's claims in their support for the freeway project have been covered repeatedly by local media including Willamette Week (1), Portland Mercury (2), BikePortland.org, CityLab (3) and City Observatory.

We believe decongestion pricing is an important, progressive policy tool that must be thoughtfully implemented to address Portland's growing traffic woes while also working in concert with our region's goals for improved public health, carbon emission reduction and development of an inclusive regional economy.

DECONGESTION PRICING SUPPORTS A MYRIAD OF PUBLIC HEALTH INITIATIVES

Portland has some of the worst air quality in the nation. (4) Minor upticks in daily walking and biking provide astronomical public health benefits, and building walkable communities where transit, biking and walking is safe and encouraged has been proven to encourage physical activity. (5) Despite commitments at local and state levels of government to work towards eliminating traffic fatalities, crashes and collisions are on the rise, often on busy arterials with high speeds with poor sidewalks and crosswalks. (6) The stress of driving through a daily traffic jam has been shown to be linked to significant stress, as well as pulmonary and cardiac disease. (7)

(1) "State Officials Say I-5 in the Rose Quarter Poses a Deadly Danger. Police Reports Undercut That Claim." Willamette Week, October 11, 2017

<http://www.wweek.com/news/city/2017/10/11/state-officials-say-i-5-in-the-rose-quarter-poses-a-deadly-danger-police-reports-undercut-that-claim/>

(2) "A New Report Shows Highway Widening Won't Solve Portland's Congestion Woes" Portland Mercury, March 7, 2018

<https://www.portlandmercury.com/news/2018/03/07/19724128/a-new-report-shows-highway-widening-wont-solve-portlands-congestion-woes>

(3) "Portland Prepares for the Freeway Fight of the Century", City Lab, September 19, 2017

<https://www.citylab.com/transportation/2017/09/portland-prepares-for-the-freeway-fight-of-the-century/540273/>

(4) "Four Oregon cities among nation's worst for air pollution," Salem Statesmen-Journal, April 18, 2018

<https://www.statesmanjournal.com/story/tech/science/environment/2018/04/18/oregon-cities-among-worst-air-pollution-united-states/528926002/>

(5) "Walking and Cycling to Health: A Comparative Analysis of City, State, and International Data" John Pucher et al (2010) American

Journal of Public Health. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2937005/>

(6) "Metro's 'State of Safety' report has new numbers. They're not good – UPDATED"

BikePortland.org, April 12, 2018

<https://bikeportland.org/2018/04/12/metro-state-of-safety-report-has-new-numbers-theyre-not-good-275198>

(7) ""Long commutes 'increase risk of depression, obesity and damaging employees' productivity"" The Independent, May 22, 2017

<https://www.independent.co.uk/news/business/news/long-commutes-work-employee-depression-obesity-productivity-workers-research-travel-a7749206.html>

Given these realities, it's difficult to disagree that instituting decongestion pricing and using the revenue raised to fund reliable, dedicated transit service isn't a massive opportunity to improve public health across the region.

DECONGESTION PRICING IS EFFECTIVE AND NECESSARY CLIMATE POLICY

Forty percent of Portland's carbon emissions come from transportation. Last summer, 1,060 square miles of Oregon burned in wildfires, an area roughly the size of Rhode Island. (8)

Reports from the Antarctic this spring suggest that the polar ice caps are melting at a cataclysmic clip beyond what climatologists previously thought possible. (9)

Given these unpleasant realities, it seems wildly inappropriate that the Oregon Department of Transportation is moving forward with massive freeway expansion plans that perpetuate land use patterns with abysmally high carbon emissions. It flies directly in the face of Oregon's reputation as steward of our environment, champion of cogent land use law, and leader on climate action. Moving forward with auto-centric land use patterns that lock our region into further decades of carbon emissions, especially considering the lack of climate leadership at our federal level of government is nothing short of intergenerational theft and predatory delay. (10) Even in the most optimistic world of electric automobiles and robust paradigmatic shifts towards clean energy, our efforts to meet our climate goals will be greatly assisted by efforts to encourage more transit, biking and walking for everyday trips, and no longer heavily subsidizing and encouraging the use of single occupancy vehicles. Oregon's Greenhouse Gas Commission reported last year that Oregon is way off track in achieving its statutorily mandated goal to reduce greenhouse gases by 10 percent from their 1990 levels by 2020. (11) An Oregonian born today is expected to be alive in 2100; acquiescence to our status quo transportation investments is complicity in asking children alive today to clean up our mess.

Decongestion pricing inherently provides the appropriate incentives to help encourage our region to develop climate resiliency. Failing to meaningfully address our regional transportation plans is a failure to act on climate. Period.

DECONGESTION PRICING CAN AND SHOULD SUPPORT EVERYONE IN AN INCLUSIVE REGIONAL ECONOMY

There are legitimate concerns from many disenfranchised communities about the implementation of decongestion pricing. With decades of rising housing costs, many low-income communities have displaced to the periphery of the region and rely on automobiles for the

(8) "These 9 iconic places burned in Oregon's wildfires. How badly were they damaged, and when will they reopen?" Salem

Statesman-Journal , September 26, 2017

<https://www.statesmanjournal.com/story/travel/outdoors/2017/09/23/oregon-fires-chetco-bar-fire-eagle-creek-fire-columbia-gorge-whitewater-jefferson-park-crater-lake/679010001/>

(9) "Underwater melting of Antarctic ice far greater than thought, study finds" The Guardian, April 2, 2018

<https://www.theguardian.com/environment/2018/apr/02/underwater-melting-of-antarctic-ice-far-greater-than-thought-study-finds>

(10) "Predatory Delay and the Rights of Future Generations" Alex Steffan, April 29, 2016.

<https://medium.com/@AlexSteffan/predatory-delay-and-the-rights-of-future-generations-69b06094a16>

(11) "Happy Earth Day, Oregon! Let's Widen Some Freeways!" City Observatory, April 22, 2018
<http://cityobservatory.org/happy-earth-day-2018/>

majority of their transportation; for many, it's the only reliable transportation option in low-density, sprawling suburbs in a region still lacking robust, reliable transit options in low-income neighborhoods that effectively and reliably provide access to employment centers and other destinations.

Our coalition is sympathetic to these concerns, and aspires to mitigate them by designing pricing policies that don't place undue burden on low-income communities already experiencing economic precarity. Everyone, especially low-income communities, benefits from the end result of decongestion pricing - the elimination of traffic congestion on our major freeways and arterials, which allows better and more reliable access to jobs and services. Initial research suggests that low income commuters are rarely on the freeways during peak travel times; studies published in City Observatory in 2017 and in the Northwest Journal of Business and Economics in 1998 suggest that peak travel time pricing on I-5 would raise more revenue from wealthier commuters. (12)

Given that automobiles are the second largest expenditure to the typical Oregon family, depreciate substantially immediately upon purchase, and require heavy recurring investment in insurance, maintenance and gasoline, any government investment in infrastructure that makes it more necessary (as opposed to less necessary) to own an automobile to access jobs, education, and shopping has significant consequences for mobility options and for asset accumulation for low income communities. Decongestion pricing, designed with appropriate rebates and programs to mitigate harm to low income communities, provides us the opportunity to begin investing in reliable, healthy transportation options that serve people rather than vehicles. As UCLA Professor Dr. Michael Manville writes,

"It's easy to think of free roads as a subsidy for the poor, but it's more accurate to call them a subsidy for the affluent that some poor people are able to enjoy... It is appropriate to worry that priced roads might harm the poor while helping the rich. But we should also worry that free roads do the same, and think about which form of unfairness we are best able to mitigate. People who worry about harms to the poor when roads are priced, and not when roads are free, may be worried more about the prices than the poor." (13)

Dr. Lisa Schweitzer shares a similar diagnosis, noting that decongestion pricing as a form of taxation must be compared to other forms:

Those who use scarce public resources—including space on the roads—should pay for what they use, in proportion to what they use, and know that they are paying. Knowing

(12) "Adult residents in the Portland, OR, area who travel during peak hours in single-occupant vehicles, approximately 3 percent are low-income commuters. Of all Portland-area commuters, 38 percent travel during peak hours in single-occupant vehicles and have relatively high incomes." Svadlenak, J., & Jones, B. (1998). Decongestion pricing and ability to pay: Income levels and poverty rates of peak-hour, single-occupant vehicle commuters in Portland, Oregon. *Northwest Journal of Business and Economics*.

"Transportation equity: Why peak period road pricing is fair" Joe Cortright, City Observatory, September 27, 2017

<http://cityobservatory.org/transportation-equity/>

(13) "Is congestion pricing fair to the poor?" Dr Michael Manville, August 14, 2017.

<https://medium.com/100-hours/is-congestion-pricing-fair-to-the-poor-62e281924ca3>

that resources have a cost is essential to using those resources judiciously, and our road network will function better when drivers pay the costs of their travel. (14)

NO MORE FREEWAY EXPANSIONS - OUR POLICY RECOMMENDATIONS

Given these reasons, The No More Freeway Expansions group ardently supports Concept 2 proposed by ODOT, which recommends instituting full, variable decongestion pricing tolls on all lanes of I-5 and I-205. Additionally, in the interest of maximizing the full congestion relief, public health, anti-poverty and climate-based benefits that are inherently possible through the implementation of decongestion pricing, we propose additional stipulations. These recommendations represent our good faith effort to address concerns of implementing this policy thoughtfully, equitably, fairly, and with an eye towards data-driven outcomes for public health, climate, equity goals, most notably eliminating the amount of time Oregonians spend stuck in traffic.

? Revenue raised from decongestion pricing should be directed towards investments in transit, biking, walking, not freeway expansion.

We encourage TriMet and C-TRAN to work closely with ODOT to determine how funds from pricing mechanisms can best be channeled into cost-effective, reliable transit investments that will provide better opportunities for commuters who wish to avoid paying the price to drive on the freeway at peak hour. Our coalition believes that decongestion pricing revenue should be spent on investments that increase the frequencies, reliability and efficiency of transit service. This includes capital investments in bus-priority lanes and traffic signals, improvements to bus stops, better sidewalks and crosswalks near busy intersections, and other physical investments that fall within the constitutional limitations of the Oregon Highway Trust.

We're heartened to join organizations including The Street Trust, OPAL Environmental Justice Oregon, Oregon Environmental Council, and Verde in asking for revenue from decongestion pricing to be directed away from freeway expansion.¹⁵ As our coalition alluded in a recent article in BikePortland.org, spending revenue raised from decongestion pricing on freeway expansion is like spending money raised from a carbon tax on a new coal plant. We emphatically believe in induced demand, and that the only way to alleviate traffic congestion equitably is to both price our roads and channel our resources into alternatives to congestion instead of freeway expansion.

(14) "Just Road Pricing" Dr Lisa Schweitzer and Dr Brian Taylor, January 2016 Access Magazine. <https://www.accessmagazine.org/wp-content/uploads/sites/7/2016/01/access36-justpricing.pdf>

(15) Their letter was sent to the Value Pricing Committee on April 9, 2018. A copy is available on

our website:

<https://nomorefreewayspdx.files.wordpress.com/2018/04/strategy-on-congestion-pricing.pdf>

? Low-Income Rebate/Refund Program

We encourage ODOT to model and implement a peak road pricing scheme that provides a program to ensure that low-income workers are not unduly burdened by this anti-congestion measure. We're heartened by TriMet's work to establish a Low-Income Fare, funded thanks to OPAL - Environmental Justice Oregon's advocacy in the state legislature, which is scheduled to launch this July. TriMet intends to allow "adults at or below 200 percent of the federal poverty level" to be eligible for "half-price fare," and we encourage ODOT to conduct further study of how similar discounts or rebates could work for decongestion pricing. Ideally, applicants to TriMet's "low income fare" program could also automatically enroll their vehicle in ODOT's decongestion pricing program.

? Mitigation for High Crash Corridors and Potential Cut-Through Routes

Many community members across the region have expressed concern that pricing freeways will lead towards additional "cut-through" traffic on neighborhood streets. This is concerning both in low-trafficked neighborhoods that already suffer disproportionately from proximity to freeways in poor air quality, and on nearby busy arterials, many of which (such as 82nd Avenue) suffer disproportionately high rates of traffic violence. We encourage ODOT to consider setting aside decongestion pricing revenue for local neighborhood traffic remediation improvements, including bollards on neighborhood greenways, safety improvements for pedestrians on arterials (particularly near transit stops, schools, libraries and community centers), and traffic safety cameras. These investments should be done in direct collaboration with local neighborhood organizations and community partners.

? Data Privacy

Oregonians, Southwest Washingtonians, and all who drive on our freeways deserve assurances that the data collected on vehicle travel and address registration be kept appropriately secure. Many members of our community feel actively threatened by the presence of Immigration and Customs Enforcement (ICE), particularly Washingtonians using drivers cards. We strongly encourage ODOT to work closely with data privacy experts such as the American Civil Liberties Union (ACLU) to adopt best practices that allow ODOT maximum efficacy to study decongestion pricing implementation while protecting the security of families across the region.

We understand that this is a bold, unprecedented position. We also understand that our region has a history of bold, unprecedented action and leadership for designing our communities with public health, livability and equity as our top line values. Anything short of bold, visionary leadership is unacceptable for anyone who claims to care about acting on climate, designing public policy for public health, or addressing inequalities in our transportation system.

This letter represents our good faith effort to remind ODOT's Stakeholder Advisory Committee of the urgent necessity of displaying similar leadership to vigorously support thoughtful decongestion pricing policy in Oregon. Our ability to innovate with unique, thoughtful answers to our regional transportation problems previously defined us. It's up to elected officials, community leaders, and advocates such as yourself to determine if this will be the legacy we leave to future generations of Oregonians.

The policy decisions championed by this committee should keep these values in mind as we address our myriad of overlapping, intersecting policy aspirations. We encourage this committee to double down on championing instituting pricing on our scarce freeway space, doing so deliberately to avoid undue burden to vulnerable communities, and prioritizing decongestion pricing over costly and ineffective freeway expansion proposals.

The names of 225 community members (from 46 area codes across the Portland Metropolitan region) who have signed on to our letter in support of decongestion pricing, and the necessity of instituting this policy before expanding any freeways inside Metro's Urban Growth Boundary, are provided below, with their additional commentary.

-No More Freeways Coalition

Name Zip Code Additional Submitted Comments

Douglas Allen 97215 In addition to the general arguments against freeway expansion made in this letter, the PAC and the OTC need to understand that the so-called Rose Quarter project is a particularly wasteful expenditure of money, purchasing very little of value for anyone. If safety were indeed the motivation, then a southbound braided exit lane to I-84 would be the obvious choice, and could be implemented at low cost, leaving the majority of funding available for

projects that would actually improve safety and facilitate transit, bicycle, and pedestrian movement. This Rose Quarter project is not at all cost-effective, and clearly the implementation of "value pricing" would reduce congestion, improve safety, and improve travel time for freight. Now is the time to do the analysis, before the money is spent -- am I right?

Lauriel Amoroso 97232 Freeway expansion has never helped solve congestion and ultimately makes our community less livable. We need to invest in walking, biking, and transit options, as well as implementing congestion pricing as a strategy.

Michael Andersen 97213 It makes no sense for a growing region to invest in transportation that gets worse as more people use it. Instead we should invest in mass transit, which gets more efficient as more people use it.

Tom Anderson 97201

Jake Antles 97218 As long as we consider and implement strategies to mitigate inequitable impacts of congestion pricing, we absolutely need to start congestion pricing before freeway dollars are spent. This is the 100 year solution. The one our (great) grand-kids will be glad we made when they are addressing transportation issues 100 years from now.

Aaron Antrim 97211 I own a business in downtown Portland and have lived in Portland for 10 years. I regularly use transit and bike. I drive somewhat regularly. I'm convinced that decongestion is the most effective way of controlling highway demand and traffic, and spending my tax dollars smartly. I support this approach instead of freeway expansion.

Izzy Armenta 97201 As someone who grew up in Los Angeles for 25 years I can attest that freeway expansion simply doesn't work. More lanes just leads to more cars and you can not build your way out of traffic. Decongestion pricing can help solve this and the funds collected from it can help provide equitable benefits for everyone if it is used wisely, such as reinvesting in active transportation. Take a hint from the traffic capital that is Los Angeles who has realized building more freeways doesn't work and investing in active transportation gets people out of their cars and cars off the road.

Blaine Baker 97031

Brad Baker 97212

Holly Balcom 97232 Running a freeway through the middle of a city was a mistake. It displaced and impoverished communities with little political power. It allowed people to take their taxes away from the city while still using its resources. Portland should focus on serving people who live in Portland, and undoing the inequities of the past. This means cleaner air, more transit options, schools safe from traffic and pollution, more close-in housing, and reconnecting neighborhoods torn apart by freeways.

Tom Baldwin 97267

Emily Barrett 97217 I'm a wife, mother, and full-time employee who lives in inner North Portland. I started bike commuting (with my child!) this year because traffic congestion is so unpredictable and time-consuming that I cannot reliably make it to work and daycare via car or transit. Portland has an obligation to remain a national leader on TRULY livable city planning and transportation options. Help me continue commuting safely and carbon-free, while nurturing my family, my health, and contributing to the economy. Decongestion Pricing Please!

Stephanie Bateman 97006 I believe it will help by reducing congestion, but it will also get people to commute by other means, which in turn may increase retail spending in local communities (cafe's, restaurants, etc) while commuters wait it out while raising money for new transportation methods. Because of this, Vancouver may grow as to have their own identity as a destination and not just a place to reside. It's really a win-win.

John Beaston 97217 Due to induced demand, freeway widening never works for long. Decongestion pricing has worked in other locations. It's time to try it in Portland! And make sure the resulting funds go toward improving transit and other alternatives.

Jody Bleyle 97215

Elizabeth Borte 97202

Ovid Boyd 97201 Freeway infrastructure expansion will not only cost a fortune, but is unlikely to reduce congestion. Congestion charging will actually generate revenue that can be used to improve our transportation system, while actually reducing congestion. It is the smart choice. But more than that, it is the moral choice. People die on our roads. They die because cars crash. The more cars on our roads, the more crashes, and the more people who will die. More cars on our roads by expanding freeways will kill more people. Getting less cars on the road via congestion charging will mean less families are destroyed. Please implement robust congestion charging for this reason.

Steve Bozzone 97217

Ann Branson 97405

Noah Brimhall 97217

Neon Brooks 97212

Aaron Brown 97203 "Forget the damned automobile and build cities for lovers and friends."

Philip Brunner 97217

Ronald Buel 97213 The Rose Quarter Freeway expansion will not solve the congestion problems on I-5. It's safety benefits will take us no closer to Vision Zero on fatalities. It takes out Flint Street, a heavily used bicycle street to cross the freeway. Decongestion Pricing is the best answer and should be implemented ahead of any freeway expansion within the urban growth boundary.

Nicholas Burns 97239

Clare Burovac 97201

Spencer Bushnell 97239

Reed Buterbaugh 97203 The planet is melting!!!! Stop freeway expansion!

Stephanie Byrd 97239 It's sensible and fair, and it will make life healthier and safer for all of us in Portland. Behavior that hurts others should be discouraged rather than encouraged, and we will have a better city for everyone when we stop subsidizing car overuse.

steve cackley 97211

Nathaniel Canfield 97206

Madeleine Carlson 97206

Thomas Carrier 97217

Johnny Carter 97206 Freeway expansion means driving expansion. Opposite of what our future goals are. We need transportation for ALL, not just for drivers sucking the life out of cities.

Aaron Choate 97202

Scott Cohen 97217 there is but one solution to help alleviate congestion and improve freight and other high value transportation movement: implement pricing now!

Lucy Cohen 97211

Alicia Cohen 97214 It is well understand from extensive research that increasing road size does not help solve traffic congestion. Knowing what we know how can we double down one of the fundamental failures of the 20th Century? The amount of money to be spent on the proposed expansion could be used more effectively elsewhere to meaningfully decrease congestion for the long term.

Chris Coiner 97215

Brendon Constans 97217

Melinda Conti 97212

Meg Cotner 97212 The dirty little open secret among transportation engineers is "if you build it, they will come" - widening freeways doesn't work, it only adds more congestion, more pollution, more problems. I saw this happen over many years while living in California. This is 2018 – greener and more ecologically smart choices must be implemented. We've seen lots of bad examples around the country of transportation decisions creating more damage that solutions - this is a great opportunity for Portland decision makers to learn from others' mistakes. Be smart! No freeway expansion; decongestion pricing is the way to go.

Marc Czornij 97227 Because more lanes create more traffic!

camilla Dartnell 97212 Freeway expansion keeps inducing demand: we know we will never be able to expand our way out of congestion. Let's make smarter decisions by pricing congestion appropriately!

Lenny Dee 97212

Alison Dennis 97202

Drew DeVitis 97214

Ethan Disbrow 97203

Stone Doggett 97212

Ted Dreier 97219 More freeways bring more traffic, more pollution, more cars.

Marne Duke 97206 I understand this section is a traffic problem, but it's too much money to solve an issue that should further down the queue of things to fix.

Lisa Dupont 97211 As a car-less individual I'd love to see more resources put into public transportation and biking corridors. On the few occasions where I may borrow a vehicle I am glad to pay congestion prices to use the freeways. I believe making public transportation easier to use at an affordable price will encourage people to change commuting habits. As the city grows, expanded freeways will likely only lead to an expanded congestion problem.

KC Eisenberg 97211

Tsveti Enlow 97211 I bike everyday to work because i can't stand the current car traffic situation. The bridge I commute to work on my bike makes me feel safe because there are not many cars or busses for that matter. it is a safe haven. So yes, i support decongestion pricing over freeway expansion. You have to work to make the city less reliant on car transportation not just trying to patch things.

Angel Falconer 97222

Alexander Fallenstedt 97201 The future of our landscape, quality of air, and wellbeing of all Oregonians begins with the actions of every individual in this state. When we choose to walk, take the bus, ride a bike, or drive a car, these actions have an impact around us. The impact could be the air we all breathe or the time it takes to get to our destination. Expanding freeways will cost us in the long term. As a frequent person who both rides a bike and drives, I would gladly pay money to the state for decongestion pricing. Why? It's for our future. I would love to see the state of oregon reduce it's deficit and not spend money wildly on freeways. No state has been able to successfully build its way out of congestion. There are many ways for Oregonians to get around, but over reliance on driving is the problem! Encourage people to take alternate methods of transportation instead of driving everywhere. City of Portland and Multnomah County leaders have pledged to make to transition to 100 percent clean energy by 2050. Adding freeways goes against this pledge as it will encourage Oregonions to consume for fuel that necessary. Bring money into the state, add congestion pricing and I, and many other Oregonians, will gladly pay for a roads with less car traffic. Don't dig our state further into debt.

Steven Farring 97206 Safer streets for all. Cleaner air too. Investing in community, not cars going by.

Naomi Fast 97006 It feels great to be in the good company of the many individuals & organizations

who are signing this letter, & who've already signed similar petitions! I live in a suburb of Portland, & do not own a car. I love walking & biking in the outdoors, & I want to save remaining unpaved green spaces of Washington County from becoming roads. True to these values, my household relies on public transit to go to downtown PDX. I'd like more bus lines, bus lanes & transit options from Tigard/Beaverton/Hillsboro to Portland, & all the way into Vancouver, WA. I'm signing this letter for myself, & because I envision there are a lot of other people like me, who'd rather ride happily on a clean, efficient bus to commute than behind the wheel of a car they must drive & maintain themselves. And surely, many people would rather see expensive acreage be used for housing & shops served by bicycle & bus transit, instead of for ODOT road projects.

Helen Feild 97220

Matt Ferris-Smith 97212 All evidence indicates that the proposed expansion will do nothing for congestion and do relatively little to support safety or livability. Please use decongestion pricing instead of highway widening, and dedicate the resulting revenue toward transit.

Emmett Finneran 97213

Thomas Fisher 97214

Linda Fitch 97221

Adam Foltzer 97202 Spending resources on transit rather than freeways means *everyone* benefits, not just the people driving cars.

Clay Fouts 97206 Prioritizing resource intensive, wasteful, and dangerous motor vehicle traffic harms our neighborhoods and community. Please devise approaches to transportation that avoid expanding existing motorways. Move people, not cars.

Robert Galanakis 97215

Andrejs Galenieks 97035

Nona Gamel 97209

Shelly Garteiz 97232 People need more options besides driving their cars. Carbon emissions are ruining the environment and destroying our health. Please do the right thing for our environment and collective future and DO NOT expand the freeway. ODOT can be a leader and agent of change, rather than the last one on board. Value pricing is a better option, and the community wants you to explore that option and everything we need to do to ensure it is equitable. Thank you.

Monique Gaskins 97212 I live very close to the freeway and am also a runner, expanding the freeway would bring more air pollution and idling through my neighborhood. Furthermore, freeway on and off ramps are already difficult to maneuver in this neighborhood, adding more cars, more congestion and more lanes would make the problem worse. Studies show that adding lanes just adds more demand for freeways. Instead, we should add supply to bike lines, busses, and other non-car transport options. Spending \$450 Million on a project that will decrease quality of life for those who live in the neighborhood and won't improve congestion is an investment that we should not make.

Jacob Gellman 98660 Widening freeways is expensive and doesn't reduce congestion. But congestion pricing does reduce congestion. Let's not waste money on projects that won't solve congestion!

barbara gicking 97227

Vladi Gleba 97078

Josh Gold 97232 Decongestion pricing is a more financially sound and responsible way to get the same (or better results) than freeway expansion.

Anne Goldfeld, MSW, MPH 97124

Erinne Goodell 97211 We have to make it more appealing to travel without personal autos. Our city is growing so much that we simply have to encourage people to opt out of driving whenever possible.

David Goodyke 97227

Karla Gostnell 97212

Blake Goud 97217 People respond to incentives. Give more freeway away for free and people will fill it back up. Price it and they will use other ways when it is expensive and free up space for people with no other options but to drive.

Lucas Gray 97211 The solution to traffic problems is to make less traffic, not bigger roads.

Kristin Gross 97218 Expanding freeways creates more pollution and has a greater negative impact on people of color and low income folks.

Emily Guise 97213

Eric Gunderson 97211 I want to keep congestion and pollution down while encouraging biking options.

Steve Gutmann 97214 ODOT, please lead us into the future, rather than dragging the state backward with the same "add more capacity" policies that failed California and Houston. Enough already!

Steve Gutmann 97214

Jed Hafner 97206 Please implement congestion pricing and use the funds to improve public transportation and high-crash corridors. The economic and human costs of congestion and traffic-related deaths and injuries are too high not to shift our focus toward easing congestion and promoting safer roadways for everyone.

Patrick Halley 97202 Why would we spend any money to make driving easier? We can learn from the mistakes that LA and Houston made; Portland doesn't have to end up the same way. Single-occupancy vehicles should be the absolute lowest priority, something we make investments to REDUCE, not increase.

Marsha Hanchrow 97214 (Sorry for the second submission, please delete the first that has no additional comments.) I continue to oppose this project for all the reasons I opposed it at the time of this coalition's first letter. I work in this neighborhood, and suffer the polluted air every weekday. The State of Oregon, by the actions of ODOT, should not be making the jobs of Oregon Health Authority employees more difficult by encouraging more driving by the same polluting vehicles. Toll first, and toll every lane in the congested area. Toll properly, charging increasing rates until traffic moves at some specified rate, perhaps 90% of the posted limit (unless weather conditions require lower speeds). After a full year of this, have an independent auditor analyze the results, and present that audit to all stakeholders. And we are all stakeholders.

Michael Hanna 97216

Craig Harlow 97217

Noah hatz 97206 Freeway expansion won't make congestion any better and would waste an enormous amount of money that would be better spent on bike lane expansion/building sidewalks and pedestrian crossings in badly underserved neighborhoods.

Abigail Hazlett 97217 If Portland wants to be a leader in livability then we should invest in improving transit and close in affordable housing, or other measures shown to decrease congestion. NOT freeway expansion which has no evidence to suggest it will improve congestion (especially given bottlenecks like the I-5 bridge into Washington). Expanding the freeways is sort-sighted, expensive, and unimaginative. Do better!

Evan Heidtmann 97211 Decongestion pricing is the only thing on the table which can hope to actually improve congestion. And that's what many Portlanders want -- they don't want years of roadwork, they want change.

Kyle Helland 97420 As a former resident and frequent visitor to Portland, I strongly support decongestion pricing on the freeways. I would gladly pay for decreased congestion on existing roads and increased funding for transit projects that move to a more sustainable, clean city.

Sean Hellebusch 97206 Choosing to expand this freeway is blatantly ignorant of all research that has been done. The city should be ashamed of itself for even considering this option when the public is

vehemently against it.

Topher Henness 97222 Please, I'm begging you, don't turn our beautiful city into Los Angeles. The data shows expansion doesn't work.

Tara Hershberger 97220

Josh Hetrick 97202 Expanding freeways, especially before implementing decongestion pricing, is a wasteful use of public funds. We deserve better — we can't claim to be addressing climate change while expanding freeways.

Nate Hildebrand 97212 For the amount of money it will take to expand the freeway, we should definitely try other things first like making huge incentives for public transit and carpooling

Scott Hillson 97068

Steven Howland 97212 Induced demand is a very real phenomenon. Adding lanes to the freeway - even an auxiliary lane as is proposed in Rose Quarter - will not solve the traffic congestion problem. The only way we truly get to the root of the problem is to get people to shift their behaviors and do that by making alternatives that are as comparable to driving as possible. That means easy, timely, and convenient. And more fully incorporating the costs of driving into their behaviors further shifts the comparability of transit to driving. In incorporating a decongestion charge, I full-heartedly believe the program should be equitable. The proposal in this letter is one step to do so. I have spent the last two years researching transportation behavior among low-income Black populations in Portland, and this will directly impact them. While they do not typically travel during peak-periods, they do sometimes. And that sometimes usually is a very important trip for them such as getting to the doctor, getting social services of some kind, or getting across the city to drop their kids off at school as their kids still go to school. These are data points not picked up in traditional data sets, but they represent very important parts of the lives of those in vulnerable and precarious positions in life. Similarly, there will inevitably be diversion traffic to avoid the charges. Already, neighborhoods along roads parallel to I-5 and I-84 experience large amounts of diversion traffic since they are seeking ways around the congestion. Charging people for their congestion causing activities will only exacerbate that problem. And it presents real problems for people living in these neighborhoods. People seeking alternate routes around the highways do so because they are impatient, and impatient drivers are the worst ones we can have on the road. They are less likely to cede space to vulnerable road users and more likely to break multiple traffic laws such as traffic control devices and speed limits. We should absolutely fund speed and red-light cameras along such roads and ensure adequate diverters (many of the current diverters that have been installed across the city are often run over - including curbs) are installed inside neighborhoods so these behaviors are not spread to areas where safety is an even greater concern. Any transit alternatives to supplement highway traffic should include substantially improving Portland - Vancouver routes with higher frequency, all day routes.

Meghan Humphreys 97206

Amy Hunter 97212

One Hwang 97232

Arya Imig 97203

Viv J 97330

Daniel Jaffee 97211

tel jensen 97218 Expanding freeways is not a good solution for high traffic volumes. It costs taxpayers too much. It hurts public health too much. It degrades urban form. It disincentivizes active transportation. It leads to induced demand. And it doesn't even reduce congestion.

Love Jonson 97232

David Kafrissen 97217 Building more roads is not the answer to our congestion woes, we need pricing of high traffic times and single occupancy, we need to change people's behavior and reward transit, bike and walking

rick KAPPLER 97225 i want a mass transit subway line, more street trees, and protected bike

lanes, and better land-use planning for SW Canyon Road

Alan Kessler 97202

Jason Kidwell 97214 I think there is far too much traffic moving through the city. I advocate for congestion pricing to inspire reluctance for people to drive needlessly. This is not out of malice, rather - sometimes you have to give a little push for people to make the right choice. Left to their own complacency, folks would drive their cars as much as possible. I'd like to see that diminished.

Marley Kinser 97219 Freeways don't make neighborhoods better. An expansion is wildly expensive, and won't serve many Portlanders. Investing in public transit, in walkability, in bike infrastructure is investment in the future of Portland, one which will be much cheaper and last longer. We deserve a well planned city, built for people, not for cars. Decongestion pricing will raise revenue, and actually work to stop traffic congestion.

Doug Klotz 97214 We don't need to expand (or even add any lanes) to our freeways. Congestion pricing is the only effective way to make better use of the freeways.

Scott Kocher 97204 Adding lanes to a freeway is like going on a diet by loosening your belt. Using freeways—at peak times especially--has a huge social cost. Let's price it so the marginal cost of driving at these costly times is the actual cost, instead of zero. The way it is, nobody can get anywhere at rush hour, because the "price" is... how much are you willing to wait in stopped traffic. Let's leverage decongestion pricing dollars to help the people who aren't served well by the mass transit. Trains, buses, and bike corridors can bring people to the central city at rush hour without the induced demand that makes freeway expansions fail. Please, be leaders on this, now.

Stefan Kwiatkowski 97401 Too many cars slows down transit.

Christine La Chance 97209

Brian Landoe 97217

John Lansing 97201 This will make the air quality even worse in an area prone to temperature inversion, not to mention spoiling our city's attempts to combat climate change.

Paul Lantow 97202

Paul Leitman 97213 Freeway expansion is an inefficient use of money and is bad public policy. The Portland region should be focusing on reducing vehicle use, not making it easier. Funds for freeway expansion can be directed to improved transit service, pedestrian and bicycle infrastructure, and an effective roadway pricing system that charges people for their use public roadways, their emissions, and other negative externalities (such as noise pollution, pedestrian/bicycle deaths and injuries, and low-density auto-focused land use patterns). Adrienne Leverette 97215 Freeway expansion is a non-solution. Latent capacity will just fill up more lanes. We need to think bigger and be more pragmatic about what will actually alleviate congestion. Single occupancy vehicles are not the future.

David Levine 97227

Scott Lieuallen 97215 Freeway expansions will mean more vehicles polluting the air due to induced and pent up demand. I-5 will still be congested and we'll be out half a billion dollars.

Michael Limb 97203 No matter how wider the freeways get, there will always be cars to fill them. Public transport is the future of urban mobility, not single-occupancy vehicles. More freeway space = more people taking their cars instead of taking the bus = more congestion. Decongestion pricing = less people taking their cars and taking public transport = more money to fund more public transport options and availability.

Clyde Alan Locklear 97221

Dan Loda 97266

Suzanne Lohr 97206

Courtney Longfellow 97005 I don't believe that additional lanes on the freeway resolves traffic congestion. It's been proven to be a short term solution that causes more traffic in the future. I

would prefer to see funding used towards express bus lanes on all major freeways, highways, or heavily utilized roads/bridges. This will drive transit ridership up because it will give people options that not only are cost effective but faster than sitting in traffic in single occupancy vehicles.

Jesse Lopez 97232 The farce of expanding the freeway for safety or decongestion has been thoroughly debunked. If you desire to improve the safety of roadways, I'd suggest doing something that will have an actual impact like redesigning Powell, Barbour, Lombard, or 82nd to accommodate pedestrians, bicyclists, increase transit speeds, and decrease the speeds of single occupancy vehicles. If you desire to decrease congestion on I-5, I'd suggest doing something that will actually work like imposing decongestion pricing.

Joakim Lord 97201 The construction of Portland's freeways decimated traditionally minority communities, specifically the African American community of Albina, while also permanently dividing our city. Expanding I5 in the Rose Quarter is an insult to those communities who deserve much more attention and understanding. Adding lanes will only encourage more people to drive, negating any initial benefits with regards to speed of travel, and will only serve to further pollution, congestion, and a dependence on personal automobiles for transportation. Instituting decongestion pricing and channeling that money to improve transit is the right (and Portland) thing to do. We are the city that removed a freeway from the heart of our city when others were expanding left and right. We should not now be moving backwards in our thinking on transportation.

Sarah Lundy 97266

Tyler Lyon 97227

Christine Manning 97201

Phillip Martello 98660

Kendrick Martin 97217 I am an avid cyclist and would love to see some money put into improving the quality of bike infrastructure.

Lizzie Martinez 97214 As a Portland resident who drives, bikes, and walks regularly, I believe we need to create a city that works for all of us. Spending half a billion dollars on a project that experts from ODOT say will NOT improve traffic is a waste of all of our taxpayer dollars. We need to explore congestion pricing, with an eye to equity, and invest the money back into better bus service, more public transit, and sidewalks.

Heather Mathewson 97202

Cait McCusker 97227 INDUCED DEMAND.

Dan McFarling 97078 You CANNOT build your way out of congestion by dedicating even more space to a mode of transport that is INHERENTLY INEFFICIENT in use of terrestrial space!

Katie McGee 97212 We should not have cars on standstill on the freeways, it's bad for the air, and the people in the nextdoor neighborhoods. With decongestion pricing and improved transit, people will opt out of single occupancy vehicles.

Michelle McGrath 97216 Portland needs to lead by example —new freeways is not how we embrace climate friendly transportation. And ODOT needs to embrace the science—new freeways will bring more congestion. Tolls will help ease it!

Matt McNamara 97212 Private car ownership is not the future - support active transportation as well as spending the money on mass transit!

Matthew Meskill 97209

Christine Meyers 97211 Too many people are moving here let them pay for all our problems. This city was so beautiful and we have no infrastructure for all these people and in trying to make room old beautiful houses are being bulldozed and half the people moving here don't even GET OREGON LICENCE PLATES which makes me guess no OR driver's licences either so are NOT paying into our city or state. Too many gas hog cars. Now they want to bulldoze more houses for a freeway to

encourage more to move here?

Sarah Mirk 97212 Plan for a future where it's easier to bike, walk, or take transit than it is to drive a car!

Mindy Montgomery 97231

Jenny Mosbacher 97210

Ryan Mosier 97202 Let's make commuting more enjoyable for all by reducing congestion on our existing roads before investing taxpayer \$ in freeway expansions. Less cars on the road means a speedier trip from A to B for all users, whether you're in a SOV or on a bus.

Rob Mumford 97202

Colleen Murray 97212 There is no time (in terms of climate and human health) to consider options that do not employ new technology, innovative solutions, and focus on reducing emissions and improving livability for Portland residents (air, noise, etc.).

Andrew Neerman 97211 <https://www.nytimes.com/2018/04/25/opinion/cars-ruining-cities.html>

Sarah Newsum 97217

Phil Nishikawa 97215

Brian O'Grady 97202 The investment that need to be made is in alternatives to single occupancy vehicles, mass transit and cycling. We cannot pave our way out of this problem.

Nathan O'Donnell 97217

Maria Opie 97212 Congestion pricing supports a progressive vision for Portland and, instead of widening freeways and increasing related pollution, money can be put to use developing affordable mass transport!

Andrés Oswill 97212 Seth Pellegrino 97202 Freeways are inequitable & unsafe fossil fuel infrastructure that we must be planning to tear down, not build up.

Chris Perry 97211 Freeway expansion just means more cars will be driving on the freeway. Soon, the expanded freeway will be congested too. This is supported by facts. Get this toll in place, then expand the MAX to Vancouver. This would solve so many problems.

Joan Petit 97212 Our current levels of air pollution, driven by traffic and congestion, are unhealthy and unsustainable. Decongestion pricing is one way to reduce these problems. We should invest this money in walking, biking, and public infrastructure and work to create a more sustainable transportation system.

david pollard 97217 decongestion pricing reduces traffic congestion. freeway expansion does not reduce traffic congestion. freeway expansion also shows Portland is not committed to our climate goals, Portland is not a city for those who walk, bike, or take transit, because of income, health, environment, choice, or other reason. If Portland is too be a city that people want to live in coming years, we need to remove highways. Highways divide the city, pollute in many ways, reduce quality of life, etc. ... we should not make such a poor choice as to expand highways.

Leon Porter 97232 Freeway users should pay for any freeway expansions, as well as for all the damage to the environment and public health that such expansions cause. We're in the middle of a climate change catastrophe, and freeways contribute to that. It's not in the public interest to use general tax dollars to expand freeways and make that environmental catastrophe even worse.

Leslie Poston 97217 Multiple reports have shown that expanding freeways causes MORE congestion, not less. Additionally, freeway expansion will kill surrounding neighborhoods, a newly reopened school, and bike/greenway routes. Congestion pricing is a smarter idea, especially if coupled with local traffic directors that keep cars from avoiding it by speeding through nearby neighborhoods.

Anabel Ramirez 97209

Nathan Ramsey 97212 Pros: congest pricing will reduce congestion, and reduce traffic in center city, and it's forward looking. Cons: it'll be unpopular with Vancouver commuters. We shouldn't just write them off, but they need to be brought into the TriMet fold Putting a \$1b one mile lane in will do nothing but line the pockets of a few contractors and maybe some ODOT management lucky enough to catch a ride through the revolving door. Driving to work on I5 will never, ever, work, not at \$1b, not at \$10b. Portland isn't a suburb, density brooks no SOVs. Put Portland first, you are Oregon DOT after all, not WSDOT.

Chris Rawson 80138 Adding lanes means adding cars. Pricing congestion in the market place is smart.

Rick Ray 97060

Sean Rea 97212 I support decongestion pricing because I support evidence-based policies. It has been repeatedly demonstrated that freeway expansion will increase car dependency and will fail to reduce congestion. On the other hand, decongestion pricing (when done equitably and intelligently) has been proven to take cars off our roads.

Piers Rippey 97214 Don't double down on outmoded forms of transport! Take a bold stand on the kind of city we want to live in for the next century.

Shannon Robalino 97212 Evidence shows the more roads you add the worse congestion gets. We need to encourage people to opt for greener alternatives to transport, not add more pollution.

Gerson Robboy 97214

Nathan Roll 97217

Joe Rowe 97217 If done with social justice safeguards it can get everything moving faster in congested Commutes

Allan Rudwick 97212 Freeway expansion is a dead end. Return on investment (ROI) for new capacity is very limited, while maintenance & other modes have higher ROI. We need to work change the funding formulas to prioritize decongestion benefits of our investments - this analysis will show that freeway capacity increases are not the best value we can get

Edward Sackinger 97601 In order to meet our climate goals we should be decreasing freeway lane miles rather than increasing them. As such we should REMOVE the East Bank Freeway. It's ugly, it's old, it's not needed, it blocks Portland from accessing the east side of the river, and already has transit that can soak up some of that travel demand.

Melelani Sax-Barnett 97222 Road expansion just means more driving, and we need less of it! And it's so much more expensive and less effective than green transportation investments.

Kari Schlosshauer 97202

Shelby Schroeder 97203

Sydney Scout 97210

Peter Seaman 97219 I support decongestion pricing b/c it's the only known way of reducing traffic congestion. London has been doing it for years, and it's working there. Also remember there are ways of creating rebate programs to mitigate impacts on low-income people. Thanks.

Ethan Seltzer 97212 Doing the same thing and expecting a different result is the definition of insanity. Time to try something new and different. Freeway widening is not it.

Sean Sendelbach 97219 Something has got to change. I-5 is essential a parking lot northbound after 3:00 PM until well past 6:00 PM. Something needs to be done and it doesn't sound like freeway expansion will change anything.

Jeff Shackelford 97124 I remember sitting in deadlocked traffic on highway 26 during peak hours in the late 1990s. Though, after the widening project, traffic was much smoother and pleasant. That being said,

that's why I'm against widening I-5. You see, that reprieve on highway 26 was only temporary, as you most likely know. How long did it take for congestion to return to pre-widening levels? More or less than a decade? The result of the project merely invited more traffic. We don't need any more "right now" fixes. We need fixes for the future. That's why I support decongestion pricing. Try encouraging less cars on the roads, which will keep people safer and reduce pollution in the Portland metro area.

Frank Shen 97229 Freeways, especially downtown freeways, cut cities into separate sections. We should think more about the people live there; they want safe walkable places, not ever-growing freeways.

Richard Sheperd 97227

Jennifer Shuch 97211

Chris Smith 97210

Matthew Smith 97211 Traffic is terrible in Portland. With more people arriving and limited space (and money) for freeways, there's only one way out -- more mass transit. Decongestion pricing is the only way to get there.

Steven Snyder 97212

Khris Soden 97214 Fight climate change by not expanding freeways!

Bill Stites 97214

Lucy Stone 97202

Guthrie Straw 97211 I support decongestion pricing over freeway expansion because spending \$450 million to widen freeways in one of the most negatively impacted neighborhoods in Portland with a rich history of exploitation by government agencies is simply put, bad policy at it's finest. I support any method that limits the spread of freeway-centric thinking in our communities and interlinked neighborhoods, and feel that upon review of the scientific data, it's frankly insulting that we're needing to re-visit this issue in the first place. I respect that members of ODOT are trying to work within the confines of their "role" as a transit agency, but now is not the time to sit back and fawn over the concept of "business as usual" but a time to reflect, re-prioritize based on scientific fact correlated with comprehensive public input, and to take definitive action through common sense decongestion pricing that will serve as a model for our city, and others for years to come.

Matthew Sullivan 97223 Decongestion pricing should be the first step in reducing traffic problems. The money raised from this effort should be put into efforts like light rail, commuter rail, and commuter bike options. Adding lanes never works, and in the age of Waze and other apps that help people find optimal routes, drivers will simply flock to these additional lanes instead of modifying their commute times or employing other transit options. It's time for a change that puts our citizens and environment first.

David Sweet 97218 Decongestion pricing is the only decongestion strategy that actually works. Freeway expansion creates induced demand leading to worse congestion. Things are already bad enough. Just do it, ODOT!

Nathan Tang 98660

Ted Timmons 97215 Adding lanes won't fix congestion, and it's effectively a regressive subsidy. Better to use freeway pricing and transit changes.

Charles Townsend 97212 Because freeway expansion is not the answer to our traffic problems. Plus if you use a resource you should pay for that resource.

Gabriel Trainer 97227 Freeway expansion does not help anyone, decongestion pricing does!

Charles Tso 97209 Freeway expansion exacerbates air pollution and respiratory diseases. Freeway expansion increases CO2 emission which causes climate change and extreme weather events. Freeway expansion inequitably subsidizes the wealthy at the expense of the poor. Freeway expansion wastefully divert precious public money from public transit, bicycle and pedestrian safety. Freeway expansion encourages sprawl and unsustainable land use development. Freeway expansion induces more traffic and worsens congestion. Freeway expansion is morally,

economically, environmentally, and scientifically unsound and detrimental to the health and welfare of current and future generations of Oregonians.

Melody Valdini 97202 My two children both have asthma and breathing issues, so they (and other kids and adults) will suffer if the air pollution gets any higher than it already is. Decongestion pricing will encourage people to consider other options, and thus help us to begin to address the air pollution choking our city. Please put the health of your citizens first! Our health should be the top priority of the government!

Martha Van Dyke 97209 It encourages auto use which destroys the planet.

Eric Van Dyke 97209 Will we ever acknowledge the fact that freeway expansion induces congestion? It's not a solution!

Charlotte VanCleve 97202

Kevin Vandemore 97212 Congestion pricing is the prudent course of action which should be viewed as analogous to the purchase of a real option. Namely, implementing congestion pricing first, before altering freeways, is the financially sensible way to address traffic congestion. The additional time and information such an option provides will allow for better decisions to be made in the future – when and if additional lanes or other changes to our regional freeways system may be needed. Building before implementing congestion pricing removes our option and commits us to costly freeway expansions. Good evidence suggests that the Rose Quarter project and other freeway expansions will do nothing to meaningfully address traffic congestion, and in fact are likely to make traffic congestion even worse. An effective congestion pricing scenario must be designed and implemented in a manner that will allow for a change in a driver's preference — their ultimate choice — of if, when and how to use the freeways. Accordingly, I support Concept 2 as proposed by ODOT. Implementing variable congestion pricing on all lanes of I-5 and I-205 is the only proposed option that sufficiently provides the flexibility needed to effectively implement congestion pricing. It is important that we view and consider congestion pricing within our regional context, and holistically evaluate how congestion pricing will impact land use, population density and other use-patterns within the metro region. To that end, I support using funds derived from congestion pricing to invest in other forms of transportation, most importantly in transit service. A safe, reliable and efficient public transit network provides viable 4-season freedom of movement to all within our community — including the able bodied, the elderly and those with limited mobility. I strongly support investing funds derived from congestion pricing in regional bus rapid transit, conventional bus service, and rail services including light rail and commuter rail. The choices we face are difficult, and will impact how we live, work and play in our region. But while these decisions are difficult, we must not back down from the good work that needs to be done. As a life-long Oregonian and Portland area resident I grew up believing, and still do, that Oregon is special. We have a saying around here for how we dream big, and work big, to tackle and solve big problems — we say it's done the Oregon Way. The conversation around congestion pricing has been vigorous precisely because it's important. I am heartened that the respectful and inclusive debate, and bold sensible action, for which we've been known will help shape a vision for our future; one that leaves to our children and posterity a world better than the one we found. Thank you for your consideration of this important matter.

Yashar Vasef 97209

Joseph Vasicek 97223 Want a healthy, livable city

Claire Vlach 97214

Mary Vogel 97205 Freeway expansion will simply encourage more people to use the freeway.

Kate Walker 97216

JARRETT WALKER 97206

Evan Ward 97206 The current freeways are not well-utilized. If the only way we deal with congestion is to build more freeways, and we can't sprawl out into the countryside (a good thing!), we're going to end up with really perverse development practices. Portland is small enough that transit should be able to take a large percentage of people where they need to go, and the roads will be clear for those who need cars only if we price roads appropriately.

Bjorn Warloe 97218

Mike Warwick 97212 The project is supposed to address congestion and collisions resulting from

weaving in the Broadway/Weidler area. The easiest and cheapest way to solve that problem is to remove the Broadway/Weidler ramps. No further construction would be needed. This is EASY to test and ODOT should do so BEFORE any other actions.

Jon Watson 97206

Peter Weltë 97007

Mark Whitaker 97211

Katy Wolf 97227

Michael Wolfe 97202 Properly priced SOV access will meet no additional capacity is necessary. Investing the proceeds in transportation alternatives is the only way to ensure equity and meet environmental and climate goals.

Garlynn Woodsong 97211 The consensus view of transportation experts is that pricing is one of the most effective tools that can be used to manage congestion. Using the proceeds to widen freeways does not help to achieve GHG emission reduction goals, public health goals, congestion relief goals, or really any other public policy goals. Proceeds should instead be used to fund transit, walking and bicycling infrastructure.

James Zehren 97034 Continuation of the same approach to our metropolitan area's regional transportation system will only yield more of the same results--the deleterious impacts of which are cumulative. Congestion pricing MUST be applied now, to emulate other regions that successfully have done so and to signal a clear break from the past approach we have taken to our region's transportation system.

A. J. Zelada 97212

Adam Zielinski 97239 Congestion pricing should be implemented in advance of major freeway expansion and/or in advance of replacing the interstate bridge. Although I do still support modifying and fixing the Rose Quarter, and the Maywood Park I-84W to I-205N interchange with auxiliary lanes to improve traffic flow.

No More Freeways Coalition www.nomorefreewayspx.com
800 NW 6th Avenue, Suite 253 [facebook.com/nomorefreewayspx](https://www.facebook.com/nomorefreewayspx)
Portland, OR 97209 @nomorefreeways
nomorefreewayspx@gmail.com

Documents: 043018 Value Pricing ODOT Letter (2).pdf

Communication ID: 296512 - Electronic letter from Roy Rogers about mitigation strategies**Communication (5/3/2018) Project: z_Westlake Cycle Track**

Electronic letter from Roy Rogers about mitigation strategies

---[EMAIL TEXT]---

From: Catherine Jacoby
Sent: Thursday, April 26, 2018 4:42 PM To: OTC Admin
Cc: GARRETT Matthew L * ODOT
Subject: Value Pricing Policy Advisory Letter from Commissioner Rogers

Please find the attached letter from Commissioner Rogers to the Oregon Transportation Commission.

Thank you,

Cathy Jacoby | Administrative Assistant Washington County Department of Land Use & Transportation Office of the Director | Administrative Services Mailing: 155 N. First Avenue, Suite 350, MS 16 | Hillsboro, OR 97124 Physical Address: Tongue Estate: 328 W Main St., Ste 300, Hillsboro OR 97123

503-846-6737 direct | 503-846-3588 fax

---[ATTACHED LETTER]---

April 24, 2018
Commissioner Sean O'Hollaren
Commissioner Alando Simpson
Oregon Transportation Commission
355 Capitol Street NW, MS #11
Salem, OR 97301-3871

Re: Value Pricing Mitigation Measures Dear Commissioners:

I want to thank you both for your time and commitment to the Value Pricing Policy Advisory Committee. I am sorry I was unable to join you in your discussion of mitigation measures at our last meeting due to other commitments. Policies that mitigate the adverse impacts of value pricing are a key factor in the acceptance of a tolling approach and I would like to take this opportunity to share my comments. Please consider these comments along with the other mitigation ideas that were raised at the meeting.

The data we have seen at the PAC coupled with everyday experience demonstrates both I-5 and I-205 do not have enough capacity to meet travel demand. Traffic diverts onto other arterials where it contributes to additional congestion and safety problems. The impact this has on travel region-wide and state-wide is clear.

Value pricing has the potential to shift trips to transit or to other times of day. Without additional transit or road capacity added to the system however, value pricing has the potential to greatly impact adjacent facilities and not provide additional capacity for those who pay the tolls.

To mitigate this, I would like to see the evaluation consider mitigation measures that focus the tolling revenue on adding capacity to the system.

I look forward to learning more from the study about the potential for pricing to improve traffic flow on I-5 and I-205 and shift traffic to other times of day, modes or facilities. When our adjacent facilities are already congested, safety is a key concern and transit options are limited, tolling could have adverse impacts and needs to be carefully understood and mitigated.

Please share my comments with fellow members of the ODOT Value Pricing Policy Advisory Committee

Sincerely,

Roy Rogers, Commissioner

Washington County Board

RR/cd/cj

cc: Matt Garrett, Director, Oregon Department of Transportation

Documents: OTC_Rogers_ValuePricingPolicyAdvisory_RR.pdf



Portland Metro Area Value Pricing Feasibility Analysis Spring 2018 Community Engagement Summary Report – DRAFT





Portland Metro Area Value Pricing Feasibility Analysis

Spring 2018 Community Engagement
Summary Report - **DRAFT**

May 11, 2018

Prepared for



Oregon Department of Transportation

123 NW Flanders Street

Portland, OR 97209

Prepared by:



EnviroIssues

1515 SW Fifth Ave, Ste 1022

Portland, OR, 97201



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1 INTRODUCTION

1.1 Purpose of this report

In 2017, the Oregon Legislature authorized substantial funding to improve highways, transit, biking and walking facilities, and use technology to make the state's transportation system work better. As part of this comprehensive transportation package, the Legislature also directed the Oregon Transportation Commission (OTC) to seek federal approval to implement value pricing on I-5 and I-205 in the Portland metro area to address congestion.

Value pricing, also called congestion pricing or variable rate tolling, uses fees or tolls to manage congestion. It has been successfully implemented in about 40 locations in 11 states in the U.S. and around the world, resulting in faster, more reliable and predictable trips.

The Oregon Department of Transportation (ODOT) initiated the Portland Metro Area Value Pricing Feasibility Analysis to explore the options available, determine how and where congestion pricing could help improve traffic congestion on I-5 or I-205 during peak travel times and begin to understand potential benefits and impacts to travelers and adjacent communities.

This report summarizes public input received as part of the feasibility analysis between February 6, 2018, and April 30, 2018, to help inform the PAC recommendation to the OTC. The PAC is expected to provide its recommendations to the OTC in summer 2018. The OTC will submit a report to the Federal Highway Administration (FHWA) by the end of December 2018. Ongoing opportunities for public input will continue during future phases of congestion pricing analysis and technical review.

1.2 Public input opportunities

Public review and input are essential components of the Value Pricing Feasibility Analysis. Members of the public have the opportunity to submit comments or questions to the project team and PAC at any time during the project.

Throughout the spring 2018 public outreach period, the project team sought to:

- Educate the public about the congestion problem, congestion pricing and why ODOT is considering the tool as one of several strategies to address the problem.
- Gain feedback on five concepts to inform decision-making. These five "round 2" concepts were developed based on technical evaluation results, input from the PAC and the public on the initial concepts and project team experience with congestion pricing systems throughout the U.S.
- Listen to community input on potential policy considerations and mitigations to make congestion pricing work in the Portland metro area.
- Promote awareness about the project process and schedule.

ODOT provided several opportunities for members of the public to learn about the project and submit input:



In-person events: ODOT hosted five, drop-in open house style events at the following locations:

Thursday, April 12, 5:30 - 7:30 p.m.

[Museum of Oregon Territory](#)

211 Tumwater Drive, Oregon City

Saturday, April 14, 10:00 a.m. – 12:00 p.m.

[Ron Russell Middle School](#) - Commons

3955 SE 112th Avenue, Portland

Wednesday, April 18, 5:30 - 7:30 p.m.

[Tigard Public Works](#) - Auditorium

8777 SW Burnham Street, Tigard

Saturday, April 21, 9:30 a.m. - 12:30 p.m.

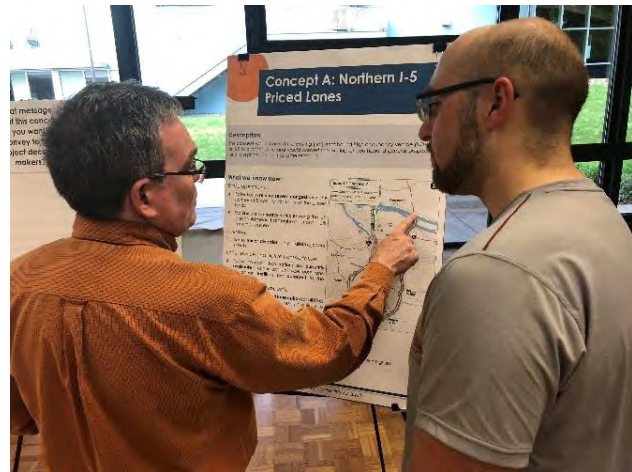
[Embassy Suites Airport](#) - Pine Room

7900 NE 82nd Avenue, Portland

Monday, April 30, 5:30 - 7:30 p.m.

[Marshall Community Center/Leupke Center](#)

1009 E McLoughlin Blvd., Vancouver



Attendees discuss elements of the concepts presented at an open house.

Source: EnviroIssues

Participants had the opportunity to view informational displays, have conversations with staff and share feedback via written worksheets, flip charts, and a questionnaire.

Online open houses: Between April 5 and April 30, 2018, ODOT hosted an updated online open house. This temporary, interactive website included four virtual “stations” that presented the same information available at the in-person open houses. Online visitors could provide feedback via the online outreach questionnaire (same as the in-person questionnaire) or through email links. ODOT publicized the online open house via social media, email updates, news releases, digital ads and at in-person events.

Title VI/environmental justice discussion groups and survey: During March 2018, six facilitated discussion groups were held with representatives from the African-American, Chinese, Hispanic, Native American, Slavic and Vietnamese communities. In addition, online and paper surveys were distributed by community liaisons to their networks. In all, more than 400 people participated in this equity-focused engagement from throughout the Portland metro area. The results of this engagement can be found in a separate report, dated April 4, 2018.

Policy Advisory Committee meetings and email address: The OTC established a Policy Advisory Committee (PAC) to guide ODOT throughout the feasibility analysis. The committee includes representatives of local governments in Oregon and Washington, the business community, highway users, equity and environmental justice interests and public transportation and environmental advocates. Members of the public were invited to attend and provide public comment at PAC meetings and also to email the PAC at ValuePricingPAC@odot.state.or.us. Emails received were provided to PAC members as part of their meeting packets. Meetings were also streamed live, and videos were archived on the project website.

Project website: The project website, www.ODOTValuePricing.org, provided information about the project and ways to get involved. Visitors could access key project documents,



including materials presented to the PAC, fact sheets (in multiple languages) and answers to frequently asked questions. The website also provided links to the project email and voicemail line (see below).

Project email and voicemail line: Members of the public were able submit questions or comments to the project team at any time by emailing ValuePricingInfo@odot.state.or.us or by leaving a voicemail at 503-610-8595.

Community group presentations: During the spring outreach period, project staff presented information and answered questions at approximately 25 meetings with community and business organizations, county coordinating committees and regional transportation committees, neighborhood associations and public agency staff. Some of the organizations included:

- Westside Transportation Alliance
- **Metropolitan Mayors' Consortium**
- Portland Planning & Sustainability Commission
- Oregon Freight Advisory Committee
- Lake Oswego Chamber of Commerce
- Columbia River Economic Development Council

1.3 Notification

In addition to the project website, public notification of spring 2018 outreach opportunities occurred through the following traditional and unpaid digital channels:

Email notification

- News releases distributed statewide and to project email list
- Outreach toolkit with background materials, information on upcoming events and how to provide feedback emailed to community groups and neighborhood organizations
- Reminder emails to project email list

Social media posts

- One (1) ODOT Facebook post
- Two (2) ODOT Tweets
- Social media posts from partner agencies and PAC members

Media and blog coverage

- News stories from several sources, including KOIN, KATU, *The Columbian* (Vancouver, WA), *The Portland Mercury*, *The Oregonian*, *Clark County Today* (Clark County, WA), *Portland Tribune*, *Portland Business Journal*, *The Reflector* (Clark County, WA) and *West Linn Tidings*



An ODOT Facebook post

- Stories on local blogs, including Bike Portland, No More Freeways PDX, The Street Trust, Overlook Neighborhood Association, Council of State Governments, Southeast Examiner and East PDX News

Paid digital advertising

Digital advertising was used to promote the spring online open house and its questionnaire throughout their duration, April 9 - 30, 2018.

Advertisements were placed on the following social media platforms:

- Facebook
- Instagram
- Twitter
- YouTube

Digital advertising on all platforms was designed to drive viewers to the online open house for all platforms, with the exception of YouTube, where digital advertising was implemented primarily to raise project awareness.



Example Twitter ad

1.4 By the numbers

Table 1-1. Number of people reached during spring outreach period

186	Open house attendees
6,538	Online open house unique users
67	People attended PAC meetings 3 and 4
25	Presentations to community groups
127,029	People reached through digital ads
7,000+	People reached through unpaid social media posts
2,043	Project email list

Table 1-2. Number of comments received during spring outreach period

490	Completed questionnaires
235	Open-ended responses coded from the questionnaire
433	Emailed comments
21	Voicemails



1.5 Analysis methodology

Thousands of public comments have been analyzed for presentation in this feedback summary. The following paragraphs describe the approach taken to collect and then synthesize the comments.

Outreach questionnaire design

Members of the public were invited to complete an electronic outreach questionnaire via the online open houses and at the in-person open houses. Paper copies were also available upon request at the in-person events. The questionnaire included 20 project-related closed-ended questions, four demographic questions, and one open-ended question. The project-related questions were focused on understanding participant reactions to the five Round 2 pricing concepts (each of which would be applied to different segments of the I-5 and I-205 study corridors; refer to Technical Memoranda 3 and 4 for more detailed information). After an image of each concept area was displayed, questionnaire takers were asked the same four questions about each concept. Closed-ended questions included multiple choice and ranking types. The questionnaire collected feedback on frequency of travel on each segment of the study corridor, current congestion impacts for each segment of the study corridor, how congestion pricing might impact driver behavior and **the participant's concerns they want to be addressed should tolling be adopted on that particular segment of the study corridor**].

Questionnaire reach and data integrity

Between April 5 and April 30, 2018, 920 people started the questionnaire, and 490 (53 percent) completed the questionnaire to the end. The goal of the questionnaire was to engage and learn from as many members of the broader public as possible. To encourage feedback from a large and diverse universe of residents, the questionnaire was accessible on mobile, desktop and tablet devices as well as in hard copy form upon request at in-person events. Responses were not limited by Internet Protocol (IP) address so that multiple members of the same household or workplace could submit feedback. The project team reviewed data by IP address and found no evidence of intentional multiple submissions.

Open-ended comment analysis

Open-ended comments received through the questionnaire and via email, voicemail and at in-person events are analyzed in this summary.

The questionnaire results are not statistically representative, meaning the respondent sample is not predictive of the opinions of the Portland metro area¹ population as a whole. Clackamas County and Clark County residents are overrepresented in the questionnaire sample, while Washington County residents are underrepresented.

Questionnaire respondents are more likely to be male, white and older than the metro area average. Specifically, metro residents under the age of 30, Hispanic/Latino(a) residents and Asian/Pacific Islander residents are underrepresented. This is a similar outcome to the winter outreach period.

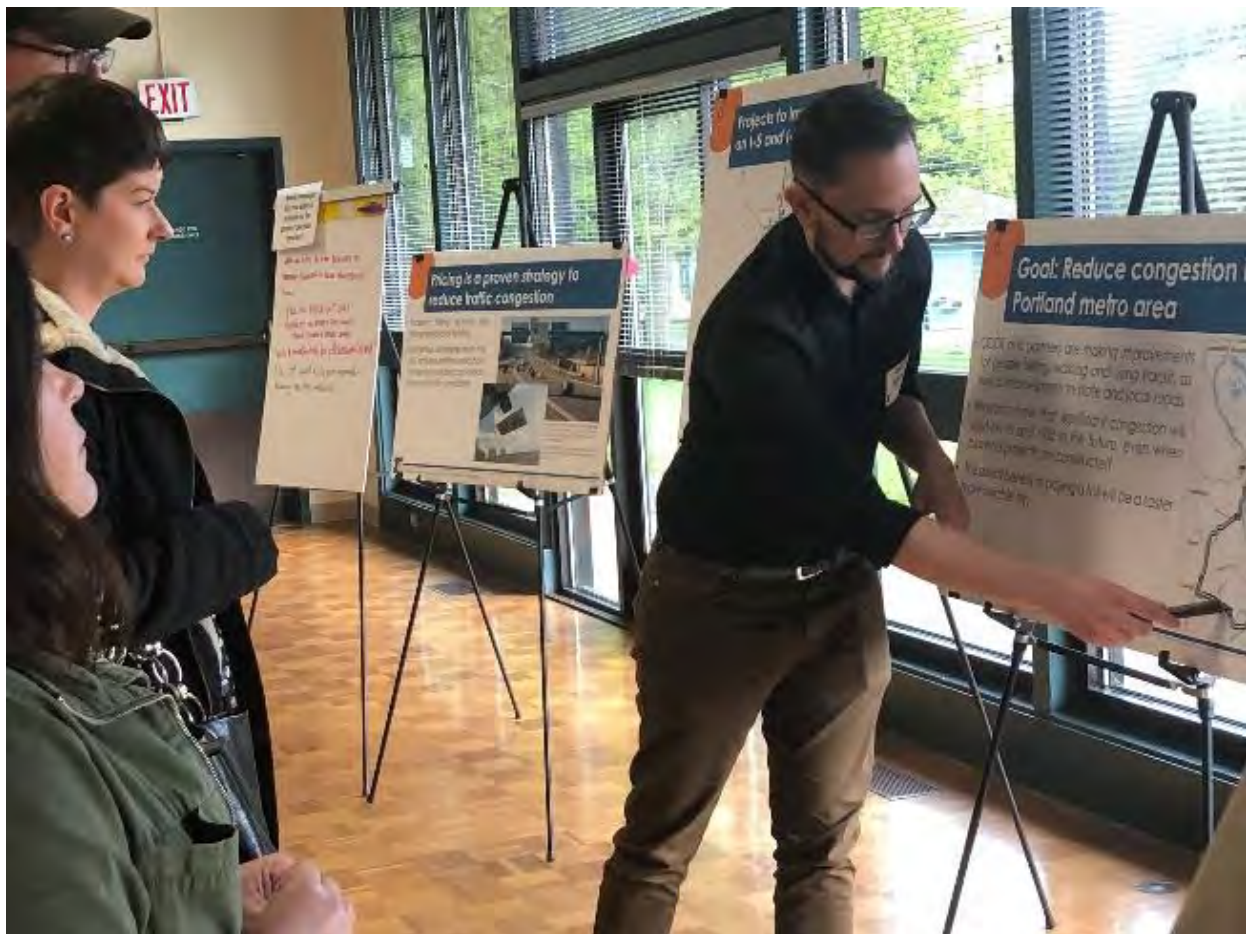
Results for the closed-ended questions have been compared for different demographic groups (see Appendix B). However, some of these groups have low response numbers, and therefore these cross-tab results should be treated with caution.

The questionnaire asked one open-ended question which was viewed by more than 250 people and answered substantively by 235 individuals:

Question: What strategies, policies or decisions should be considered to make congestion pricing work for the Portland metro area?

For reporting purposes, a summary from all open-ended comments collected is presented in Chapter 6.

For the analysis, open-ended comments were categorized based on thematic topic. While many comments received via email and voicemail referred to multiple topics, this summary is a synthesis of the main theme from each comment. The comment summary portion of this report describes the main themes and messages associated with the most common topics.



Open house attendees review information about the goals of congestion pricing
Source: EnviroIssues



2 KEY TAKEAWAYS AND THEMES

Commenters shared feedback on a variety of topics throughout the spring 2018 outreach period. Almost 500 people completed the questionnaire, and more than 180 people attended an in-person event. The spring engagement was used specifically to present five concepts to the public. The public was presented with the same questions for each concept, with the goal of gathering information for the project team and PAC to:

- Consider travel patterns across the five concepts
- Consider the degree to which respondents are making travel adjustments to avoid congestion
- **Consider the public's reaction to the proposed implementation of congestion pricing in each concept area to assess willingness to pay a toll versus other behaviors**
- Understand if specific proposals produce unique, concept-specific concerns or mitigation strategies

Participants in the spring outreach emphasized the following overarching themes:

- There is consensus that congestion is getting worse but there is disagreement about how to solve the problem.
- Most participants do not accept that congestion pricing can reduce congestion.
- As the public conversation has quickly become more focused on various concepts for consideration, many people are reflecting on their frustration that infrastructure and highway capacity have not kept up with population growth.

Participants described what they thought they would do if congestion pricing was implemented:

- Most respondents say they will try to find alternate routes or will drive in an unpriced lane before considering a priced lane.
- Respondents do not appear highly motivated to envision how using toll revenues to build out a better transit network would benefit them and alleviate congestion.
- Many respondents see congestion pricing as a restriction on their choices and pricing as the preferred choice of ODOT; they are resisting pricing because it feels unfair to pay for something they believe was already paid for and/or because so many everyday Oregonians and Washingtonians see driving alone as their only reasonable option.

Other information gaps, challenges:

- Many people participating in events and outreach during the spring outreach period strongly believe in adding capacity to existing freeways and addressing congestion over the Columbia River at the I-5 bridge.
- Concepts that do not maintain any unpriced lanes and/or covered a larger geographic area caused an uptick in open-ended negative sentiment to



congestion pricing. At the same time, tolling all lanes over larger areas was observed by some to be the fairest and also most appealing for the potential to raise more revenue that could be spent on community benefits.

- Participants who are Washington residents working in Oregon and paying Oregon income taxes believe it is not fair to toll their routes to work if no unpriced lanes are available. Fairness of tolling also was among the top issues discussed by many Oregon-based participants.
- Truck traffic during peak congestion periods and in certain lanes is a hot button issue that many respondents would like addressed by congestion pricing.

At a high level, the questionnaire data indicate:

- Regardless of concept or demographic subgroup, two concerns regarding congestion pricing were consistently identified as very important to respondents:
 - 1) to have assurances that congestion pricing will reduce congestion
 - 2) to minimize the impacts on low-income or other disadvantaged residents.
- Travel patterns among respondents vary widely throughout the area and by geography.
- Roughly half or more respondents are currently re-routing or changing their travel patterns to avoid congestion.
- When presented with the five “round 2” pricing concepts, most respondents believe they would search for alternative routes over paying to drive in a priced lane.
- Most respondents say driving in an unpriced lane is preferable to paying to drive in a priced lane, even with assurances of a faster trip.
- Very few respondents—usually less than 15 percent per concept—believe they would join a carpool or ride transit, bike or walk instead of driving.

In addition to the closed-ended questions relating to each concept, questionnaire takers were invited to answer the following: “What strategies, policies or decisions **should be considered to make congestion pricing work for the Portland metro area?**”

There were 235 unique responses collected. Nearly 700 additional open-ended comments from the five open houses also identified strategies and policies that people want considered to make congestion pricing work. After all comments were categorized, six of the top seven comment categories were identical when comparing the results from the questionnaire to the results from the open house comments. The six identical categories included:

- Fairness: Comments about the fairness or ethics of congestion pricing and project design. Many respondents see congestion pricing as a restriction on choice; they are resisting pricing because it feels unfair to pay for something they believe was already paid for and/or because they view driving alone as their only reasonable option. (This is **distinct from “equity,”** which refers to whether certain groups will experience disproportionate outcomes and impacts as a result of congestion pricing.)
- Expanding existing roadways: Comments about adding capacity to existing roadways



- Trust: Comments about trust in ODOT or government more broadly
- Revenue/Taxes: Comments about how revenue generated through congestion pricing will be spent or how transportation is funded and/or comments on taxes in general
- Transit: Comments about transit options or funding for transit
- Mitigation strategies: Comments mentioning specific policies intended to support those disproportionately affected by congestion pricing, incentives to reduce vehicle trips, or incentives to reduce neighborhood diversion, etc.



*Open house attendee provides feedback to staff
Source: ODOT*



3 WHO WE HEARD FROM: DEMOGRAPHICS

This section summarizes the demographic characteristics of those who engaged with the project between April 5 and April 30, 2018, via the online questionnaire.

3.1 Questionnaire respondents

Demographics of questionnaire responses were compared to U.S. Census Bureau American Community Survey data (2012-2016) for the Portland-Vancouver-Hillsboro Metropolitan Statistical Area. Overall, certain demographic groups are overrepresented in this sample. This is called out where applicable in the sections below.

Geography

Questionnaire respondents were asked to provide their ZIP code. About 96 percent of respondents live in the Portland metro area.

Within the metro area, responses from Clackamas County and Clark County were overrepresented. While Clackamas County's population comprises 17 percent of the metro area population, just over one quarter (26 percent) of all questionnaires were submitted by Clackamas County residents. A similar outcome occurred among responses from Clark County. In turn, Washington County residents were slightly underrepresented.

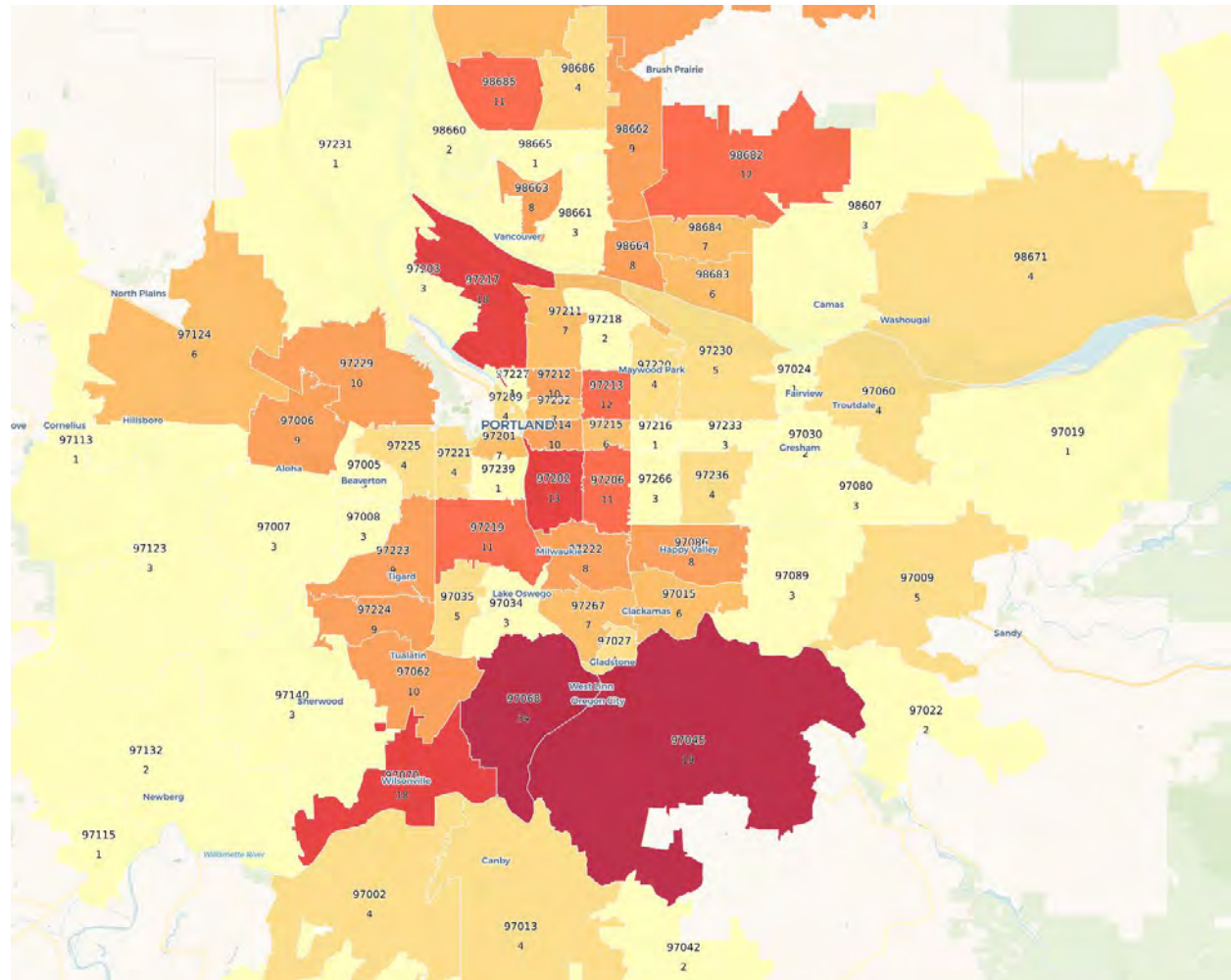
Table 3-1. Geographic distribution of metro area residents and questionnaire respondents

Geography	Total Population ¹	Spring Questionnaire Responses
Metro Area	2,351,319	490 (96% of all respondents)
Clark County	450,893 (19% of metro area pop.)	93 (26%)
Multnomah County	778,193 (33%)	159 (32%)
Washington County	564,088 (24%)	82 (17%)
Clackamas County	394,967 (17%)	129 (26%)
Skamania, Yamhill and Columbia Counties	163,178 (7%)	6 (1%)
Outside the metro area	--	21 (4%)

¹ U.S. Census Bureau, American Community Survey 2012-2016 5-Year Estimates
Oregon Department of Transportation



Figure 3-1. Number of questionnaire respondents by ZIP code



Heatmap shows distribution of questionnaire responses by ZIP code. Darker areas had more questionnaire respondents

Gender

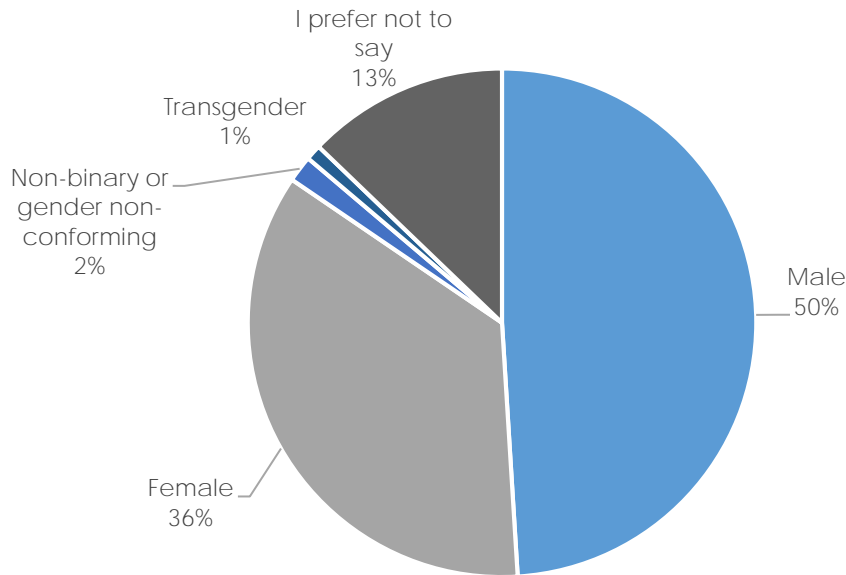
Exactly half (50 percent) of questionnaire respondents identify as male, while 36 percent identify as female and approximately three percent identified as non-binary, gender non-conforming, transgender or other. Just over 13 percent said they preferred not to say.

In the metro area, the gender ratio is 49/51 male to female.²

² Ibid.
May 11, 2018



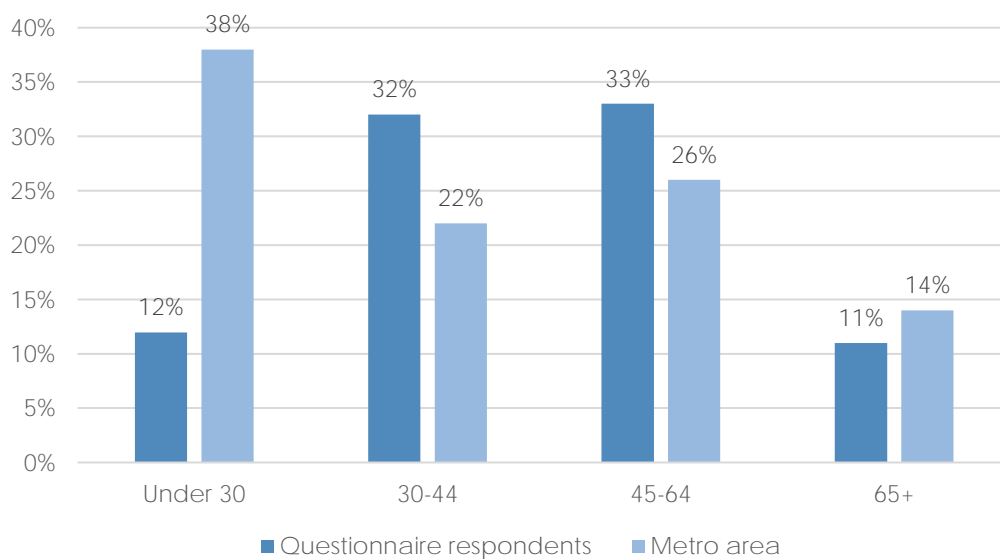
Figure 3-2. Gender of questionnaire respondents (N=481)



Age

The median age of questionnaire respondents was 45. By comparison, the median age of Portland metro area residents is 38. People under age 30 were underrepresented by the questionnaire respondents, while those between 30-64 were overrepresented.

Figure 3-3. Age of questionnaire respondents (N=490) compared to metro area residents

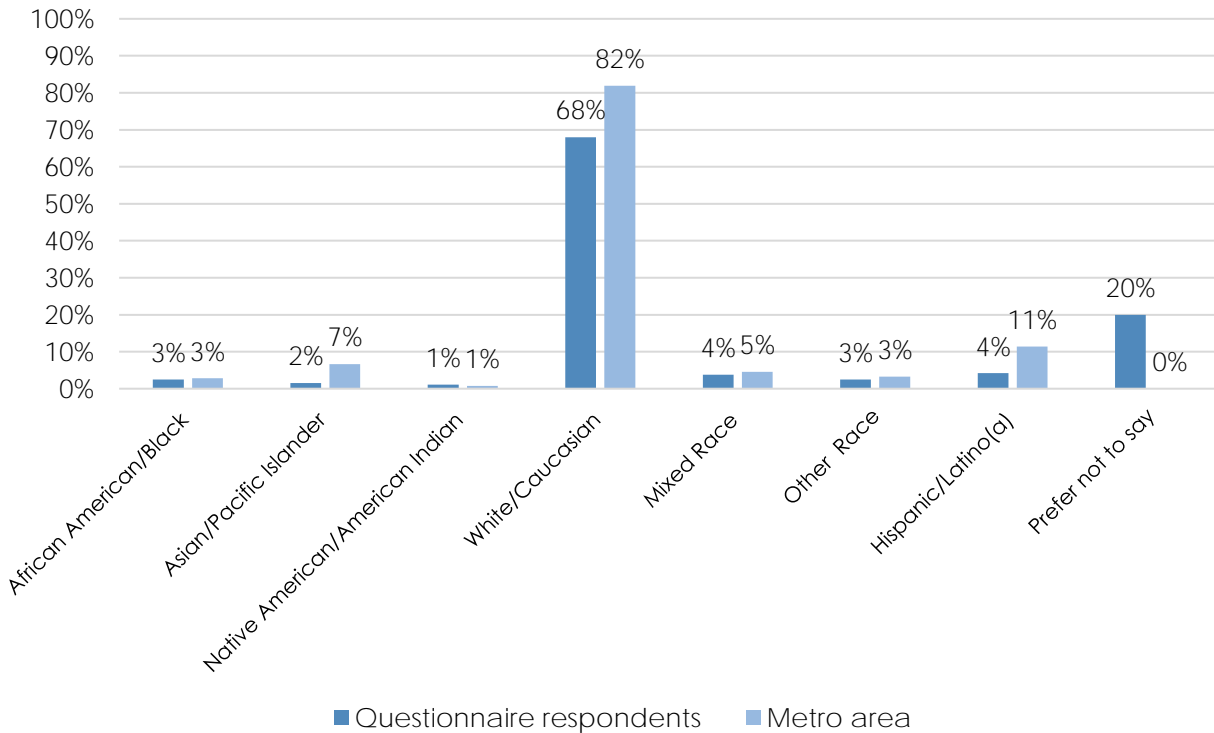




Race/ethnicity

Most questionnaire respondents identify as white. Overall, people who identify as Asian/Pacific Islander and Hispanic/Latino(a) are underrepresented in this sample. In the spring questionnaire, the option “Prefer not to say” was offered, and 20 percent of participants opted into this category.

Figure 3-4. Race/ethnicity of questionnaire respondents (N=472) compared to metro area residents



3.2 In-person open house attendees

Approximately 186 people attended five in-person open houses.

Table 3-2. In-person community conversation attendees

EVENT	ATTENDEES
Oregon City Open House April 12, 2018, 5:30 – 7:30 p.m.	44 attendees
East Portland Open House April 14, 2018, 10:00 a.m. – 12:00 p.m.	20 attendees
Tigard Open House April 18, 2018, 5:30 – 7:30 p.m.	23 attendees
Portland Airport Open House April 21, 2018, 9:30 a.m. – 12:30 p.m.	14 attendees
Vancouver Open House April 30, 2018, 5:30 – 7:30 p.m.	85 attendees



Open house attendees came from many communities across the metro area. At the events, attendees were invited to indicate their home ZIP code. Table 3-3 summarizes the number of attendees by county.

Table 3-3. Community conversation attendees by home county

COUNTY	NUMBER OF ATTENDEES	PERCENT
Clark County	76	50%
Clackamas County	36	24%
Multnomah County	22	14%
Washington County	18	12%



Attendees walk through the stations at an open house.
Source: ODOT



4 CONCEPT RESULTS AND COMMENTS

In spring 2018, the five concepts were presented for public review. These five “round 2” concepts were developed based on technical evaluation results, input from the PAC and the public on the initial concepts, and project team experience with congestion pricing systems throughout the U.S.

4.1 Key Takeaways

At a high-level, the key takeaways that emerged from the closed-ended responses to the questionnaire are:

Concept A – Northern I-5 Priced Lanes

- Compared to the other corridor concepts, this area is driven more frequently by respondents than the areas that overlap with Concepts D and E, but less frequently than the longer corridors that overlap with Concepts B and C. About half of all respondents drive this corridor at least several times a month, and about half drive it less frequently or never.
- Just over half (54 percent) of respondents currently change their travel plans in this area because of congestion. This number increases to just over 60 percent among those who drive this segment at least several times a week.
- If Concept A were to be implemented, most people (59 percent) believe they would drive in an unpriced lane or drive a different route to avoid the freeway.
- Respondents' two top concerns regarding Concept A are:
 - Ensure congestion is reduced (55 percent)
 - Minimize the impacts on low-income or other disadvantaged people (50 percent)

Concept B – I-5 Priced Lanes: Toll all lanes between Going Street/Alberta Street and Multnomah Boulevard

- Over 40 percent of participants drive this corridor at least several times a week, and another 33 percent using this corridor at least several times a month. Only 25 percent of respondents rarely or never use this portion of the highway.
- Over 60 percent of respondents currently change their travel plans in this area because of congestion.
- If Concept B were to be implemented, most people (67 percent) believe they would choose a different route to avoid the freeway. This reaction to Concept B (where all lanes would be tolled) produces the highest percentage of respondents who say they would be “very likely” to avoid paying the toll (35 percent) on all priced lanes.
- The two top concerns of respondents regarding Concept B are:
 - Ensure congestion is reduced (52 percent)
 - Minimize the impacts on low-income or other disadvantaged people (50 percent)



Concept C – I-5 and I-205 Priced Roadway: Toll all lanes

- Over 70 percent of questionnaire takers report driving this segment of the highway at least several times a week. Forty percent drive in these corridors daily. Less than 10 percent of participants rarely or never drive here.
- Almost 70 percent of all respondents currently change their travel plans in this area because of congestion.
- If Concept C were to be implemented, most respondents (59 percent) believe they would try to avoid certain parts of the priced freeway lanes. However, 40 percent indicated a willingness to pay the toll for a faster trip. The willingness to pay to drive in a priced lane was higher for Concept C than for any other Concept tested.
- The two top concerns of respondents regarding Concept C are:
 - Ensure congestion is reduced (50 percent)
 - Minimize the impacts on low-income or other disadvantaged people (50 percent)

Concept D – I-205 Priced Lane: OR99E to Stafford Road

- About 20 percent of all respondents drive this section at least several times a week, and 60 percent reported rarely or never driving between 99E and Stafford Road.
- Of those who drive the segment regularly, almost 60 percent of respondents currently change their travel plans in this area because of congestion.
- If Concept D were to be implemented, most respondents (58 percent) believe they would choose to drive in an unpriced lane or find an alternative route between 99E and Stafford Road (45 percent).
- The two top concerns of respondents regarding Concept D are:
 - Ensure congestion is reduced (57 percent)
 - Minimize the impacts on low-income or other disadvantaged people (50 percent)

Concept E – Abernethy Bridge Priced Roadway

- Just over 20 percent of respondents use this segment of the highway on a regular basis up to several times a week. Almost 60 percent rarely or never drive in this area.
- Among those who drive this segment several times a week or more, about half currently change their travel plans in this area because of congestion.
- If Concept E were to be implemented, most respondents (50 percent) and those who drive this section regularly believe they would avoid the tolled section by looking for an alternative route.
- The two top concerns of respondents regarding Concept E are:
 - Ensure congestion is reduced (52 percent)
 - Minimize the impacts on low-income or other disadvantaged people (50 percent)



The following sections present the detailed results for the closed-ended questions of the questionnaire and open-ended comments received at the open houses. Results are summarized around three key categories within each concept:

- Travel patterns and behaviors
- Congestion impacts
- Desired mitigation strategies and “other” comments

Areas of significant difference among demographic groups are noted.

4.2 Concept A

This concept would convert the existing (left) northbound high-occupancy vehicle (HOV) lane on I-5 to a priced lane and would convert the existing left southbound general purpose (GP) lane to a priced lane in the same segment.

Technical details of Concept A:

- Northbound lanes: Existing left HOV lane is priced, other lanes are unpriced
- Southbound lanes: Existing left lane is priced, other lanes are unpriced

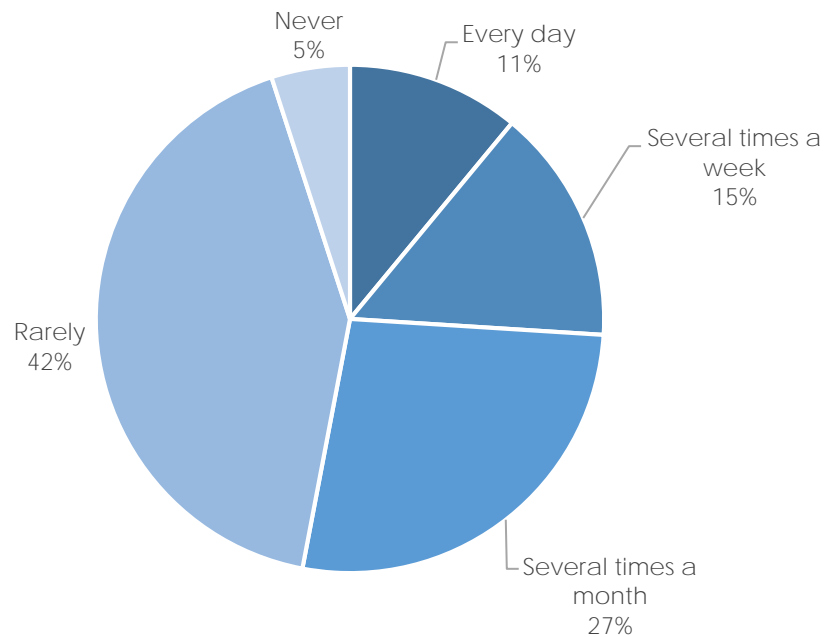
Travel patterns and behaviors

In the first question of this series, all respondents were asked how frequently they travel through this north/south corridor. Overall, 26 percent of all respondents are frequent users in this section (11 percent “every day” plus 15 percent “several times a week”).



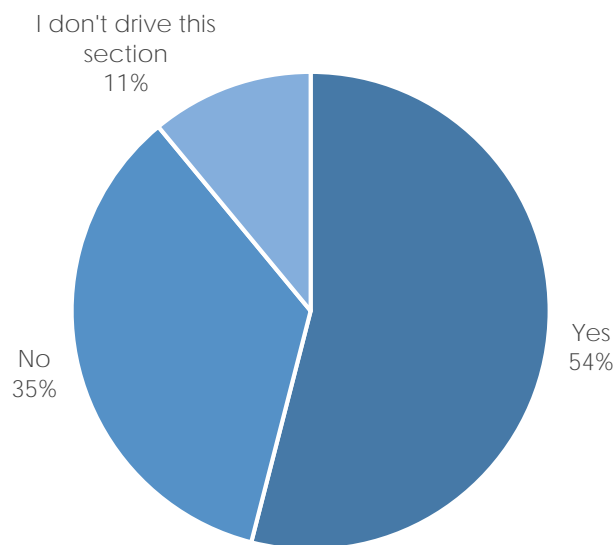


Figure 4-1. Q2: How frequently do you travel on any portion of the highway in this area? (N=475)



In the next question of the series, participants were asked about the impacts of congestion in the area affected by Concept A. Just over half of all respondents said yes (54 percent) and 35 percent said no.

Figure 4-2. Q3: Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)? (N=466)



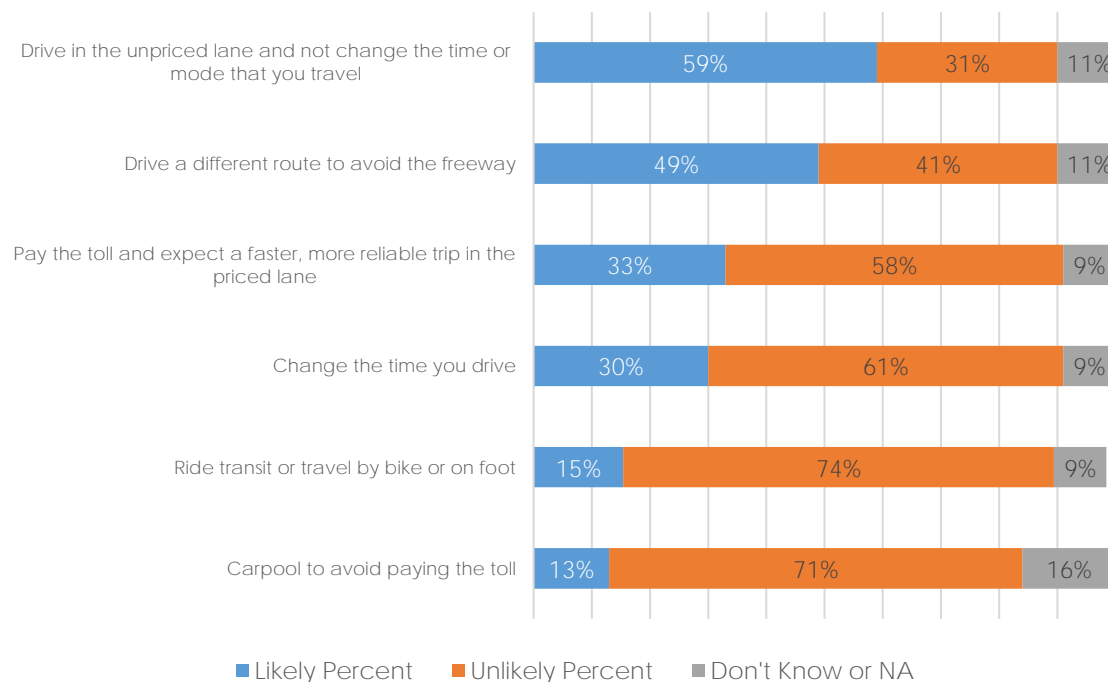


Congestion impacts

The third question of the series related to Concept A presented participants with different behaviors they might adopt if Concept A was implemented.

In the next chart, the top two responses from all participants indicate that respondents would opt to drive in the unpriced lane as a first instinct (59 percent “Likely”) and then drive a different route to avoid the tolled area (49 percent “Likely”). A smaller group (33 percent of all respondents) said they would pay to drive in the priced lane in exchange for a faster trip, but 58 percent said they were unlikely to do this. The other options presented, including carpooling, taking transit or traveling by foot or bicycle, or changing the time of travel, were all unpopular and likely options for 30 percent of respondents or less.

Figure 4-3. Q4: If this concept was introduced, how likely would you be to: (N=461)



Desired mitigation strategies and “other” comments

The final question of each series asks about the community concerns related to congestion pricing that emerged during the winter outreach period. The intent of this question is to continue testing these concerns with participants and categorize the results by geography, race/ethnicity and other groupings where trends or outlier opinions might be important to consider.

The questionnaire presented seven concerns, and respondents were asked to select their top three. They could also write in an “other” concern. The concerns have all been categorized by concept.

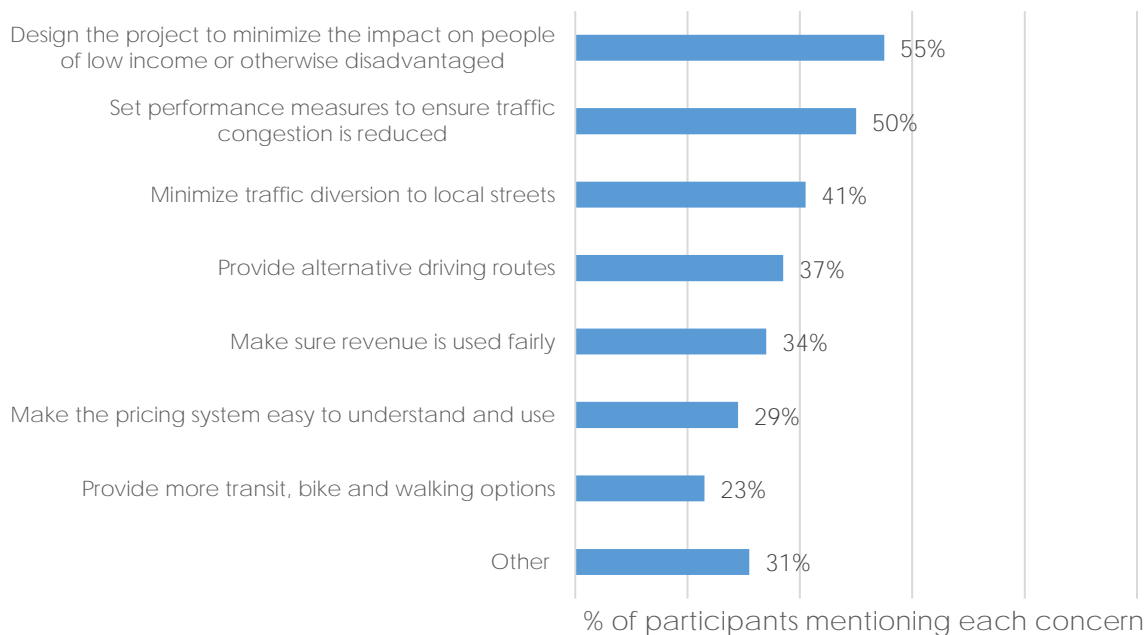


A key finding from the spring outreach period is that the top two concerns identified by respondents as the most important are the same for all five concepts:

- Assuring the public that congestion will be reduced through congestion pricing
- Reducing the impact on low-income respondents

In addition, these two concerns are consensus items for respondents from all age categories, gender categories, race/ethnic groupings, by county and regardless of whether someone drives in the area every day or never. The next three concerns (e.g. diversion to local streets, alternative routes and using revenue fairly) are also very consistent in the overall range of importance but are also noteworthy for the variation in importance by race/ethnicity and geography.

Figure 4-4. Q5: The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three. (N=45)



The last bar in Figure 4-4 shows that 31 percent of respondents to Concept A included another response as one of their three top concerns.

The top three category themes that emerged from these comments were “fairness,”³ “expanding existing roadways” and a general “oppose” category which included very short and unambiguous statements of opinion such as “No tolls!” or “I oppose this project” or “Don’t do this.” See Appendix D for more information.

³ The concepts of “fairness” and “equity” are related, but distinct. For this analysis, comments were categorized as relating to “fairness” when they discussed the ethics of congestion pricing systems and the project design. Comments about “equity” focused on whether certain groups will experience disproportionate outcomes and impacts as a result of congestion pricing. Many respondents see congestion pricing as a restriction on choice; they are resisting pricing because it feels unfair to pay for something they believe was already paid for and/or because they view driving alone as their only reasonable option.



Differences among demographic groups

Geography: Clark County respondents, and City of Vancouver respondents specifically, are much more frequent users of the highways affected by Concept A. Respondents from Clark County drive the corridor more regularly (52 percent drive this section at least several times a week) than all respondents. Along with respondents from Multnomah County, almost 60 percent of Clark County respondents say they divert to alternative routes or change their travel plans to avoid congestion in this area.

However, respondents from Clark County said by a ratio of more than 2:1 (65 percent to 28 percent), that they were less willing to pay for a faster trip. Respondents from Multnomah County were more willing to pay for a faster trip than respondents from Clark County (46 percent compared to 28 percent). A clear majority of respondents from all areas indicate they would drive in the unpriced lane and not change the time or mode they travel. Multnomah County respondents are the only subgroup willing to ride transit or travel by bike or foot (34 percent) compared to less than 10 percent willingness among all other groups.

Mitigation strategies, cross-tabbed by county, are very insightful examples of regional priorities and concerns. For example, Clark County respondents are much more concerned with how revenue is used (48 percent), while less concerned with diversion. Making the pricing system understandable ranks high for Clackamas and Washington County respondents. In Multnomah County, transit alternatives are preferable to alternative driving routes (40 percent to 24 percent), but this area is an exception, as respondents from all other areas prefer alternative driving routes, not transit.

Table 4-1. Mitigation strategies for Concept A

Mitigation strategy	Multnomah County	Clark County	Clackamas County	Washington County
Set performance measures to ensure traffic congestion is reduced	46%	55%	62%	60%
Design the project to minimize the impact on people of low income	58%	56%	41%	45%
Minimize traffic diversion to local streets	50%	21%	45%	43%
Provide alternative driving routes	24%	45%	45%	40%
Make sure revenue is used fairly	29%	48%	34%	25%
Make the pricing system easy to understand and use	31%	21%	27%	36%
Provide more transit, bike and walking options	40%	13%	13%	20%



Race/ethnicity: Whites (N=318) and all non-white respondents (N=58) are compared for each of the questions in each series.⁴ Due to small sample sizes within specific racial and ethnic subgroups, more granular analysis is not reliable. Within the questions related to Concept A, the data show that people of color drive along the corridors related to Concept A more regularly (34 percent at least several times a week, compared to 22 percent among white respondents). Interestingly, white respondents are much more likely to change their travel plans in this area as a result of congestion compared to people of color (59 percent compared to 36 percent). On the question related to behaviors, if Concept A were implemented, white respondents expressed a greater likelihood of paying to drive in a priced lane (38 percent to 28 percent) and a greater willingness to change the time they drive (33 percent to 27 percent).

The suggested mitigation strategies are of varying importance to whites and people of color, except for the consensus that the most important strategy should be performance measures to ensure a reduction in traffic congestion (over 50 percent for both subgroups). Among people of color, alternative routes was the most important strategy, followed by measures to ensure a reduction in traffic congestion. Among white respondents, strategies to support low-income respondents was a top concern (53 percent), followed by concerns regarding traffic diversion.

Frequency of use: One of the most interesting findings from reviewing data related to Concept A is that driving the corridor more regularly versus rarely or never makes no difference in someone's willingness to drive in a priced lane among respondents. This is not intuitive, but the data suggest that daily commuters are not thinking about practical time savings or trusting that a priced lane will reduce congestion at this stage in their understanding of congestion pricing.

Age: Older respondents over 65 drive this section of the corridor a little less frequently but are more likely to adjust their travel plans due to traffic compared to younger respondents.

Respondents between 30 and 64 were the most likely to drive in a priced lane (roughly 35 percent) when compared to younger respondents (28 percent) and respondents over 65 (22 percent). The youngest and oldest subgroups indicated a higher willingness to change the time they travel. Younger respondents under 45 also expressed slightly higher willingness to carpool or try transit, biking or walking.



Attendees learn more about congestion pricing with members of the technical team
Source: ODOT

⁴ These number exclude respondents who chose "prefer not to say."



Other open-ended comments received on Concept A

Major takeaways of public perceptions at the five open house events for Concept A include the following:

- **Expanding existing roadways:** Participants express concern that Concept A would not work unless the road is widened and the I-5 bridge is replaced. Choke points and bottlenecks include the Rose Quarter and on/off ramps along the corridor. Many participants said they would support tolling if these issues were addressed first.
- **Fairness:** Most of the comments surrounding the fairness of Concept A brought up the lack of alternatives, such as other roadways or reliable transit from Vancouver into Portland. Some commenters also highlighted their frustration in feeling double taxed by congestion pricing since they pay Oregon income taxes as Washington state residents if they work in Oregon.
- **Transit:** Many participants feel that transit is not a viable option due to infrequency or unreliability of service. Some participants feel unsafe using public transit, and a few want less money allocated toward public transit.
- **Revenue and taxes:** Participants want toll revenue to go toward road improvement projects including highway expansion, a new I-5 bridge and adding an additional bridge across the Columbia River. Some participants request that one toll be applied to the whole road as opposed to multiple tolls along the same stretch of highway. A few participants are against tolling of any form.

Comments on Concept A:

"Need to address I-5 bottleneck to make Concept A perform properly."

"I don't mind paying to improve the roads, it just needs to be fair."

"This option seems to disproportionately impact WA respondents. Might be okay if it works better than the HOV lane."

"Mass transit does not run to the right areas – if all city and county employees had to take mass transit, it would improve."

4.3 Concept B

This concept would toll all existing lanes on I-5 in the northbound and southbound direction between Going Street/Alberta Street and Multnomah Boulevard.

Technical details of Concept B:

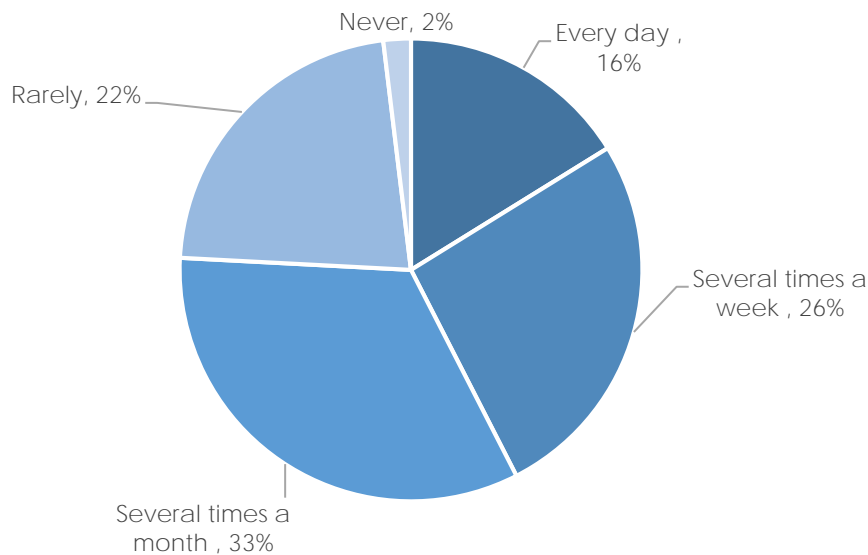
- Northbound lanes: all lanes become priced lanes
- Southbound lanes: all lanes become priced lanes
- Tolls might vary during off-peak hours or be free during certain periods

Travel patterns and behaviors

Overall, 42 percent of all respondents travel frequently in this section (16 percent “every day” plus 26 percent “several times a week”). Compared to the highway section in Concept A, there were more questionnaire takers who said they drive this longer section related to proposed Concept B.



Figure 4-5. Q6: How frequently do you drive on any portion of the highway in this area? (N=475)

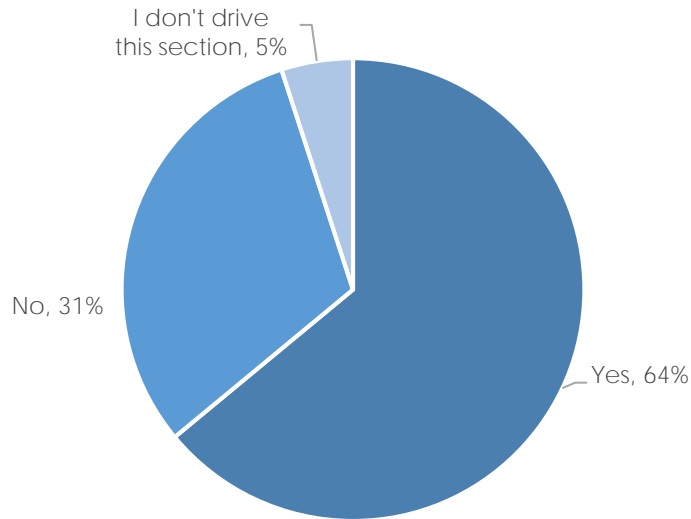


More respondents using this highway section regularly also correlates with a high percentage of respondents saying they change their travel plans due to congestion in the area (64 percent). Interestingly, infrequent respondents along this section were the



most likely to change their travel plans (67 percent of those who say they rarely or never drive in this area admit to altering their plans when they do drive here).

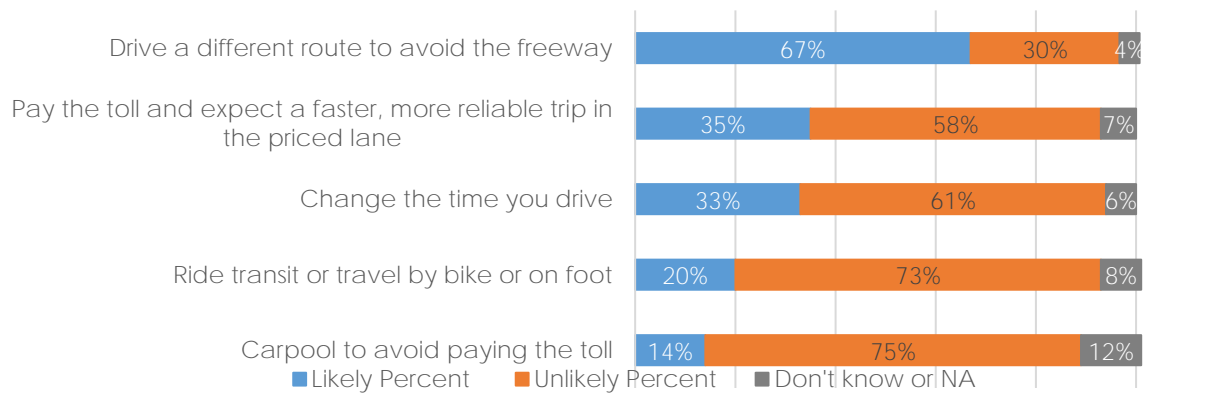
Figure 4-6. Q7: Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)? (N=474)



Congestion impacts

Concept B's proposal that all lanes be priced is different from some other concepts where some unpriced lanes would be maintained. In the third question of the series related to Concept B, and by a margin of almost 2:1, respondents say they would be more likely to drive a different route (67 percent) than pay the toll (35 percent). Changing the time of travel was a likely scenario for about a third of respondents, while 61 percent said this was unlikely.

Figure 4-7. Q8: If this concept was introduced, how likely would you be to: (N=463)

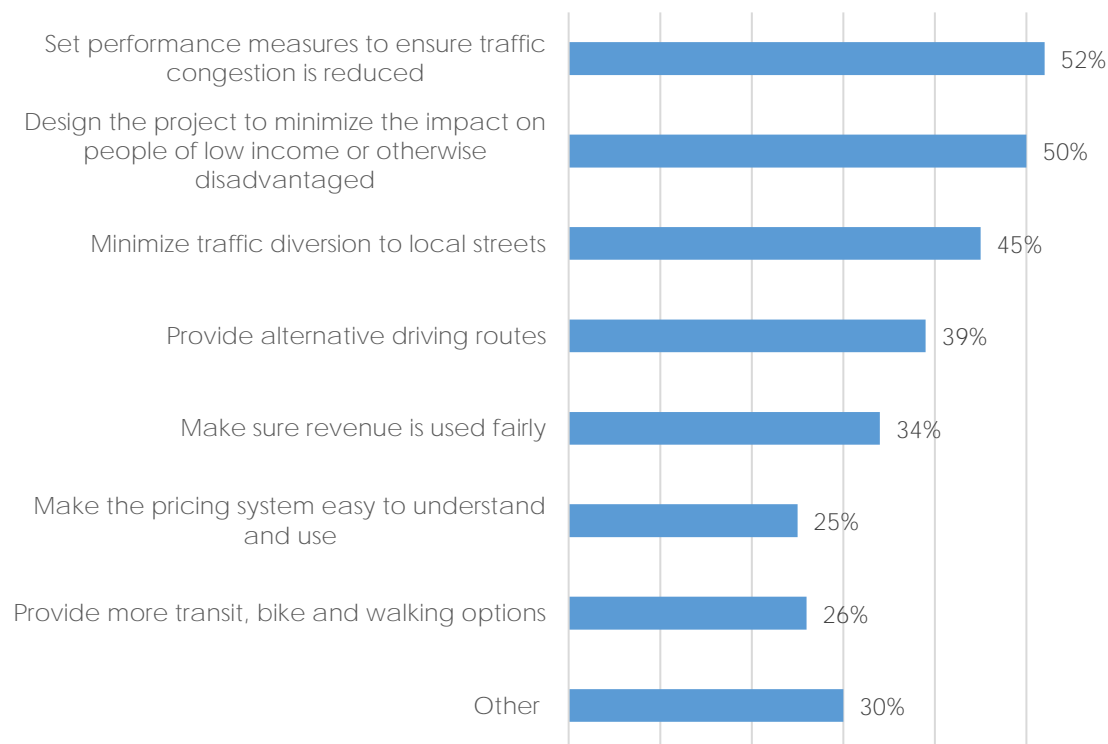




Desired mitigation strategies and “other” comments

Respondents said measures to ensure congestion is reduced (52 percent) and strategies to minimize the impacts on low-income households (50 percent) were the most important strategies when all lanes are priced. Traffic diversion to local streets is the third most important priority at 45 percent. The concerns over diversion between Concepts A and B are relatively similar despite proposal differences (e.g. all lanes priced in Concept B, versus a mix of priced and unpriced lanes in Concept A) and locations.

Figure 4-8. Q9: The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three. (N=467)



The last bar in Figure 4.10 shows that 30 percent of respondents to Concept B included another response as one of their three top concerns (N=137).

The top themes that emerged from these comments were a general “oppose” category which included very short and unambiguous statements of opinion such as “No tolls!” or “I oppose this project” or “Don’t do this.” Other themes included “fairness,” “trust,” and “expanding existing roadways.” See Appendix D for more information.

Differences among demographic groups

Geography: Multnomah County respondents are the most frequent users of the I-5 corridor through central Portland (61 percent travel on this part of the highway at least several times a week). Clackamas County respondents drive the least frequently (37 percent rarely or never). Among Multnomah County respondents, 74 percent said they



change their travel plans to deal with congestion. At least 50 percent of all respondents throughout the metro area make these accommodations, but it was highest among Multnomah County respondents.

Over 60 percent of respondents in all four major counties predict their first behavior related to Concept B would be to drive a different route to avoid the priced lanes. A willingness to pay the toll north or southbound on I-5 was highest among Multnomah County respondents (48 percent) and much lower for respondents everywhere else—ranging from 24 percent in Clackamas County to 35 percent in Washington County. Transit options are highly desired among Multnomah County respondents (44 percent) but no more than 12 percent of respondents from any other county say they would be likely try traveling by bus, foot or bicycle.

The table below displays regional preferences and priorities related to mitigation strategies. Once again, it is notable that using revenue fairly is a high priority for respondents from Clark County (48 percent) while diversion to local streets (22 percent) is much lower. Multnomah County respondents are disproportionately interested in transit alternatives, as well as walking and biking options (46 percent) while their counterparts look to alternative driving routes (42 percent to 50 percent).

Table 4-2. Mitigation strategies for Concept B

Mitigation strategy	Multnomah County	Clark County	Clackamas County	Washington County
Set performance measures to ensure traffic congestion is reduced	46%	50%	58%	58%
Design the project to minimize the impact on people of low income	58%	55%	43%	43%
Minimize traffic diversion to local streets	56%	22%	53%	38%
Provide alternative driving routes	26%	50%	42%	42%
Make sure revenue is used fairly	25%	48%	34%	30%
Provide more transit, bike and walking options	46%	15%	13%	23%
Make the pricing system easy to understand and use	22%	25%	27%	30%

Race/ethnicity: Compared to whites, people of color drive more regularly on I-5 and would be impacted by implementation of Concept B (57 percent compared to 39 percent drive this section at least several times a week). A gap between whites and people of color in how they respond to congestion persists, with 69 percent of whites



reporting to change their travel plans due to congestion compared to 48 percent of people of color.

Willingness to pay to drive in a priced roadway north and southbound on I-5 is much higher for whites (42 percent) compared to people of color (22 percent). Whites are also more likely to be able to change their travel times (38 percent to 17 percent), take transit (24 percent to 17 percent) and carpool (17 percent to 5 percent). Strong majorities of both subgroups believe they will first try to drive a different route to avoid the toll when possible (66 percent for whites and 71 percent for people of color).

Mitigation measures that would provide more alternative routes for respondents was the number one priority for non-whites (52 percent) but a lower priority for white respondents. This finding is consistent with data showing that whites indicate a higher ability to pay, carpool, change their travel times or try transit. As a result, adding alternative routes—while important—is not white respondents' top priority.

Frequency of use: It is common for upwards of 60 percent of respondents to change their travel plans due to congestion on I-5. However, frequent travelers on I-5 were no more likely to change their travel modes than infrequent travelers. There were no significant differences between regular respondents and infrequent respondents on I-5 in terms of how their travel patterns might change if Concept B is implemented. The mitigation priorities were also the same for all types of respondents on this stretch of the highway.

Age: Seniors over 65 do not drive this section of the highway nearly as often as younger respondents. Seniors are also notable for a lower likelihood of paying the toll (26 percent compared to about 35 percent of younger respondents who would pay it) and less willingness to use transit (77 percent of seniors said they would be "very unlikely" to use transit here). Carpooling and transit alternatives were quite a bit more common for respondents under 45.

Open-ended comments on Concept B

Major takeaways from public perceptions at the five open house events for Concept B include the following:

- Revenue and taxes: Open house participants had many comments on this topic, given the strong revenue potential. Many participants want toll revenue to be applied toward road improvements, mass transit systems and highway capacity expansion projects, such as a third bridge across the Columbia River. Some participants want to know what the price of the toll would be and if the toll would be one charge for the whole corridor or multiple charges within the same corridor. A few participants suggest tolls be reduced to \$0 during off-peak hours. A few participants want out of state income taxes applied to tolls instead of the "double taxation" of tolls for non-residents who work in Oregon.
- Diversion: Many participants are concerned with the amount of traffic Concept B would divert onto Martin Luther King Jr. Boulevard, I-205, and I-405. Participants note that current congestion has made highway alternatives crowded and has made surface streets dangerous for pedestrians. There is concern that tolling will exacerbate the issue.



- Fairness: Many participants stress the idea of choice, some feeling that Concept B unfairly targets Washington respondents by removing their free commuting choice. Some participants feel that tolling the whole road is the fairest option, while some participants say that tolling the whole road eliminates choice and is unfair.
- Project scope and public engagement: Participants want to see the project expand to the adjacent highways with congestion issues, such as US-26, US-217, I-84 and OR99E. Some participants think Concepts A and B should be combined. A few want more engagement from the project team with the cyclist community. Participants also want tolled roads to be very clearly demarcated.

Comments on Concept B:

"If you toll, use the money for roadway capacity improvements in the area they were collected in for bridges and freeways."

"Money should go to build mass transit – light rail."

"Concept B has me worried about diversion on MLK due to high walkability."

"People need to know there is a toll."

"I want choice – toll only 1 lane so people can decide to pay or not."

4.4 Concept C

This concept would price all lanes of I-5 and I-205 from the Oregon side of the Columbia River to the junction of the two highways near Tualatin.

Technical details of Concept C:

- The entire roadway would be priced
- Tolls might vary during off-peak hours or be free during certain periods

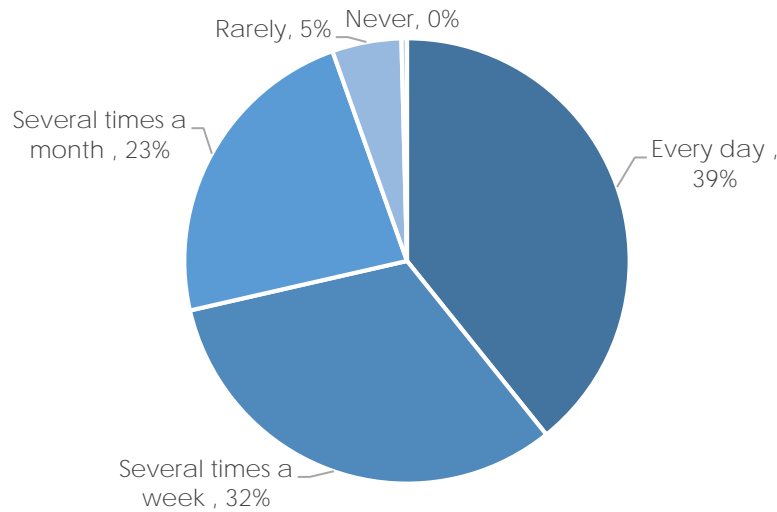
Travel patterns and behaviors

This section of the metro area covering both I-5 and I-205 is by far the most traveled section of all the areas tested. Overall, 71 percent of all respondents travel frequently in this section (39 percent "every day" plus 32 percent "several times a week").



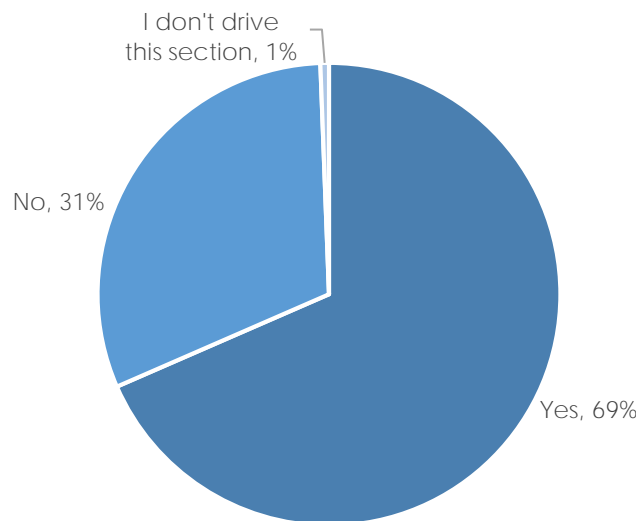


Figure 4-9. Q10: How frequently do you drive on any portion of the highway in this area? (N=474)



Almost 70 percent of all questionnaire takers said they change their travel plans due to traffic volumes on I-5 and I-205. All subgroups reported similar behavior, except for respondents of Clark County/Vancouver who drive this section a little less often.

Figure 4-10. Q11: Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)? (N=472)

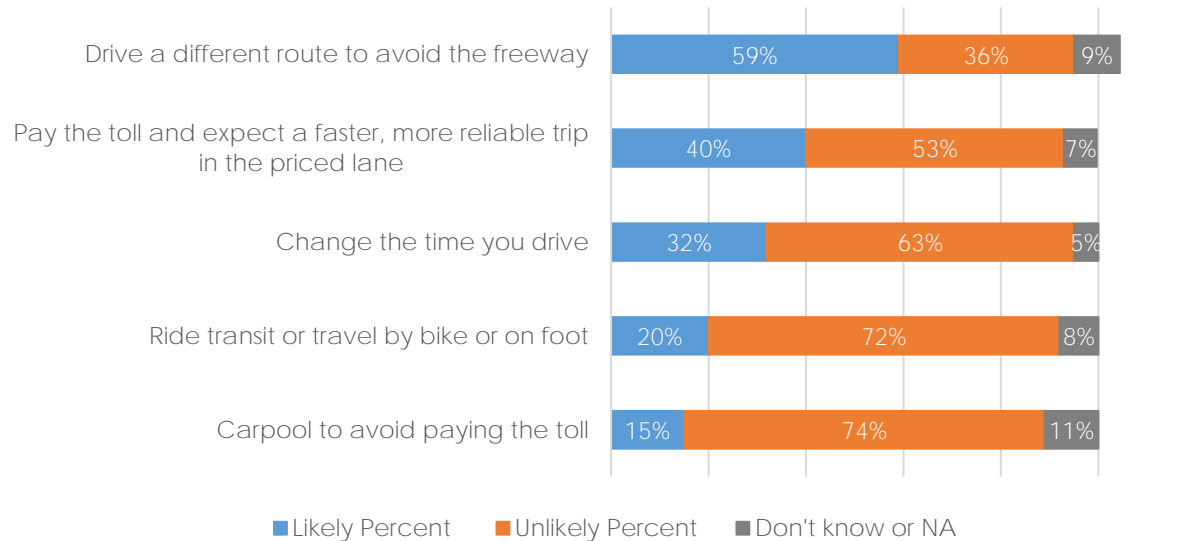


Congestion impacts

With the entire roadway priced in all directions on both I-5 and I-205 in Concept C, 40 percent of respondents are likely to pay the toll and expect a faster and more reliable trip. This is not the most popular option, however, and 59 percent of respondents still say they would like to drive a different route rather than pay to drive on the priced roadways.



Figure 4-11. Q12: If this concept was introduced, how likely would you be to: (N=470)



Desired mitigation strategies and “other” comments

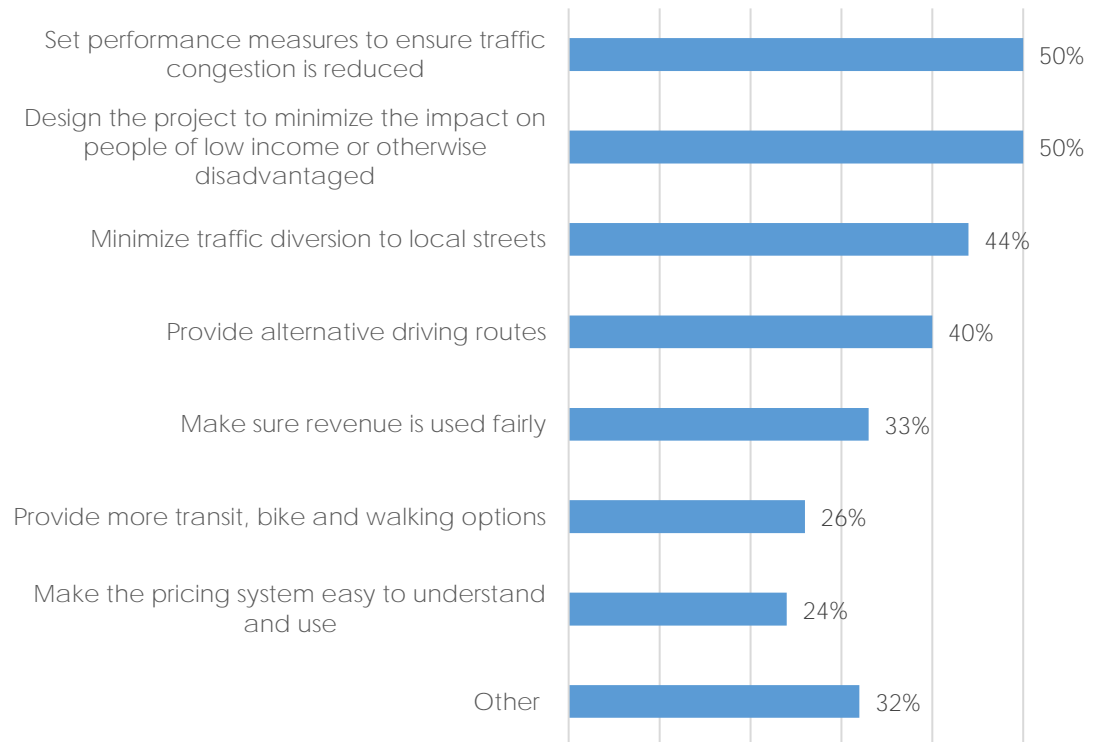
The same ranking of concerns and priorities for mitigation are presented in the table referencing Concept C. Tied for the top spot are concerns about whether congestion will be reduced (50 percent) and strategies to support low-income households (also 50 percent). Again, for all concepts, these two concerns show up as the top two priorities for the overall sample. Differences by geography and age are discussed in the next section.



Open house attendees provide feedback on Concept C
Source: ODOT



Figure 4-12. Q13: The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three. (N=472)



The last bar in Figure 4.16 shows that 32 percent of respondents to Concept C included another response as one of their three top concerns (N=151).

The top three category themes that emerged from these comments were “fairness,” a general “oppose” category which included very short and unambiguous statements of opinion such as “No tolls!” or “I oppose this project” or “Don’t do this,” and “trust.” See Appendix D for more information.

Differences among demographic groups

Geography: Respondents from Clackamas County report the highest percentage of residents driving this section of highway daily (54 percent—about 20 points higher than any other area). Respondents from Multnomah, Clackamas and Washington Counties all reported changes in their travel plans upwards of 70 percent, while Clark County respondents were less likely to report this behavior (53 percent).

There were significant differences by county in the likelihood of driving in priced lanes on I-5 and I-205 by county. This could be explained by the wide range of trips taken throughout such a huge area, e.g. daily commutes, medical appointments and other kinds of errands. Here is a summary of the percentage of respondents in each county likely to pay a toll if Concept C was implemented:



- Multnomah County = 56 percent likely
- Washington County = 42 percent likely
- Clark County = 34 percent likely
- Clackamas County = 26 percent likely

A majority of respondents from Multnomah, Clackamas and Washington Counties were also highly motivated to find different routes, while Clark County respondents were less likely due to do so, given the limited options to cross the river with this concept.

Multnomah County respondents once again expressed the highest likelihood of attempting transit, bicycling or foot travel (45 percent).

On proposed mitigations, all respondents support strategies to assist low-income populations and measures that ensure congestion is reduced. Beyond these consistent priorities, Multnomah County respondents highlight their preference for transit alternatives over alternative driving routes—a preference which is reversed among respondents in all other counties. Diversion impacts are top of mind in Multnomah, Washington and Clackamas Counties, while Clark County respondents want it known that using revenue fairly is a priority for them.

Table 4-3. Mitigation strategies for Concept C

Mitigation strategy	Multnomah County	Clark County	Clackamas County	Washington County
Set performance measures to ensure traffic congestion is reduced	44%	50%	56%	58%
Design the project to minimize the impact on people of low income	62%	54%	41%	43%
Minimize traffic diversion to local streets	56%	21%	48%	41%
Provide alternative driving routes	22%	52%	49%	44%
Make sure revenue is used fairly	27%	48%	31%	28%
Make the pricing system easy to understand and use	25%	19%	21%	31%
Provide more transit, bike and walking options	46%	17%	13%	25%

Race/ethnicity: This section of the highway, covering both I-5 and I-205, is used at the roughly the same frequency for both whites and people of color. White respondents describe more effort (74 percent) to take different routes to avoid traffic, with 48 percent of people of color doing the same. With Concept C, whites continue



expressing a much higher likelihood of paying to drive in priced lanes (48 percent compared to 22 percent) and they are more likely to change the time they drive, carpool or take transit than people of color.

On mitigation concerns, there were four strategies of roughly equal importance to people of color (all mentioned by about 45 to 50 percent of the subgroup). Of these, one was less important to white respondents—alternative driving routes (cited by 37 percent of whites and 50 percent of people of color). The frequency with which people of color are prioritizing alternative routes correlates with their present travel behavior (i.e. most are not making travel adjustments now) across all concepts and may relate to a lower willingness to pay for priced lanes in the future.

Frequency of use: Daily commuters and those who drive on I-5 and I-205 several times a week responded they were slightly less likely to say they would pay a toll to drive in this large section of both highways. Likelihood of paying the toll increases with more infrequent driving patterns. Infrequent travelers are likely to benefit from shorter trips and not be paying tolls daily or several times a week. There were no differences in the mitigation strategies that were top of mind for respondents based on their usage of these highways; the assurance of congestion relief and strategies to help low-income respondents were the top two.

Age: Over 50 percent of all age groups responding are regular users of this section of the highway and travel through it at least several times a week. As a result, almost two-thirds of all age groups also reported trying to avoid traffic and attempt alternative routes when possible. Age groups reported different behaviors in a few interesting scenarios. For example, the youngest and oldest respondents say they might have the greatest likelihood to change their travel times. Young respondents were the most likely to be interested in carpooling and transit compared to all others.

Mitigation strategies to reduce impacts on low-income households are most important to respondents under 45 compared to respondents over 45. The difference on this one particular item is at least 10 percentage points. The other mitigations tested did not produce gaps as significant between age groups.

Open-ended comments on Concept C

Major takeaways from public perceptions at the five open house events for Concept C include the following:

- Revenue and taxes: Many participants want the price of the toll to be accessible to low-income residents and free for emergency vehicles. Many believe that tolling revenue should be allocated to freeway expansion and the construction of additional roadways. Participants are concerned about multiple tolls along the corridor, preferring to pay one toll. Some participants do not want funds allocated to infrastructure dedicated to alternative modes of transportation such as transit, bicycle and pedestrian modes because these modes do not pay for themselves. A few participants request discounts for pre-paid tolls.



- Fairness: Participants echo the sentiment of choice for Concept C, many noting that landlocked residents of Hayden Island and those who are required to commute long distances lack choice in alternative routes. Many think that Concept C is the fairest alignment of the five. A few note that Concept C removes their choice to either pay or not and is therefore unfair. A few want only out-of-state travelers to pay the toll, stating it unfair for Oregon residents to pay twice for roads. A few participants feel that Washington residents should pay a reduced toll because they already pay Oregon income tax by working in Oregon.
- Diversion: Participants are concerned that Concept C will have the greatest diversion impact on surface streets. A few participants note that diversion would be dangerous for neighborhoods because traffic calming measures on local streets are too expensive.

Flip Chart comments related to Concept C:

“Must be affordable to low-income residents and must be free for emergency vehicles.”

“Note whether people would need to pay multiple tolls throughout the day.”

“Tolls should apply equally to people from both states.”

“This will create more congestion on local streets. Too expensive to add traffic-calming on every street and will also create more congestion, emissions and fuel consumption. Don’t put tolls on all lanes all the time. Start toll after first off ramp so Clark County residents have an option to avoid the toll.”

4.5 Concept D

This concept would apply a variable toll on a single newly constructed (and planned) (left) lane between OR99E and Stafford Road, including the Abernethy Bridge.

Technical details of Concept D:

- New priced lane added for both eastbound and westbound travel; leftmost lane would be tolled
- Maintains an unpriced lane option in both directions

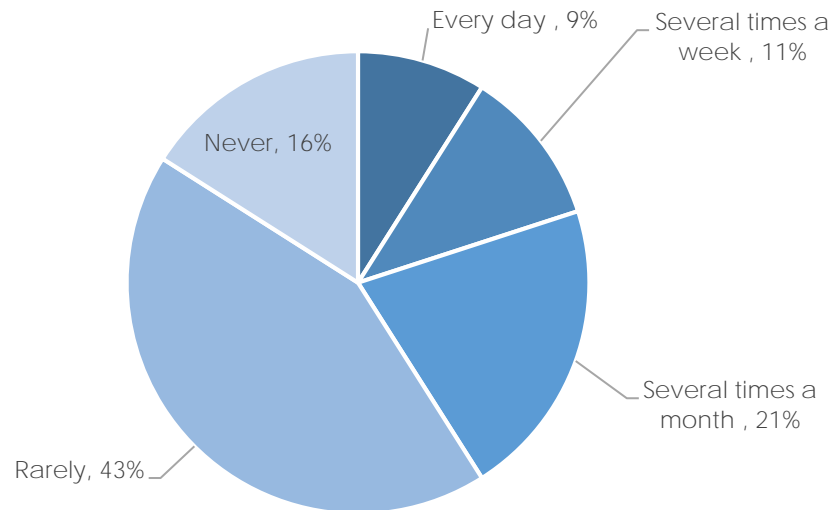
Travel patterns and behaviors

Overall, 20 percent of all respondents travel frequently in this section (nine percent “every day” plus 11 percent “several times a week”). Compared to the core sections of highway throughout the Portland metro area, this section is much smaller and traveled almost exclusively by respondents from Clackamas County.



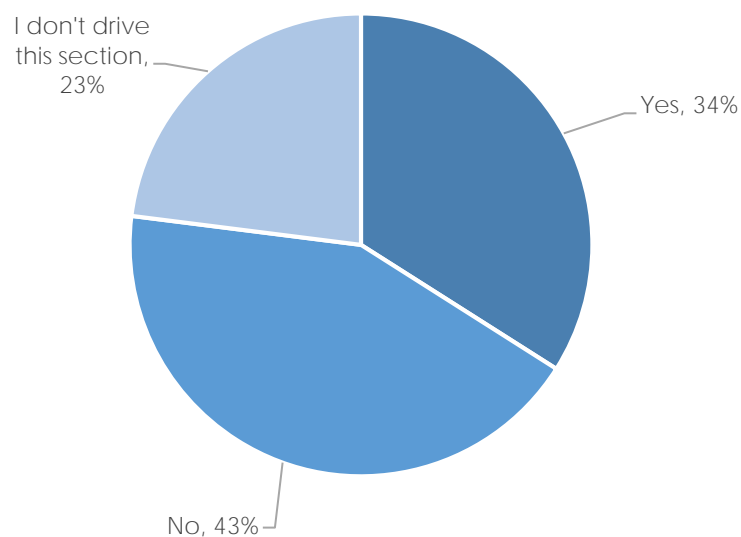


Figure 4-13. Q14: How frequently do you drive on any portion of the highway in this area? (N=472)



The results from all respondents are displayed in Figure 4-20 and look very different for Clackamas County participants, 52 percent of whom say they change their travel plans regularly to account for congestion in this area. More detail from Clackamas County participants begins on page 4-43.

Figure 4-14. Q15: Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)? (N=466)





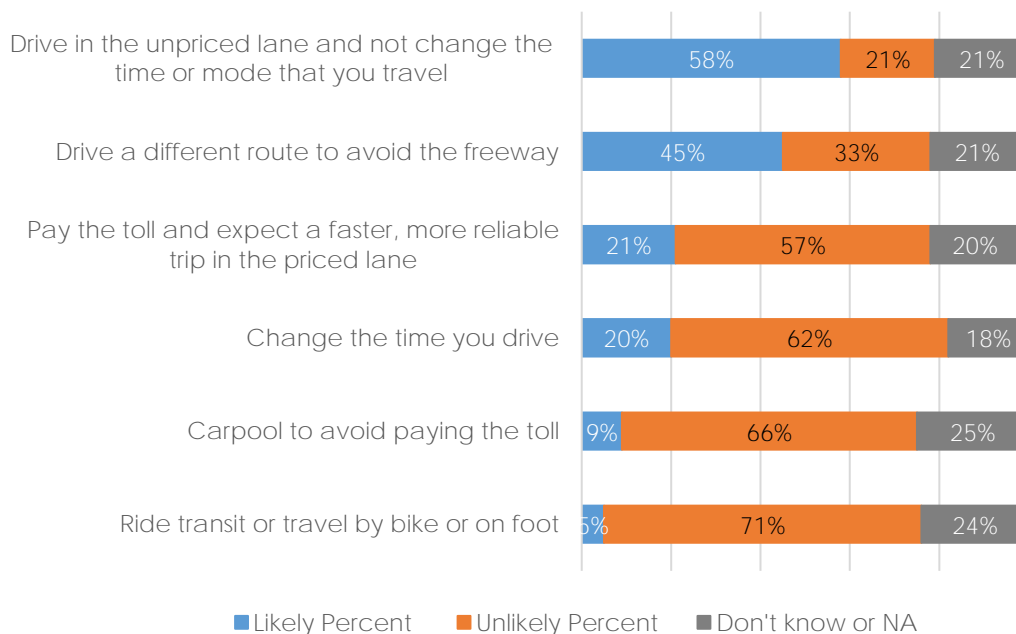
A participant clarifies her comments about one of the Concepts

Source: ODOT

Congestion impacts

Concept D, unlike Concepts B and C, maintains some unpriced lanes as part of the proposal. With that option available, 58 percent of all respondents say driving in an unpriced lane would be their first choice. Just under half (45 percent) say they would look for an alternative route to get around the tolled section of the freeway. When unpriced lanes are available, respondents are less likely to choose a priced lane. In this case, 21 percent of respondents would pay to drive in the priced lane, but 57 percent would not. Carpooling and transit are unlikely options for the vast majority of respondents.

Figure 4-15. Q16: If this concept was introduced, how likely would you be to: (N=459)

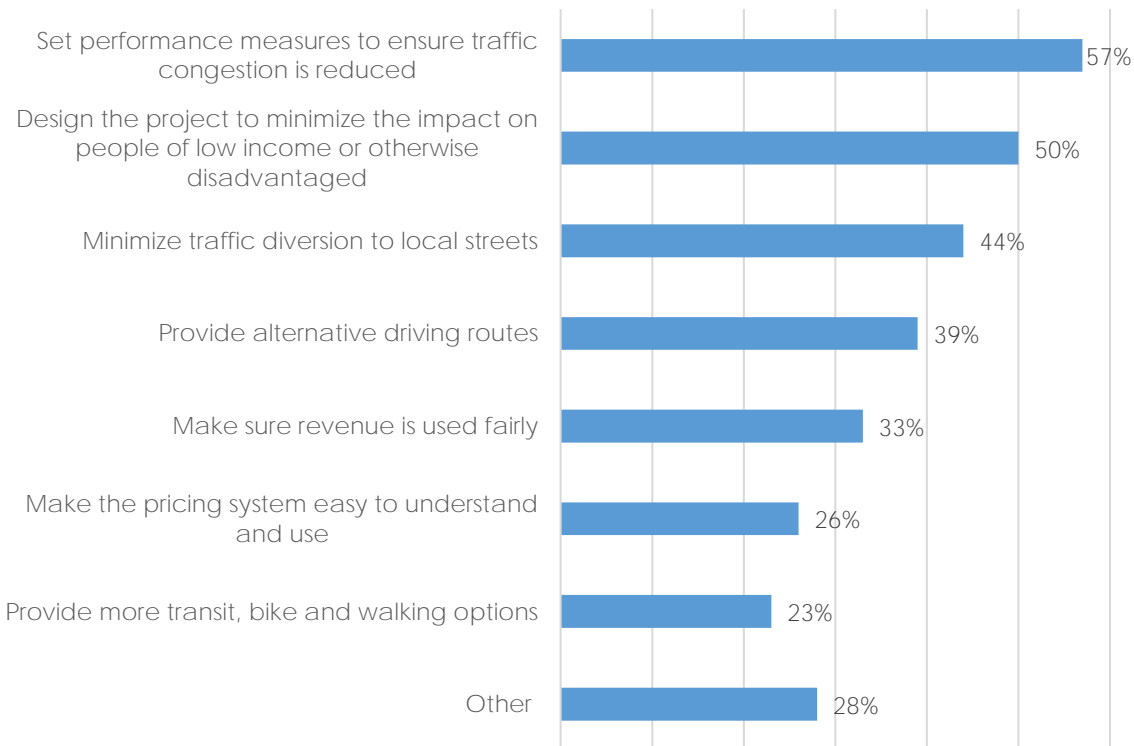




Desired mitigation strategies and “other” comments

When mitigations are tested in the last question of this series, respondents focus on assurances that congestion would be reduced (57 percent) and measures to help protect low-income respondents from tolls (50 percent). Diversion is the third most important concern and elevates to the second most important concern for respondents in Clackamas County. Transit options and making the system easy to understand are the least important concerns from the list presented and are only cited by about one out of four respondents.

Figure 4-16. Q17: The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three. (N=446)



The last bar in Figure 4-22 shows that 32 percent of respondents to Concept D included another response as one of their three top concerns (N=124).

The top three category themes that emerged from these comments were “fairness,” a general “oppose” category which included very short and unambiguous statements of opinion such as “No tolls!” or “I oppose this project” or “Don’t do this,” and “expanding existing roadways.” See Appendix D for more information.



Differences among demographic groups

Geography: This section of the highway is driven disproportionately by local residents of Clackamas County. At least 80 percent of respondents from Multnomah and Clark Counties rarely or never drive in this area. In Washington County, 63 percent of respondents rarely or never travel here. Among Clackamas County respondents, 52 percent change their travel plans to avoid traffic in this section, where as alternatives are needed much less often by other respondents because they simply don't drive through this area.

Clackamas County respondents strongly prefer to use unpriced lanes (64 percent) and look for alternatives (61 percent) rather than pay for a priced lane that would ensure a faster trip (20 percent).

Respondents from Clackamas County and nearby Washington County are both very interested in how tolls in their communities would reduce congestion (61 percent and 65 percent, respectively). In contrast, Clark and Multnomah County respondents are focused on strategies to lessen the impact of tolls on low-income households.

Table 4-4. Mitigation strategies for Concept D

Mitigation strategy	Multnomah County	Clark County	Clackamas County	Washington County
Set performance measures to ensure traffic congestion is reduced	51%	52%	61%	65%
Design the project to minimize the impact on people of low income	61%	56%	40%	45%
Minimize traffic diversion to local streets	51%	23%	54%	38%
Provide alternative driving routes	26%	49%	42%	41%
Make sure revenue is used fairly	25%	47%	30%	32%
Make the pricing system easy to understand and use	29%	24%	22%	32%
Provide more transit, bike and walking options	40%	16%	14%	21%

Race/ethnicity: A majority of whites (50 percent) and a strong majority (64 percent) of people of color say they would be unlikely to pay a toll and drive in a priced lane associated with Concept D. Whites are slightly more likely to express some willingness to be tolled, but the inclination for both white and people of color is to drive in an



unpriced lane as a first choice (55 percent and 62 percent, respectively) and then look for alternative routes where possible (44 percent and 45 percent, respectively).

Mitigation priorities were fairly consistent for whites and people of color, with the one exception being the continued higher importance of providing alternative driving routes for people of color (46 percent importance, compared to 36 percent importance among whites).

Age: Respondents between 45 and 64 were the most willing to pay to drive in a priced lane in this area. This age group tends to be the highest-earning age bracket across all adult populations, and higher incomes typically provide more resources to help offset the cost of the toll.⁵ To correspond with this finding, 45 to 64 year-olds are also the age group most interested in seeing measures put into place to guarantee congestion pricing will reduce congestion.

Open-ended comments on Concept D

Major takeaways from public perceptions at the five open house events for Concept D include the following:

- Expanding existing roadways: The most common concern among participants who engaged with Concept D is the expansion of I-205 to keep up with regional growth, noting that more lanes would make congestion feel more manageable.
- Trust: Many participants mention the idea of trust. Some participants need transparency and accountability regarding where the revenue from tolls in this corridor would be spent to trust that their money is going toward congestion management projects. Some participants do not trust that tolls in this corridor will do much to relieve congestion. Some participants want to ensure that these tolls are not handled by a private company.
- Diversion: Participants state that I-205 traffic is currently congested and actively creates a lot of diversion. Some suggest that a diversion study be done to assess potential impacts of increased diversion before project implementation.

Comments related to Concept D:

"Population is growing. Developers should plan more."

"Add capacity on I-205 (non-tolled) so that people will use it instead of I-5 when it's congested."

"Need transparency on how revenue will be used."

"Transparency! Accountability!"

"Value pricing will congest side streets unless more capacity is built."

⁵ Bureau of Labor Statistics (2017): quarterly median earnings by age report
Oregon Department of Transportation



4.6 Concept E

This concept would apply a toll on all lanes of the Abernethy Bridge, including a new planned lane. This concept is being evaluated as a potential funding strategy to widen I-205 from Stafford Road to OR99E and upgrade the bridge.

Technical details of Concept E:

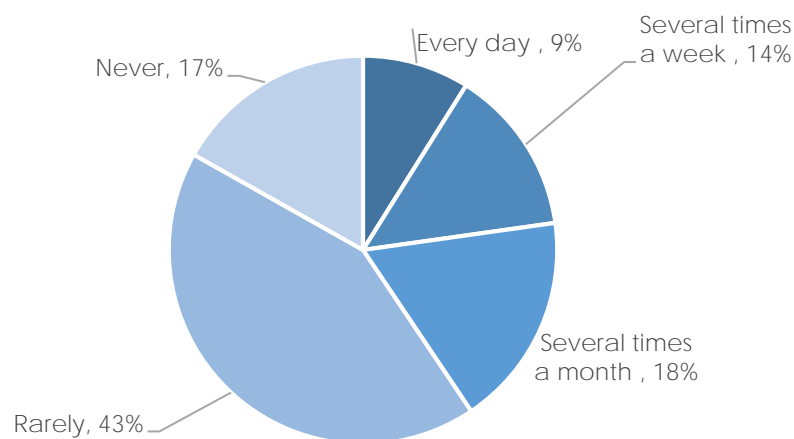
- All lanes are priced
- Few options currently available for transit riders, cyclists and pedestrian users
- Generates revenue for a bridge upgrade and widening of I-205 in a congested area

Travel patterns and behaviors

Overall, 23 percent of all respondents travel frequently in this section over the Abernethy Bridge (9 percent “every day” plus 14 percent “several times a week”). Similar to the section of highway referenced in Concept D, this stretch is dominated by travelers from Clackamas County (58 percent of respondents drive it at least several times a week). In contrast, less than 10 percent of respondents from both Clark or Multnomah Counties drive here, and only 13 percent of Washington County respondents are regular travelers in this area.

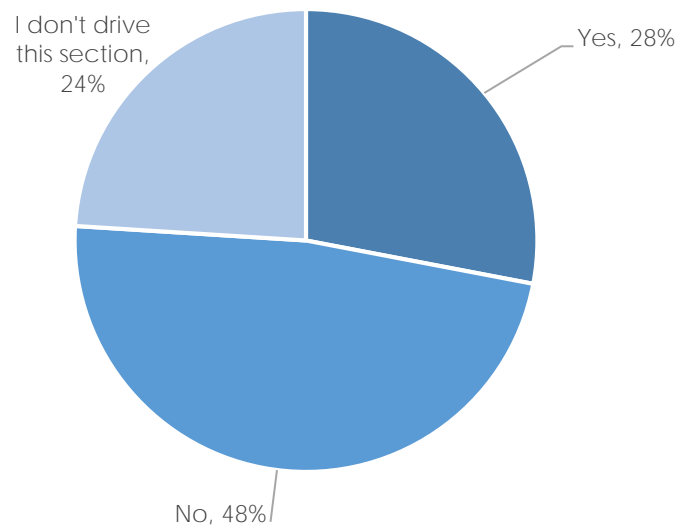


Figure 4-17. Q18: How frequently do you drive on any portion of the highway in this area? (N=473)



The smallest number of respondents to this question in the series say they are affected by congestion enough to change their travel plans (27 percent overall). Among Clackamas County respondents, 39 percent currently change their plans, but 58 percent do not.

Figure 4-18. Q19: Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)? (N=462)



Congestion impacts

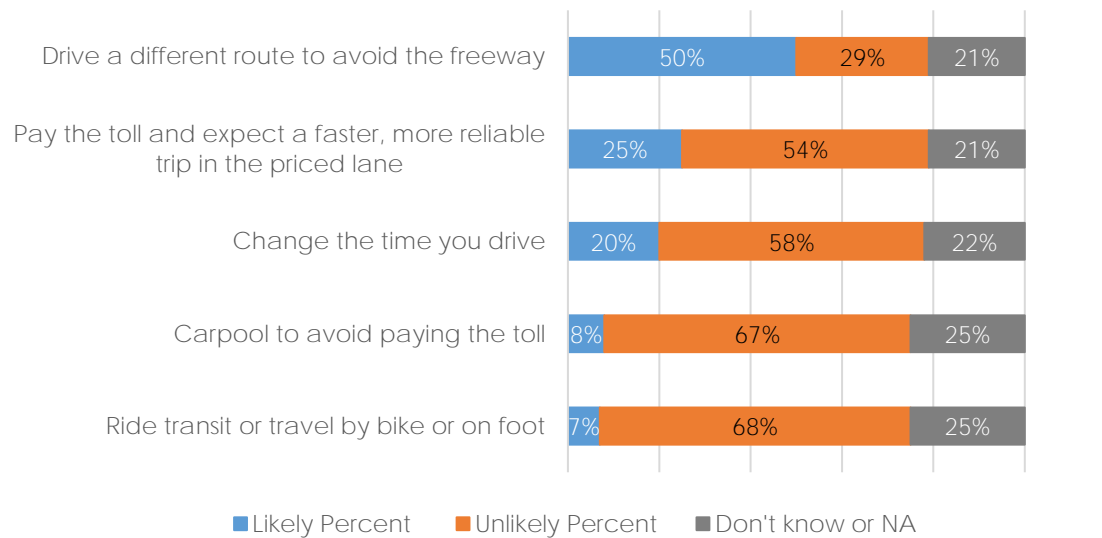
By a margin of 2:1, 54 percent of all respondents say they would be unlikely to pay a toll as part of Concept E, and only 25 percent would opt for driving on the priced roadway. Instead, 50 percent of all respondents believe they would try to avoid the freeway by looking into alternative routes. Carpooling and transit options were cited by less than 10 percent of respondents.



Attendees share ideas and talk through the Concepts presented
Source: ODOT



Figure 4-19. Q20: If this concept was introduced, how likely would you be to: (N=458)

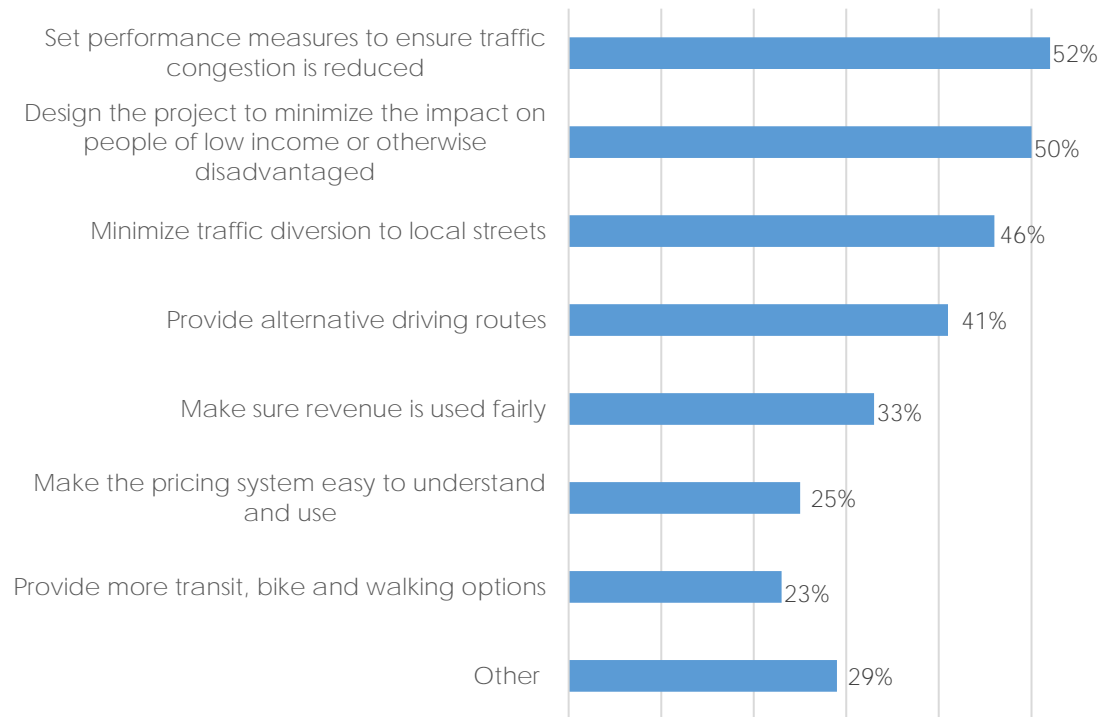


Desired mitigation strategies and “other” comments

Consistent with Concepts A through D, the priorities of respondents in evaluating Concept E remain focused on assurances of congestion relief through tolling (52 percent) and strategies to alleviate the impact of tolling on low-income households (50 percent). Diversion (46 percent) and alternative routes (41 percent) are middle tier priorities for this concept as well as all the others. The bottom tier priorities overall include transit, biking and walking options, making the pricing system easy to understand and using revenue raised by congestion pricing in a fair and equitable manner.



Figure 4-20. Q21: The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three. (N=440)



The last bar in Figure 4-20 shows that 29 percent of respondents provide another response as one of their three top concerns (N=128).

The top three category themes that emerged from these comments were “fairness,” a general “oppose” category which included very short and unambiguous statements of opinion such as “No tolls!” or “I oppose this project” or “Don’t do this,” and “revenue and taxes.” See Appendix D for more information.

Differences among demographic groups

Geography: The Abernethy Bridge referenced in Concept E is located in Clackamas County and south of downtown Portland or Vancouver. As a result, most bridge traffic east and westbound involves Clackamas County respondents.

If Concept E were to be implemented, 74 percent of Clackamas County respondents say they would be unlikely to drive over the bridge, and 19 percent are likely. Participants from Multnomah and Washington Counties express a greater likelihood of using the bridge once it is tolled as compared to Clackamas County participants. While this concept raises money for bridge upgrades, the fact that no unpriced lanes would be maintained could be the reason so many Clackamas County respondents say they would look for an alternative route.

Clackamas County respondents prioritized congestion relief by tolling the Abernethy Bridge and to minimize diversion on local streets. Clark and Multnomah County



respondents expressed a priority for reducing the impact on low-income households, but this concern for disadvantaged households did not show up as a high priority among Clackamas County participants.

Table 4-5. Mitigation strategies related to Concept E

Mitigation strategy	Multnomah County	Clark County	Clackamas County	Washington County
Set performance measures to ensure traffic congestion is reduced	47%	50%	56%	61%
Design the project to minimize the impact on people of low income	62%	60%	37%	43%
Minimize traffic diversion to local streets	52%	29%	54%	42%
Provide alternative driving routes	26%	50%	48%	43%
Make sure revenue is used fairly	28%	45%	30%	32%
Make the pricing system easy to understand and use	27%	20%	22%	33%
Provide more transit, bike and walking options	42%	14%	12%	20%

Race/ethnicity: White respondents were about twice as likely as people of color to be willing to pay to drive on the bridge if all lanes are tolled (30 percent to 14 percent). Almost a majority of both people of color and whites say their preference would be to find an alternative to driving over the bridge if it is tolled (53 percent and 46 percent, respectively).

People of color prioritize identifying alternative driving routes (49 percent) over what white respondents report (38 percent). Efforts to reduce the impacts on low-income travelers is the number one priority for all white respondents (54 percent) and third most important for people of color (44 percent).

Age: Respondents over 65 were the most likely to report that they take measures to change their travel patterns when congestion on the bridge is a factor in their trip planning (40 percent make adjustments, 46 percent do not). Between 43 and 49 percent of all age groups prefer to find an alternative route first over paying a new toll. Respondents between 30 and 64 are the most willing to drive over the bridge if it is tolled (about 28 percent), with both younger and older respondents expressing a low likelihood of paying for a faster trip. Younger and older respondents seem to have more flexibility in their travel times, which could explain why they are less likely to pay a bridge toll.



Diversion is a particular interest to respondents between 30 and 64, which could correlate with high rates of homeownership in the communities near the bridge.⁶ Strategies to reduce the impacts to low-income households are the highest priorities for respondents under 30 (57 percent) and mentioned by only 43 percent between 45 and 64 years old.

Open-ended comments on Concept E

Major takeaways from public perceptions at the five open house events for Concept E include the following:

- Revenue and taxes: The biggest concern for participants who engage with Concept E is how revenue from tolling would be spent. Most participants want to see the money be spent where it is raised, expanding capacity, and there are some who want the toll to be eliminated once the bridge upgrades are been paid for. A few want the gas tax to be raised instead of tolling along I-5 or I-205.
- Fairness: Many participants share the anxiety of feeling a loss of choice in alternative routes when traveling in the Concept E corridor. Many perceived that there is no other viable option between Oregon City and West Linn other than the Abernethy Bridge; others state that many people are not able to change their commuting hours and would have to pay larger tolls as punishment.
- Trust: Participants do not trust that tolls are the sole solution to the growing congestion problem in the Portland metro region. Many feel that the issue should be addressed through a multitude of approaches, such as transit, road expansion, tolling, adding additional bridges and alternative transportation infrastructure. Many participants do not believe Concept E is an effective way to reduce traffic. Some believe Concept E would increase traffic on I-5. A few believe Concept E has no accountability for where revenue would be spent.

Flip Chart comments related to Concept E:

"Lift tolls after the bridge is paid for."

"Use revenue for a 3rd bridge with light rail."

"To get to Oregon City from West Linn, the only option is Abernethy Bridge."

"Concept E would make I-5 traffic worse."

⁶ U.S. Census Bureau, Current Population Survey/Housing Vacancy Survey, February 27, 2018
Oregon Department of Transportation



5 MITIGATION STRATEGIES

Mitigation strategies were captured in several ways throughout the spring outreach period:

- In the online questionnaire (“**other, specify**” responses. N=31, related to Concepts A-E and in the open-ended question, N=17)
- During the open houses on flip charts, in worksheets and in staff conversations (N=46 “**general**” comments and N=23 related to Concepts A-E)

Across the many sources the strategies were collected, the most common suggestions centered on the following:

Quotes about mitigations:

“Needs to be an Authority on who decides how the revenue is spent, bi-state Authority.”

“Discounts for getting to work – 2 free trips a day, not for discretionary trips.”

“Have an easy-pay system so our employers can pay for those of us who drive for work.”

“Any household with an individual who receives OHP, SSI, Medicare, VA benefits, etc. should get a free pass in the tolling system as long as they are low income.”

“Real carpool lane enforcement.”

Table 5-1: Roll up of mitigation strategies offered, all sources

Mitigation strategy	Overall, of 123 strategies categorized
Neighborhood traffic calming: Strategies that reduce diversion, improve transportation management and ramp metering	23% or N=28
Strategies or restrictions on truck traffic in priced lanes: During peak congestion periods, in certain lanes	22% or N=27
Subsidies for vulnerable populations: Low-income households, disabled respondents, veterans, college students and Washington residents who work in Oregon and pay income tax	15% or N=18
Incentives to reduce vehicle trips: Staggered work or school schedules	7% or N=9
Transit incentives: Park and rides, toll credits	7% or N=8
Free or discounted toll periods: On nights and weekends or if congestion is light	6% or N=7
Other: Lane conversion, governance of toll authority, technology, raise the driving age, etc.	21% or N=26

The project inbox also captured 20 emails during the outreach period that included at least one mitigation suggestion, along with other ideas, questions or concerns. These emails are included in Appendix F. A complete list of the strategies is included in Appendix F and organized by source.



6 OTHER OPEN-ENDED COMMENTS

This section summarizes the key topics and themes mentioned in open-ended comments received by the project team between February 6, 2018 and April 30, 2018. Open-ended comments provide detailed insight into public opinion, feedback and user experience. Comments were submitted via online questionnaire, email, voicemail, email inbox and at Policy Advisory Committee meetings, the Ask ODOT phone line and in-person open houses. Themes did not differ significantly depending on how the comment was transmitted, and the following sections summarize feedback submitted from all sources.

This section has been subdivided into three sections:

- Open-ended responses to question from questionnaire (April 5-30, 2018)
- Results of staff conversations with attendees at five open houses
- Project inbox communications (Feb. 6 – April 30, 2018)



Open house attendee provides comments to staff
Source: ODOT

6.1 Open-ended responses from online questionnaire

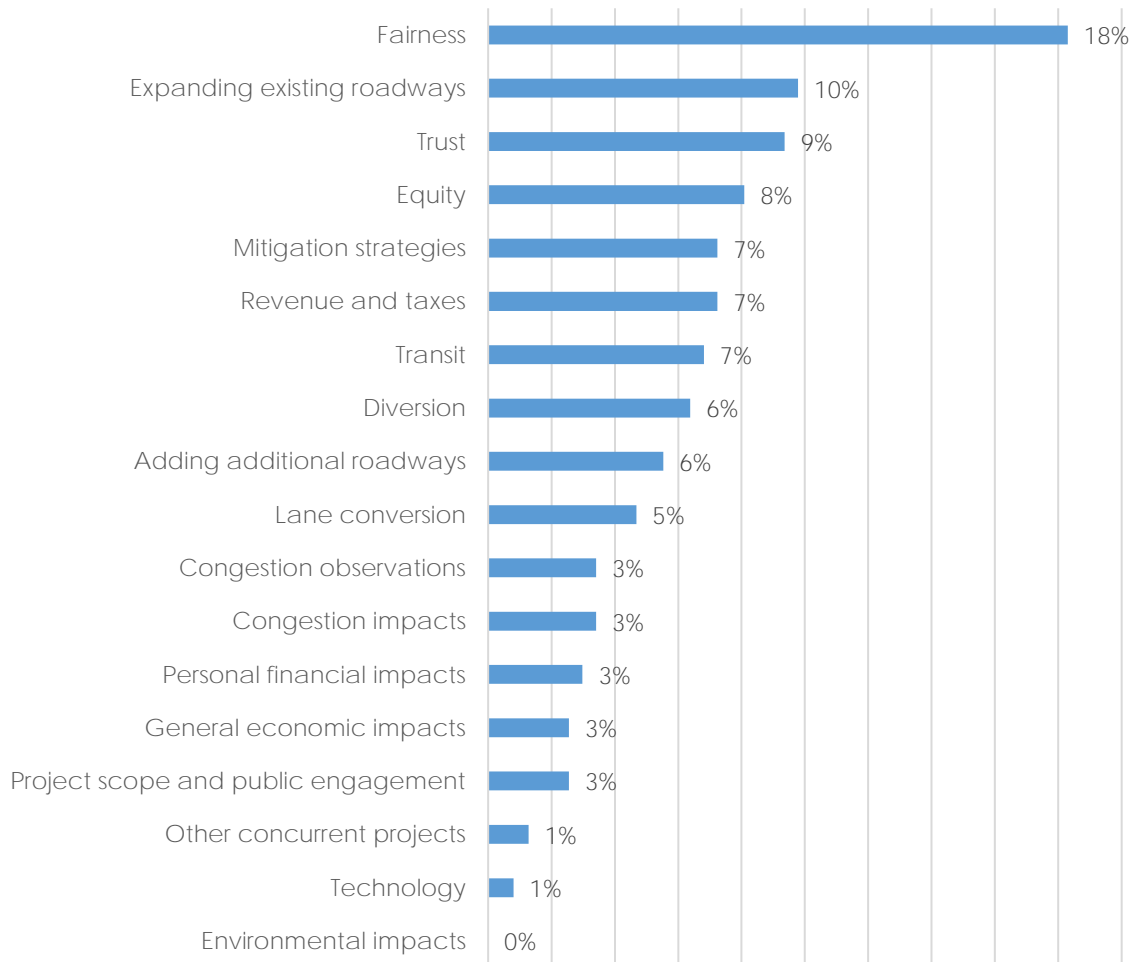
The open-ended question from the online open house site was viewed by just over 250 people, and substantive written responses were categorized from N=235. The distribution of all 235 comments is shown in Figure 5-1. **The question posed was: "What strategies, policies or decisions should be considered to make congestion pricing work for the Portland metro area?"**



Attendees answer questions at one of the main laptop stations
Source: ODOT



Figure 6-1. Open-Ended: *What strategies, policies or decisions should be considered to make congestion pricing work for the Portland metro area? (N=235)*



The “fairness” category captured the essence of the highest number of comments overall (N=43). Most commenters focused on the limited route alternatives that would give respondents no fair choice but to use a tolled highway. Others said that other taxes had been set up to pay for infrastructure and that roads had “already been paid for” or that “freeways should be free.” Another frequent comment was that respondents thought the toll penalized certain groups of people, such as those living in Clark County who work in Oregon and those who have set working hours with little flexibility.

Included in this category were comments about the fairness of congestion pricing, including the following subtopics:



- Existence (or lack) of viable alternative routes
- Geographic impacts
- The fairness (or unfairness) of user-pay systems
- The fairness (or unfairness) of paying for established roadways
- Flexibility of personal schedule and ability (or inability) to change travel patterns

After “fairness,” individuals made comments about “expanding existing roadways” and “trust.”

Reviewing the raw comments reveals a great deal of intersection between “trust” and “expanding existing roadways.” For example, one person wrote, “I am against ANY tolling plan on I-5 and I-205. For decades the growth in the area has been ignored by multiple jurisdictions, and now they want to toll their way out of this mess? It is unfair and it will not work.” Another said, “Adding tolls will do NOTHING to ease congestion because there are no other options for travel. Work with Washington to add lanes and/or a new bridge!”

Specific mitigation strategies were offered by 7 percent, or 17 people, in the open-ended question. Many of the suggestions parallel the questions and concerns first raised in the winter outreach period, such as toll discounts, no toll time periods, toll credits, restrictions on heavy trucks in certain lanes and increased transit service. The strategies were also similar to what participants offered in connection to the five concepts. See Chapter 4, Chapter 5 and Appendix F for more information on specific strategies.

6.2 Open house staff conversations

Open house participants provided nearly 700 individual general comments that staff summarized on worksheets. Some comments were written by staff during conversations, and some were written by the participants. These were collated and categorized by staff after each session. Some comments were specific to a concept, while others were more general to congestion pricing. Project-specific comments can be found in chapter 4. A summary of general comments follows.

Quotes about fairness:

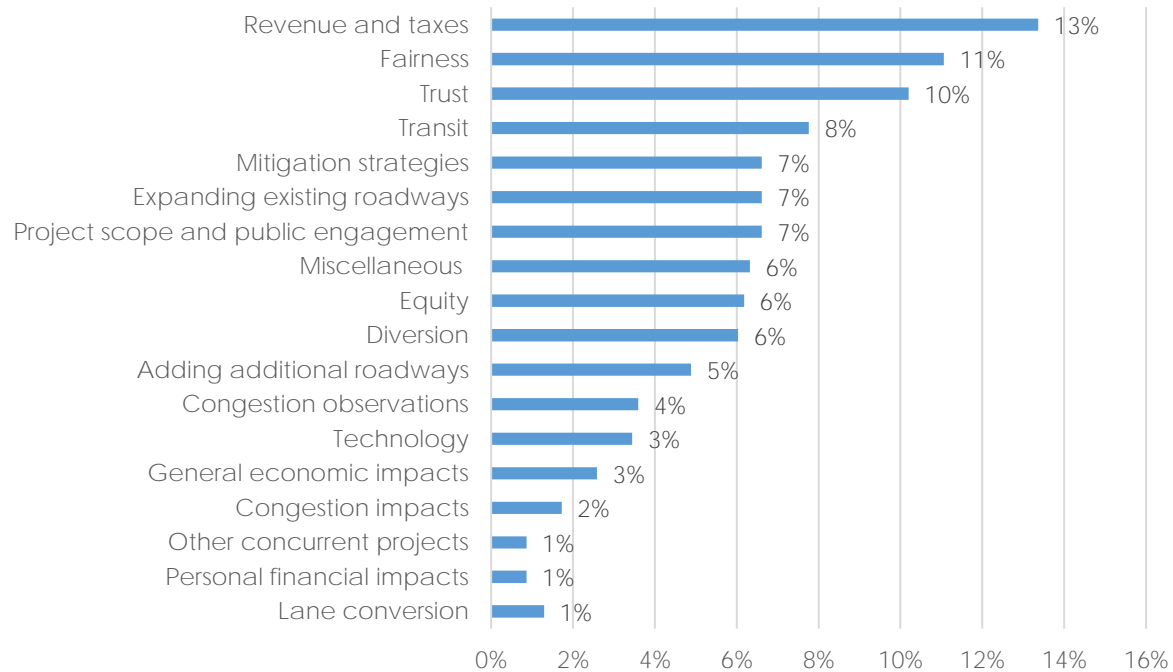
“I am concerned about people who have limited route options and cannot choose which times of day we want to be on the road (set work schedules, etc.). This seems like it will disadvantage anyone not privileged enough to have other options.”

“Consider impact on commuters from Washington who won't have the ability to vote on these measures. There are NO alternate routes if you toll both highways and NO Max across the river. Need to advocate for commuter friendly policies with employers.”

“Commuters who are using these routes every day should incur the expense. Putting the burden on anyone else is unfair.”



Figure 6-2. Distribution of comments documented at all five open houses



Major takeaways of public perceptions from staff conversations were similar to the themes specific to the individual concepts and include the following:

- **Fairness:** Participants do not feel that tolling is a fair way to address congestion. Many believe tolling to be unfair because an inability to change commuting hours leave them with the biggest toll burden. Some think tolling to be unfair because the rising cost of living has priced people out of Portland. Washington respondents said that tolling is a “double taxation without representation.” Some participants want to see tolls eliminated for carpooling, reduced tolls for low-income residents and no tolls during low traffic periods.



Project staff provide information at one of the open house tables
Source: ODOT



Many participants do not believe congestion pricing to be fair to Washington residents, calling for tolls to only be applied to cars with Oregon license plates, since Washington residents working in Oregon pay income tax to Oregon but do not benefit from the social services offered by the state. Some think that only Oregon residents should be tolled because traffic stops heading north once you get to the Columbia River. Some feel that as commuters who are unable to change their work schedule, they are being unfairly targeted with the highest tolls. A few participants think that Concept C is the fairest. A few believe that subsidizing tolls for certain groups of people is an unfair practice.

- Revenue and taxes: Most participants want the revenue to be used along the corridors where the tolls are collected to improve existing infrastructure, create more capacity through freeway expansions, and for the funds to be spent on a third bridge across the Columbia River. Some are concerned with variable tolling being unpredictable. A few participants do not want to see tolling subsidies because it defeats the purpose of tolling. A few want off-peak tolls to cost less than peak-tolls.

Participants in the April open house events are most concerned with where revenues raised will be spent, wanting transparency and a say in how and where that money goes. Most participants would support congestion pricing tolls if revenue is spent on capacity expansion, road improvements, congestion relief projects along the concept corridors and building a new bridge across the Columbia River. Many Washington respondents working in Oregon want tolls to be tax deductible or to be paid for by their income tax. Some participants are opposed to revenue being spent on transit, bike or pedestrian infrastructure. Some are holding off supporting or opposing until a tolling price is named. A few want revenues to be raised through an increase in the gas tax or through an Oregon sales tax instead of congestion pricing. A few do not trust the legality of putting tolls on a federal highway.

Worksheet quotes from participants:

"Suggest people get a credit for driving."

"Too expensive in City – people moving further out."

"If tolling is to be implemented, it would be okay to use for new roadways. That would be fair."

"Can revenue be used to fund a new bridge?"

"Concerned with people who are already poor."



- **Equity:** There is frustration among participants about the equity of tolling, noting that residents of the Portland metro who are at the margins are the most negatively impacted by congestion pricing. Many say that tolls are a privilege that only few have the means to access. Many want to see tolling discounts for low-income and working poor families. Some participants want anyone with a disabled parking permit to get free or reduced toll fares. A few want the project team to consider medical respondents who shuttle patients to appointments when deciding the price of tolls.
- **Trust:** The two biggest themes within trust are 1) trusting the government to manage the congestion pricing revenue responsibly and 2) not trusting the project to deliver the intended results of significantly reducing congestion.
- **Transit:** The guiding theme of transit comments is that current infrastructure takes too long and is not a viable option for commuters, and because commuting by bus or MAX is inconvenient, there is little trust that implementing tolls will change commuting behavior. Some want to see more dedicated revenue put toward bus rapid transit lanes along the freeway so that buses are not caught in the same traffic as single occupancy vehicles. A few people want money redirected from transit toward congestion relief.

Other staff comments recorded from participants:

"Be clear about how the revenue will be spent to improve transportation facilities."

"I want revenue to be used in the areas where people are paying the tolls."

"WA residents shouldn't pay your taxes twice."

"Just toll Oregon plate people because all traffic is on the Oregon side."

- **Mitigations:** Mitigation strategies were offered by 7 percent of all comments from flip charts, worksheets and in staff conversations at the open house events. Strategies were both **general** (e.g. "Travel time signage is useful") and sometimes specific to a concept. Almost half of all mitigation strategies were focused on how to prevent or reduce impacts on neighborhoods or surrounding streets through effective traffic management or incentives to limit truck traffic, especially during certain times of day or in certain lanes. All of the strategies are available in Appendix F and organized by source.



*Open house attendees read more about the goals of congestion pricing
Source: ODOT*



6.3 Project inbox communications

Between February 6 and April 30, 2018, the project inbox received 433 comments. A distribution table of those comments is shown in Figure 5-2. To contrast with inbox comments from the winter period, Figure 5-3 is shown for comparison. Between winter and spring, “fairness” and “trust” comments increased, and general “congestion” comments, “transit” comments and “revenue and taxes” comments decreased.

Figure 6-3. Distribution of comments from the spring project inbox

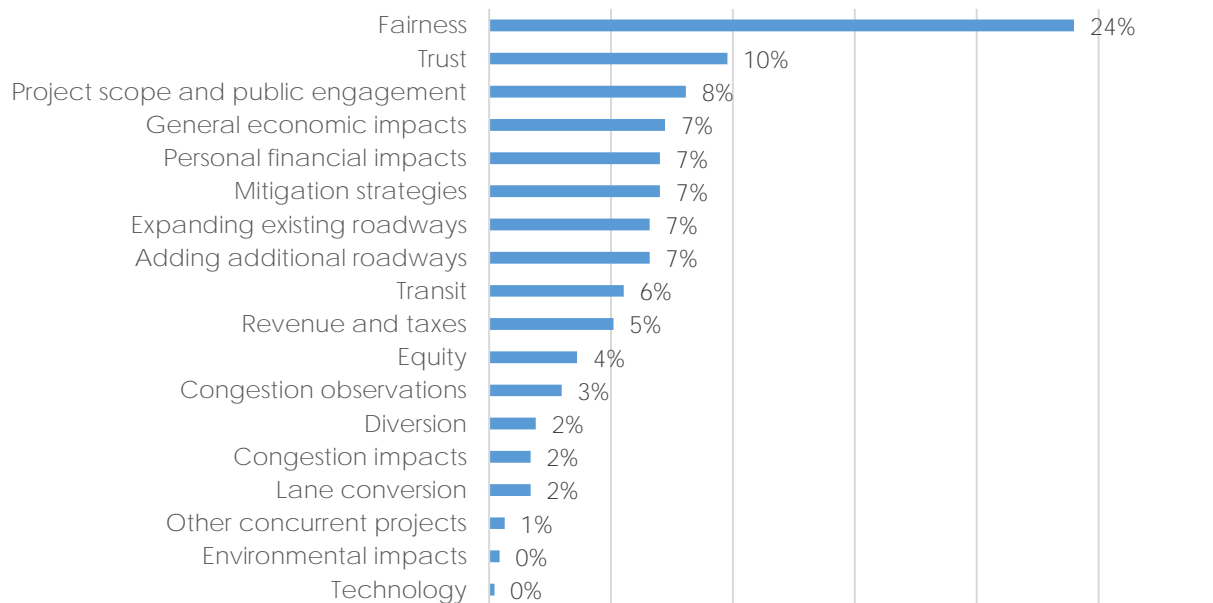
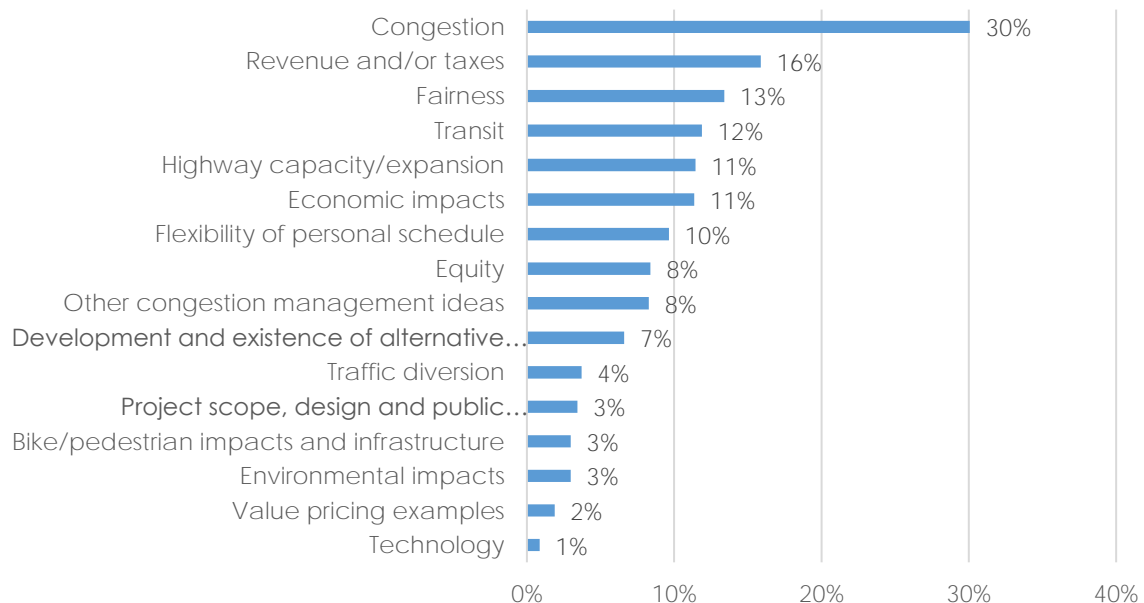


Figure 6-4. Distribution of comments from the project inbox listed in the winter outreach report





In general, it is important to note that people providing inbox comments are providing many of the same questions, concerns and needs as people who attended open houses and people who completed the online questionnaire, including themes around fairness, trust and the scope of the project.

Most comments received through the project inbox were from Southwest Washington residents opposing congestion pricing along the I-5 and I-205 corridors. Clackamas, Washington and Multnomah Counties also engaged using this platform but made up a much smaller percentage of emails received. Some commenters stated support of tolling on a conditional basis, and a few stated full support. No specific project alignment concepts were mentioned in emails to the project inbox; the comments were more general in nature.

- Fairness: Many Southwest Washington respondents expressed frustration over the idea of “taxation without representation,” stating that it is unfair to pay a toll to commute to work when they already pay income tax in a state where they cannot vote. Many mentioned the potential negative economic impacts of tolling Southwest Washington residents, explaining that tolls would dissuade Washingtonians from shopping and recreating in Oregon. Many commenters felt that tolling hurt the middle and lower classes and was unfair to those whose jobs would not allow them flexible schedules. Some commenters felt that tolls would be fair if tax credits were paid to Washington residents who commute to Oregon for work, the revenue went toward a third bridge over the Columbia River or tolls were placed on I-84, US 26 and OR99E to lower the toll costs for all the roads. A few believe that tolling federal highways is illegal.
- Trust: Most participants do not trust that tolling will reduce congestion. Many participants believe that tolls are a revenue stream for other projects and do not trust that toll implementation is a tool for congestion alleviation. Some do not believe that tolls will ever go away once they are established.
- Project scope and public engagement: Many Washington respondents called for a louder voice in the congestion pricing decision making process, requesting the

Quotes from comments about fairness:

“I don't see how taxing me to go to and from work is going to help the road congestion. I must go to work, but I don't have to drive into Oregon for shopping and entertainment. Your tolls certainly would keep me off your roads for that. I already have shifted my start time, but apparently so have many others which just makes rush hour last longer. It's bad enough that I must pay the same amount in Oregon state tax as a resident even though I'm without most of the benefits. And now you say that's still not enough! Just what are you doing with my tax money?”

“We travel back and forth to Portland for work and doctor appointments. Fees or tolls on either of the bridges would have a terrible impact on our budget. We're against the plan to unfairly force Washington residents who must travel to Oregon to pay for traffic improvements. What we need is a new bridge between the new states.”



project be put up for a vote in both states before implementation. Many commenters wondered why only I-5 and I-205 were identified for congestion relief and not highways such as I-84, US 26 and OR99E. Many believed that these highways should also be tolled for measurable congestion relief. Some commenters did not feel like what they had to say would impact the project in any meaningful way.

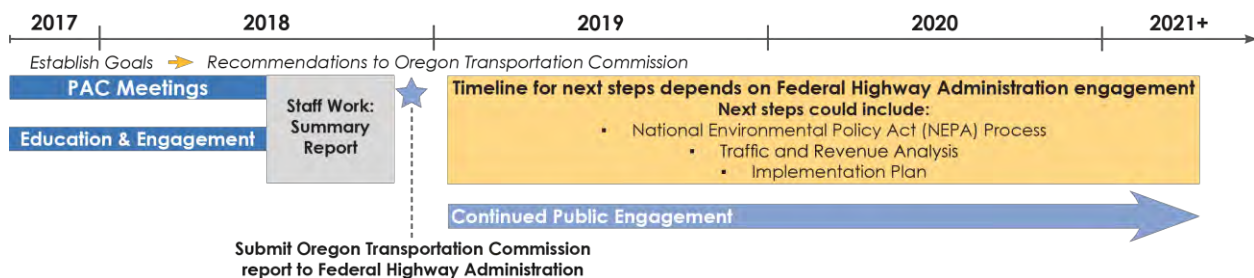
- Mitigations: Approximately 7 percent, or 30 people, emailed comments that were categorized as mitigation ideas. Ten of these comments were emailed in March 2018 and were included in the Title VI/Environmental Justice Engagement Summary Report, dated April 4, 2018.analysis. The 20 others are presented in Appendix F.

7 NEXT STEPS

The findings from this second phase of public engagement will inform the ongoing work of the PAC in May and June 2018. During this time, ODOT invites continued public comment via the project website, email or phone.

The PAC will submit its recommendation(s) to the OTC in July-2018. After considering the PAC's recommendation(s) along with technical findings and public input, the OTC will submit a final report to the federal government by the end of 2018 for review. The timeline for next steps after 2018 depends on direction from the FHWA. Additional work from 2019 onward is likely to include additional public outreach; environmental, traffic and revenue analysis; and the development of an implementation plan.

Figures 7-1. Timeline for the Portland Metro Area Value Pricing Feasibility Analysis



APPENDIX A: QUESTIONNAIRE TEXT

Date: _____

1. Please enter your home ZIP code: _____

The following questions relate to Concept A:
 Priced lane on Northern I-5

2. How frequently do you travel on any portion of the highway in this area?
 - Every day
 - Several times a week
 - Several times a month
 - Rarely
 - Never
3. Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?
 - Yes
 - No
 - I don't drive this section
4. If this concept was introduced, how likely would you be to do the following? Please check one box per row:



	Very likely	Likely	Unlikely	Very unlikely	Don't know	N/A
Pay the toll and expect a faster, more reliable trip in the priced lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drive in the unpriced lane and not change the time or mode that you travel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drive a different route to avoid the freeway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change the time you drive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ride transit or travel by bike or on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpool to avoid paying the toll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three.
 - Design the project to minimize the impact on people of low income or otherwise disadvantaged
 - Set performance measures to ensure traffic congestion is reduced
 - Minimize traffic diversion to local streets
 - Make the pricing system easy to understand and use
 - Provide alternative driving routes
 - Provide more transit, bike and walking options
 - Make sure revenue is used fairly
 - Other: _____

The following questions relate to Concept B:
 Priced roadway on I-5 through downtown
 Portland

6. How frequently do you travel on any portion of the highway in this area?
 - Every day
 - Several times a week
 - Several times a month
 - Rarely
 - Never

7. Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?
 - Yes
 - No
 - I don't drive this section

8. If this concept was introduced, how likely would you be to do the following? Please check one box per row:



Very likely Likely Unlikely Very unlikely Don't know N/A

	Very likely	Likely	Unlikely	Very unlikely	Don't know	N/A
Pay the toll and expect a faster, more reliable trip in the priced lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drive a different route to avoid the freeway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change the time you drive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ride transit or travel by bike or on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpool to avoid paying the toll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three.
 - Design the project to minimize the impact on people of low income or otherwise disadvantaged
 - Set performance measures to ensure traffic congestion is reduced
 - Minimize traffic diversion to local streets
 - Make the pricing system easy to understand and use
 - Provide alternative driving routes
 - Provide more transit, bike and walking options
 - Make sure revenue is used fairly
 - Other: _____

The following questions relate to Concept C:
 Priced roadway on I-5 and I-205

10. How frequently do you travel on any portion of the highway in this area?
- Every day
 - Several times a week
 - Several times a month
 - Rarely
 - Never
11. Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?
- Yes
 - No
 - I don't drive this section
12. If this concept was introduced, how likely would you be to do the following? Please check one box per row:



	Very likely	Likely	Unlikely	Very unlikely	Don't know	N/A
Pay the toll and expect a faster, more reliable trip in the priced lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drive a different route to avoid the freeway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change the time you drive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ride transit or travel by bike or on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpool to avoid paying the toll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three.
- Design the project to minimize the impact on people of low income or otherwise disadvantaged
 - Set performance measures to ensure traffic congestion is reduced
 - Minimize traffic diversion to local streets
 - Make the pricing system easy to understand and use
 - Provide alternative driving routes
 - Provide more transit, bike and walking options
 - Make sure revenue is used fairly
 - Other: _____

The following questions relate to Concept D:
 Priced lane on I-205 from OR 99E to Stafford Road



14. How frequently do you travel on any portion of the highway in this area?
- Every day
 - Several times a week
 - Several times a month
 - Rarely
 - Never
15. Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?
- Yes
 - No
 - I don't drive this section
16. If this concept was introduced, how likely would you be to do the following? Please check one box per row:

	Very likely	Likely	Unlikely	Very unlikely	Don't know	N/A
Pay the toll and expect a faster, more reliable trip in the priced lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drive in the unpriced lane and not change the time or mode that you travel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drive a different route to avoid the freeway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change the time you drive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ride transit or travel by bike or on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpool to avoid paying the toll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three.

- Design the project to minimize the impact on people of low income or otherwise disadvantaged
- Set performance measures to ensure traffic congestion is reduced
- Minimize traffic diversion to local streets
- Make the pricing system easy to understand and use
- Provide alternative driving routes
- Provide more transit, bike and walking options
- Make sure revenue is used fairly
- Other: _____

The following questions relate to Concept E:
 Priced roadway on I-205 over the Abernethy
 Bridge in Oregon City

18. How frequently do you travel on any portion of the highway in this area?
- Every day
 - Several times a week
 - Several times a month
 - Rarely
 - Never
19. Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?
- Yes
 - No
 - I don't drive this section
20. If this concept was introduced, how likely would you be to do the following? Please check one box per row:



	Very likely	Likely	Unlikely	Very unlikely	Don't know	N/A
Pay the toll and expect a faster, more reliable trip in the priced lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drive a different route to avoid the freeway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change the time you drive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ride transit or travel by bike or on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpool to avoid paying the toll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. The community identified several concerns with congestion pricing. Which do you feel is most important to address if this concept was implemented? Please check your top three.
- Design the project to minimize the impact on people of low income or otherwise disadvantaged
 - Set performance measures to ensure traffic congestion is reduced
 - Minimize traffic diversion to local streets
 - Make the pricing system easy to understand and use
 - Provide alternative driving routes
 - Provide more transit, bike and walking options
 - Make sure revenue is used fairly
 - Other: _____

Let us know a little about you:

22. I describe my gender as:

- Female
- Male
- Non-binary or gender non-conforming
- Transgender
- I prefer not to say

23. How do you identify yourself culturally?

- African American/Black
- Asian/Pacific Islander
- Hispanic/Latino(a)
- Native American/American Indian
- White/Caucasian
- Mixed Race
- Other
- I prefer not to say

24. What year were you born? _____

Thank you!

Table 1-1
QUESTION 2:
How frequently do you drive on any portion of the highway in this area?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	475 100%	233 100%	169 100%	10 100%	111 100%	210 100%	163 100%	53 100%	318 100%	58 100%	150 100%	92 100%	126 100%	82 100%	186 100%	71 100%	355 100%	290 100%	399 100%	
REGULARLY -----	123 26%	58 25%	42 25%	3 30%	28 25%	54 26%	40 25%	10 19%	71 22%	20 34%	40 27% MN	48 52% KMN	18 14%	13 16%	46 25%	40 56% O	123 35% RS	33 11%	80 20% R	
EVERY DAY	51 11%	23 10%	19 11%	1 10%	12 11%	20 10%	19 12%	5 9%	28 9%	12 21% I	18 12% M	23 25% KMN	4 3%	5 6%	18 10%	17 24% O	51 14% RS	8 3%	35 9% R	
SEVERAL TIME A WEEK	72 15%	35 15%	23 14%	2 20%	16 14%	34 16%	21 13%	5 9%	43 14%	8 14%	22 15%	25 27% KMN	14 11%	8 10%	28 15%	23 32% O	72 20% RS	25 9%	45 11%	
OCCASIONALLY -----	127 27%	62 27%	49 29%	4 40%	39 35% F	50 24%	48 29%	20 38%	86 27%	18 31%	38 25%	35 38% KM	27 21%	20 24%	51 27%	25 35%	77 22%	127 44% QS	94 24%	
SEVERAL TIMES A MONTH	127 27%	62 27%	49 29%	4 40%	39 35% F	50 24%	48 29%	20 38%	86 27%	18 31%	38 25%	35 38% KM	27 21%	20 24%	51 27%	25 35%	77 22%	127 44% QS	94 24%	
RARELY/NEVER -----	225 47%	113 48%	78 46%	3 30%	44 40%	106 50%	75 46%	23 43%	161 51% J	20 34%	72 48% L	9 10%	81 64% KL	49 60% L	89 48% P	6 8%	155 44%	130 45%	225 56% QR	
RARELY	200 42%	98 42%	71 42%	3 30%	38 34% E	100 48%	64 39%	22 42%	141 44% J	18 31%	63 42% L	7 8%	70 56% KL	46 56% KL	81 44% P	5 7%	138 39%	120 41%	200 50% QR	
NEVER	25 5%	15 6% D	7 4% D	- -	6 5%	6 3%	11 7%	1 2%	20 6%	2 3%	9 6%	2 2%	11 9% L	3 4%	8 4%	1 1%	17 5%	10 3%	25 6%	
MEAN	3.16	3.20	3.14	2.90	3.09	3.18	3.17	3.17	3.26 J	2.83	3.15 L	2.35	3.56 KL	3.41 L	3.18 P	2.30	2.99	3.34 Q	3.34 Q	
MEDIAN	3.00	3.00	3.00	3.00	3.00	4.00	3.00	3.00	4.00	3.00	3.00	2.00	4.00	4.00	3.00	2.00	3.00	3.00	4.00	
STANDARD DEVIATION	1.09	1.09	1.07	0.94	1.06	1.05	1.11	0.97	1.06	1.18	1.12	1.00	0.91	0.94	1.06	0.96	1.17	0.79	1.05	
STANDARD ERROR	0.05	0.07	0.08	0.30	0.10	0.07	0.09	0.13	0.06	0.15	0.09	0.10	0.08	0.10	0.08	0.11	0.06	0.05	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

Table 2-1

QUESTION 3:

Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	466 100%	228 100%	167 100%	10 100%	109 100%	206 100%	162 100%	51 100%	314 100%	58 100%	148 100%	88 100%	125 100%	80 100%	183 100%	69 100%	350 100%	285 100%	391 100%
YES	252 54%	126 55%	89 53%	5 50%	55 50%	114 55%	92 57%	29 57%	185 59%	21 36%	89 60%	52 59%	57 46%	41 51%	106 58%	41 59%	189 54%	158 55%	215 55%
NO	165 35%	81 36%	56 34%	3 30%	41 38%	72 35%	53 33%	16 31%	93 30%	32 55%	44 30%	34 39%	43 34%	34 43%	62 34%	26 38%	122 35%	102 36%	127 32%
I DON'T DRIVE THIS SECTION	49 11%	21 9%	22 13%	2 20%	13 12%	20 10%	17 10%	6 12%	36 11%	5 9%	15 10%	2 2%	25 20%	5 6%	15 8%	2 3%	39 11%	25 9%	49 13%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 3-1
 QUESTION 4A:
 If this concept was introduced, how likely would you be to:

PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	461 100%	226 100%	164 100%	10 100%	107 100%	204 100%	160 100%	50 100%	308 100%	58 100%	145 100%	88 100%	124 100%	79 100%	179 100%	68 100%	346 100%	284 100%	386 100%	
TOP 2 BOX -----	151 33%	79 35% D	58 35% D	- -	30 28%	75 37% H	53 33%	11 22%	118 38%	16 28%	67 46% LM	25 28%	25 20%	28 35% M	77 43% P	20 29%	110 32%	100 35%	134 35%	
4 - VERY LIKELY	79 17%	48 21% D	23 14% D	- -	15 14%	34 17%	34 21%	6 12%	59 19%	11 19%	35 24% M	14 16%	12 10%	14 18%	38 21%	10 15%	58 17%	55 19%	67 17%	
3 - LIKELY	72 16%	31 14% D	35 21% D	- -	15 14%	41 20% GH	19 12%	5 10%	59 19% J	5 9%	32 22% M	11 13%	13 10%	14 18%	39 22%	10 15%	52 15%	45 16%	67 17%	
BOTTOM 2 BOX -----	267 58%	127 56%	89 54%	9 90% BC	68 64%	110 54%	90 56%	35 70% F	161 52%	38 66%	70 48% K	57 65% K	80 65% K	42 53%	89 50%	46 68% O	201 58%	163 57%	209 54%	
2 - UNLIKELY	75 16%	37 16%	30 18%	2 20%	17 16%	33 16%	25 16%	9 18%	57 19% J	4 7%	27 19%	16 18%	16 13%	13 16%	32 18%	13 19%	53 15%	44 15%	67 17%	
1 - VERY UNLIKELY	192 42%	90 40%	59 36%	7 70% BC	51 48%	77 38%	65 41%	26 52%	104 34% I	2 59%	43 30% K	41 47% KN	64 52% KN	29 37%	57 32%	33 49% O	148 43%	119 42%	142 37%	
DON'T KNOW	17 4%	8 4% D	6 4% D	- -	2 2%	9 4% H	5 3% H	- -	11 4%	2 3%	3 2%	5 6%	6 5%	3 4%	4 2%	1 1%	14 4%	8 3%	17 4%	
NOT APPLICABLE	26 6%	12 5%	11 7%	1 10%	7 7%	10 5%	12 8%	4 8%	18 6%	2 3%	5 3%	1 1%	13 10% KL	6 8% L	9 5%	1 1%	21 6%	13 5%	26 7%	
MEAN	2.09	2.18 D	2.15 D	1.22	1.94	2.17	2.15	1.80	2.26 J	1.87	2.43 LM	1.98	1.74	2.19 M	2.35 P	1.95	2.06	2.14	2.17	
MEDIAN	2	2	2	1	1	2	2	1	2	1	2	2	1	2	2	2	2	2	2	2
STANDARD DEVIATION	1.17	1.22	1.11	0.42	1.13	1.16	1.23	1.08	1.17	1.23	1.18	1.15	1.06	1.17	1.17	1.12	1.18	1.20	1.17	
STANDARD ERROR	0.06	0.08	0.09	0.14	0.11	0.09	0.10	0.16	0.07	0.17	0.10	0.13	0.10	0.14	0.09	0.14	0.07	0.07	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 4-1
 QUESTION 4B:
 If this concept was introduced, how likely would you be to:

DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	457 100%	223 100%	164 100%	10 100%	106 100%	202 100%	158 100%	49 100%	306 100%	58 100%	141 100%	88 100%	124 100%	79 100%	175 100%	68 100%	343 100%	279 100%	383 100%
TOP 2 BOX -----	268 59%	146 65% C	88 54%	5 50%	74 70% G	124 61% G	76 48%	33 67% G	178 58%	38 66%	84 60%	54 61%	67 54%	50 63%	108 62%	42 62%	206 60%	161 58%	214 56%
4 - VERY LIKELY	123 27%	64 29%	34 21%	4 40%	33 31%	48 24%	38 24%	13 27%	63 21%	20 34% I	25 18%	31 35% K	32 26%	24 30% K	36 21%	28 41% O	102 30% S	66 24%	89 23%
3 - LIKELY	145 32%	82 37% D	54 33% D	1 10%	41 39% G	76 38% G	38 24%	20 41% G	115 38%	18 31%	59 42% LM	23 26%	35 28%	26 33%	72 41% P	14 21%	104 30%	95 34%	125 33%
BOTTOM 2 BOX -----	140 31%	57 26%	54 33%	4 40%	21 20%	55 27%	63 40% EPH	11 22%	95 31%	15 26%	48 34%	28 32%	35 28%	21 27%	53 30%	23 34%	100 29%	91 33%	121 32%
2 - UNLIKELY	75 16%	32 14%	32 20%	2 20%	8 8%	29 14%	37 23% EPH	4 8%	55 18%	8 14%	24 17%	18 20%	15 12%	14 18%	28 16%	15 22%	50 15%	50 18%	68 18%
1 - VERY UNLIKELY	65 14%	25 11%	22 13%	2 20%	13 12%	26 13%	26 16%	7 14%	40 13%	7 12%	24 17%	10 11%	20 16%	7 9%	25 14%	8 12%	50 15%	41 15%	53 14%
DON'T KNOW	26 6%	10 4% D	11 7% D	- -	4 4%	13 6%	10 6%	1 2%	16 5%	4 7%	4 3%	5 6%	9 7%	5 6%	7 4%	2 3%	18 5%	17 6%	25 7%
NOT APPLICABLE	23 5%	10 4%	11 7%	1 10%	7 7%	10 5%	9 6%	4 8%	17 6%	1 2%	5 4%	1 1%	13 10% KL	3 4%	7 4%	1 1%	19 6%	10 4%	23 6%
MEAN	2.80	2.91	2.70	2.78	2.99 G	2.82	2.63	2.89	2.74	2.96	2.64	2.91	2.77	2.94 K	2.74	2.95	2.84	2.74	2.75
MEDIAN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
STANDARD DEVIATION	1.04	0.98	1.00	1.23	0.99	0.99	1.07	1.00	0.97	1.03	0.99	1.04	1.09	0.96	0.97	1.07	1.06	1.02	1.02
STANDARD ERROR	0.05	0.07	0.08	0.41	0.10	0.07	0.09	0.15	0.06	0.14	0.09	0.11	0.11	0.11	0.08	0.13	0.06	0.06	0.06

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 5-1
 QUESTION 4C:
 If this concept was introduced, how likely would you be to:

DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	456 100%	224 100%	163 100%	10 100%	106 100%	200 100%	160 100%	49 100%	305 100%	58 100%	141 100%	88 100%	124 100%	78 100%	174 100%	68 100%	343 100%	280 100%	382 100%
TOP 2 BOX -----	221 48%	96 43%	89 55% B	6 60%	45 42%	95 48%	84 53%	22 45%	151 50%	29 50%	66 47%	44 50%	61 49%	41 53%	79 45%	34 50%	172 50%	134 48%	180 47%
4 - VERY LIKELY	114 25%	50 22%	43 26%	5 50%	22 21%	51 26%	43 27%	11 22%	72 24%	18 31%	32 23%	18 20%	35 28%	22 28%	38 22%	13 19%	97 28% S	67 24%	81 21%
3 - LIKELY	107 23%	46 21%	46 28%	1 10%	23 22%	44 22%	41 26%	11 22%	79 26%	11 19%	34 24%	26 30%	26 21%	19 24%	41 24%	21 31%	75 22%	67 24%	99 26%
BOTTOM 2 BOX -----	185 41%	99 44%	58 36%	3 30%	50 47% G	83 42%	56 35%	22 45%	123 40%	21 36%	61 43%	35 40%	44 35%	30 38%	76 44%	29 43%	132 38%	118 42%	153 40%
2 - UNLIKELY	95 21%	53 24%	34 21%	1 10%	23 22%	43 22%	32 20%	11 22%	71 23%	8 14%	38 27% M	17 19%	18 15%	15 19%	45 26%	14 21%	66 19%	63 23%	84 22%
1 - VERY UNLIKELY	90 20%	46 21%	24 15%	2 20%	27 25% G	40 20%	24 15%	11 22%	52 17%	13 22%	23 16%	18 20%	26 21%	15 19%	31 18%	15 22%	66 19%	55 20%	69 18%
DON'T KNOW	19 4%	13 6% CD	3 2%	- -	4 4%	8 4%	7 4%	1 2%	12 4%	2 3%	6 4%	4 5%	6 5%	3 4%	8 5%	1 1%	15 4%	12 4%	19 5%
NOT APPLICABLE	31 7%	16 7%	13 8%	1 10%	7 7%	14 7%	13 8%	4 8%	19 6%	6 10%	8 6%	5 6%	13 10%	4 5%	11 6%	4 6%	24 7%	16 6%	30 8%
MEAN	2.60	2.51	2.73	3.00	2.42	2.60	2.74 E	2.50	2.62	2.68	2.59	2.56	2.67	2.68	2.55	2.51	2.67	2.58	2.58
MEDIAN	3	2	3	4	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
STANDARD DEVIATION	1.12	1.11	1.05	1.25	1.13	1.12	1.07	1.12	1.07	1.21	1.05	1.08	1.18	1.12	1.07	1.07	1.14	1.10	1.07
STANDARD ERROR	0.06	0.08	0.09	0.42	0.12	0.08	0.09	0.17	0.06	0.17	0.09	0.12	0.11	0.13	0.09	0.13	0.07	0.07	0.06

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 6-1
 QUESTION 4D:
 If this concept was introduced, how likely would you be to:

CHANGE THE TIME YOU DRIVE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	460 100%	226 100%	164 100%	10 100%	106 100%	204 100%	159 100%	49 100%	307 100%	59 100%	142 100%	89 100%	125 100%	79 100%	178 100%	69 100%	346 100%	283 100%	385 100%	
TOP 2 BOX -----	138 30%	72 32%	49 30%	3 30%	40 38%	64 31%	42 26%	18 37%	101 33%	16 27%	52 37%	23 26%	35 28%	22 28%	65 37%	17 25%	94 27%	89 31%	118 31%	
4 - VERY LIKELY	41 9%	21 9%	14 9%	1 10%	14 13%	21 10%	10 6%	7 14%	29 9%	5 8%	14 10%	6 7%	14 11%	7 9%	20 11%	5 7%	32 9%	27 10%	35 9%	
3 - LIKELY	97 21%	51 23%	35 21%	2 20%	26 25%	43 21%	32 20%	11 22%	72 23%	11 19%	38 27%	17 19%	21 17%	15 19%	45 25%	12 17%	62 18%	62 22%	83 22%	
BOTTOM 2 BOX -----	279 61%	136 60%	96 59%	6 60%	58 55%	119 58%	100 63%	27 55%	176 57%	40 68%	81 57%	61 69%	70 56%	49 62%	100 56%	50 72%	217 63%	170 60%	226 59%	
2 - UNLIKELY	114 25%	57 25%	47 29%	1 10%	24 23%	46 23%	45 28%	12 24%	86 28%	10 17%	33 23%	27 30%	25 20%	22 28%	43 24%	23 33%	86 25%	73 26%	99 26%	
1 - VERY UNLIKELY	165 36%	79 35%	49 30%	5 50%	34 32%	73 36%	55 35%	15 31%	90 29%	30 51%	48 34%	34 38%	45 36%	27 34%	57 32%	27 39%	131 38%	97 34%	127 33%	
DON'T KNOW	14 3%	5 2%	6 4%	- -	1 1%	8 4%	5 3%	- -	9 3%	1 2%	3 2%	3 3%	4 3%	4 5%	4 2%	- -	11 3%	10 4%	13 3%	
NOT APPLICABLE	29 6%	13 6%	13 8%	1 10%	7 7%	13 6%	12 8%	4 8%	21 7%	2 3%	6 4%	2 2%	16 13%	4 5%	9 5%	2 3%	24 7%	14 5%	28 7%	
MEAN	2.03	2.07	2.10	1.89	2.20	2.07	1.98	2.22	2.14 J	1.84	2.14	1.94	2.04	2.03	2.17	1.93	1.98	2.07	2.08	
MEDIAN	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	
STANDARD DEVIATION	1.01	1.01	0.98	1.10	1.07	1.04	0.95	1.07	0.99	1.03	1.02	0.94	1.08	0.99	1.04	0.94	1.02	1.01	1.01	
STANDARD ERROR	0.05	0.07	0.08	0.37	0.11	0.08	0.08	0.16	0.06	0.14	0.09	0.10	0.11	0.12	0.08	0.11	0.06	0.06	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 7-1
QUESTION 4E:
If this concept was introduced, how likely would you be to:

RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	457 100%	226 100%	161 100%	10 100%	107 100%	203 100%	157 100%	50 100%	306 100%	57 100%	143 100%	88 100%	123 100%	79 100%	178 100%	68 100%	344 100%	282 100%	384 100%	
TOP 2 BOX -----	66 14%	37 16%	19 12%	3 30%	15 14%	35 17% H	18 11%	4 8%	48 16%	10 18%	49 34% LMN	8 9% M	3 2%	5 6%	51 29% P	6 9%	41 12%	37 13%	57 15%	
4 - VERY LIKELY	41 9%	21 9%	12 7%	2 20%	8 7%	21 10% H	12 8%	1 2%	29 9%	6 11%	29 20% LMN	4 5%	2 2%	5 6%	31 17% P	3 4%	27 8%	22 8%	35 9%	
3 - LIKELY	25 5%	16 7%	7 4%	1 10%	7 7%	14 7%	6 4%	3 6%	19 6%	4 7%	20 14% LMN	4 5% N	1 1%	- -	20 11% P	3 4%	14 4%	15 5%	22 6%	
BOTTOM 2 BOX -----	337 74%	162 72%	120 75%	6 60%	86 80%	148 73%	112 71%	41 82%	221 72%	42 74%	84 59% K	70 80% K	100 81% K	65 82% K	109 61% O	54 79% O	256 74%	214 76%	280 73%	
2 - UNLIKELY	68 15%	38 17% D	25 16% D	- -	13 12%	26 13%	26 17%	4 8%	53 17%	9 16%	23 16%	17 19%	18 15%	9 11%	28 16%	14 21%	47 14%	48 17%	59 15%	
1 - VERY UNLIKELY	269 59%	124 55%	95 59%	6 60%	73 68% G	122 60%	86 55%	37 74% G	168 55%	33 58%	61 43% K	53 60% K	82 67% K	56 71% K	81 46% K	40 59%	209 61%	166 59%	221 58%	
DON'T KNOW	7 2%	5 2% D	1 1%	- -	- -	4 2% EH	3 2%	- -	6 2% J	- -	3 2%	- -	2 2%	1 1%	5 3% P	- -	5 1%	4 1%	7 2%	
NOT APPLICABLE	47 10%	22 10%	21 13%	1 10%	6 6%	16 8%	24 15% EF	5 10%	31 10%	5 9%	7 5%	10 11%	18 15% K	8 10%	13 7%	8 12%	42 12%	27 10%	40 10%	
MEAN	1.60	1.67	1.54	1.89	1.50	1.64 H	1.57 H	1.29	1.66	1.67	2.13 LMN	1.47 M	1.25	1.34	2.01 P	1.48	1.53	1.57	1.62	
MEDIAN	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	
STANDARD DEVIATION	0.99	1.01	0.93	1.29	0.93	1.04	0.94	0.69	1.01	1.03	1.21	0.81	0.57	0.81	1.19	0.81	0.94	0.94	0.99	
STANDARD ERROR	0.05	0.07	0.08	0.43	0.09	0.08	0.08	0.10	0.06	0.14	0.10	0.09	0.06	0.10	0.09	0.10	0.05	0.06	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 8-1
 QUESTION 4F:
 If this concept was introduced, how likely would you be to:

CARPPOOL TO AVOID PAYING THE TOLL

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	456 100%	225 100%	162 100%	10 100%	105 100%	202 100%	157 100%	48 100%	305 100%	58 100%	140 100%	87 100%	124 100%	80 100%	175 100%	67 100%	343 100%	280 100%	381 100%
TOP 2 BOX -----	60 13%	32 14%	23 14%	1 10%	14 13% H	31 15% H	14 9%	2 4%	46 15%	6 10%	25 18% M	13 15%	9 7%	11 14%	28 16%	12 18%	44 13%	37 13%	52 14%
4 - VERY LIKELY	28 6%	13 6%	11 7%	1 10%	7 7%	16 8%	6 4%	2 4%	20 7%	2 3%	13 9% M	5 6%	3 2%	6 8%	15 9%	4 6%	21 6%	17 6%	23 6%
3 - LIKELY	32 7%	19 8% D	12 7% D	- -	7 7% H	15 7% H	8 5% H	- -	26 9%	4 7%	12 9%	8 9%	6 5%	5 6%	13 7%	8 12%	23 7%	20 7%	29 8%
BOTTOM 2 BOX -----	325 71%	152 68%	117 72%	7 70%	78 74%	140 69%	113 72%	37 77%	209 69%	45 78%	94 67%	62 71%	92 74%	59 74%	118 67%	47 70%	245 71%	202 72%	266 70%
2 - UNLIKELY	74 16%	33 15%	36 22%	1 10%	16 15%	28 14%	26 17%	4 8%	55 18%	12 21%	28 20% N	18 21% N	21 17% N	5 6%	29 17%	14 21%	53 15%	49 18%	66 17%
1 - VERY UNLIKELY	251 55%	119 53%	81 50%	6 60%	62 59%	112 55%	87 55%	33 69%	154 50%	33 57%	66 47%	44 51%	71 57%	54 68% KL	89 51%	33 49%	192 56%	153 55%	200 52%
DON'T KNOW	15 3%	11 5% D	3 2%	- -	2 2%	8 4%	6 4%	1 2%	13 4% J	- -	7 5%	1 1%	4 3%	2 3%	8 5% P	- -	9 3%	9 3%	15 4%
NOT APPLICABLE	56 12%	30 13%	19 12%	2 20%	11 10%	23 11%	24 15%	8 17%	37 12%	7 12%	14 10%	11 13%	19 15%	8 10%	21 12%	8 12%	45 13%	32 11%	48 13%
MEAN	1.58	1.60	1.66	1.50	1.55 H	1.62 H	1.47	1.26	1.65	1.51	1.76 M	1.65	1.42	1.47	1.68	1.71	1.56	1.59	1.61
MEDIAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
STANDARD DEVITAION	0.92	0.93	0.93	1.00	0.93	0.99	0.81	0.71	0.95	0.80	1.02	0.92	0.73	0.95	1.01	0.94	0.92	0.91	0.92
STANDARD ERROR	0.05	0.07	0.08	0.35	0.10	0.08	0.07	0.11	0.06	0.11	0.09	0.11	0.07	0.11	0.08	0.12	0.05	0.06	0.05

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 9-1
 QUESTION 4 (A-F):
 If this concept was introduced, how likely would you be to:

SUMMARY OF TOP 2 BOX

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=ANSWERING (VARIED BASES)																			
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	151 33%	79 35% D	58 35% D	- -	30 28%	75 37% H	53 33%	11 22%	118 38%	16 28%	67 46% LM	25 28%	25 20%	28 35% M	77 43% P	20 29%	110 32%	100 35%	134 35%
DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL	268 59%	146 65% C	88 54%	5 50%	74 70% G	124 61% G	76 48%	33 67% G	178 58%	38 66%	84 60%	54 61%	67 54%	50 63%	108 62%	42 62%	206 60%	161 58%	214 56%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	221 48%	96 43%	89 55% B	6 60%	45 42%	95 48%	84 53%	22 45%	151 50%	29 50%	66 47%	44 50%	61 49%	41 53%	79 45%	34 50%	172 50%	134 48%	180 47%
CHANGE THE TIME YOU DRIVE	138 30%	72 32%	49 30%	3 30%	40 38%	64 31%	42 26%	18 37%	101 33%	16 27%	52 37%	23 26%	35 28%	22 28%	65 37%	17 25%	94 27%	89 31%	118 31%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	66 14%	37 16%	19 12%	3 30%	15 14%	35 17% H	18 11%	4 8%	48 16%	10 18%	49 34% LMN	8 9% M	3 2%	5 6%	51 29% P	6 9%	41 12%	37 13%	57 15%
CARPPOOL TO AVOID PAYING THE TOLL	60 13%	32 14%	23 14%	1 10%	14 13% H	31 15% H	14 9%	2 4%	46 15%	6 10%	25 18% M	13 15%	9 7%	11 14%	28 16%	12 18%	44 13%	37 13%	52 14%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 10-1
 QUESTION 4 (A-F):
 If this concept was introduced, how likely would you be to:

SUMMARY OF BOTTOM 2 BOX

BANNER 1

	GENDER				AGE				ETHNICITY		COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=ANSWERING (VARIED BASES)																			
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	267 58%	127 56%	89 54%	9 90% BC	68 64%	110 54%	90 56%	35 70% F	161 52%	38 66%	70 48%	57 65% K	80 65% K	42 53%	89 50%	46 68% O	201 58%	163 57%	209 54%
DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL	140 31%	57 26%	54 33%	4 40%	21 20%	55 27%	63 40% EFH	11 22%	95 31%	15 26%	48 34%	28 32%	35 28%	21 27%	53 30%	23 34%	100 29%	91 33%	121 32%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	185 41%	99 44%	58 36%	3 30%	50 47% G	83 42%	56 35%	22 45%	123 40%	21 36%	61 43%	35 40%	44 35%	30 38%	76 44%	29 43%	132 38%	118 42%	153 40%
CHANGE THE TIME YOU DRIVE	279 61%	136 60%	96 59%	6 60%	58 55%	119 58%	100 63%	27 55%	176 57%	40 68%	81 57%	61 69%	70 56%	49 62%	100 56%	50 72% O	217 63%	170 60%	226 59%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	337 74%	162 72%	120 75%	6 60%	86 80%	148 73%	112 71%	41 82%	221 72%	42 74%	84 59%	70 80% K	100 81% K	65 82% K	109 61%	54 79% O	256 74%	214 76%	280 73%
CARPOOL TO AVOID PAYING THE TOLL	325 71%	152 68%	117 72%	7 70%	78 74%	140 69%	113 72%	37 77%	209 69%	45 78%	94 67%	62 71%	92 74%	59 74%	118 67%	47 70%	245 71%	202 72%	266 70%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 11-1
 QUESTION 4 (A-F):
 If this concept was introduced, how likely would you be to:

SUMMARY OF MEANS

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	2.09	2.18 D	2.15 D	1.22	1.94	2.17	2.15	1.80	2.26 J	1.87	2.43 LM	1.98	1.74	2.19 M	2.35 P	1.95	2.06	2.14	2.17
DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL	2.80	2.91	2.70	2.78	2.99 G	2.82	2.63	2.89	2.74	2.96	2.64	2.91	2.77	2.94 K	2.74	2.95	2.84	2.74	2.75
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	2.60	2.51	2.73	3.00	2.42	2.60	2.74 E	2.50	2.62	2.68	2.59	2.56	2.67	2.68	2.55	2.51	2.67	2.58	2.58
CHANGE THE TIME YOU DRIVE	2.03	2.07	2.10	1.89	2.20	2.07	1.98	2.22	2.14 J	1.84	2.14	1.94	2.04	2.03	2.17	1.93	1.98	2.07	2.08
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	1.60	1.67	1.54	1.89	1.50	1.64 H	1.57 H	1.29	1.66	1.67	2.13 LMN	1.47 M	1.25	1.34	2.01 P	1.48	1.53	1.57	1.62
CARPOL TO AVOID PAYING THE TOLL	1.58	1.60	1.66	1.50	1.55 H	1.62 H	1.47	1.26	1.65	1.51	1.76 M	1.65	1.42	1.47	1.68	1.71	1.56	1.59	1.61

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 12-1
 QUESTION 5:
 The community has identified the following concerns about implementing congestion pricing. Which do you feel is most important to address if this concept was implemented?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	458 100%	223 100%	165 100%	10 100%	106 100%	204 100%	159 100%	51 100%	307 100%	58 100%	147 100%	87 100%	119 100%	80 100%	180 100%	67 100%	341 100%	285 100%	384 100%
SET PERFORMANCE MEASURES TO ENSURE TRAFFIC CONGESTION IS REDUCED	251 55%	121 54%	94 57%	4 40%	55 52%	104 51%	98 62%	28 55%	174 57%	28 48%	68 46%	48 55%	74 62%	48 60%	86 48%	39 58%	195 57%	155 54%	214 56%
DESIGN THE PROJECT TO MINIMIZE THE IMPACT ON PEOPLE OF LOW INCOME OR OTHERWISE DISADVANTAGED	228 50%	116 52%	84 51%	4 40%	63 59%	102 50%	67 42%	25 49%	162 53%	27 47%	85 58%	49 56%	49 41%	36 45%	96 53%	35 52%	162 48%	141 49%	196 51%
MINIMIZE TRAFFIC DIVERSION TO LOCAL STREETS	188 41%	91 41%	72 44%	1 10%	36 34%	85 42%	68 43%	17 33%	136 44%	22 38%	74 50%	18 21%	53 45%	34 43%	90 50%	16 24%	143 42%	116 41%	167 43%
PROVIDE ALTERNATIVE DRIVING ROUTES	170 37%	82 37%	60 36%	8 80%	33 31%	73 36%	68 43%	19 37%	98 32%	29 50%	35 24%	39 45%	54 45%	32 40%	45 25%	30 45%	135 40%	106 37%	134 35%
MAKE SURE REVENUE IS USED FAIRLY	155 34%	70 31%	55 33%	4 40%	41 39%	66 32%	48 30%	16 31%	106 35%	13 22%	42 29%	42 48%	41 34%	20 25%	56 31%	30 45%	113 33%	94 33%	129 34%
MAKE THE PRICING SYSTEM EASY TO UNDERSTAND AND USE	132 29%	65 29%	55 33%	- -	26 25%	66 32%	47 30%	16 31%	100 33%	14 24%	46 31%	18 21%	32 27%	29 36%	56 31%	12 18%	96 28%	85 30%	118 31%
PROVIDE MORE TRANSIT, BIKE AND WALKING OPTIONS	107 23%	62 28%	31 19%	2 20%	23 22%	61 30%	25 16%	6 12%	79 26%	14 24%	59 40%	11 13%	16 13%	16 20%	68 38%	11 16%	68 20%	70 25%	92 24%
OTHER	141 31%	62 28%	42 25%	7 70%	41 39%	55 27%	56 35%	26 51%	64 21%	27 47%	30 20%	36 41%	38 32%	25 31%	41 23%	28 42%	109 32%	86 30%	100 26%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 13-1
QUESTION 6:
How frequently do you drive on any portion of the highway in this area?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	475 100%	234 100%	168 100%	10 100%	111 100%	210 100%	164 100%	54 100%	319 100%	58 100%	152 100%	91 100%	125 100%	82 100%	187 100%	69 100%	355 100%	293 100%	400 100%
REGULARLY -----	203 43%	98 42%	70 42%	5 50%	45 41% H	76 36% H	75 46% H	9 17%	126 39%	33 57% I	92 61% LMN	39 43% M	29 23%	37 45% M	104 56%	34 49%	203 57% RS	77 26%	158 40% R
EVERY DAY	78 16%	44 19%	22 13%	2 20%	16 14% H	31 15% H	29 18% H	3 6%	42 13%	20 34% I	32 21% M	18 20% M	8 6%	18 22% M	37 20%	15 22%	78 22% RS	27 9%	64 16% R
SEVERAL TIME A WEEK	125 26%	54 23%	40 29%	3 30%	29 26% H	45 21% H	46 28% H	6 11%	84 26%	13 22%	60 39% LMN	21 23%	21 17%	19 23%	67 36%	19 28%	125 35% RS	50 17%	94 24% R
OCCASIONALLY -----	157 33%	88 38%	48 29%	4 40%	36 32%	78 37%	56 34%	27 50% EG	106 33%	16 28%	35 23%	34 37% K	49 39% K	26 32%	56 30%	20 29%	87 25%	157 54% QS	127 32% Q
SEVERAL TIMES A MONTH	157 33%	88 38%	48 29%	4 40%	36 32%	78 37%	56 34%	27 50% EG	106 33%	16 28%	35 23%	34 37% K	49 39% K	26 32%	56 30%	20 29%	87 25%	157 54% QS	127 32% Q
RARELY/NEVER -----	115 24%	48 21%	50 30% B	1 10%	30 27%	56 27%	33 20%	18 33%	87 27% J	9 16%	25 16%	18 20%	47 38% KLN	19 23%	27 14%	15 22%	65 18%	59 20%	115 29% QR
RARELY	106 22%	43 18%	49 29% B	1 10%	25 23%	55 26%	33 20%	18 33%	81 25% J	8 14%	23 15%	15 16%	44 35% KLN	18 22%	25 13%	12 17%	60 17%	58 20%	106 27% QR
NEVER	9 2%	5 2% D	1 1%	-	5 5% FGH	1 -	-	-	6 2%	1 2%	2 1%	3 3%	3 2%	1 1%	2 1%	3 4%	5 1%	1 -	9 2% R
MEAN	2.67	2.62	2.76	2.40	2.77	2.76	2.57	3.11 EFG	2.76 J	2.26	2.36	2.60	3.10 KLN	2.57	2.40	2.55	2.41	2.85 Q	2.76 Q
MEDIAN	3.00	3.00	3.00	2.50	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00	3.00
STANDARD DEVIATION	1.05	1.05	1.03	0.92	1.09	1.01	1.00	0.81	1.03	1.12	1.02	1.08	0.93	1.09	0.98	1.14	1.05	0.85	1.08
STANDARD ERROR	0.05	0.07	0.08	0.29	0.10	0.07	0.08	0.11	0.06	0.15	0.08	0.11	0.08	0.12	0.07	0.14	0.06	0.05	0.05

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 14-1
QUESTION 7:

Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	474 100%	233 100%	168 100%	10 100%	111 100%	211 100%	163 100%	54 100%	319 100%	58 100%	152 100%	91 100%	125 100%	82 100%	188 100%	69 100%	355 100%	293 100%	399 100%
YES	303 64%	146 63%	113 67%	7 70%	64 58%	135 64%	111 68%	32 59%	220 69%	28 48%	113 74%	55 60%	69 55%	51 62%	136 72%	41 59%	223 63%	201 69%	266 67%
NO	149 31%	79 34%	47 28%	2 20%	40 36%	67 32%	48 29%	20 37%	83 26%	28 48%	35 23%	31 34%	45 36%	29 35%	47 25%	23 33%	117 33%	85 29%	112 28%
I DON'T DRIVE THIS SECTION	22 5%	8 3%	8 5%	1 10%	7 6%	9 4%	4 2%	2 4%	16 5%	2 3%	4 3%	5 5%	11 9%	2 2%	5 3%	5 7%	15 4%	7 2%	21 5%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 15-1
 QUESTION 8A:
 If this concept was introduced, how likely would you be to:

PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	466 100%	232 100%	164 100%	10 100%	110 100%	208 100%	160 100%	53 100%	314 100%	58 100%	149 100%	90 100%	123 100%	80 100%	183 100%	68 100%	350 100%	289 100%	391 100%	
TOP 2 BOX -----	165 35%	90 39% D	59 36% D	1 10%	35 32%	76 37%	63 39%	14 26%	131 42% J	13 22%	72 48% LMN	28 31%	30 24%	28 35%	84 46% P	22 32%	126 36%	104 36%	149 38%	
4 - VERY LIKELY	76 16%	43 19% D	25 15% D	- -	14 13%	32 15%	35 22% E	6 11%	62 20% J	6 10%	34 23% M	12 13%	12 10%	15 19%	39 21% P	9 13%	54 15%	48 17%	70 18%	
3 - LIKELY	89 19%	47 20%	34 21%	1 10%	21 19%	44 21%	28 18%	8 15%	69 22% J	7 12%	38 26% M	16 18%	18 15%	13 16%	45 25% P	13 19%	72 21%	56 19%	79 20%	
BOTTOM 2 BOX -----	268 58%	126 54%	92 56%	9 90% BC	68 62%	114 55%	90 56%	37 70% F	157 50% I	43 74% I	71 48% K	54 60%	81 66% K	45 56%	92 50% P	40 59%	203 58%	168 58%	209 53%	
2 - UNLIKELY	83 18%	40 17%	34 21%	2 20%	17 15%	39 19%	26 16%	10 19%	61 19%	12 21%	31 21%	14 16%	19 15%	15 19%	36 20% P	7 10%	56 16%	54 19%	75 19%	
1 - VERY UNLIKELY	185 40%	86 37%	58 35%	7 70% BC	51 46%	75 36%	64 40%	27 51%	96 31% I	31 53% I	40 27% K	40 44% K	62 50% K	30 38%	56 31% O	33 49% O	147 42% S	114 39%	134 34%	
DON'T KNOW	22 5%	9 4% D	10 6% D	- -	2 2%	14 7% E	6 4%	1 2%	17 5%	1 2%	3 2%	6 7%	8 7%	5 6%	4 2%	4 6%	16 5%	14 5%	22 6%	
NOT APPLICABLE	11 2%	7 3% D	3 2%	- -	5 5%	4 2%	1 1%	1 2%	9 3%	1 2%	3 2%	2 2%	4 3%	2 3%	3 2%	2 3%	5 1%	3 1%	11 3%	
MEAN	2.13	2.22 D	2.17 D	1.40	1.98	2.17	2.22	1.86	2.34 J	1.79	2.46 LM	2.00	1.82	2.18 M	2.38 P	1.97	2.10	2.14	2.24	
MEDIAN	2	2	2	1	2	2	2	1	2	1	3	2	1	2	2	1	2	2	2	
STANDARD DEVIATION	1.15	1.17	1.11	0.66	1.11	1.13	1.21	1.07	1.15	1.03	1.13	1.13	1.06	1.17	1.15	1.15	1.15	1.15	1.15	
STANDARD ERROR	0.06	0.08	0.09	0.21	0.11	0.08	0.10	0.15	0.07	0.14	0.09	0.12	0.10	0.14	0.09	0.15	0.06	0.07	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 16-1
 QUESTION 8B:
 If this concept was introduced, how likely would you be to:

DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	466 100%	231 100%	165 100%	10 100%	108 100%	208 100%	162 100%	53 100%	314 100%	58 100%	148 100%	90 100%	123 100%	81 100%	182 100%	68 100%	350 100%	287 100%	391 100%
TOP 2 BOX -----	312 67%	141 61%	120 73% B	8 80%	70 65%	142 68%	103 64%	34 64%	206 66%	41 71%	97 66%	55 61%	89 72%	54 67%	120 66%	41 60%	240 69%	196 68%	261 67%
4 - VERY LIKELY	161 35%	66 29%	62 38%	7 70% BC	41 38%	71 34%	48 30%	16 30%	94 30%	29 50% I	54 36%	25 28%	44 36%	29 36%	67 37%	17 25%	132 38%	101 35%	123 31%
3 - LIKELY	151 32%	75 32% D	58 35% D	1 10%	29 27%	71 34%	55 34%	18 34%	112 36% J	12 21%	43 29%	30 33%	45 37%	25 31%	53 29%	24 35%	108 31%	95 33%	138 35%
BOTTOM 2 BOX -----	134 29%	78 34% C	39 24%	2 20%	32 30%	57 27%	55 34%	18 34%	92 29%	17 29%	47 32% M	30 33% M	25 20%	25 31%	57 31%	24 35%	96 27%	83 29%	110 28%
2 - UNLIKELY	70 15%	40 17% D	22 13% D	- -	11 10%	32 15%	28 17%	7 13%	55 18% J	3 5%	27 18% M	15 17%	10 8%	14 17%	33 18%	10 15%	45 13%	45 16%	61 16%
1 - VERY UNLIKELY	64 14%	38 16%	17 10%	2 20%	21 19%	25 12%	27 17%	11 21%	37 12%	14 24% I	20 14%	15 17%	15 12%	11 14%	24 13%	14 21%	51 15%	38 13%	49 13%
DON'T KNOW	10 2%	6 3% D	3 2%	- -	1 1%	5 2% H	4 2% H	- -	8 3% J	- -	1 1%	3 3%	5 4%	1 1%	2 1%	1 1%	8 2%	6 2%	10 3%
NOT APPLICABLE	10 2%	6 3% D	3 2%	- -	5 5% G	4 2% G	- -	1 2%	8 3% J	- -	3 2%	2 2%	4 3%	1 1%	3 2%	2 3%	6 2%	2 1%	10 3% R
MEAN	2.92	2.77	3.04 B	3.30	2.88	2.94	2.78	2.75	2.88	2.97	2.91	2.76	3.04	2.91	2.92	2.68	2.96	2.93	2.90
MEDIAN	3	3	3	4	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3
STANDARD DEVIATION	1.04	1.06	0.98	1.19	1.15	1.01	1.06	1.11	0.99	1.23	1.05	1.06	1.00	1.05	1.05	1.08	1.06	1.03	1.01
STANDARD ERROR	0.05	0.07	0.08	0.38	0.11	0.07	0.08	0.15	0.06	0.16	0.09	0.11	0.09	0.12	0.08	0.13	0.06	0.06	0.05

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 17-1
 QUESTION 8C:
 If this concept was introduced, how likely would you be to:

CHANGE THE TIME YOU DRIVE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	467 100%	231 100%	165 100%	10 100%	109 100%	209 100%	162 100%	53 100%	315 100%	58 100%	148 100%	90 100%	124 100%	81 100%	183 100%	68 100%	351 100%	288 100%	392 100%	
TOP 2 BOX -----	153 33%	83 36%	52 32%	4 40%	40 37%	68 33%	51 31%	18 34%	121 38% J	10 17%	59 40% N	30 33%	37 30%	22 27%	68 37%	22 32%	107 30%	98 34%	133 34%	
4 - VERY LIKELY	50 11%	23 10%	20 12%	1 10%	21 19% G	26 12%	12 7%	11 21% G	44 14% J	1 2%	21 14% L	5 6%	14 11%	10 12%	23 13%	4 6%	38 11%	32 11%	42 11%	
3 - LIKELY	103 22%	60 26%	32 19%	3 30%	19 17%	42 20%	39 24%	7 13%	77 24%	9 16%	38 26% N	25 28% N	23 19%	12 15%	45 25%	18 26%	69 20%	66 23%	91 23%	
BOTTOM 2 BOX -----	286 61%	134 58%	101 61%	6 60%	62 57%	128 61%	105 65%	34 64%	172 55%	45 78% I	82 55%	54 60%	76 61%	55 68%	106 58%	43 63%	225 64%	178 62%	233 59%	
2 - UNLIKELY	118 25%	55 24%	48 29%	1 10%	21 19%	52 25%	47 29%	13 25%	80 25%	15 26%	33 22%	22 24%	32 26%	24 30%	45 25%	17 25%	82 23%	86 30%	104 27%	
1 - VERY UNLIKELY	168 36%	79 34%	53 32%	5 50%	41 38%	76 36%	58 36%	21 40%	92 29%	30 52% I	49 33%	32 36%	44 35%	31 38%	61 33%	26 38%	143 41% RS	92 32%	129 33%	
DON'T KNOW	17 4%	8 3% D	8 5% D	- -	2 2%	9 4% H	5 3% H	- -	13 4%	2 3%	5 3%	3 3%	6 5%	3 4%	7 4% P	- -	13 4%	10 3%	16 4%	
NOT APPLICABLE	11 2%	6 3% D	4 2% D	- -	5 5%	4 2%	1 1%	1 2%	9 3%	1 2%	2 1%	3 3%	5 4%	1 1%	2 1%	3 4%	6 2%	2 1%	10 3% R	
MEAN	2.08	2.12	2.12	2.00	2.20	2.09	2.03	2.15	2.25 J	1.65	2.22	2.04	2.06	2.01	2.17	2.00	2.01	2.14	2.13	
MEDIAN	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	
STANDARD DEVIATION	1.03	1.02	1.03	1.10	1.17	1.06	0.96	1.17	1.06	0.81	1.08	0.96	1.04	1.04	1.05	0.96	1.05	1.01	1.02	
STANDARD ERROR	0.05	0.07	0.08	0.35	0.12	0.08	0.08	0.16	0.06	0.11	0.09	0.10	0.10	0.12	0.08	0.12	0.06	0.06	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 18-1
 QUESTION 8D:
 If this concept was introduced, how likely would you be to:

RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	464 100%	231 100%	163 100%	10 100%	108 100%	207 100%	160 100%	52 100%	312 100%	58 100%	149 100%	90 100%	123 100%	78 100%	183 100%	68 100%	348 100%	288 100%	389 100%
TOP 2 BOX -----	92 20%	53 23%	28 17%	3 30%	20 19% H	50 24% GH	23 14%	4 8%	74 24%	10 17%	66 44% LMN	11 12% M	5 4%	9 12%	72 39% P	9 13%	55 16%	60 21%	82 21%
4 - VERY LIKELY	53 11%	31 13%	13 8%	2 20%	12 11%	31 15% GH	11 7%	3 6%	42 13%	5 9%	38 26% LMN	4 4%	3 2%	7 9%	42 23% P	3 4%	31 9%	33 11%	47 12%
3 - LIKELY	39 8%	22 10%	15 9%	1 10%	8 7%	19 9% H	12 8% H	1 2%	32 10%	5 9%	28 19% LMN	7 8% M	2 2%	2 3%	30 16% O	6 9%	24 7%	27 9%	35 9%
BOTTOM 2 BOX -----	336 72%	158 68%	123 75%	7 70%	82 76%	144 70%	123 77%	45 87% F	213 68%	45 78%	77 52%	72 80% K	103 84% K	63 81% K	100 55% O	53 78% O	264 76%	208 72%	277 71%
2 - UNLIKELY	62 13%	31 13% D	27 17% D	- -	15 14%	20 10%	28 18% F	5 10%	50 16%	6 10%	17 11%	17 19%	17 14%	10 13%	22 12%	13 19%	46 13%	43 15%	58 15%
1 - VERY UNLIKELY	274 59%	127 55%	96 59%	7 70%	67 62%	124 60%	95 59%	40 77% EFG	163 52%	39 67% I	60 40%	55 61% K	86 70% K	53 68% K	78 43% O	40 59% O	218 63%	165 57%	219 56%
DON'T KNOW	8 2%	5 2% D	2 1%	- -	- -	4 2% EH	4 3% EH	- -	7 2% J	- -	3 2%	- -	4 3% L	1 1% P	4 2% P	- -	6 2%	5 2%	8 2%
NOT APPLICABLE	28 6%	15 6% D	10 6% D	- -	6 6%	9 4%	10 6%	3 6%	18 6%	3 5%	3 2%	7 8%	11 9% K	5 6%	7 4%	6 9%	23 7%	15 5%	22 6%
MEAN	1.70	1.80	1.64	1.80	1.66 H	1.78 H	1.58	1.33	1.84	1.56	2.31 LMN	1.52 M	1.28	1.49	2.21 P	1.55	1.59	1.73	1.75 Q
MEDIAN	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1
STANDARD DEVIATION	1.07	1.12	0.97	1.25	1.04	1.15	0.93	0.79	1.11	0.99	1.26	0.84	0.64	0.94	1.25	0.86	0.99	1.07	1.08
STANDARD ERROR	0.05	0.08	0.08	0.39	0.10	0.08	0.08	0.11	0.07	0.13	0.11	0.09	0.06	0.11	0.10	0.11	0.06	0.07	0.06

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 19-1
 QUESTION 8E:
 If this concept was introduced, how likely would you be to:

CARPPOOL TO AVOID PAYING THE TOLL

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	464 100%	230 100%	164 100%	10 100%	109 100%	207 100%	160 100%	53 100%	312 100%	58 100%	148 100%	90 100%	122 100%	80 100%	182 100%	68 100%	348 100%	286 100%	389 100%
TOP 2 BOX -----	63 14%	37 16%	20 12%	1 10%	15 14% H	34 16% GH	14 9%	2 4%	53 17% J	3 5%	33 22% M	12 13%	8 7%	10 13%	36 20%	12 18%	44 13%	39 14%	55 14%
4 - VERY LIKELY	30 6%	18 8%	8 5%	1 10%	8 7%	19 9% GH	4 3%	1 2%	26 8% J	1 2%	15 10% M	4 4%	3 2%	8 10% M	18 10%	4 6%	20 6%	19 7%	27 7%
3 - LIKELY	33 7%	19 8% D	12 7% D	- -	7 6%	15 7% H	10 6%	1 2%	27 9%	2 3%	18 12% MN	8 9%	5 4%	2 3%	18 10%	8 12%	24 7%	20 7%	28 7%
BOTTOM 2 BOX -----	346 75%	164 71%	125 76%	8 80%	81 74%	147 71%	130 81% F	43 81%	221 71%	48 83% I	101 68%	64 71%	95 78%	65 81% K	127 70%	45 66%	264 76%	220 77%	287 74%
2 - UNLIKELY	74 16%	30 13%	38 23% B	1 10%	16 15%	28 14% H	25 16% H	3 6%	54 17%	11 19%	35 24% MN	14 16%	16 13%	7 9%	38 21%	9 13%	52 15%	52 18%	69 18%
1 - VERY UNLIKELY	272 59%	134 58%	87 53%	7 70%	65 60%	119 57%	105 66%	40 75% EF	167 54%	37 64%	66 45%	50 56%	79 65% K	58 73% KL	89 49%	36 53%	212 61%	168 59%	218 56%
DON'T KNOW	13 3%	7 3% D	5 3% D	- -	1 1%	8 4%	4 3%	1 2%	11 4% J	- -	5 3%	1 1%	5 4%	1 1%	6 3% P	- -	9 3%	6 2%	13 3%
NOT APPLICABLE	42 9%	22 10%	14 9%	1 10%	12 11%	18 9%	12 8%	7 13%	27 9%	7 12%	9 6%	13 14% KN	14 11%	4 5%	13 7%	11 16%	31 9%	21 7%	34 9%
MEAN	1.56	1.61	1.59	1.44	1.56 H	1.64 GH	1.40 H	1.18	1.68 J	1.35	1.87 LMN	1.55	1.34	1.47	1.79	1.65	1.52	1.58	1.60
MEDIAN	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
STANDARD DEVIATION	0.92	0.98	0.86	0.96	0.94	1.01	0.74	0.57	0.99	0.65	1.03	0.88	0.70	0.97	1.03	0.96	0.89	0.92	0.94
STANDARD ERROR	0.05	0.07	0.07	0.32	0.10	0.08	0.06	0.08	0.06	0.09	0.09	0.10	0.07	0.11	0.08	0.13	0.05	0.06	0.05

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 20-1
 QUESTION 8 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF TOP 2 BOX

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=ANSWERING (VARIED BASES)																			
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	165 35%	90 39%	59 36%	1 10%	35 32%	76 37%	63 39%	14 26%	131 42%	13 22%	72 48%	28 31%	30 24%	28 35%	84 46%	22 32%	126 36%	104 36%	149 38%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	312 67%	141 61%	120 73%	8 80%	70 65%	142 68%	103 64%	34 64%	206 66%	41 71%	97 66%	55 61%	89 72%	54 67%	120 66%	41 60%	240 69%	196 68%	261 67%
CHANGE THE TIME YOU DRIVE	153 33%	83 36%	52 32%	4 40%	40 37%	68 33%	51 31%	18 34%	121 38%	10 17%	59 40%	30 33%	37 30%	22 27%	68 37%	22 32%	107 30%	98 34%	133 34%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	92 20%	53 23%	28 17%	3 30%	20 19%	50 24%	23 14%	4 8%	74 24%	10 17%	66 44%	11 12%	5 4%	9 12%	72 39%	9 13%	55 16%	60 21%	82 21%
CARPPOOL TO AVOID PAYING THE TOLL	63 14%	37 16%	20 12%	1 10%	15 14%	34 16%	14 9%	2 4%	53 17%	3 5%	33 22%	12 13%	8 7%	10 13%	36 20%	12 18%	44 13%	39 14%	55 14%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 21-1
 QUESTION 8 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF BOTTOM 2 BOX

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=ANSWERING (VARIED BASES)																				
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	268 58%	126 54%	92 56%	9 90% BC	68 62%	114 55%	90 56%	37 70% F	157 50%	43 74% I	71 48%	54 60%	81 66% K	45 56%	92 50%	40 59%	203 58%	168 58%	209 53%	
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	134 29%	78 34% C	39 24%	2 20%	32 30%	57 27%	55 34%	18 34%	92 29%	17 29%	47 32% M	30 33% M	25 20%	25 31%	57 31%	24 35%	96 27%	83 29%	110 28%	
CHANGE THE TIME YOU DRIVE	286 61%	134 58%	101 61%	6 60%	62 57%	128 61%	105 65%	34 64%	172 55%	45 78% I	82 55%	54 60%	76 61%	55 68%	106 58%	43 63%	225 64%	178 62%	233 59%	
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	336 72%	158 68%	123 75%	7 70%	82 76%	144 70%	123 77%	45 87% F	213 68%	45 78%	77 52%	72 80% K	103 84% K	63 81% K	100 55%	53 78% O	264 76%	208 72%	277 71%	
CARPPOOL TO AVOID PAYING THE TOLL	346 75%	164 71%	125 76%	8 80%	81 74%	147 71%	130 81% F	43 81%	221 71%	48 83% I	101 68%	64 71%	95 78%	65 81% K	127 70%	45 66%	264 76%	220 77%	287 74%	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 22-1
 QUESTION 8 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF MEANS

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	2.13	2.22 D	2.17 D	1.40	1.98	2.17	2.22	1.86	2.34 J	1.79	2.46 LM	2.00	1.82	2.18 M	2.38 P	1.97	2.10	2.14	2.24
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	2.92	2.77	3.04 B	3.30	2.88	2.94	2.78	2.75	2.88	2.97	2.91	2.76	3.04	2.91	2.92	2.68	2.96	2.93	2.90
CHANGE THE TIME YOU DRIVE	2.08	2.12	2.12	2.00	2.20	2.09	2.03	2.15	2.25 J	1.65	2.22	2.04	2.06	2.01	2.17	2.00	2.01	2.14	2.13
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	1.70	1.80	1.64	1.80	1.66 H	1.78 H	1.58	1.33	1.84	1.56	2.31 LMN	1.52 M	1.28	1.49	2.21 P	1.55	1.59	1.73	1.75 Q
CARPPOOL TO AVOID PAYING THE TOLL	1.56	1.61	1.59	1.44	1.56 H	1.64 GH	1.40 H	1.18	1.68 J	1.35	1.87 LMN	1.55	1.34	1.47	1.79	1.65	1.52	1.58	1.60

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 23-1
 QUESTION 9:
 The community has identified the following concerns about implementing congestion pricing. Which do you feel is most important to address if this concept was implemented?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	462 100%	224 100%	167 100%	10 100%	106 100%	209 100%	161 100%	53 100%	311 100%	58 100%	149 100%	88 100%	120 100%	81 100%	182 100%	66 100%	343 100%	287 100%	388 100%
SET PERFORMANCE MEASURES TO ENSURE TRAFFIC CONGESTION IS REDUCED	240 52%	116 52%	87 52%	4 40%	45 42%	102 49%	94 58%	24 45%	170 55%	24 41%	68 46%	44 50%	70 58%	47 58%	82 45%	35 53%	182 53%	147 51%	206 53%
DESIGN THE PROJECT TO MINIMIZE THE IMPACT ON PEOPLE OF LOW INCOME OR OTHERWISE DISADVANTAGED	231 50%	114 51%	89 53%	4 40%	63 59%	108 52%	70 43%	28 53%	163 52%	29 50%	87 58%	48 55%	52 43%	35 43%	98 54%	35 53%	165 48%	143 50%	198 51%
MINIMIZE TRAFFIC DIVERSION TO LOCAL STREETS	207 45%	96 43%	86 51%	1 10%	42 40%	99 47%	67 42%	19 36%	149 48%	23 40%	84 56%	19 22%	63 53%	31 38%	96 53%	15 23%	156 45%	127 44%	184 47%
PROVIDE ALTERNATIVE DRIVING ROUTES	179 39%	88 39%	64 38%	8 80%	37 35%	78 37%	69 43%	19 36%	107 34%	30 52%	39 26%	44 50%	50 42%	34 42%	53 29%	34 52%	138 40%	115 40%	142 37%
MAKE SURE REVENUE IS USED FAIRLY	155 34%	70 31%	56 34%	3 30%	38 36%	65 31%	52 32%	17 32%	106 34%	13 22%	37 25%	42 48%	41 34%	24 30%	50 27%	30 45%	114 33%	88 31%	129 33%
PROVIDE MORE TRANSIT, BIKE AND WALKING OPTIONS	120 26%	67 30%	35 21%	2 20%	26 25%	61 29%	35 22%	8 15%	85 27%	17 29%	69 46%	13 15%	15 13%	19 23%	79 43%	11 17%	80 23%	76 26%	101 26%
MAKE THE PRICING SYSTEM EASY TO UNDERSTAND AND USE	115 25%	59 26%	47 28%	- -	24 23%	54 26%	44 27%	15 28%	88 28%	13 22%	33 22%	22 25%	32 27%	24 30%	45 25%	14 21%	87 25%	79 28%	106 27%
OTHER	139 30%	62 28%	37 22%	8 80%	43 41%	60 29%	52 32%	29 55%	65 21%	25 43%	30 20%	32 36%	37 31%	29 36%	43 24%	24 36%	107 31%	86 30%	98 25%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 24-1
 QUESTION 10:
 How frequently do you drive on any portion of the highway in this area?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	474 100%	232 100%	168 100%	10 100%	109 100%	211 100%	164 100%	54 100%	318 100%	57 100%	151 100%	91 100%	127 100%	80 100%	186 100%	69 100%	355 100%	292 100%	400 100%	
REGULARLY -----	341 72%	156 67%	131 78%	7 70%	76 70%	138 65%	125 76%	30 56%	225 71%	43 75%	107 71%	61 67%	111 87%	50 63%	131 70%	46 67%	341 96%	179 61%	276 69%	
EVERY DAY	187 39%	90 39%	69 41%	4 40%	40 37%	78 37%	66 40%	12 22%	119 37%	31 54%	54 36%	32 35%	69 54%	27 34%	68 37%	25 36%	187 53%	91 31%	149 37%	
SEVERAL TIME A WEEK	154 32%	66 28%	62 37%	3 30%	36 33%	60 28%	59 36%	18 33%	106 33%	12 21%	53 35%	29 32%	42 33%	23 29%	63 34%	21 30%	154 43%	88 30%	127 32%	
OCCASIONALLY -----	109 23%	62 27%	31 18%	3 30%	27 25%	58 27%	35 21%	21 39%	78 25%	9 16%	33 22%	29 32%	15 12%	21 26%	42 23%	22 32%	12 3%	109 37%	100 25%	
SEVERAL TIMES A MONTH	109 23%	62 27%	31 18%	3 30%	27 25%	58 27%	35 21%	21 39%	78 25%	9 16%	33 22%	29 32%	15 12%	21 26%	42 23%	22 32%	12 3%	109 37%	100 25%	
RARELY/NEVER -----	24 5%	14 6%	6 4%	- -	6 6%	15 7%	4 2%	3 6%	15 5%	5 9%	11 7%	1 1%	1 1%	9 11%	13 7%	1 1%	2 1%	4 1%	24 6%	
RARELY	22 5%	12 5%	6 4%	- -	4 4%	15 7%	4 2%	3 6%	13 4%	5 9%	9 6%	1 1%	1 1%	9 11%	11 6%	1 1%	2 1%	4 1%	22 6%	
NEVER	2 -	2 1%	- -	- -	2 2%	- -	- -	- -	2 1%	- -	2 1%	- -	- -	- -	2 1%	- -	- -	- -	2 1%	
MEAN	1.94	2.01	1.85	1.90	2.01	2.05	1.86	2.28	1.97	1.79	2.02	1.99	1.59	2.15	2.01	1.99	1.52	2.09	2.00	
MEDIAN	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	
STANDARD DEVIATION	0.92	0.97	0.85	0.83	0.96	0.96	0.83	0.87	0.92	1.00	0.97	0.85	0.72	1.01	0.96	0.86	0.59	0.86	0.94	
STANDARD ERROR	0.04	0.06	0.07	0.26	0.09	0.07	0.07	0.12	0.05	0.13	0.08	0.09	0.06	0.11	0.07	0.10	0.03	0.05	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 25-1

QUESTION 11:
Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	472 100%	231 100%	167 100%	10 100%	109 100%	210 100%	163 100%	53 100%	318 100%	56 100%	151 100%	90 100%	126 100%	80 100%	187 100%	68 100%	354 100%	291 100%	397 100%
YES	324 69%	151 65%	128 77% B	7 70%	74 68%	151 72%	108 66%	39 74%	236 74% J	27 48%	117 77% L	48 53%	88 70% L	55 69% L	139 74% P	36 53%	245 69%	209 72%	281 71%
NO	145 31%	78 34% C	38 23%	3 30%	33 30%	58 28%	55 34%	14 26%	79 25%	29 52% I	31 21%	42 47% KMN	38 30%	25 31%	45 24%	32 47% O	108 31%	82 28%	113 28%
I DON'T DRIVE THIS SECTION	3 1%	2 1%	1 1%	- -	2 2%	1 -	- -	- -	3 1%	- -	3 2%	- -	- -	- -	3 2%	- -	1 -	- -	3 1%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 26-1
 QUESTION 12A:
 If this concept was introduced, how likely would you be to:

PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	470 100%	231 100%	166 100%	10 100%	109 100%	207 100%	163 100%	52 100%	315 100%	58 100%	151 100%	91 100%	125 100%	78 100%	185 100%	69 100%	354 100%	290 100%	394 100%	
TOP 2 BOX -----	188 40%	107 46% D	61 37% D	1 10%	40 37%	89 43%	70 43%	19 37%	151 48% J	13 22%	84 56% LM	31 34%	32 26%	33 42% M	97 52% P	24 35%	135 38%	120 41%	172 44%	
4 - VERY LIKELY	94 20%	54 23% D	30 18% D	- -	17 16%	44 21%	37 23%	7 13%	72 23%	10 17%	41 27% M	19 21% M	13 10%	17 22% M	45 24%	14 20%	64 18%	62 21%	84 21%	
3 - LIKELY	94 20%	53 23%	31 19%	1 10%	23 21%	45 22%	33 20%	12 23%	79 25% J	3 5%	43 28% LM	12 13%	19 15%	16 21%	52 28% P	10 14%	71 20%	58 20%	88 22%	
BOTTOM 2 BOX -----	251 53%	107 46%	94 57% B	9 90% BC	61 56%	104 50%	86 53%	32 62%	146 46%	36 62% I	62 41%	51 56% K	86 69% KN	36 46%	80 43%	39 57%	200 56% S	150 52%	193 49%	
2 - UNLIKELY	70 15%	27 12%	36 22% B	1 10%	15 14%	26 13%	23 14%	6 12%	52 17%	7 12%	25 17%	12 13%	22 18%	9 12%	30 16%	7 10%	53 15%	43 15%	61 15%	
1 - VERY UNLIKELY	181 39%	80 35%	58 35%	8 80% BC	46 42%	78 38%	63 39%	26 50%	94 30%	29 50% I	37 25%	39 43% K	64 51% KN	27 35%	50 27%	32 46% O	147 42% S	107 37%	132 34%	
DON'T KNOW	25 5%	14 6% D	9 5% D	- -	4 4%	13 6%	6 4%	1 2%	16 5%	5 9%	3 2%	6 7%	7 6%	8 10% K	5 3%	3 4%	17 5%	18 6%	24 6%	
NOT APPLICABLE	6 1%	3 1%	2 1%	- -	4 4% H	1 -	1 1%	- -	2 1%	4 7%	2 1%	3 3%	- -	1 1%	3 2%	3 4%	2 1%	2 1%	5 1%	
MEAN	2.23	2.38 D	2.21 D	1.30	2.11	2.28	2.28	2.00	2.43 J	1.88	2.60 LM	2.13	1.84	2.33 M	2.52 P	2.10	2.16	2.28	2.34 Q	
MEDIAN	2	3	2	1	2	2	2	1	3	1	3	2	1	2	3	1	2	2	2	
STANDARD DEVIATION	1.20	1.22	1.14	0.64	1.16	1.21	1.22	1.14	1.17	1.21	1.14	1.24	1.06	1.22	1.15	1.24	1.18	1.21	1.19	
STANDARD ERROR	0.06	0.08	0.09	0.20	0.12	0.09	0.10	0.16	0.07	0.17	0.09	0.14	0.10	0.15	0.09	0.16	0.06	0.07	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 27-1
 QUESTION 12B:
 If this concept was introduced, how likely would you be to:

DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	468 100%	229 100%	165 100%	10 100%	108 100%	206 100%	162 100%	51 100%	312 100%	58 100%	149 100%	90 100%	125 100%	80 100%	184 100%	68 100%	354 100%	287 100%	393 100%	
TOP 2 BOX -----	274 59%	114 50%	110 67% B	8 80% B	58 54%	122 59%	89 55%	27 53%	177 57%	32 55%	81 54% L	32 36%	92 74% KL	53 66% L	104 57% P	27 40%	220 62%	163 57%	222 56%	
4 - VERY LIKELY	156 33%	61 27%	61 37% B	8 80% BC	37 34%	70 34%	48 30%	16 31%	93 30%	25 43%	44 30% L	16 18%	59 47% KL	27 34% L	55 30%	15 22%	137 39% RS	89 31%	119 30%	
3 - LIKELY	118 25%	53 23% D	49 30% D	- -	21 19%	52 25%	41 25%	11 22%	84 27% J	7 12%	37 25%	16 18%	33 26% L	26 33% L	49 27%	12 18%	83 23%	74 26%	103 26%	
BOTTOM 2 BOX -----	168 36%	96 42% C	51 31%	2 20%	44 41%	73 35%	64 40%	23 45%	118 38%	21 36%	58 39% M	48 53% KMN	30 24%	26 33% L	68 37%	36 53% O	118 33%	109 38%	147 37%	
2 - UNLIKELY	79 17%	44 19%	30 18%	1 10%	14 13%	34 17%	34 21%	7 14%	66 21%	7 12%	31 21%	18 20%	16 13%	11 14%	36 20%	12 18%	55 16%	53 18%	70 18%	
1 - VERY UNLIKELY	89 19%	52 23% C	21 13%	1 10%	30 28%	39 19%	30 19%	16 31%	52 17%	14 24%	27 18%	30 33% KMN	14 11%	15 19%	32 17%	24 35% O	63 18%	56 20%	77 20%	
DON'T KNOW	13 3%	10 4% CD	2 1%	- -	- -	7 3% EH	5 3% EH	- -	10 3%	1 2%	6 4%	2 2%	3 2%	1 1%	8 4%	1 1%	8 2%	8 3%	12 3%	
NOT APPLICABLE	13 3%	9 4% D	2 1%	- -	6 6%	4 2%	4 2%	1 2%	7 2%	4 7%	4 3% MN	8 9% MN	- -	- -	4 2%	4 6%	8 2%	7 2%	12 3%	
MEAN	2.77	2.59	2.93 B	3.50 B	2.64	2.78	2.70	2.54	2.74	2.81	2.71 L	2.23	3.12 KL	2.82 L	2.74 P	2.29	2.87	2.72	2.72	
MEDIAN	3	3	3	4	3	3	3	3	3	3	3	2	3	3	3	2	3	3	3	
STANDARD DEVITAION	1.13	1.15	1.04	1.02	1.24	1.13	1.11	1.24	1.08	1.27	1.11	1.15	1.03	1.10	1.10	1.20	1.14	1.13	1.13	
STANDARD ERROR	0.05	0.08	0.08	0.32	0.12	0.08	0.09	0.17	0.06	0.18	0.09	0.13	0.09	0.12	0.08	0.15	0.06	0.07	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 28-1
 QUESTION 12C:
 If this concept was introduced, how likely would you be to:

CHANGE THE TIME YOU DRIVE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	470 100%	230 100%	166 100%	10 100%	110 100%	208 100%	162 100%	53 100%	314 100%	58 100%	150 100%	90 100%	126 100%	80 100%	186 100%	68 100%	355 100%	290 100%	394 100%	
TOP 2 BOX -----	149 32%	71 31%	56 34%	3 30%	46 42% G	67 32%	44 27%	20 38%	111 35%	14 24%	57 38%	24 27%	39 31%	23 29%	71 38%	18 26%	109 31%	95 33%	127 32%	
4 - VERY LIKELY	48 10%	22 10%	16 10%	1 10%	17 15%	21 10%	13 8%	9 17%	37 12% J	2 3%	20 13% L	5 6%	15 12%	6 8%	23 12%	4 6%	36 10%	37 13%	37 9%	
3 - LIKELY	101 21%	49 21%	40 24%	2 20%	29 26%	46 22%	31 19%	11 21%	74 24%	12 21%	37 25%	19 21%	24 19%	17 21%	48 26%	14 21%	73 21%	58 20%	90 23%	
BOTTOM 2 BOX -----	298 63%	146 63%	103 62%	7 70%	60 55%	132 63%	111 69% E	33 62%	189 60%	40 69%	83 55%	60 67%	83 66%	55 69% K	104 56% O	48 71% O	228 64%	182 63%	246 62%	
2 - UNLIKELY	112 24%	56 24%	45 27%	3 30%	16 15%	50 24% E	47 29% E	11 21%	88 28% J	6 10%	36 24%	21 23%	29 23%	22 28%	42 23%	17 25%	80 23%	76 26%	101 26%	
1 - VERY UNLIKELY	186 40%	90 39%	58 35%	4 40%	44 40%	82 39%	64 40%	22 42%	101 32%	34 59% I	47 31%	39 43%	54 43% K	33 41%	62 33%	31 46%	148 42%	106 37%	145 37%	
DON'T KNOW	15 3%	7 3% D	6 4% D	- -	1 1%	7 3% H	5 3% H	- -	9 3%	2 3%	6 4%	3 3%	4 3%	2 3%	7 4% P	- -	13 4%	10 3%	13 3%	
NOT APPLICABLE	8 2%	6 3% D	1 1%	- -	3 3%	2 1%	2 1%	- -	5 2%	2 3%	4 3% MN	3 3%	- -	- -	4 2% P	2 3%	5 1%	3 1%	8 2%	
MEAN	2.02	2.01	2.09	2.00	2.18	2.03	1.95	2.13	2.16 J	1.67	2.21 L	1.88	2.00	1.95	2.18 P	1.86	1.99	2.09	2.05	
MEDIAN	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	
STANDARD DEVIATION	1.03	1.02	1.01	1.00	1.14	1.03	0.97	1.13	1.03	0.94	1.06	0.96	1.06	0.97	1.06	0.95	1.04	1.06	1.01	
STANDARD ERROR	0.05	0.07	0.08	0.32	0.11	0.07	0.08	0.16	0.06	0.13	0.09	0.10	0.10	0.11	0.08	0.12	0.06	0.06	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 29-1
 QUESTION 12D:
 If this concept was introduced, how likely would you be to:

RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	467 100%	230 100%	164 100%	10 100%	110 100%	207 100%	160 100%	53 100%	314 100%	57 100%	151 100%	88 100%	126 100%	78 100%	186 100%	66 100%	352 100%	289 100%	392 100%	
TOP 2 BOX -----	93 20%	50 22%	29 18%	3 30%	20 18% H	48 23% H	25 16%	4 8%	73 23%	8 14%	68 45% LMN	10 11%	7 6%	8 10%	73 39% P	8 12%	60 17%	58 20%	84 21%	
4 - VERY LIKELY	54 12%	27 12%	17 10%	2 20%	11 10% H	28 14% H	13 8% H	1 2%	43 14%	5 9%	42 28% LMN	5 6%	1 1%	6 8% M	43 23% P	4 6%	35 10%	29 10%	51 13%	
3 - LIKELY	39 8%	23 10%	12 7%	1 10%	9 8%	20 10%	12 8%	3 6%	30 10%	3 5%	26 17% LMN	5 6%	6 5%	2 3%	30 16% P	4 6%	25 7%	29 10%	33 8%	
BOTTOM 2 BOX -----	338 72%	160 70%	123 75%	7 70%	83 75%	145 70%	119 74%	45 85% F	219 70%	44 77%	76 50%	67 76% K	109 87% K	65 83% K	101 54% K	49 74% O	264 75%	206 71%	281 72%	
2 - UNLIKELY	55 12%	29 13% D	22 13% D	- -	14 13%	21 10%	20 13%	4 8%	43 14%	7 12%	17 11%	13 15%	10 8%	14 18% M	21 11%	9 14%	42 12%	41 14%	49 13%	
1 - VERY UNLIKELY	283 61%	131 57%	101 62%	7 70%	69 63%	124 60%	99 62%	41 77% EFG	176 56%	37 65%	59 39%	54 61% K	99 79% KLN	51 65% K	80 43% K	40 61% O	222 63%	165 57%	232 59%	
DON'T KNOW	12 3%	7 3% D	4 2% D	- -	2 2%	5 2% H	5 3% H	- -	8 3%	2 4%	5 3%	2 2%	3 2%	1 1%	6 3%	2 3%	8 2%	7 2%	12 3%	
NOT APPLICABLE	24 5%	13 6% D	8 5% D	- -	5 5%	9 4%	11 7%	4 8%	14 4%	3 5%	2 1%	9 10% K	7 6%	4 5%	6 3%	7 11%	20 6%	18 6%	15 4%	
MEAN	1.68	1.74	1.64	1.80	1.63 H	1.75 H	1.58 H	1.27	1.79	1.54	2.35 LMN	1.49 M	1.22	1.49 M	2.21 P	1.51	1.61	1.70	1.73	
MEDIAN	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	
STANDARD DEVIATION	1.07	1.09	1.03	1.25	1.02	1.12	0.98	0.66	1.12	0.97	1.28	0.88	0.57	0.89	1.26	0.90	1.02	1.04	1.10	
STANDARD ERROR	0.05	0.08	0.08	0.39	0.10	0.08	0.08	0.09	0.07	0.13	0.11	0.10	0.05	0.10	0.10	0.12	0.06	0.06	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 30-1
 QUESTION 12E:
 If this concept was introduced, how likely would you be to:

CARPPOOL TO AVOID PAYING THE TOLL

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	469 100%	231 100%	165 100%	10 100%	110 100%	208 100%	161 100%	53 100%	314 100%	58 100%	150 100%	90 100%	126 100%	79 100%	185 100%	68 100%	354 100%	288 100%	394 100%	
TOP 2 BOX -----	71 15%	39 17%	24 15%	1 10%	17 15%	38 18% GH	17 11%	4 8%	59 19% J	4 7%	37 25% MN	18 20% MN	8 6%	7 9%	37 20%	18 26%	52 15%	41 14%	64 16%	
4 - VERY LIKELY	31 7%	16 7%	10 6%	1 10%	8 7%	18 9% GH	6 4%	1 2%	26 8% J	1 2%	20 13% MN	6 7%	2 2%	3 4%	20 11%	6 9%	23 6%	16 6%	28 7%	
3 - LIKELY	40 9%	23 10% D	14 8% D	- -	9 8%	20 10%	11 7%	3 6%	33 11%	3 5%	17 11% M	12 13% M	6 5%	4 5%	17 9%	12 18%	29 8%	25 9%	36 9%	
BOTTOM 2 BOX -----	346 74%	163 71%	125 76%	8 80%	81 74%	143 69%	126 78% F	40 75%	221 70%	45 78%	97 65%	57 63%	106 84% KL	66 84% KL	130 70%	40 59%	269 76%	217 75%	288 73%	
2 - UNLIKELY	69 15%	30 13%	31 19%	1 10%	14 13% H	25 12% H	25 16% H	2 4%	50 16%	8 14%	29 19%	12 13%	16 13%	9 11%	34 18%	7 10%	51 14%	47 16%	65 16%	
1 - VERY UNLIKELY	277 59%	133 58%	94 57%	7 70%	67 61%	118 57%	101 63%	2 5%	38 12% F	171 54%	37 64%	68 45%	90 71% KL	57 72% KL	96 52%	33 49%	218 62%	170 59%	223 57%	
DON'T KNOW	13 3%	9 4% D	3 2%	- -	1 1%	9 4% E	4 2%	1 2%	10 3%	1 2%	4 3%	1 1%	5 4%	2 3%	4 2% P	- -	8 2%	8 3%	11 3%	
NOT APPLICABLE	39 8%	20 9%	13 8%	1 10%	11 10%	18 9%	14 9%	8 15%	24 8%	8 14%	12 8%	14 16% MN	7 6%	4 5%	14 8%	10 15%	25 7%	22 8%	31 8%	
MEAN	1.58	1.61	1.60	1.44	1.57 H	1.66 GH	1.45	1.25	1.69 J	1.35	1.92 MN	1.72 MN	1.30	1.36	1.77	1.84	1.55	1.56	1.63	
MEDIAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
STANDARD DEVIATION	0.94	0.97	0.91	0.96	0.96	1.02	0.81	0.68	1.00	0.69	1.11	1.00	0.65	0.77	1.05	1.08	0.93	0.90	0.96	
STANDARD ERROR	0.05	0.07	0.07	0.32	0.10	0.08	0.07	0.10	0.06	0.10	0.10	0.12	0.06	0.09	0.08	0.14	0.05	0.06	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 31-1
 QUESTION 12 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF TOP 2 BOX

BANNER 1

	GENDER			AGE				ETHNICITY		COUNTY				CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	188 40%	107 46%	61 37%	1 10%	40 37%	89 43%	70 43%	19 37%	151 48%	13 22%	84 56%	31 34%	32 26%	33 42%	97 52%	24 35%	135 38%	120 41%	172 44%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	274 59%	114 50%	110 67%	8 80%	58 54%	122 59%	89 55%	27 53%	177 57%	32 55%	81 54%	32 36%	92 74%	53 66%	104 57%	27 40%	220 62%	163 57%	222 56%
CHANGE THE TIME YOU DRIVE	149 32%	71 31%	56 34%	3 30%	46 42%	67 32%	44 27%	20 38%	111 35%	14 24%	57 38%	24 27%	39 31%	23 29%	71 38%	18 26%	109 31%	95 33%	127 32%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	93 20%	50 22%	29 18%	3 30%	20 18%	48 23%	25 16%	4 8%	73 23%	8 14%	68 45%	10 11%	7 6%	8 10%	73 39%	8 12%	60 17%	58 20%	84 21%
CARPPOOL TO AVOID PAYING THE TOLL	71 15%	39 17%	24 15%	1 10%	17 15%	38 18%	17 11%	4 8%	59 19%	4 7%	37 25%	18 20%	8 6%	7 9%	37 20%	18 26%	52 15%	41 14%	64 16%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 32-1
 QUESTION 12 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF BOTTOM 2 BOX

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=ANSWERING (VARIED BASES)																			
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	251 53%	107 46%	94 57%	9 90% B	61 56%	104 50%	86 53%	32 62%	146 46%	36 62% I	62 41%	51 56% K	86 69% KN	36 46%	80 43%	39 57%	200 56% S	150 52%	193 49%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	168 36%	96 42% C	51 31%	2 20%	44 41%	73 35%	64 40%	23 45%	118 38%	21 36%	58 39% M	48 53% KMN	30 24%	26 33%	68 37%	36 53% O	118 33%	109 38%	147 37%
CHANGE THE TIME YOU DRIVE	298 63%	146 63%	103 62%	7 70%	60 55%	132 63%	111 69% E	33 62%	189 60%	40 69%	83 55%	60 67%	83 66%	55 69% K	104 56%	48 71% O	228 64%	182 63%	246 62%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	338 72%	160 70%	123 75%	7 70%	83 75%	145 70%	119 74%	45 85% F	219 70%	44 77%	76 50%	67 76% K	109 87% K	65 83% K	101 54%	49 74% O	264 75%	206 71%	281 72%
CARPPOOL TO AVOID PAYING THE TOLL	346 74%	163 71%	125 76%	8 80%	81 74%	143 69%	126 78% F	40 75%	221 70%	45 78%	97 65%	57 63%	106 84% KL	66 84% KL	130 70%	40 59%	269 76%	217 75%	288 73%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 33-1
 QUESTION 12 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF MEANS

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	2.23	2.38 D	2.21 D	1.30	2.11	2.28	2.28	2.00	2.43 J	1.88	2.60 LM	2.13	1.84	2.33 M	2.52 P	2.10	2.16	2.28	2.34 Q
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	2.77	2.59	2.93 B	3.50 B	2.64	2.78	2.70	2.54	2.74	2.81	2.71 L	2.23	3.12 KL	2.82 L	2.74 P	2.29	2.87	2.72	2.72
CHANGE THE TIME YOU DRIVE	2.02	2.01	2.09	2.00	2.18	2.03	1.95	2.13	2.16 J	1.67	2.21 L	1.88	2.00	1.95	2.18 P	1.86	1.99	2.09	2.05
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	1.68	1.74	1.64	1.80	1.63 H	1.75 H	1.58 H	1.27	1.79	1.54	2.35 LMN	1.49 M	1.22	1.49 M	2.21 P	1.51	1.61	1.70	1.73
CARPOL TO AVOID PAYING THE TOLL	1.58	1.61	1.60	1.44	1.57 H	1.66 GH	1.45	1.25	1.69 J	1.35	1.92 MN	1.72 MN	1.30	1.36	1.77	1.84	1.55	1.56	1.63

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 34-1
 QUESTION 13:
 The community has identified the following concerns about implementing congestion pricing. Which do you feel is most important to address if this concept was implemented?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	471 100%	230 100%	167 100%	10 100%	109 100%	210 100%	163 100%	53 100%	316 100%	58 100%	150 100%	90 100%	126 100%	80 100%	186 100%	68 100%	353 100%	291 100%	395 100%
DESIGN THE PROJECT TO MINIMIZE THE IMPACT ON PEOPLE OF LOW INCOME OR OTHERWISE DISADVANTAGED	237 50%	119 52%	91 54%	4 40%	63 58% G	114 54% G	68 42%	28 53%	171 54%	26 45%	93 62% MN	49 54%	52 41%	34 43%	102 55%	37 54%	170 48%	146 50%	204 52%
SET PERFORMANCE MEASURES TO ENSURE TRAFFIC CONGESTION IS REDUCED	237 50%	115 50%	85 51%	3 30%	51 47%	93 44%	98 60% EF	26 49%	162 51%	26 45%	66 44%	45 50%	71 56% K	46 58%	87 47%	34 50%	183 52%	148 51%	203 51%
MINIMIZE TRAFFIC DIVERSION TO LOCAL STREETS	208 44%	92 40% D	84 50% BD	1 10%	40 37%	93 44%	69 42%	18 34%	144 46%	26 45%	84 56% LN	19 21%	61 48% L	33 41% L	96 52% P	15 22%	160 45%	125 43%	181 46%
PROVIDE ALTERNATIVE DRIVING ROUTES	188 40%	94 41%	69 41%	7 70%	38 35%	90 43%	68 42%	21 40%	117 37%	29 50%	33 22%	47 52% K	62 49% K	35 44% K	47 25%	35 51% O	150 42%	114 39%	151 38%
MAKE SURE REVENUE IS USED FAIRLY	154 33%	75 33%	49 29%	3 30%	38 35%	64 30%	52 32%	16 30%	102 32%	12 21%	40 27% KMN	43 48% KMN	39 31%	22 28%	54 29%	30 44% O	114 32%	92 32%	128 32%
PROVIDE MORE TRANSIT, BIKE AND WALKING OPTIONS	124 26%	70 30%	38 23%	2 20%	25 23%	65 31% GH	35 21% GH	7 13%	93 29%	16 28%	69 46% LMN	15 17%	16 13%	20 25% M	81 44% P	14 21%	80 23%	77 26%	107 27%
MAKE THE PRICING SYSTEM EASY TO UNDERSTAND AND USE	113 24%	59 26%	43 26%	1 10%	28 26%	52 25%	41 25%	16 30%	86 27%	12 21%	37 25%	17 19%	26 21%	25 31%	47 25%	13 19%	83 24%	76 26%	104 26%
OTHER	152 32%	66 29%	42 25%	9 90% BC	44 40% F	59 28%	58 36%	27 51% F	73 23%	27 47% I	28 19%	35 39% K	51 40% K	25 31% K	44 24%	26 38% O	119 34% S	95 33%	107 27%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 35-1
 QUESTION 14:
 How frequently do you drive on any portion of the highway in this area?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	472 100%	230 100%	168 100%	10 100%	110 100%	209 100%	163 100%	53 100%	315 100%	58 100%	150 100%	91 100%	124 100%	82 100%	185 100%	69 100%	352 100%	290 100%	398 100%	
REGULARLY -----	94 20%	39 17%	39 23%	5 50% B	20 18%	40 19%	30 18%	8 15%	52 17%	19 33% I	8 5%	5 5%	66 53% KLN	8 10%	16 9%	3 4%	94 27% RS	45 16%	56 14%	
EVERY DAY	44 9%	14 6%	24 14% B	1 10%	9 8%	20 10%	14 9%	2 4%	24 8%	9 16%	4 3%	2 2%	35 28% KLN	1 1%	5 3%	2 3%	44 13% S	26 9%	25 6%	
SEVERAL TIME A WEEK	50 11%	25 11%	15 9%	4 40% C	11 10%	20 10%	16 10%	6 11%	28 9%	10 17%	4 3%	3 3%	31 25% KLN	7 9%	11 P	1 1%	50 14% RS	19 7%	31 8%	
OCCASIONALLY -----	101 21%	43 19%	36 21%	3 30%	22 20%	29 14%	50 31% EF	11 21%	60 19%	11 19%	21 14%	13 14%	37 30% KL	22 27% KL	32 17%	11 16%	77 22%	101 35% QS	65 16%	
SEVERAL TIMES A MONTH	101 21%	43 19%	36 21%	3 30%	22 20%	29 14%	50 31% EF	11 21%	60 19%	11 19%	21 14%	13 14%	37 30% KL	22 27% KL	32 17%	11 16%	77 22%	101 35% QS	65 16%	
RARELY/NEVER -----	277 59%	148 64% D	93 55% D	2 20%	68 62%	140 67% G	83 51%	34 64% J	203 64% J	28 48%	121 81% MN	73 80% MN	21 17%	52 63% M	137 74% M	55 80%	181 51%	144 50%	277 70% QR	
RARELY	202 43%	111 48% D	65 39%	2 20%	42 38%	105 50% E	69 42%	27 51%	147 47% J	17 29%	79 53% M	54 59% M	20 16%	39 48% M	91 49%	38 55%	127 36%	115 40%	202 51% QR	
NEVER	75 16%	37 16% D	28 17% D	- -	26 24% G	35 17% G	14 9%	7 13%	56 18%	11 19%	42 28% MN	19 21% M	1 1%	13 16% M	46 25%	17 25%	54 15% R	29 10%	75 19% R	
MEAN	3.45	3.57 D	3.35	2.60	3.59	3.55	3.33	3.58	3.58 J	3.19	4.01 MN	3.93 M	2.36	3.68 M	3.88	3.97	3.28	3.35	3.68 QR	
MEDIAN	4.00	4.00	4.00	2.50	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00	3.00	4.00	
STANDARD DEVIATION	1.16	1.07	1.26	0.92	1.19	1.16	1.05	0.98	1.11	1.34	0.88	0.82	1.08	0.88	0.94	0.85	1.24	1.05	1.06	
STANDARD ERROR	0.05	0.07	0.10	0.29	0.11	0.08	0.08	0.13	0.06	0.18	0.07	0.09	0.10	0.10	0.07	0.10	0.07	0.06	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

Table 36-1
 QUESTION 15:
 Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?

BANNER 1	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	466 100%	227 100%	167 100%	10 100%	110 100%	205 100%	163 100%	53 100%	311 100%	58 100%	147 100%	91 100%	123 100%	80 100%	182 100%	69 100%	347 100%	288 100%	392 100%
YES	159 34%	79 35%	60 36%	4 40%	33 30%	66 32%	60 37%	18 34%	111 36%	15 26%	40 27%	19 21%	64 52% KLN	24 30%	52 29%	13 19%	122 35%	112 39%	129 33%
NO	198 42%	95 42%	65 39%	4 40%	43 39%	84 41%	80 49%	22 42%	118 38%	30 52%	50 34%	43 47% K	56 46%	37 46%	66 36%	33 48%	145 42%	127 44%	154 39%
I DON'T DRIVE THIS SECTION	109 23%	53 23%	42 25%	2 20%	34 31% G	55 27% G	23 14%	13 25%	82 26%	13 22%	57 39% MN	29 32% M	3 2%	19 24% M	64 35%	23 33%	80 23%	49 17%	109 28% R

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 37-1
 QUESTION 16A:
 If this concept was introduced, how likely would you be to:

PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	457 100%	225 100%	161 100%	10 100%	107 100%	200 100%	161 100%	51 100%	305 100%	58 100%	140 100%	91 100%	123 100%	79 100%	174 100%	69 100%	344 100%	283 100%	383 100%	
TOP 2 BOX -----	105 23%	55 24%	43 27%	1 10%	19 18%	44 22%	50 31% E	10 20%	85 28% J	8 14%	42 30% LM	16 18%	24 20%	18 23%	49 28% P	11 16%	78 23%	75 27%	92 24%	
4 - VERY LIKELY	55 12%	27 12% D	23 14% D	- -	7 7%	28 14% E	26 16% E	6 12%	42 14%	6 10%	22 16% LM	8 9%	12 10%	9 11%	23 13%	5 7%	40 12%	38 13%	48 13%	
3 - LIKELY	50 11%	28 12%	20 12%	1 10%	12 11%	16 8%	24 15% F	4 8%	43 14% J	2 3%	20 14%	8 9%	12 10%	9 11%	26 15%	6 9%	38 11%	37 13%	44 11%	
BOTTOM 2 BOX -----	261 57%	118 52%	88 55%	9 90% BC	59 55%	110 55%	90 56%	30 59%	153 50%	37 64% I	57 41% K	51 56% KLN	90 73% KLN	44 56% K	78 45%	40 58%	197 57%	165 58%	201 52%	
2 - UNLIKELY	78 17%	34 15%	34 21%	2 20%	11 10%	36 18%	24 15%	5 10%	54 18%	10 17%	18 13%	16 18%	26 21%	14 18%	24 14%	13 19%	56 16%	50 18%	66 17%	
1 - VERY UNLIKELY	183 40%	84 37%	54 34%	7 70% BC	48 45%	74 37%	66 41%	25 49%	99 32% I	27 47% I	39 28%	35 38%	64 52% KLN	30 38%	54 31%	27 39%	141 41%	115 41%	135 35%	
DON'T KNOW	22 5%	12 5% D	7 4% D	- -	4 4%	13 7%	6 4%	3 6%	16 5%	2 3%	4 3%	6 7%	8 7%	4 5%	6 3%	3 4%	18 5%	15 5%	21 5%	
NOT APPLICABLE	69 15%	40 18% D	23 14% D	- -	25 23% G	33 17% G	15 9%	8 16%	51 17%	11 19%	37 26% M	18 20% M	1 1%	13 16% M	41 24%	15 22%	51 15%	28 10%	69 18% R	
MEAN	1.94	1.99	2.09	1.40	1.72	1.99	2.07 E	1.78	2.12 J	1.71	2.25 LM	1.84	1.75	1.95	2.14	1.78	1.92	1.99	2.02	
MEDIAN	2	2	2	1	1	2	2	1	2	1	2	1	1	2	2	1	1	2	2	
STANDARD DEVIATION	1.11	1.13	1.12	0.66	1.02	1.15	1.17	1.13	1.14	1.05	1.19	1.05	1.01	1.10	1.16	1.00	1.11	1.13	1.13	
STANDARD ERROR	0.06	0.09	0.10	0.21	0.12	0.09	0.10	0.18	0.07	0.16	0.12	0.13	0.09	0.14	0.10	0.14	0.07	0.07	0.07	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 38-1
 QUESTION 16B:
 If this concept was introduced, how likely would you be to:

DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	459 100%	225 100%	162 100%	10 100%	108 100%	201 100%	162 100%	52 100%	305 100%	58 100%	140 100%	91 100%	123 100%	80 100%	173 100%	69 100%	344 100%	283 100%	385 100%	
TOP 2 BOX -----	267 58%	133 59%	93 57%	6 60%	63 58%	116 58%	92 57%	29 56%	169 55%	36 62%	68 49%	57 63%	79 64%	49 61%	88 51%	42 61%	205 60%	164 58%	215 56%	
4 - VERY LIKELY	130 28%	63 28%	38 23%	3 30%	38 35% G	58 29%	36 22%	16 31%	66 22%	20 34%	30 21%	29 32%	32 26%	28 35% K	41 24%	22 32%	100 29%	82 29%	96 25%	
3 - LIKELY	137 30%	70 31%	55 34%	3 30%	25 23%	58 29%	56 35% E	13 25%	103 34%	16 28%	38 27%	28 31%	47 38%	21 26%	47 27%	20 29%	105 31%	82 29%	119 31%	
BOTTOM 2 BOX -----	97 21%	40 18%	36 22%	3 30%	15 14%	40 20%	46 28% E	13 25%	64 21%	11 19%	25 18%	11 12%	36 29% KL	15 19%	35 20%	9 13%	67 19%	74 26% Q	78 20%	
2 - UNLIKELY	48 10%	25 11% D	15 9% D	- -	6 6%	17 8%	25 15% EF	6 12%	32 10%	5 9%	11 8%	6 7%	16 13%	8 10%	16 9%	4 6%	32 9%	39 14%	39 10%	
1 - VERY UNLIKELY	49 11%	15 7%	21 13% B	3 30%	9 8%	23 11%	21 13%	7 13%	32 10%	6 10%	14 10%	5 5%	20 16% L	7 9%	19 11%	5 7%	35 10%	35 12%	39 10%	
DON'T KNOW	26 6%	14 6%	8 5%	1 10%	4 4%	11 5%	10 6%	1 2%	18 6%	3 5%	8 6%	6 7%	7 6%	4 5%	8 5%	4 6%	20 6%	18 6%	23 6%	
NOT APPLICABLE	69 15%	38 17% D	25 15% D	- -	26 24% G	34 17% G	14 9%	9 17%	54 18%	8 14%	39 28% MN	17 19% M	1 1%	12 15% M	42 24%	14 20%	52 15% R	27 10%	69 18% R	
MEAN	2.96	3.05	2.85	2.67	3.18 G	2.97	2.78	2.90	2.87	3.06	2.90	3.19 M	2.79	3.09	2.89	3.16	2.99	2.89	2.93	
MEDIAN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
STANDARD DEVIATION	1.01	0.92	1.02	1.25	1.00	1.03	1.00	1.09	0.98	1.02	1.02	0.88	1.03	1.00	1.03	0.94	1.00	1.04	0.99	
STANDARD ERROR	0.05	0.07	0.09	0.42	0.11	0.08	0.09	0.17	0.06	0.15	0.11	0.11	0.10	0.12	0.09	0.13	0.06	0.07	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 39-1
 QUESTION 16C:
 If this concept was introduced, how likely would you be to:

DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	453 100%	224 100%	158 100%	10 100%	106 100%	198 100%	159 100%	50 100%	301 100%	58 100%	139 100%	90 100%	122 100%	78 100%	171 100%	68 100%	341 100%	280 100%	379 100%
TOP 2 BOX -----	206 45%	95 42%	75 47%	5 50%	45 42%	83 42%	73 46%	19 38%	131 44%	26 45%	45 32%	31 34%	74 61% KL	40 51% KL	65 38%	20 29%	157 46%	137 49%	162 43%
4 - VERY LIKELY	108 24%	44 20%	41 26%	2 20%	31 29%	43 22%	36 23%	11 22%	62 21%	17 29%	21 15%	15 17%	43 35% KL	19 24%	29 17%	9 13%	88 26%	74 26%	82 22%
3 - LIKELY	98 22%	51 23%	34 22%	3 30%	14 13%	40 20%	37 23% E	8 16%	69 23%	9 16%	24 17%	16 18%	31 25%	21 27%	36 21%	11 16%	69 20%	63 23%	80 21%
BOTTOM 2 BOX -----	151 33%	75 33%	50 32%	5 50%	34 32%	67 34%	62 39%	22 44%	100 33%	19 33%	51 37%	32 36%	39 32%	23 29%	59 35%	26 38%	110 32%	98 35%	125 33%
2 - UNLIKELY	67 15%	37 17%	23 15%	2 20%	11 10%	28 14%	29 18%	5 10%	49 16%	5 9%	28 20%	14 16%	15 12%	9 12%	31 18%	11 16%	47 14%	43 15%	61 16%
1 - VERY UNLIKELY	84 19%	38 17%	27 17%	3 30%	23 22%	39 20%	33 21%	17 34%	51 17%	14 24%	23 17%	18 20%	24 20%	14 18%	28 16%	15 22%	63 18%	55 20%	64 17%
DON'T KNOW	26 6%	14 6% D	9 6% D	- -	1 1%	15 8% EH	9 6% E	1 2%	18 6%	2 3%	6 4%	7 8%	7 6%	4 5%	7 4%	5 7%	22 6%	17 6%	24 6%
NOT APPLICABLE	70 15%	40 18% D	24 15% D	- -	26 25% G	33 17% G	15 9%	8 16%	52 17%	11 19%	37 27% MN	20 22% M	2 2%	11 14% M	40 23%	17 25%	52 15% R	28 10%	68 18% R
MEAN	2.64	2.59	2.71	2.40	2.67	2.58	2.56	2.32	2.61	2.64	2.45	2.44	2.82 KL	2.71	2.53	2.30	2.68	2.66	2.63
MEDIAN	3	3	3	3	3	3	3	2	3	3	2	2	3	3	3	2	3	3	3
STANDARD DEVIATION	1.14	1.10	1.14	1.11	1.26	1.16	1.13	1.26	1.10	1.27	1.08	1.14	1.15	1.12	1.08	1.12	1.16	1.15	1.12
STANDARD ERROR	0.06	0.08	0.10	0.35	0.14	0.09	0.10	0.20	0.07	0.19	0.11	0.14	0.11	0.14	0.10	0.17	0.07	0.07	0.07

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 40-1
 QUESTION 16D:
 If this concept was introduced, how likely would you be to:

CHANGE THE TIME YOU DRIVE

BANNER 1

	GENDER			AGE					ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	452 100%	224 100%	158 100%	9 100%	105 100%	195 100%	161 100%	49 100%	300 100%	58 100%	136 100%	90 100%	123 100%	79 100%	170 100%	69 100%	340 100%	279 100%	378 100%	
TOP 2 BOX -----	90 20%	46 21%	33 21%	3 33%	23 22%	42 22%	29 18%	11 22%	65 22%	11 19%	25 18%	16 18%	31 25%	15 19%	34 20%	11 16%	68 20%	58 21%	75 20%	
4 - VERY LIKELY	31 7%	13 6%	15 9%	1 11%	14 13% G	16 8% G	5 3%	7 14% G	23 8%	5 9%	7 5%	5 6%	12 10%	7 9%	11 6%	3 4%	25 7%	20 7%	25 7%	
3 - LIKELY	59 13%	33 15%	18 11%	2 22%	9 9%	26 13%	24 15%	4 8%	42 14%	6 10%	18 13%	11 12%	19 15%	8 10%	23 14%	8 12%	43 13%	38 14%	50 13%	
BOTTOM 2 BOX -----	280 62%	130 58%	99 63%	6 67%	59 56%	113 58%	114 71% EF	32 65%	172 57%	38 66%	70 51%	52 58%	85 69% K	52 66% K	92 54%	41 59%	210 62%	185 66%	224 59%	
2 - UNLIKELY	102 23%	45 20%	45 28%	3 33%	16 15%	46 24%	36 22%	9 18%	73 24%	10 17%	33 24%	16 18%	27 22%	20 25%	40 24%	12 17%	74 22%	70 25%	86 23%	
1 - VERY UNLIKELY	178 39%	85 38%	54 34%	3 33%	43 41%	67 34%	78 48% F	23 47%	99 33%	28 48% I	37 27%	36 40% K	58 47% K	32 41% K	52 31%	29 42%	136 40%	115 41%	138 37%	
DON'T KNOW	13 3%	7 3% D	4 3% D	- -	- -	7 4% EH	3 2%	- -	10 3% J	- -	3 2%	2 2%	6 5%	2 3%	3 2%	1 1%	10 3%	10 4%	10 3%	
NOT APPLICABLE	69 15%	41 18% D	22 14% D	- -	23 22% G	33 17% G	15 9%	6 12%	53 18%	9 16%	38 28% MN	20 22% M	1 1%	10 13% M	41 24%	16 23%	52 15% R	26 9%	69 18% R	
MEAN	1.85	1.85	1.95	2.11	1.93	1.94 G	1.69	1.88	1.95	1.76	1.95	1.78	1.87	1.85	1.94	1.71	1.85	1.85	1.87	
MEDIAN	2	2	2	2	1	2	1	1	2	1	2	1	2	2	2	1	2	2	2	
STANDARD DEVITAION	0.98	0.97	1.00	0.99	1.15	1.00	0.87	1.12	0.99	1.02	0.93	0.97	1.03	1.00	0.97	0.93	0.99	0.97	0.97	
STANDARD ERROR	0.05	0.07	0.09	0.33	0.13	0.08	0.07	0.17	0.06	0.15	0.10	0.12	0.10	0.12	0.09	0.13	0.06	0.06	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 41-1
 QUESTION 16E:
 If this concept was introduced, how likely would you be to:

RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	450 100%	222 100%	157 100%	10 100%	104 100%	193 100%	161 100%	48 100%	298 100%	58 100%	137 100%	89 100%	122 100%	78 100%	170 100%	68 100%	340 100%	277 100%	376 100%
TOP 2 BOX -----	24 5%	15 7%	4 3%	3 30%	3 3%	13 7%	6 4%	- -	18 6%	3 5%	14 10%	3 3%	2 2%	4 5%	15 9%	2 3%	13 4%	14 5%	20 5%
4 - VERY LIKELY	13 3%	8 4%	2 1%	2 20%	2 2%	8 4%	2 1%	- -	10 3%	1 2%	7 5%	2 2%	1 1%	3 4%	8 5%	1 1%	6 2%	6 2%	11 3%
3 - LIKELY	11 2%	7 3%	2 1%	1 10%	1 1%	5 3%	4 2%	- -	8 3%	2 3%	7 5%	1 1%	1 1%	1 1%	7 4%	1 1%	7 2%	8 3%	9 2%
BOTTOM 2 BOX -----	317 70%	149 67%	115 73%	7 70%	69 66%	131 68%	123 76%	35 73%	198 66%	44 76%	75 55%	57 64%	105 86%	60 77%	99 58%	43 63%	241 71%	208 75%	255 68%
2 - UNLIKELY	40 9%	22 10%	17 11%	- -	5 5%	17 9%	15 9%	- -	31 10%	6 10%	16 12%	5 6%	13 11%	6 8%	18 11%	3 4%	32 9%	26 9%	35 9%
1 - VERY UNLIKELY	277 62%	127 57%	98 62%	7 70%	64 62%	114 59%	108 67%	35 73%	167 56%	38 66%	59 43%	52 58%	92 75%	54 69%	81 48%	40 59%	209 61%	182 66%	220 59%
DON'T KNOW	9 2%	5 2%	3 2%	- -	- -	5 3%	3 2%	- -	8 3%	- -	5 4%	2 2%	2 2%	- -	5 3%	1 1%	7 2%	5 2%	9 2%
NOT APPLICABLE	100 22%	53 24%	35 22%	- -	32 31%	44 23%	29 18%	13 27%	74 25%	11 19%	43 31%	27 30%	13 11%	14 18%	51 30%	22 32%	79 23%	50 18%	92 24%
MEAN	1.30	1.37	1.23	1.80	1.18	1.35	1.22	1.00	1.36	1.28	1.57 LMN	1.22	1.17	1.27	1.49 P	1.18	1.25	1.27	1.31
MEDIAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
STANDARD DEVIATION	0.71	0.78	0.56	1.25	0.59	0.79	0.57	-	0.76	0.64	0.93	0.63	0.46	0.71	0.89	0.57	0.62	0.66	0.72
STANDARD ERROR	0.04	0.06	0.05	0.39	0.07	0.07	0.05	-	0.05	0.09	0.10	0.08	0.04	0.09	0.08	0.08	0.04	0.04	0.04

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 42-1
 QUESTION 16F:
 If this concept was introduced, how likely would you be to:

CARPPOOL TO AVOID PAYING THE TOLL

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	450 100%	221 100%	159 100%	10 100%	104 100%	195 100%	160 100%	48 100%	299 100%	58 100%	137 100%	90 100%	122 100%	78 100%	169 100%	69 100%	339 100%	276 100%	377 100%
TOP 2 BOX -----	41 9%	25 11%	14 9%	2 20%	8 8%	25 13% GH	8 5%	1 2%	33 11%	4 7%	20 15% LM	6 7%	7 6%	8 10%	20 12%	6 9%	30 9%	25 9%	34 9%
4 - VERY LIKELY	13 3%	9 4%	3 2%	1 10%	1 1%	10 5% EGH	2 1%	- -	11 4%	1 2%	7 5%	2 2%	2 2%	2 3%	6 4%	2 3%	10 3%	9 3%	10 3%
3 - LIKELY	28 6%	16 7%	11 7%	1 10%	7 7%	15 8% H	6 4%	1 2%	22 7%	3 5%	13 9%	4 4%	5 4%	6 8%	14 8%	4 6%	20 6%	16 6%	24 6%
BOTTOM 2 BOX -----	298 66%	136 62%	106 67%	7 70%	66 63%	119 61%	119 74% F	34 71%	181 61%	42 72%	70 51%	53 59%	100 82% KL	56 72% K	97 57%	39 57%	226 67%	194 70%	241 64%
2 - UNLIKELY	48 11%	21 10%	22 14%	1 10%	9 9%	20 10%	15 9%	2 4%	33 11%	7 12%	15 11%	9 10%	18 15%	6 8%	20 12%	6 9%	35 10%	36 13%	43 11%
1 - VERY UNLIKELY	250 56%	115 52%	84 53%	6 60%	57 55%	99 51%	104 65% F	32 67% F	148 49%	35 60%	55 40%	44 49%	82 67% KL	50 64% KL	77 46%	33 48%	191 56%	158 57%	198 53%
DON'T KNOW	12 3%	6 3% D	5 3% D	- -	1 1%	7 4% H	3 2%	- -	11 4% J	- -	3 2%	2 2%	5 4%	1 1%	3 2%	1 1%	9 3%	6 2%	12 3%
NOT APPLICABLE	99 22%	54 24%	34 21%	1 10%	29 28%	44 23%	30 19%	13 27%	74 25%	12 21%	44 32% MN	29 32% MN	10 8%	13 17%	49 29%	23 33%	74 22%	51 18%	90 24%
MEAN	1.42	1.50	1.44	1.67	1.35 H	1.56 GH	1.26	1.11	1.51	1.35	1.69 LMN	1.39	1.32	1.38	1.56	1.44	1.41	1.43	1.44
MEDIAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
STANDARD DEVIATION	0.80	0.89	0.76	1.05	0.71	0.93	0.62	0.40	0.87	0.70	0.98	0.76	0.65	0.78	0.89	0.83	0.80	0.80	0.80
STANDARD ERROR	0.04	0.07	0.07	0.35	0.08	0.08	0.05	0.07	0.06	0.10	0.10	0.10	0.06	0.10	0.08	0.12	0.05	0.05	0.05

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 43-1
 QUESTION 16 (A-F):
 If this concept was introduced, how likely would you be to:

SUMMARY OF TOP 2 BOX

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	105 23%	55 24%	43 27%	1 10%	19 18%	44 22%	50 31%	10 20%	85 28%	8 14%	42 30%	16 18%	24 20%	18 23%	49 28%	11 16%	78 23%	75 27%	92 24%
DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL	267 58%	133 59%	93 57%	6 60%	63 58%	116 58%	92 57%	29 56%	169 55%	36 62%	68 49%	57 63%	79 64%	49 61%	88 51%	42 61%	205 60%	164 58%	215 56%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	206 45%	95 42%	75 47%	5 50%	45 42%	83 42%	73 46%	19 38%	131 44%	26 45%	45 32%	31 34%	74 61%	40 51%	65 38%	20 29%	157 46%	137 49%	162 43%
CHANGE THE TIME YOU DRIVE	90 20%	46 21%	33 21%	3 33%	23 22%	42 22%	29 18%	11 22%	65 22%	11 19%	25 18%	16 18%	31 25%	15 19%	34 20%	11 16%	68 20%	58 21%	75 20%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	24 5%	15 7%	4 3%	3 30%	3 3%	13 7%	6 4%	- -	18 6%	3 5%	14 10%	3 3%	2 2%	4 5%	15 9%	2 3%	13 4%	14 5%	20 5%
CARPPOOL TO AVOID PAYING THE TOLL	41 9%	25 11%	14 9%	2 20%	8 8%	25 13%	8 5%	1 2%	33 11%	4 7%	20 15%	6 7%	7 6%	8 10%	20 12%	6 9%	30 9%	25 9%	34 9%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 44-1
 QUESTION 16 (A-F):
 If this concept was introduced, how likely would you be to:

SUMMARY OF BOTTOM 2 BOX

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=ANSWERING (VARIED BASES)																			
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	261 57%	118 52%	88 55%	9 90% BC	59 55%	110 55%	90 56%	30 59%	153 50%	37 64% I	57 41%	51 56% K	90 73% KLN	44 56% K	78 45%	40 58%	197 57%	165 58%	201 52%
DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL	97 21%	40 18%	36 22%	3 30%	15 14%	40 20%	46 28% E	13 25%	64 21%	11 19%	25 18%	11 12%	36 29% KL	15 19%	35 20%	9 13%	67 19%	74 26% Q	78 20%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	151 33%	75 33%	50 32%	5 50%	34 32%	67 34%	62 39%	22 44%	100 33%	19 33%	51 37%	32 36%	39 32%	23 29%	59 35%	26 38%	110 32%	98 35%	125 33%
CHANGE THE TIME YOU DRIVE	280 62%	130 58%	99 63%	6 67%	59 56%	113 58%	114 71% EF	32 65%	172 57%	38 66%	70 51%	52 58%	85 69% K	52 66% K	92 54%	41 59%	210 62%	185 66%	224 59%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	317 70%	149 67%	115 73%	7 70%	69 66%	131 68%	123 76%	35 73%	198 66%	44 76%	75 55%	57 64%	105 86% KL	60 77% K	99 58%	43 63%	241 71%	208 75% S	255 68%
CARPPOOL TO AVOID PAYING THE TOLL	298 66%	136 62%	106 67%	7 70%	66 63%	119 61%	119 74% F	34 71%	181 61%	42 72%	70 51%	53 59%	100 82% KL	56 72% K	97 57%	39 57%	226 67%	194 70%	241 64%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 45-1
 QUESTION 16 (A-F):
 If this concept was introduced, how likely would you be to:

SUMMARY OF MEANS

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	1.94	1.99	2.09	1.40	1.72	1.99	2.07 E	1.78	2.12 J	1.71	2.25 LM	1.84	1.75	1.95	2.14	1.78	1.92	1.99	2.02	
DRIVE IN THE UNPRICED LANE AND NOT CHANGE THE TIME OR MODE THAT YOU TRAVEL	2.96	3.05	2.85	2.67	3.18 G	2.97	2.78	2.90	2.87	3.06	2.90	3.19 M	2.79	3.09	2.89	3.16	2.99	2.89	2.93	
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	2.64	2.59	2.71	2.40	2.67	2.58	2.56	2.32	2.61	2.64	2.45	2.44	2.82 KL	2.71	2.53	2.30	2.68	2.66	2.63	
CHANGE THE TIME YOU DRIVE	1.85	1.85	1.95	2.11	1.93	1.94 G	1.69	1.88	1.95	1.76	1.95	1.78	1.87	1.85	1.94	1.71	1.85	1.85	1.87	
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	1.30	1.37	1.23	1.80	1.18	1.35	1.22	1.00	1.36	1.28	1.57 LMN	1.22	1.17	1.27	1.49 P	1.18	1.25	1.27	1.31	
CARPPOOL TO AVOID PAYING THE TOLL	1.42	1.50	1.44	1.67	1.35 H	1.56 GH	1.26	1.11	1.51	1.35	1.69 LMN	1.39	1.32	1.38	1.56	1.44	1.41	1.43	1.44	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 46-1
 QUESTION 17:
 The community has identified the following concerns about implementing congestion pricing. Which do you feel is most important to address if this concept was implemented?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	446 100%	216 100%	159 100%	10 100%	103 100%	198 100%	161 100%	53 100%	295 100%	56 100%	134 100%	87 100%	122 100%	78 100%	168 100%	65 100%	331 100%	281 100%	373 100%
SET PERFORMANCE MEASURES TO ENSURE TRAFFIC CONGESTION IS REDUCED	252 57%	123 57%	88 55%	4 40%	54 52%	101 51%	102 63% F	27 51%	168 57%	29 52%	68 51%	45 52%	74 61%	51 65% K	92 55%	35 54%	195 59%	156 56%	218 58%
DESIGN THE PROJECT TO MINIMIZE THE IMPACT ON PEOPLE OF LOW INCOME OR OTHERWISE DISADVANTAGED	225 50%	110 51%	84 53%	4 40%	60 58% G	100 51%	71 44%	27 51%	156 53%	26 46%	82 61% MN	49 56% M	49 40%	35 45%	91 54%	36 55%	153 46%	143 51%	194 52%
MINIMIZE TRAFFIC DIVERSION TO LOCAL STREETS	196 44%	88 41% D	81 51% BD	1 10%	36 35%	91 46%	70 43%	18 34%	137 46%	22 39%	69 51% L	20 23%	66 54% LN	30 38% L	79 47% P	14 22%	155 47%	119 42%	169 45%
PROVIDE ALTERNATIVE DRIVING ROUTES	172 39%	87 40%	60 38%	8 80% BC	36 35%	76 38%	70 43%	21 40%	106 36%	26 46%	35 26%	43 49% K	51 42% K	32 41% K	48 29%	32 49% O	134 40%	109 39%	133 36%
MAKE SURE REVENUE IS USED FAIRLY	147 33%	61 28%	52 33%	4 40%	38 37%	60 30%	48 30%	17 32%	97 33%	13 23%	34 25%	41 47% KMN	36 30%	25 32%	53 32%	30 46% O	104 31%	89 32%	123 33%
MAKE THE PRICING SYSTEM EASY TO UNDERSTAND AND USE	117 26%	66 31% D	42 26% D	- -	25 24%	53 27%	44 27%	14 26%	87 29%	13 23%	39 29%	21 24%	27 22%	25 32%	47 28%	14 22%	82 25%	79 28%	109 29%
PROVIDE MORE TRANSIT, BIKE AND WALKING OPTIONS	104 23%	60 28%	33 21%	2 20%	22 21%	59 30% GH	28 17%	8 15%	79 27%	14 25%	54 40% LMN	14 16%	17 14%	16 21%	62 37% P	13 20%	68 21%	70 25%	87 23%
OTHER	125 28%	53 25%	37 23%	7 70% BC	38 37%	54 27%	50 31%	27 51% FG	55 19%	25 45% I	21 16%	28 32% K	46 38% K	20 26%	32 19%	21 32% O	102 31% S	78 28%	86 23%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 47-1
QUESTION 18:
How frequently do you drive on any portion of the highway in this area?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	473 100%	232 100%	168 100%	10 100%	109 100%	209 100%	163 100%	52 100%	317 100%	58 100%	151 100%	90 100%	125 100%	82 100%	188 100%	68 100%	355 100%	292 100%	399 100%	
REGULARLY -----	106 22%	43 19%	44 26%	4 40%	19 17%	43 21%	37 23%	8 15%	61 19%	17 29%	9 6%	8 9%	73 58% KLN	10 12%	19 10%	7 10%	106 30% RS	49 17%	65 16%	
EVERY DAY	41 9%	15 6%	19 11%	1 10%	6 6%	14 7%	15 9% H	1 2%	24 8%	7 12%	2 1%	5 6%	31 25% KLN	1 1%	3 2%	5 7%	41 12% RS	20 7%	25 6%	
SEVERAL TIME A WEEK	65 14%	28 12%	25 15%	3 30%	13 12%	29 14%	22 13%	7 13%	37 12%	10 17%	7 5%	3 3%	42 34% KLN	9 11%	16 9%	2 3%	65 18% RS	29 10%	40 10%	
OCCASIONALLY -----	84 18%	40 17%	24 14%	4 40%	23 21%	26 12%	38 23% F	11 21%	47 15%	13 22%	18 12%	12 13%	30 24% KL	16 20%	28 15%	11 16%	62 17%	84 29% QS	51 13%	
SEVERAL TIMES A MONTH	84 18%	40 17%	24 14%	4 40%	23 21%	26 12%	38 23% F	11 21%	47 15%	13 22%	18 12%	12 13%	30 24% KL	16 20%	28 15%	11 16%	62 17%	84 29% QS	51 13%	
RARELY/NEVER -----	283 60%	149 64% D	100 60% D	2 20%	67 61%	140 67% G	88 54%	33 63%	209 66% J	28 48%	124 82% MN	70 78% M	22 18%	56 68% M	141 75% M	50 74%	187 53%	159 54%	283 71% QR	
RARELY	204 43%	107 46% D	71 42%	2 20%	45 41%	104 50%	70 43%	29 56%	152 48% J	16 28%	79 52% M	52 58% M	19 15%	44 54% M	94 50%	36 53%	126 35% Q	133 46% Q	204 51% Q	
NEVER	79 17%	42 18% D	29 17% D	- -	22 20% GH	36 17% H	18 11%	4 8%	57 18% J	12 21%	45 30% MN	18 20% M	3 2%	12 15% M	47 25%	14 21%	61 17% R	26 9%	79 20% R	
MEAN	3.45	3.57 D	3.39	2.70	3.59	3.57 G	3.33	3.54	3.57	3.28	4.05 MN	3.83 M	2.37	3.70 M	3.88	3.76	3.28	3.40	3.68 QR	
MEDIAN	4.00	4.00	4.00	3.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00	4.00	4.00	
STANDARD DEVIATION	1.17	1.11	1.25	0.90	1.10	1.13	1.12	0.89	1.14	1.30	0.85	0.97	1.08	0.89	0.93	1.04	1.27	1.01	1.09	
STANDARD ERROR	0.05	0.07	0.10	0.28	0.11	0.08	0.09	0.12	0.06	0.17	0.07	0.10	0.10	0.10	0.07	0.13	0.07	0.06	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

Table 48-1
 QUESTION 19:
 Does traffic on this section of highway ever make you change your travel plans (i.e. taking a different route)?

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	462 100%	222 100%	168 100%	10 100%	105 100%	202 100%	161 100%	48 100%	311 100%	57 100%	148 100%	87 100%	123 100%	79 100%	185 100%	66 100%	349 100%	284 100%	388 100%
YES	127 27%	60 27%	43 26%	5 50%	30 29%	55 27%	48 30%	19 40%	86 28%	14 25%	30 20%	17 20%	48 39% KL	22 28%	40 22%	12 18%	97 28%	89 31%	99 26%
NO	223 48%	108 49%	79 47%	4 40%	45 43%	96 48%	87 54%	22 46%	138 44%	31 54%	56 38%	45 52% K	71 58% K	38 48%	77 42%	34 52%	164 47%	144 51%	177 46%
I DON'T DRIVE THIS SECTION	112 24%	54 24%	46 27%	1 10%	30 29% GH	51 25% G	26 16%	7 15%	87 28%	12 21%	62 42% LMN	25 29% M	4 3%	19 24% M	68 37%	20 30%	88 25% R	51 18%	112 29% R

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 49-1
 QUESTION 20A:
 If this concept was introduced, how likely would you be to:

PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	457 100%	223 100%	163 100%	10 100%	105 100%	201 100%	159 100%	49 100%	307 100%	58 100%	144 100%	88 100%	121 100%	79 100%	179 100%	67 100%	345 100%	283 100%	383 100%	
TOP 2 BOX -----	114 25%	63 28% D	41 25% D	- -	17 16%	53 26% E	49 31% E	10 20%	93 30% J	8 14%	47 33% LM	17 19%	23 19%	23 29%	57 32% P	11 16%	80 23%	78 28%	102 27%	
4 - VERY LIKELY	53 12%	28 13% D	20 12% D	- -	8 8%	23 11% E	26 16% E	6 12%	41 13% J	5 9%	25 17% LM	7 8%	9 7%	10 13%	29 16% P	4 6%	37 11%	36 13%	45 12%	
3 - LIKELY	61 13%	35 16% D	21 13% D	- -	9 9%	30 15% E	23 14% E	4 8%	52 17% J	3 5%	22 15% I	10 11%	14 12%	13 16%	28 16%	7 10%	43 12%	42 15%	57 15%	
BOTTOM 2 BOX -----	245 54%	106 48%	87 53%	10 100% BC	62 59%	103 51%	84 53%	33 67% F	138 45% I	38 66% I	50 35% K	46 52% KLN	90 74% KLN	39 49% K	71 40% K	35 52% K	191 55% S	162 57% S	183 48% S	
2 - UNLIKELY	66 14%	28 13%	29 18%	3 30%	11 10%	32 16%	20 13%	5 10%	52 17% I	5 9%	17 12% N	14 16% N	23 19% N	5 6%	21 12% N	12 18%	48 14%	43 15%	56 15%	
1 - VERY UNLIKELY	179 39%	78 35% D	58 36% D	7 70% BC	51 49% F	71 35% E	64 40% E	28 57% FG	86 28% I	33 57% I	33 23% K	32 36% K	67 55% KL	34 43% K	50 28% K	23 34% K	143 41% S	119 42% S	127 33% S	
DON'T KNOW	18 4%	7 3% D	7 4% D	- -	4 4%	8 4%	4 3%	1 2%	12 4% I	1 2%	4 3% MN	5 6% M	6 5% M	3 4% M	4 2% M	3 4% M	14 4% R	10 4% R	18 5% R	
NOT APPLICABLE	80 18%	47 21% D	28 17% D	- -	22 21%	37 18%	22 14%	5 10%	64 21% I	11 19% I	43 30% MN	20 23% M	2 2% M	14 18% M	47 26% M	18 27% M	60 17% R	33 12% R	80 21% R	
MEAN	1.97	2.08 D	2.02 D	1.30	1.67	2.03 E	2.08 E	1.72	2.21 J	1.57	2.40 LMN	1.87	1.69	1.98	2.28 P	1.83	1.90	1.98	2.07	
MEDIAN	2	2	2	1	1	2	2	1	2	1	2	1	1	1	2	2	1	2	2	
STANDARD DEVIATION	1.12	1.15	1.11	0.46	1.03	1.11	1.20	1.11	1.12	1.01	1.20	1.05	0.97	1.18	1.20	0.98	1.11	1.13	1.13	
STANDARD ERROR	0.06	0.09	0.10	0.14	0.12	0.09	0.10	0.17	0.07	0.15	0.12	0.13	0.09	0.15	0.11	0.15	0.07	0.07	0.07	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 50-1
 QUESTION 20B:
 If this concept was introduced, how likely would you be to:

DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	458 100%	223 100%	163 100%	10 100%	105 100%	202 100%	160 100%	49 100%	307 100%	58 100%	143 100%	88 100%	121 100%	81 100%	179 100%	67 100%	345 100%	283 100%	384 100%
TOP 2 BOX -----	229 50%	106 48%	78 48%	7 70%	49 47%	97 48%	79 49%	21 43%	140 46%	31 53%	57 40%	35 40%	75 62% KL	43 53%	81 45%	27 40%	175 51%	153 54%	180 47%
4 - VERY LIKELY	130 28%	54 24%	44 27%	5 50%	31 30%	46 23%	48 30%	10 20%	66 21%	24 41% I	35 24%	17 19%	45 37% KL	24 30%	46 26%	13 19%	106 31% S	84 30%	93 24%
3 - LIKELY	99 22%	52 23%	34 21%	2 20%	18 17%	51 25%	31 19%	11 22%	74 24% J	7 12%	22 15%	18 20%	30 25%	19 23%	35 20%	14 21%	69 20%	69 24%	87 23%
BOTTOM 2 BOX -----	132 29%	64 29%	49 30%	2 20%	33 31%	61 30%	51 32%	21 43%	92 30%	15 26%	41 29%	25 28%	38 31%	25 31%	51 28%	18 27%	97 28%	85 30%	110 29%
2 - UNLIKELY	54 12%	24 11%	24 15%	1 10%	11 10%	21 10%	26 16%	5 10%	43 14%	5 9%	17 12%	9 10%	15 12%	12 15%	21 12%	6 9%	41 12%	33 12%	45 12%
1 - VERY UNLIKELY	78 17%	40 18%	25 15%	1 10%	22 21%	40 20%	25 16%	16 33% G	49 16%	10 17%	24 17%	16 18%	23 19%	13 16%	30 17%	12 18%	56 16%	52 18%	65 17%
DON'T KNOW	15 3%	5 2% D	8 5% D	- -	- -	4 2% EH	8 5% EH	- -	11 4% J	- -	2 1%	6 7%	4 3%	2 2%	2 1%	2 3%	12 3%	9 3%	14 4%
NOT APPLICABLE	82 18%	48 22%	28 17%	1 10%	23 22%	40 20%	22 14%	7 14%	64 21%	12 21%	43 30% MN	22 25% M	4 3%	11 14% M	45 25%	20 30%	61 18%	36 13%	80 21% R
MEAN	2.78	2.71	2.76	3.22	2.71	2.65	2.78 H	2.36	2.68	2.98	2.69	2.60	2.86	2.79	2.73	2.62	2.83	2.78	2.72
MEDIAN	3	3	3	4	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3
STANDARD DEVIATION	1.15	1.15	1.13	1.03	1.22	1.15	1.14	1.21	1.10	1.22	1.19	1.16	1.15	1.12	1.16	1.16	1.16	1.15	1.14
STANDARD ERROR	0.06	0.09	0.10	0.34	0.14	0.09	0.10	0.19	0.07	0.18	0.12	0.15	0.11	0.14	0.10	0.17	0.07	0.07	0.07

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 51-1
 QUESTION 20C:
 If this concept was introduced, how likely would you be to:

CHANGE THE TIME YOU DRIVE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	457 100%	223 100%	162 100%	10 100%	105 100%	202 100%	159 100%	50 100%	306 100%	58 100%	142 100%	88 100%	121 100%	81 100%	179 100%	67 100%	346 100%	283 100%	383 100%	
TOP 2 BOX -----	92 20%	48 22%	29 18%	3 30%	27 26%	40 20%	29 18%	13 26%	65 21%	9 16%	27 19%	15 17%	31 26%	15 19%	34 19%	12 18%	68 20%	61 22%	76 20%	
4 - VERY LIKELY	36 8%	19 9%	12 7%	1 10%	14 13%	19 9%	9 6%	8 16%	26 8%	3 5%	9 6%	6 7%	14 12%	7 9%	10 6%	5 7%	29 8%	23 8%	29 8%	
3 - LIKELY	56 12%	29 13%	17 10%	2 20%	13 12%	21 10%	20 13%	5 10%	39 13%	6 10%	18 13%	9 10%	17 14%	8 10%	24 13%	7 10%	39 11%	38 13%	47 12%	
BOTTOM 2 BOX -----	266 58%	122 55%	98 60%	6 60%	51 49%	115 57%	103 65%	30 60%	163 53%	38 66%	68 48%	49 56%	83 69%	48 59%	94 53%	35 52%	202 58%	178 63%	210 55%	
2 - UNLIKELY	97 21%	44 20%	43 27%	2 20%	14 13%	40 20%	41 26%	8 16%	72 24%	10 17%	27 19%	21 24%	27 22%	15 19%	37 21%	14 21%	73 21%	66 23%	81 21%	
1 - VERY UNLIKELY	169 37%	78 35%	55 34%	4 40%	37 35%	75 37%	62 39%	22 44%	91 30%	28 48%	41 29%	28 32%	56 46%	33 41%	57 32%	21 31%	129 37%	112 40%	129 34%	
DON'T KNOW	16 4%	5 2%	6 4%	1 10%	4 4%	8 4%	5 3%	2 4%	11 4%	1 2%	3 2%	4 5%	4 3%	5 6%	4 2%	2 3%	13 4%	8 3%	14 4%	
NOT APPLICABLE	83 18%	48 22%	29 18%	- -	23 22%	39 19%	22 14%	5 10%	67 22%	10 17%	44 31%	20 23%	3 2%	13 16%	47 26%	18 27%	63 18%	36 13%	83 22%	
MEAN	1.89	1.94	1.89	2.00	2.05	1.90	1.82	1.98	2.00 J	1.66	1.95	1.89	1.90	1.83	1.90	1.91	1.88	1.88	1.92	
MEDIAN	2	2	2	2	2	2	2	1	2	1	2	2	2	1	2	2	2	2	2	
STANDARD DEVIATION	1.01	1.04	0.97	1.05	1.16	1.05	0.93	1.17	1.01	0.93	1.00	0.97	1.06	1.03	0.97	1.01	1.02	1.00	1.01	
STANDARD ERROR	0.05	0.08	0.09	0.35	0.13	0.08	0.08	0.18	0.07	0.14	0.10	0.12	0.10	0.13	0.09	0.15	0.06	0.06	0.06	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 52-1
 QUESTION 20D:
 If this concept was introduced, how likely would you be to:

RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	456 100%	223 100%	162 100%	10 100%	105 100%	201 100%	158 100%	49 100%	306 100%	58 100%	143 100%	88 100%	121 100%	79 100%	179 100%	67 100%	345 100%	283 100%	382 100%
TOP 2 BOX -----	31 7%	17 8%	7 4%	3 30%	4 4%	19 9%	7 4%	- -	24 8%	4 7%	20 14%	2 2%	4 3%	4 5%	23 13%	2 3%	17 5%	17 6%	26 7%
4 - VERY LIKELY	14 3%	6 3%	3 2%	2 20%	2 2%	11 5%	1 1%	- -	12 4%	- -	9 6%	1 1%	1 1%	3 4%	11 6%	1 1%	6 2%	6 2%	13 3%
3 - LIKELY	17 4%	11 5%	4 2%	1 10%	2 2%	8 4%	6 4%	- -	12 4%	4 7%	11 8%	1 1%	3 2%	1 1%	12 7%	1 1%	11 3%	11 4%	13 3%
BOTTOM 2 BOX -----	312 68%	141 63%	117 72%	7 70%	71 68%	130 65%	117 74%	36 73%	196 64%	41 71%	76 53%	56 64%	106 88%	54 68%	100 56%	38 57%	242 70%	208 73%	252 66%
2 - UNLIKELY	42 9%	20 9%	16 10%	- -	7 7%	21 10%	16 10%	4 8%	31 10%	3 5%	16 11%	7 8%	11 9%	7 9%	18 10%	5 7%	32 9%	23 8%	39 10%
1 - VERY UNLIKELY	270 59%	121 54%	101 62%	7 70%	64 61%	109 54%	101 64%	32 65%	165 54%	38 66%	60 42%	49 56%	95 79%	47 59%	82 46%	33 49%	210 61%	185 65%	213 56%
DON'T KNOW	6 1%	4 2%	1 1%	- -	1 1%	3 1%	- -	- -	5 2%	- -	2 1%	1 1%	1 1%	2 3%	2 1%	1 1%	5 1%	3 1%	6 2%
NOT APPLICABLE	107 23%	61 27%	37 23%	- -	29 28%	49 24%	34 22%	13 27%	81 26%	13 22%	45 31%	29 33%	10 8%	19 24%	54 30%	26 39%	81 23%	55 19%	98 26%
MEAN	1.34	1.38	1.27	1.80	1.23	1.47 EGH	1.25	1.11	1.41	1.24	1.68 LMN	1.21	1.18	1.31	1.61 P	1.25	1.28	1.28	1.37
MEDIAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
STANDARD DEVIATION	0.75	0.78	0.64	1.25	0.62	0.89	0.58	0.31	0.82	0.60	1.01	0.55	0.51	0.75	0.98	0.62	0.65	0.68	0.78
STANDARD ERROR	0.04	0.06	0.06	0.39	0.07	0.07	0.05	0.05	0.06	0.09	0.10	0.07	0.05	0.10	0.09	0.10	0.04	0.05	0.05

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 53-1
 QUESTION 20E:
 If this concept was introduced, how likely would you be to:

CARPOOL TO AVOID PAYING THE TOLL

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	452 100%	221 100%	161 100%	10 100%	104 100%	200 100%	156 100%	49 100%	304 100%	57 100%	142 100%	86 100%	120 100%	80 100%	177 100%	65 100%	343 100%	279 100%	378 100%	
TOP 2 BOX -----	36 8%	21 10%	11 7%	1 10%	9 9%	23 12% GH	5 3%	1 2%	30 10% J	2 4%	19 13% LM	4 5%	5 4%	8 10%	22 12%	4 6%	27 8%	23 8%	32 8%	
4 - VERY LIKELY	16 4%	11 5% C	2 1%	1 10%	2 2%	11 6% H	3 2%	- -	13 4%	1 2%	7 5%	2 2%	2 2%	5 6%	9 5%	2 3%	13 4%	10 4%	13 3%	
3 - LIKELY	20 4%	10 5% D	9 6% D	- -	7 7% G	12 6% G	2 1%	1 2%	17 6%	1 2%	12 8% LM	2 2%	3 3%	3 4%	13 7%	2 3%	14 4%	13 5%	19 5%	
BOTTOM 2 BOX -----	301 67%	135 61%	110 68%	8 80%	66 63%	125 63% F	115 74% F	36 73%	183 60%	43 75% I	72 51%	54 63%	103 86% KLN	53 66% K	97 55%	37 57%	231 67%	199 71% S	240 63%	
2 - UNLIKELY	50 11%	22 10%	23 14%	2 20%	10 10%	21 11% GH	18 12%	4 8%	35 12%	7 12%	17 12%	10 12%	15 13%	7 9%	22 12%	7 11%	38 11%	31 11%	44 12%	
1 - VERY UNLIKELY	251 56%	113 51%	87 54%	6 60%	56 54%	104 52% H	97 62%	32 65%	148 49%	36 63% I	55 39%	44 51%	88 73% KLN	46 58% K	75 42%	30 46%	193 56%	168 60% S	196 52%	
DON'T KNOW	10 2%	5 2% D	4 2% D	- -	2 2%	5 3%	2 1%	1 2%	9 3% J	- -	2 1%	2 2%	4 3%	1 1%	2 1%	1 2%	8 2%	4 1%	9 2%	
NOT APPLICABLE	105 23%	60 27%	36 22%	1 10%	27 26%	47 24%	34 22%	11 22%	82 27%	12 21%	49 35% M	26 30% M	8 7%	18 23% M	56 32%	23 35%	77 22%	53 19%	97 26% R	
MEAN	1.41	1.48	1.39	1.56	1.40 H	1.53 GH	1.26	1.16	1.51 J	1.27	1.68 LM	1.34	1.25	1.46	1.63	1.41	1.41	1.39	1.44	
MEDIAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
STANDARD DEVIATION	0.80	0.89	0.70	0.96	0.77	0.93	0.61	0.44	0.88	0.61	0.97	0.71	0.60	0.92	0.95	0.80	0.81	0.79	0.82	
STANDARD ERROR	0.04	0.07	0.06	0.32	0.09	0.08	0.06	0.07	0.06	0.09	0.10	0.09	0.06	0.12	0.09	0.12	0.05	0.05	0.05	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 54-1
 QUESTION 20 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF TOP 2 BOX

BANNER 1

	GENDER			AGE				ETHNICITY		COUNTY			CITY		FREQUENCY OF USE				
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=ANSWERING (VARIED BASES)																			
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	114 25%	63 28% D	41 25% D	- -	17 16%	53 26% E	49 31% E	10 20%	93 30% J	8 14%	47 33% LM	17 19%	23 19%	23 29%	57 32% P	11 16%	80 23%	78 28%	102 27%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	229 50%	106 48%	78 48%	7 70%	49 47%	97 48%	79 49%	21 43%	140 46%	31 53%	57 40%	35 40%	75 62% KL	43 53%	81 45%	27 40%	175 51%	153 54%	180 47%
CHANGE THE TIME YOU DRIVE	92 20%	48 22%	29 18%	3 30%	27 26%	40 20%	29 18%	13 26%	65 21%	9 16%	27 19%	15 17%	31 26%	15 19%	34 19%	12 18%	68 20%	61 22%	76 20%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	31 7%	17 8%	7 4%	3 30%	4 4% H	19 9% EH	7 4% H	- -	24 8%	4 7%	20 14% LMN	2 2%	4 3%	4 5%	23 13% P	2 3%	17 5%	17 6%	26 7%
CARPOOL TO AVOID PAYING THE TOLL	36 8%	21 10%	11 7%	1 10%	9 9%	23 12% GH	5 3%	1 2%	30 10% J	2 4%	19 13% LM	4 5%	5 4%	8 10%	22 12%	4 6%	27 8%	23 8%	32 8%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 55-1
 QUESTION 20 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF BOTTOM 2 BOX

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=ANSWERING (VARIED BASES)																			
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	245 54%	106 48%	87 53%	10 100% BC	62 59%	103 51%	84 53%	33 67% F	138 45%	38 66% I	50 35%	46 52% K	90 74% KLN	39 49% K	71 40%	35 52%	191 55% S	162 57% S	183 48%
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	132 29%	64 29%	49 30%	2 20%	33 31%	61 30%	51 32%	21 43%	92 30%	15 26%	41 29%	25 28%	38 31%	25 31%	51 28%	18 27%	97 28%	85 30%	110 29%
CHANGE THE TIME YOU DRIVE	266 58%	122 55%	98 60%	6 60%	51 49%	115 57%	103 65%	30 60% E	163 53%	38 66%	68 48%	49 56%	83 69% K	48 59%	94 53%	35 52%	202 58%	178 63% S	210 55%
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	312 68%	141 63%	117 72%	7 70%	71 68%	130 65%	117 74%	36 73%	196 64%	41 71%	76 53%	56 64%	106 88% KLN	54 68% K	100 56%	38 57%	242 70%	208 73% S	252 66%
CARPOOL TO AVOID PAYING THE TOLL	301 67%	135 61%	110 68%	8 80%	66 63%	125 63%	115 74% F	36 73%	183 60%	43 75% I	72 51%	54 63%	103 86% KLN	53 66% K	97 55%	37 57%	231 67%	199 71% S	240 63%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 56-1
 QUESTION 20 (A-E):
 If this concept was introduced, how likely would you be to:

SUMMARY OF MEANS

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
PAY THE TOLL AND EXPECT A FASTER, MORE RELIABLE TRIP IN THE PRICED LANE	1.97	2.08 D	2.02 D	1.30	1.67	2.03 E	2.08 E	1.72	2.21 J	1.57	2.40 LMN	1.87	1.69	1.98	2.28 P	1.83	1.90	1.98	2.07
DRIVE A DIFFERENT ROUTE TO AVOID THE FREEWAY	2.78	2.71	2.76	3.22	2.71	2.65	2.78 H	2.36	2.68	2.98	2.69	2.60	2.86	2.79	2.73	2.62	2.83	2.78	2.72
CHANGE THE TIME YOU DRIVE	1.89	1.94	1.89	2.00	2.05	1.90	1.82	1.98	2.00 J	1.66	1.95	1.89	1.90	1.83	1.90	1.91	1.88	1.88	1.92
RIDE TRANSIT OR TRAVEL BY BIKE OR ON FOOT	1.34	1.38	1.27	1.80	1.23	1.47 EGH	1.25	1.11	1.41	1.24	1.68 LMN	1.21	1.18	1.31	1.61 P	1.25	1.28	1.28	1.37
CARPPOOL TO AVOID PAYING THE TOLL	1.41	1.48	1.39	1.56	1.40 H	1.53 GH	1.26	1.16	1.51 J	1.27	1.68 LM	1.34	1.25	1.46	1.63	1.41	1.41	1.39	1.44

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 57-1
 QUESTION 21:
 The community has identified the following concerns about implementing congestion pricing. Which do you feel is most important to address if this concept was implemented?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	439 100%	211 100%	158 100%	10 100%	100 100%	195 100%	157 100%	50 100%	290 100%	57 100%	133 100%	84 100%	118 100%	79 100%	169 100%	63 100%	330 100%	276 100%	365 100%
SET PERFORMANCE MEASURES TO ENSURE TRAFFIC CONGESTION IS REDUCED	230 52%	117 55%	78 49%	4 40%	48 48%	91 47%	92 59%	24 48%	154 53%	28 49%	62 47%	42 50%	66 56%	48 61%	83 49%	35 56%	182 55%	144 52%	193 53%
DESIGN THE PROJECT TO MINIMIZE THE IMPACT ON PEOPLE OF LOW INCOME OR OTHERWISE DISADVANTAGED	220 50%	106 50%	86 54%	4 40%	57 57%	103 53%	68 43%	26 52%	156 54%	25 44%	83 62%	50 60%	44 37%	34 43%	92 54%	36 57%	157 48%	138 50%	189 52%
MINIMIZE TRAFFIC DIVERSION TO LOCAL STREETS	203 46%	87 41%	88 56%	1 10%	40 40%	91 47%	74 47%	20 40%	140 48%	23 40%	69 52%	24 29%	64 54%	33 42%	85 50%	18 29%	161 49%	123 45%	176 48%
PROVIDE ALTERNATIVE DRIVING ROUTES	178 41%	81 38%	70 44%	8 80%	35 35%	75 38%	71 45%	18 36%	110 38%	28 49%	34 26%	42 50%	57 48%	34 43%	51 30%	33 52%	134 41%	119 43%	140 38%
MAKE SURE REVENUE IS USED FAIRLY	145 33%	71 34%	46 29%	3 30%	36 36%	62 32%	48 31%	16 32%	94 32%	15 26%	37 28%	38 45%	35 30%	25 32%	52 31%	24 38%	105 32%	92 33%	120 33%
MAKE THE PRICING SYSTEM EASY TO UNDERSTAND AND USE	110 25%	59 28%	40 25%	- -	27 27%	51 26%	39 25%	15 30%	80 28%	15 26%	36 27%	17 20%	26 22%	26 33%	45 27%	11 17%	80 24%	69 25%	101 28%
PROVIDE MORE TRANSIT, BIKE AND WALKING OPTIONS	102 23%	56 27%	30 19%	3 30%	17 17%	58 30%	28 18%	4 8%	77 27%	13 23%	56 42%	12 14%	14 12%	16 20%	64 38%	11 17%	67 20%	66 24%	86 24%
OTHER	129 29%	56 27%	36 23%	7 70%	40 40%	54 28%	51 32%	27 54%	59 20%	24 42%	22 17%	27 32%	48 41%	21 27%	35 21%	21 33%	104 32%	77 28%	90 25%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 58-1
 QUESTION 22:
 I describe my gender as:

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	475 100%	236 100%	171 100%	10 100%	113 100%	212 100%	161 100%	55 100%	317 100%	59 100%	153 100%	92 100%	127 100%	81 100%	189 100%	70 100%	352 100%	290 100%	395 100%	
FEMALE	171 36%	1 -	171 100% BD	1 10%	41 36%	79 37%	57 35%	19 35%	135 43%	24 41%	53 35%	32 35%	58 46% N	20 25%	62 33%	26 37%	136 39%	98 34%	145 37%	
MALE	236 50%	236 100% CD	1 1%	1 10%	59 52%	105 50%	85 53%	28 51%	177 56%	27 46%	84 55% M	49 53% M	49 39%	45 56% M	101 53%	35 50%	168 48%	154 53%	204 52%	
NON-BINARY OR GENDER NON-CONFORMING	8 2%	1 -	1 1%	8 80% BC	1 1%	6 3%	2 1%	1 2%	1 -	6 10% I	1 1%	3 3%	3 2%	1 1%	1 1%	3 4%	6 2%	5 2%	3 1%	
TRANSGENDER	4 1%	1 -	1 1%	4 40% BC	2 2%	3 1%	1 1%	2 4%	2 1%	2 3%	1 1%	- -	1 1%	2 2%	1 1%	- -	3 1%	3 1%	3 1%	
I PREFER NOT TO SAY	62 13%	2 1%	1 1%	1 10%	11 10%	20 9%	20 12%	6 11%	2 1%	5 8% I	15 10%	8 9%	17 13%	17 21% KL	25 13%	6 9%	45 13%	31 11%	46 12%	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 59-1
QUESTION 25:
How do you identify yourself culturally?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	472 100%	232 100%	170 100%	10 100%	113 100%	213 100%	164 100%	55 100%	321 100%	59 100%	153 100%	90 100%	125 100%	81 100%	189 100%	68 100%	351 100%	291 100%	396 100%
AFRICAN AMERICAN/BLACK	12 3%	2 1%	9 5% BD	- -	1 1%	7 3% H	3 2%	- -	2 1%	10 17% I	7 5% N	2 2%	3 2%	- -	7 4% P	2 3%	11 3%	5 2%	9 2%
ASIAN/PACIFIC ISLANDER	7 1%	4 2% D	3 2%	- -	2 2%	4 2% H	1 1%	- -	- -	7 12% I	3 2%	1 1%	1 1%	1 1%	4 2% P	1 1%	5 1%	6 2%	6 2%
HISPANIC/LATINO(A)	20 4%	8 3% D	12 7% D	- -	5 4% H	12 6% GH	3 2%	- -	8 2%	12 20% I	9 6%	3 3%	4 3%	3 4%	10 5% P	3 4%	18 5%	13 4%	16 4%
NATIVE AMERICAN/AMERICAN INDIAN	5 1%	3 1%	2 1%	- -	3 3%	4 2%	1 1%	3 5%	2 1%	3 5%	1 1%	3 3%	- -	1 1%	1 1% P	3 4%	3 1%	4 1%	4 1%
WHITE/CAUCASIAN	321 68%	177 76% D	135 79% D	3 30%	72 64%	154 72%	113 69%	34 62%	321 100% J	- -	108 71%	62 69%	89 71%	51 63%	131 69% P	46 68%	236 67%	198 68%	287 72%
MIXED RACE	18 4%	9 4%	7 4%	1 10%	6 5%	8 4%	4 2%	1 2%	1 -	17 29% I	6 4%	3 3%	4 3%	4 5%	6 3% P	3 4%	15 4%	10 3%	10 3%
OTHER	14 3%	6 3%	2 1%	6 60% BC	4 4%	5 2%	7 4%	2 4%	1 -	13 22% I	2 1%	3 3%	3 2%	5 6%	5 3% P	3 4%	9 3%	7 2%	10 3%
I PREFER NOT TO SAY	92 19%	28 12%	11 6%	1 10%	23 20%	31 15%	34 21%	16 29% F	- -	- -	24 16%	17 19%	25 20%	17 21%	32 17% P	11 16%	69 20%	60 21%	67 17%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

Table 60-1
QUESTION AGE:
AGE

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	490 100%	236 100%	171 100%	10 100%	113 100%	213 100%	164 100%	55 100%	321 100%	59 100%	159 100%	93 100%	129 100%	82 100%	195 100%	71 100%	359 100%	295 100%	402 100%	
18-29	58 12%	31 13% D	22 13% D	- -	58 51% FGH	- -	- -	- -	38 12%	13 22%	28 18% M	9 10%	12 9%	8 10%	34 17%	8 11%	49 14%	31 11%	45 11%	
30-44	158 32%	77 33%	60 35%	6 60%	- -	158 74% EGH	- -	- -	120 37%	23 39%	62 39% LM	24 26%	32 25%	34 41% LM	77 39% P	18 25%	114 32%	84 28%	139 35%	
45-64	164 33%	85 36%	57 33%	2 20%	- -	- -	164 100% EPH	- -	113 35%	17 29%	38 24%	39 42% K	51 40% K	24 29%	47 24%	27 38% O	130 36%	115 39%	137 34%	
65+	55 11%	28 12%	19 11%	2 20%	55 49% FG	55 26% G	- -	55 100% EFG	34 11%	5 8%	11 7%	14 15%	16 12%	12 15%	15 8%	12 17%	33 9%	39 13%	47 12%	
NO ANSWER	55 11%	15 6% D	13 8% D	- -	- -	- -	- -	- -	16 5%	1 2%	20 13% N	7 8%	18 14% N	4 5%	22 11%	6 8%	33 9%	26 9%	34 8%	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 61-1
 QUESTION 24:
 What strategies, policies or decisions should be considered to make congestion pricing work for the Portland metro area?

BANNER 1	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	119 100%	65 100%	34 100%	2 100%	26 100%	44 100%	39 100%	7 100%	79 100%	11 100%	52 100%	9 100%	27 100%	24 100%	58 100%	6 100%	88 100%	66 100%	98 100%	
FAIRNESS	27 23%	15 23%	11 32%	- -	5 19%	10 23%	11 28%	2 29%	22 28%	1 9%	9 17%	3 33%	6 22%	7 29%	9 16%	2 33%	18 20%	20 30%	26 27%	
EXPANDING EXISTING ROADWAYS	16 13%	7 11%	3 9%	- -	1 4%	4 9%	6 15%	- -	8 10%	1 9%	6 12%	1 11%	3 11%	5 21%	9 16%	1 17%	10 11%	8 12%	11 11%	
TRUST	11 9%	3 5%	4 12%	- -	3 12%	5 11%	3 8%	1 14%	5 6%	1 9%	6 12%	- -	3 11%	2 8%	5 9%	- -	8 9%	5 8%	8 8%	
EQUITY	10 8%	7 11%	2 6%	- -	3 12%	3 7%	5 13%	1 14%	6 8%	3 27%	5 10%	- -	4 15%	1 4%	6 10%	- -	7 8%	5 8%	9 9%	
DIVERSION	7 6%	5 8%	2 6%	- -	- -	3 7%	4 10%	- -	6 8%	1 9%	2 4%	- -	1 4%	3 13%	2 3%	- -	5 6%	3 5%	6 6%	
REVENUE AND TAXES	7 6%	7 11%	- -	- -	2 8%	4 9%	1 3%	1 14%	4 5%	1 9%	4 8%	1 11%	1 4%	1 4%	5 9%	1 17%	6 7%	2 3%	5 5%	
MITIGATION STRATEGIES	7 6%	3 5%	2 6%	- -	4 15%	1 2%	1 3%	- -	5 6%	- -	4 8%	1 11%	1 4%	1 4%	6 10%	1 17%	3 3%	4 6%	5 5%	
TRANSIT	6 5%	3 5%	1 3%	- -	- -	4 9%	1 3%	- -	5 6%	- -	3 6%	- -	1 4%	1 4%	3 5%	- -	6 7%	3 5%	6 6%	
ADDING ADDITIONAL ROADWAYS	6 5%	3 5%	2 6%	1 50%	2 8%	2 5%	2 5%	1 14%	4 5%	1 9%	3 6%	1 11%	2 7%	- -	3 5%	1 17%	4 5%	5 8%	5 5%	
PROJECT SCOPE AND PUBLIC ENGAGEMENT	5 4%	3 5%	1 3%	- -	2 8%	2 5%	1 3%	- -	3 4%	1 9%	3 6%	- -	2 7%	- -	3 5%	- -	5 6%	1 2%	4 4%	
LANE CONVERSION	5 4%	3 5%	1 3%	- -	2 8%	1 2%	1 3%	- -	4 5%	- -	2 4%	- -	1 4%	2 8%	2 3%	- -	4 5%	2 3%	4 4%	
CONGESTION IMPACTS	4 3%	2 3%	2 6%	1 50%	1 4%	- -	2 5%	- -	2 3%	1 9%	1 2%	1 11%	- -	1 4%	1 2%	- -	4 5%	2 3%	3 3%	
CONGESTION OBSERVATIONS	3 3%	2 3%	1 3%	- -	- -	2 5%	- -	- -	2 3%	- -	2 4%	- -	- -	- -	2 3%	- -	3 3%	2 3%	3 3%	
PERSONAL FINANCIAL IMPACTS	3 3%	1 2%	1 3%	- -	- -	1 2%	1 3%	- -	2 3%	- -	1 2%	1 11%	1 4%	- -	1 2%	- -	3 3%	3 5%	2 2%	
OTHER CONCURRENT PROJECTS	1 1%	1 2%	- -	- -	1 4%	1 2%	- -	1 14%	- -	- -	- -	- -	1 4%	- -	- -	- -	1 1%	1 2%	- -	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Continued

Table 61-1
 QUESTION 24:
 What strategies, policies or decisions should be considered to make congestion pricing work for the Portland metro area?

BANNER 1

	GENDER			AGE				ETHNICITY		COUNTY				CITY		FREQUENCY OF USE			
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
GENERAL ECONOMIC IMPACTS	1 1%	-	1 3%	-	-	1 2%	-	-	1 1%	-	1 2%	-	-	-	1 2%	-	1 1%	-	1 1%
ENVIRONMENTAL IMPACTS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TECHNOLOGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
 COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

*** EnviroIssues ***

Table 62-1
QUESTION COUNTY:
COUNTY

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY			CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	490 100%	236 100%	171 100%	10 100%	113 100%	213 100%	164 100%	55 100%	321 100%	59 100%	159 100%	93 100%	129 100%	82 100%	195 100%	71 100%	359 100%	295 100%	402 100%
MULTNOMAH	159 32%	84 36%	53 31%	2 20%	39 35% GH	73 34% GH	38 23%	11 20%	108 34%	21 36%	159 100% LMN	- -	- -	- -	148 76% P	- -	115 32%	83 28%	141 35%
CLARK	93 19%	49 21%	32 19%	3 30%	23 20%	38 18%	39 24%	14 25%	62 19%	11 19%	- -	93 100% KMN	- -	- -	- -	71 100% O	64 18%	54 18%	79 20%
CLACKAMAS	129 26%	49 21%	50 34% B	3 30%	28 25%	48 23%	51 31%	16 29%	89 28%	11 19%	- -	- -	129 100% KLN	- -	15 8% P	- -	115 32% S	87 29%	96 24%
WASHINGTON	82 17%	45 19% C	20 12%	2 20%	20 18%	46 22%	24 15%	12 22%	51 16%	13 22%	- -	- -	- -	82 100% KLM	32 16% P	- -	52 14%	52 18%	66 16%
OTHER COUNTIES	27 6%	9 4% D	8 5% D	- -	3 3%	8 4%	12 7%	2 4%	11 3%	3 5%	- -	- -	- -	- -	- -	- -	13 4%	19 6%	20 5%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

Table 63-1
QUESTION CITY:
CITY

BANNER 1

	GENDER				AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)	
BASE=TOTAL ANSWERING	490 100%	236 100%	171 100%	10 100%	113 100%	213 100%	164 100%	55 100%	321 100%	59 100%	159 100%	93 100%	129 100%	82 100%	195 100%	71 100%	359 100%	295 100%	402 100%	
CITY OF PORTLAND	195 40%	101 43%	62 36%	2 20%	49 43% GH	92 43% GH	47 29%	15 27%	131 41%	26 44%	148 93% LMN	- -	15 12% L	32 39% LM	195 100% P	- -	141 39%	114 39%	164 41%	
CITY OF VANCOUVER	71 14%	35 15%	26 15%	3 30%	20 18%	30 14%	27 16%	12 22%	46 14%	11 19%	- -	71 76% KMN	- -	- -	- -	71 100% O	49 14%	37 13%	59 15%	
OTHER CITIES	224 46%	100 42%	83 49%	5 50%	44 39%	91 43%	90 55% EF	28 51%	144 45%	22 37%	11 7%	22 24% K	114 88% KLN	50 61% KL	- -	- -	169 47%	144 49%	179 45%	

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

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Table 64-1
QUESTION ZIP:
Low Income Zips

BANNER 1

	GENDER			AGE				ETHNICITY			COUNTY				CITY		FREQUENCY OF USE		
	TOTAL (A)	MALE (B)	FEMALE (C)	GENDER NON-CONFIRMING +TRANS (D)	<30 (E)	30-44 (F)	45-64 (G)	65+ (H)	WHITE (I)	ALL NON-WHITE (J)	MULTNOMAH COUNTY (K)	CLARK COUNTY (L)	CLACKAMAS COUNTY (M)	WASHINGTON COUNTY (N)	CITY OF PORTLAND (O)	CITY OF VANCOUVER (P)	REGULARLY (Q)	OCCASIONALLY (R)	RARELY/ NEVER (S)
BASE=TOTAL ANSWERING	490 100%	236 100%	171 100%	10 100%	113 100%	213 100%	164 100%	55 100%	321 100%	59 100%	159 100%	93 100%	129 100%	82 100%	195 100%	71 100%	359 100%	295 100%	402 100%
YES	14 3%	9 4%	3 2%	- -	2 2%	4 2%	5 3%	- -	8 2%	3 5%	11 7%	- -	- -	3 4%	11 6%	- -	11 3%	7 2%	13 3%
NO	476 97%	227 96%	168 98%	10 100%	111 98%	209 98%	159 97%	55 100%	313 98%	56 95%	148 93%	93 100%	129 100%	79 96%	184 94%	71 100%	348 97%	288 98%	389 97%

UPPERCASE LETTERS: SIGNIFICANT AT THE 95% LEVEL OF CONFIDENCE
COLUMNS TESTED: B/C/D, E/F/G/H, I/J, K/L/M/N, O/P, Q/R/S

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APPENDIX C: ONLINE OPEN HOUSE OPEN-ENDED COMMENTS

Question: What strategies, policies or decisions should be considered to make congestion pricing work for the Portland metro area?

ZIP	Comment
97212	Hooray for congestion pricing. Please price all lanes for as long of segments as possible to minimize diversion onto local streets. Also invest in improved transit/bike/ped in these corridors to make project more equitable.
98604	Build a third bridge to get across the Columbia river. I work in construction, and most of my work is in Portland. I pay your Oregon state income tax, and for parking in the city, it is not fair to make somebody pay so they can get to work.
98660	Start any tolls on I-5 south of Delta Park. This would allow people from Vancouver to access Max at Delta Park. It is unfair to toll the I-5 Bridge when there is no alternative route from Vancouver.
98685	Every single cent earned through tolling revenue should be used for freeway expansion. A 3 lane road through a major metropolitan city is not only inadequate but negligent. Bike lanes and pedestrian areas have no impact for many types of drivers.
98668	Guess you could talk to my boss and say I can come to work when it is low cost, or maybe he can give raises, Maybe the survey and engineers can use positive words instead of might or may, or the money shall be used to improve transportation and not
97006	pricing is great because it will encourage more people to move to portland to pay more income tax. Also, those who live in WA will be encouraged to spend more in sales tax to build more community there. Fat Tolls for rush hour!
97222	Toll as much as possible. Fund alternate travel options in conjunction.
98682	Adding tolls will do NOTHING to ease congestion because there are no other options for travel. Work with Washington to add lanes and/or a new bridge!
97045	Designate a % of revenues generated to create a system of free HOV lanes. Encourages carpooling and reducing number of vehicles and congestion
98642	Our family use of Portland freeways is travel I-5 beyond Portland. We avoid high traffic times whenever we can anyway. We are adamantly apposed to paying fir pedestrian, bike lanes and public transit with our money.
97068	Diversion traffic is the major concern in the So. Metro area. Local cities disproportionately affected. Side streets are gridlocked today, affecting QOL, school trips in residential neighborhoods. Transit alternatives are non-existent for most O-Ds.
97035	When toll roads were put in place in Florida, the neighborhood streets were clogged and dangerous for pedestrians. I have some relatives that live there and saw the situation for myself.
98532	The committee needs to bear in mind that many drivers cannot choose their employment start and stop times. Therefore, they cannot choose their travel hours to get to work/home. You are "forcing" them to pay the higher rates. No choice.
97013	Any tolls to promote a "faster highway trip" should be exclusive to a "fast lane" only. Nothing else in the explanation would make sense and otherwise it seems pandering.
98664	This is a temporary solution. More roadways are needed for the increased population. A 3rd bridge over the Columbia River east of I-205 would also help by easing congestion on the other 2 bridges & accommodate increasing populations in Gresham & WA.
98665	There is an underlying assumption congestion pricing will work. Inadequate data presented to support this assumption. No mention of extending light rail to Clark County, more routes in PDX. No mention of tunnel under Columbia River as transit option
98660	Expand C-Tran services to more locations and longer times in service especially for express routes.
97213	This is an awful idea, please do not pursue it! Restricting lanes or tolling in any way will only make congestion worse. Improve the roads for everyone, make all users pay equally through tax!
97111	Improve public transportation! Only 2 rails do not allow an express line. It takes 2 hours each way commuting by public transit. It's an affordable housing issue in Portland. Tolling roads makes me want to leave the area. This is not L.A.
98684	Transit lines need to increase in areas that are affected by tolling. More express buses.

97062	A toll from Down town to the 1-5/205 juncture would be a regressive tax on all commuting workers who work in down town portland. Set aside the low income people, the middle income people who drive this 2x per day are going to be hurt
97217	I live off of the Killingsworth I-5 exit and I strongly support congestion pricing, especially if the money could go towards transit subsidies and housing affordability to get more low-income people into inner portland neighborhoods such as mine
97221	If you implement tolls, please toll the entire freeway system in the metro area consistently and set the tolls to manage congestion, meaning, when there is adequate capacity for demand, the toll should be \$0.
97211	Tolling I-5 downtown and in North Portland, and 205 at the bridges are good ideas. But to reduce congestion in downtown and prevent traffic diversion, please add tolls to the other bridges too, working with the county and PBOT.
97034	ANY toll needs to be accompanied with IMPROVEMENTS (new Abernathy Bridge/entry-exit improvements). Tolls should not be for "encouraging behavior"; congestion is due to bad road design. Make them better and I'll be willing to pay for the work.
97002	build a highway bypass around Portland for Tractor Trailer trucks; do not allow truck through traffic; create zipper lane to increase flow of traffic depending on time
97068	My specific concern is about spillover (or as you call it, diversion) onto surface streets. This will be a particularly bad problem at the Abernathy Bridge. Local traffic will divert into downtown Oregon City and clog Main St.
97217	I am concerned about people like me who have limited route options and cannot choose which times of day we want to be on the road (set work schedules, etc.). This seems like it will disadvantage anyone not privileged enough to have other options
97225	Your online form required checking the "top three" priorities to move on to the next screen. This is skewing the results. I would have voted 3 times for "privacy", instead, my concerns are being diluted, and 2 other items are being "up voted"
97203	Decongestion pricing should be implemented before any freeway expansion is undertaken. Revenue from pricing should be spent on increased transit operations and capital investments.
97201	I am a big supporter of decongestion Pricing. It will only be successful if: pricing is dynamic, funds are used for extending/improving transit & bike networks, and the diversions onto side streets are enforced with speeding and traffic cameras.
97035	DO NOT IMPOSE FEES, TAXES OR ANY MONETARY FINES FOR JUST TRYING TO GET TO WORK! Build more roads and less bike lanes, no more trains that no one uses and they are always having issues and hitting people. Roads-with current budget.
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97070	I disagree with tolling existing lanes. Tolls for added lanes is more justified, as it pays for added infrastructure, and keeps it optional. Starting toll north of Wilsonville is stupid, as diversion already causes severe congestion in Wilsonville.
97086	Make sure it doesn't push more traffic to side streets. The side streets are already getting more congested just to avoid current traffic and can be faster at time.
97221	Great idea. Agree to have techology help, like the bay area fast pass. Also grest idea to have low income discounts and carpool.
97217	The only options that should be considered are those that AVOID pushing even more cars onto the side/residential streets. There are a ton of WA cars on residential streets now because the freeways are so bad. These pricing schemes will worsen that.
97217	Consider vehicles trying to cross the Willamette from N Portland using the Fremont Bridge to avoid B'way Bridge. Will they pay a toll with Concept B for the 1/2 mile from Going St to 405? Will they divert to Vancouver Ave to get on 405 at Kerby Ave?
97024	I feel very resentful that I'm being asked for this type of funding when the gas taxes and other funding has not been used judiciously in the past. It's really another tax with different clothes on!
97213	Tolling should be on one lane not all lanes. Many households cannot afford to pay more money to get to work and the store even middle class families are struggling with high rents in Portland Metro Area it isn't just low income households
97213	Any household with an individual who receives OHP, SSI, Medicare, VA Benefits etc should get a free pass in the tolling system as they are low income. Make it easy!

97003	Add more traffic lanes
97236	Could follow the 91 expressway model from CA. That used private contractor to construct & run the ADDITIONAL 2 lanes in the center of existing unpriced lanes. I take 205 N, 84 W, 5 S to 405 as do others from E PDX. Need additional capacity to work!
97015	I live in the middle of the I-205 corridor. I do not want to pay a toll for driving to and from work because I feel like I should be able to drive without it based on where I live. Toll people coming into I-205 from I5 by Wilsonville and Vancouver.
97068	Please do something, take the results from this survey and act. This problem needs to be addressed, it is affecting the quality of life.
97224	Odod had opportunity to fix this previously and wasted millions. No trust that you'll get it right this time. Traffic isn't going away and needs to be addressed with additional lane availability. Public trans not for all, we're 2.5 miles from stop
97223	Build more roads and stop wasting money on the max.
98684	Do not toll the tax payers that can not vote in your state IE Washington Residents working in Oregon
97007	I've seen this system implemented in Seattle. Portland traffic looks like a breeze compared to Seattle, so obviously that system isn't working. This is simply a tax on people who can afford to pay it, at the expense of people who can't.
97068	The highest incentive to shift & even out traffic is to make roads free during non-peak times. "tolls ... provide a new resource to address other transportation improvements and/ or mitigation strategies" - is money or moving traffic the goal?
97217	Implement congestion pricing before contemplating building new freeway lanes!!
97030	Trucks should be free. Use a text message system so people can wait until cheap times to drive I don't mind traffic unless I need to pee. Don't give illegals licenses...save tons that way.
97236	Sounds good to me.
97068	This is the WORST idea. We eliminated tolls years ago across the country because they are bad for everyone. Penalizing people for driving when we provide NO OTHER OPTIONS. We MUST build more roads and add public transit.
97068	I used to live west of the Twin Cities in MN when they first implemented the Express Lane. Only buses, motorcycles and cars with minimum 2 people, including the driver, were allowed to use it. Only on a second stage they turned it to Paid Lane.
97124	I think congestion is a huge issue when going to or through the portland metro area. with as high as our taxes are in oregon I feel like an extra cost to operate a vehicle in this area is asking too much. also need more than 250 to answer fully.
97086	Tolling the entire freeways seems like overkill - tolling by section makes more sense for where congestion actually happens. It's also incredibly unfair to lower-income people who would have to find funds if they need a more-efficient transit time.
97215	There aren't nearly enough public transit options in the area (max lines) to consider tolling all lanes of I5 and I205. Transport needs to branch out to the bedroom communities (Wilsonville, Vancouver etc) that create a lot of peak time congestion.
97078	All revenue should go toward building new roads or lanes. Portland has a history of misusing public funds. Drivers should not be paying for transit or bike improvements.
97068	I'm not opposed to road tolls but the impact on neighboring roads, such as Willamette Falls Blvd. and Blankenship in West Linn needs to be considered. Increasing traffic on side roads IS NOT the answer.
97220	I oppose all freeway tolling due to the fact that they place an inordinate burden on the poor and the fact that pbod has publicly stated that it intends to use toll revenues as a cash cow for other transit projects i.e. pedestrian, bicycle bus.
97030	Instead of charging only motorist's, why not charge more for use of bike Lanes. Tolling will cause more cars on to local side streets. Pedestrian and bicycle accidents will increase. Instead of building more bike and transit. Build new highways.
97239	Toll subsidies for low income. Toll credits for those who use transit on the route. No tolling after certain hours. Plate recognition vs transponders (which can incur addl non-toll costs). Solutions for the unbanked (pay in local retailers).
97068	Frustrated that it seems like a "done deal." Many of us don't have a choice about driving when we do or where we do. It's frustrating to be penalized for that. People who already have more flexibility/barriers in their lives also don't pay too?

97068	We are already seeing people leaving the freeways and using local roads to get around the freeways which is causing incredible congestion on two lane roads that were not intended for heavy traffic. Strategy must take that into consideration.
97068	concern about West Linn-10th street exit, Hwy 43 and cut through traffic by Oregon City residents to avoid the back up on the Abernathy Bridge. I would like to see exploration of adding metrorail from Portland all the way to 205 upgrading exit.rails
97236	I'm a college student who lives in a low income family. I already have trouble paying for gas to get to school, and this will add to my costs. Also strategies for low income people will only make me feel branded and others segregated for making more
97217	Please direct most funds generated from congestion pricing to mass transit, biking and walking infrastructure additions and improvements to ensure that more people can safely and happily get where they need to go without needing to use a car.
97070	Toll everyone coming from Washington and I bet the roads become way less congested. I drive Wilsonville to Salem both ways every week day and every 4th or 5th car has Washington plates!
97219	In SW Portland, it won't help, it will just make things worse. Our unmaintained and poorly designed infrastructure already can't handle the load. With I-5 tolling, our arterials that commuters will use instead, will become both impassable and deadly.
97006	Please allow lane splitting for motorcycles!!! It instantly creates additional travel lanes for free. In a region defined by bridges, we don't usually have alternate routes that are not already congested, and mass transit adds hours to the commute.
97223	Build more roads, BUT DO NOT put TOLLS on roads.
97223	The Semi Trucks on the Freeway are a huge congestion problem. I understand in Southern California they are not permitted 7am to 7pm. Or on the subject of tolls restrict to very high tolls on cargo transport during those hours. Yes on congestion \$
98683	Consider impact on commuters from Washington who won't have the ability to vote on these measures. There are NO alternate routes if you toll both highways and NO Max across the river. Need to advocate for commuter friendly policies with employers.
97217	Put toll across all of I5 & 205 or don't do it at all. Don't waste our money widening freeways. Spend that money on more cops to monitor diversion traffic, issue tickets to people who don't live on a neighborhood street who use it as a HWY detour.
97229	I do not believe congestion pricing to be a balanced option for all levels of families and varying incomes. Have you considered building a west end highway beginning near Hillsboro and connecting to I -5 north of Wilsonville?
97086	Fix the big problems now by borrowing money from the projected income, and add lanes to the Abernathy Bridge; connect on and off ramps with lanes, e.g. Powell/Division exits; and add lanes to viaduct bridges like Foster Road, to add capacity.
97078	Optimizing stoplights is the best strategy. Traffic calming is the worst idea I have ever heard of for a strategy of diverting traffic. You are just going to make traffic even WORSE on roads adjacent to the tolled freeway.
97003	Roads should've been improved (widened, and/or additional bypasses built) long before now. Improve the roads via taxes and grants. Transit isn't a realistic option unless it is much improved.
97071	I will be voting No on all options. It's ludicrous to charge people to drive themselves to work when they are trying to make a living by working. Where is all the money going from legalizing Marajuana?? You have to go back to the drawing board.
97222	Congestion pricing favors those wealthy enough to pay for reliable transit times. It will shift poorer commuters into slower lanes and wealthier commuters into faster lanes. I do not support this in any way. It's not a real solution
97080	I'm completely opposed. As a single mom, I can afford to live in Gresham but I work in Portland. I need to work while my child is at school so changing my hours is not possible. I can't take public transportation since it would take 90 min each way.
97232	Negative effects of tolling disproportionately affect lower-income people, and public-private partnerships to install toll roads are rife with corruption. Unless these two considerations are given the highest priority, toll roads are a bad idea.
97223	One of the biggest problems is stalled vehicles or rear end collisions on the freeway. We need to remove accidents faster and force those stalled vehicle drivers to pay a heavy fine to keep stalled cars off the road. Stalled car: \$1000 fine

97045	Build more roads. No tolls on existing highways. This will push traffic onto side roads and neighborhoods. How about asking companies to let people work from home? Tax CUTS for people that live within a mile of their work location (or 5) No tolls.
97212	Must be comprehensive, meaning pricing must apply though out greater metropolitan area (I-5 and I-205 from Washington border south to where I-5 and I-205 rejoin). In addition, will need to implement so it does not divert traffic onto local arterials.
97034	Develop rapid bus system in stead of new light rail with dedicated lanes. Focus on increasing capacity to move people efficiently rather than congestion pricing. Costs should be paid by miles driven rather than gas tax to raise revenue.
97221	Acknowledge different travel choices for different trips. I typically bike to work. But for special trips when I'm on the freeway, I drive because that is the only realistic choice for a SW Portland resident going to suburban locations.
97045	Increase capacity on I205! There is plenty of room to add additional lanes. Build the additional lanes first, then charge a toll to use the newly added lanes. Use the toll money to pay for the added lanes.
97202	Low incomes can't choose when/where they work & can't afford tolls or being late 2 work. (Went 2 ODOT listening mtg in Roseburg. Was told ODOT is 4 transportation & doesn't worry about impacts on neighborhoods. I don't trust you will listen 2 me now)
97086	Many projects will = an undue and unfair tax on eside residents Avoiding fees on 205 will add side st traffic in areas where it is already out of control (SE 92) impacting residents unfairly Avoiding fees will add to cross town traffic and congestion
97216	Don't implement congestion pricing in any form as it will make freeways and low traffic driving privileges for the wealthy and will hurt low-income people. As someone who regularly commutes by bike and transit this is all around a terrible idea.
97302	You must first deal with the thousands of semi-trucks that were added to the highways when the shipping companies pulled out of the Port of Portland. This is the main driver of congestion in the last few years. Tolls aren't going to change that!
98642	I support tolls as a funding mechanism for future highway improvements.
97080	I am against ANY tolling plan on I-5 and I-205. For decades the growth in the area has been ignored by multiple jurisdictions, and now they want to toll their way out of this mess? It is unfair and it will not work.
98664	Low or no toll for off-hours and weekends; no toll for carpools of 2+ people; alternate ways to load cash on a transponder for people without credit cards/bank accounts; discounts or credits for economically disadvantaged traveling to work.
98675	We pay taxes to WA, OR, FED, property, sales. We can't afford more taxes! This will break our family. Do like everyone else and LIVE WITHIN YOUR MEANS! The only real solution, more lanes for cars, no more money for MAX!
97231	The proposals are ridiculous. Keep this up and eventually the people will rise up and take back our roads. If you want more money why don't you tax the bicycles. Wouldn't that be fair and equitable?
97206	Revenue won't be spent properly, so it's a waste unless temporary. Instead move the highways underground to virtually eliminate the space issue. Replace i5 & extend 26 east with dedicated fast lanes which are tolled for commuters and through traffic.
98664	this seems like a good option that doesn't unfairly tax Washington residents that pay Oregon taxes and don't get anything in return.
98664	I am OK with tolling I-5 and I-205 as long as Washington drivers have alternative routes available as Oregon drivers will have. Start the I-5 and I-205 south tolling at the US-30 interchanges for example. Also, toll I-84 from downtown to Troutdale.
98685	What do you do with the \$10k of non resident income tax that I have been paying the last 14 years? Defense find for your pervert mayor and governor? SpringSupp illegals and antifa riots? You realize that this to turn downtown roads into racetrack?
98607	What alternate route is their if you live in WA and work in OR. We already pay OR state income tax. What are you doing with that money? I buy gas in Portland, more taxes paid there. Kind of unfair if you have to travel during peak hrs. for work.
97003	People drive when they have to drive. Adding a charge won't change that. People that don't have to go out in rush hour don't. I've been to states where they have electronic tolls. It adds confusion and costs to visitors as well as expense. NO!

97219	Consider transit credits and toll subsidies for low income drivers. This is a great idea that makes economic sense, but mitigation policies are needed to make sure low income drivers don't face a disproportionate impact. Few transit options in SW pdx
98604	I find it utterly ridiculous that additional lanes have not been added for decades and yet we have had significant population growth during the same period. What were our leaders thinking?????>
97267	Adding tolls without adding lanes is an absolutely enraging concept. I would predict *massive* diversion onto surface streets, crippling local transit. New tolled lanes might be beneficial, if no tolls are added to existing lanes.
98642	Any fees or tolls imposed by a state or local jurisdiction on a highway owned by the federal government should be illegal if it is not already. Imposing tolls or fees on i205 and i5 bridges in any form would be interfering with interstate commerce.
97070	I believe it is a VERY bad choice to toll the roads. People have to get to work. Unless ODOT can tell all the employers when their shifts start this is a farce. ODOT should do the smart thing and BUILD MORE LANES. People will avoid the toll.
98685	Currently I5 NB rush hr HOV lanes are not enforced semi trucks are also using the ln. Flow could currently be improved if the semi tractor trailer were all required to be in right lane.#of trucks has increased over the yrs due to e commerce.
97229	Don't do it. It penalizes the poor. Either raise taxes or deal with the bad roads.
97236	I suspect people will make employment decisions, along with shopping, entertainment, etc., based on toll amounts that they would have to pay. To discourage these activities (which tolling will do) could really back-fire, and hurt our local economy.
97055	Do NOT start charging for use of roadways we have already paid for. Build new lanes, expand the 217 north to cross the Columbia, making a 3rd crossing. Stop viewing congestion as a way to make money. We already pay enough taxes.
98642	Stop targeting Washington drivers!! If this was really about congestion and not just a money grab, you would also be doing 26 and 217!! But you want to target Washington commuters because we can't vote out the idiots in Salem! Pathetic!!
97210	Commuters who are using these routes every day should incur the expense. Putting the burden on anyone else is unfair.
97068	Making sure there are adequate alternative transportation methods that are safe and reliable and finding ways to minimize the traffic diversion through smaller neighborhoods (Stafford through Oregon City especially).
97034	Tolls are a very regressive method of funding. There needs to be a sliding scale based on income level
97015	I am opposed to tolling, as tolls end up being a regressive tax adversely affecting the poor, (glad to see that issue at least identified). But also because in a We society, we should all contribute towards the common good. Taxes, not tolls.
98642	this whole concept is just a scam to extort money from Washington residents because Oregon policies for decades have been avoiding fixing the real problems so they are just trying to tax without representation to cover up their blatant fraud.
97070	As with any change, people are suspicious that they will experience negative impacts (costs, inconvenience, etc.) Be sure that the proposals are rooted in and emphasize positive outcomes and benefits for the greatest majority possible.
97203	Value pricing should be implemented BEFORE costly "improvements" are made to add capacity. If it works, then we wouldn't have wasted hundreds of millions of dollars for a few extra feet of space.
97267	1) Call it DE-congestion pricing. Because that is the intent of the policy. 2) Make it broader so that the pricing can be used more dynamically across the two main freeways. Don't do the pricing on only one small part of one freeway.
98664	Some of the absolute worst traffic I deal with is on Highways 26 & 217. If this project is really intended to help with traffic & not just a money grab from Washington State drivers, why isn't there anything being done to study the 26 & 217?
97219	Where I5 South meets I405 South. Why does I5 traffic reduce to one lane, while I405 traffic gets two full lanes. it would seem to me that I5 should get more lanes than I405 based on traffic, quantity of semi-trucks and great benefit to the most.
97267	Add more bus(s), NOT fixed rail but actual buses that can route around problems - Electric or diesel electric would be most efficient. and service, extend frequency and hours. Not everyone works 9-5

97015	Money should be "used fairly"? How about it's used directly to fix the highway and bridge system to reduce congestion. Widening bridges and highways would go a long way to increasing traffic flow.
97224	Improve roads and stop trying to force things. Let natural consequences provide the controls.
98661	2 new bridges need to be built. 1 going from Troutdale to Camas. The other from west Vancouver to Sauvies Island. Then fix or start over on the I-5 bridge. If tolls are your solution think again
97701	I think congestion pricing is important to make transportation better in Portland. Driving is too cheap, alternatives must be made better, faster, safer, more convenient so more people will choose them.
97216	Don't do it. It is a bad idea. We don't have the lane capacity to support this. This idea has failed to reduce congestion everywhere it has been tried. Adding lanes is the only solution that will solve our problems. Do your jobs and budget correctly!
98642	Toll discount for low income drivers Low/no toll off hours Transit incentives No tag-pay by mail Traffic calming on impacted arterials Bans on heavy vehicles from neighborhood streets Special cards for low income to buy credits locally
97202	I deliver parts, and tolling and all the measures discussed are unfair to me and a lot of people because we have to drive these inferior roads!
97070	Hello - my main concern with implementing this system is the number of lanes Oregon highways have. I-5 and I-205 have 2-3 lanes for a majority of the highway. Why take away a lane? You would increase traffic for those who do not pay.
97068	West Linn does not have the infrastructure to absorb diverted traffic. There also isn't a solid alt public trans option serving our community. Starting tolls in this area will overburden already crowded side streets like Willamette Falls Blvd.
97220	Toll the 205 and I5 bridges over the Columbia River so out of state commuters pay their fair share.
97045	We do not want to have more money extorted from us, instead add lanes to the congested areas. There are over 100' of grass median for miles from Johnson Creek to the Columbia and I've been watching barriers go in, why not more lanes?
98685	not paying unless it is funding NEW infrastructure < BRIDGE >
97060	First off, you should not toll the roads. It is just an additional tax on the transit of goods and services and the middle class who drive to and from Work everyday. Stop spending \$\$ on trimet and bikes lanes that less then 10% of pop. Uses.
97062	Congestion pricing (or toll roads) really only works when there are viable alternatives... do you expect people to change their work hours or locations...for I-5 there are not any... or it will make surface traffic worse than it already is...
97202	So, "kicking the can down the road" has come to this? Motorists already pay fuel taxes, tire taxes, registration fees, title fees, and income taxes (not including other taxes paid by the trucking industry) but the legislature wants even more? DISLIKE
98664	This is what happens when a region has no expansion of it's freeway system for going on 40yrs. Any toll is a tax on the middle class and the poor and essentially gives preference to the wealthy to use infrastructure paid for by the tax payers.
97222	Upgrading the roads and making sure arterials function smoothly during congestion is more important than tolling
98675	The cost of this will be passed onto our customers just like parking is . This is a stupid idea that will not solve the problem. We need more capacity , dedicated thru lanes with no exits, Yes it will cost money so does giving Big Corp tax breaks
98665	I work odd hours, so I can never be in a carpool into Oregon. I like the idea of tolling, seems neat. Hope it does move forward once others understand the benefit, but please no more carpool lanes, unless low emissions cars with singles can use it
97042	How will this affect businesses such as construction that has trucks using these freeways for moving of material and equipment. Seems like it will be a huge cost impact and there for drive up costs of construction projects.
97068	For people living in West Linn-Wilsonville, travel almost anywhere in the area will require paying tolls. It is not like inner metro. 99E and 43 will become undriveable. Tolling these areas is a terrible idea.
97062	Charging to drive on public roads SCREWS the lower paid people and benefits the richer people. Sounds like something trump would do.

97086	This toll idea is so stupid, there are countless reports that can tell you that it wont work. You can't even solve the easy problems of Portland yet want to add more cogs to the machine. Please fire everyone who is behind this idea.
97070	Toll freeways will force people to drive thru neighborhoods. We see that when I-5 is backed up thanks to WAZE. Expand WES train, put MAX down to Bridgeport. NO affordable housing= traffic issues. You are shooting the workers. It's time to leave PDX.
97236	Fare equity based on age and income
97223	Toll roads are the worst idea - it's better to do nothing than do the wrong thing. Build out infrastructure to meet the needs of the community. Making it more painful to use the roads is not how to best serve the public!
97045	Only possible option would be to only toll new lanes, leaving existing roadway available for all (as should be since it's already paid for). Abernethy bridge toll --no way. Would extremely limit traffic OC to WL. Dtn OC would be a parking lot.
97206	Why aren't the Columbia River bridge crossings tolled in any of these schemes? Is it an interstate issue? I just can't stop thinking about how Vancouver, WA voted against expanding MAX across the river - they cause the bulk of cong. in N. PDX!
98607	Increase freeway lanes to reduce traffic. As population grows, the infrastructure needs to grow to accommodate the increased population. 2-3 lanes is woefully insufficient to handle the population growth. Price increases don't reduce traffic.
97206	just fix the roads first!!!!!!!
97045	I never have a problem on 205 or I 5 because I don't live in Vancouver the problem I have is 217 or the highway that Washington square mall is on that highway is terrible and I'd pay 10\$ a month if it meant I wouldn't have to sit in traffic on there
97213	If revenue sources are lacking to improve traffic, then increase registration fees (see Washington State). Portland worked itself into this issue by going on a 'road diet' on main arterials within the city. This is the definition of insanity!
97202	Do not place toll roads at all. There, that's what I think.
97223	I'm adamantly opposed to this concept. We should be raising gas and mile taxes, if necessary, and building more capacity in our road system rather than punishing citizens with taxes and fees for driving when they want.
97229	Congestion pricing works best when you motivate people to take public transportation instead of driving. Pairing congestion pricing with public transportation expansion and using congestion revenue to fun transit is the best option.
97222	No. If you implement tolls I will move. I'm a lifelong Oregonian from a family of Oregon Trail pioneers. They didn't have to pay. Make people move back to California instead.
98604	We need another bridge not congestion pricing.
97203	I think it will not change the congestion. The number of cars from Washington is a problem. They also need to address the I-5 bridge upgrade and run MAX across the bridge. The impact on side streets will increase. I can not change the time I work.
97224	We need to be able to drive. Loot rail, biking, carpooling, the bus, and walking simply is not practical for 90%+ of people and trips. Tolling us for roads we paid many times for is unfair. Make transit riders pay 100% the cost of transit. NO TOLLS!
98664	A toll on our major transit routes (I-5 and 205) is not a good idea. The housing crisis in Portland has forced many of us who work in Portland to live in Vancouver for affordable hosing. A toll would penalize us for choosing to live out of state.
98685	Congestion Pricing = illegal taxation by means of extortion. If revenues were properly managed over the last 30 plus years, we would not be having this conversation. We can hope that this hair-brained idea fails with flying colors.
97218	Congestion pricing will cause hardship on everyone but ODOT. Businesses (especially at Jantzen Beach and Cascade Station) will suffer. Consumers will not cross the river and pay a toll to shop (Washingtonians shop in Oregon is to avoid sales tax).
98664	If you want to generate revenue, and not hurt Oregon businesses or Vancouver residents, put in an interstate light rail system. This will generate revenue for both states.
97223	I don't think any working class person that drives would want this. Since I assume this will happen whether we want it or not, please tell only a lane or two so those that can't afford tolls can still avoid having to pay tolls. Thank you.

97045	no, just no. Seriously, no. No tolls. unless you remove income and local taxes.
97224	NO TOLLS! We already pay 2 much. Our fed gas tax pays for mass transit act. Make transit riders pay 100% of cost of transit. Stop It rail, bike blvd, road diets, strt cars. Improve the roads,Stop wasting \$. Get rid of prevailing wage. Increase buses.
97045	Safety enhancements to transit, bike and walking options. I would ride my bike more, but I'm afraid of getting hit by a car.
98607	This plan sucks. It will do minimal to reduce the almost 16 hours each day the Portland Metro area has congestion. It's been 35 years since we've built a new transportation corridor. Refusing to add vehicle capacity, causes congestion. It's simple!
97217	Although, not a fan of tolls at all, I think the most equitable choice is to toll ALL lanes from I-205 & I-5 junction all the way to Columbia River during peak driving times only. Use the auto license ID system that is used in San Francisco area.
97223	This state already robs us blind on taxes. Income taxes, gas taxes, registration, license fees, etc. Budget with what you have. End the "prevailing wage", (no flaggers deserves \$30+ per hour, I've flagged.) End your preditation of the middle class.
97374	The stated problem is that more people are traveling on the roads. This proposal is not a solution. It simply taxes those with the least ability to find alternative travel options. Expand public transit or build more roads, that's a real solution.
97086	Since spending \$200MM on CRC and producing a plan that incrementally added ONLY Max tracks and bike lanes while requiring that the river be drained to meet Coast Gd requirements, Govt has been rabidly looking for an opportunity to toll anything.
97086	Tolls/fees are only going to increase traffic in any non-fee lanes and on alternate routes. I only support these fees if the proceeds are used to increase the number of highways and bandwidth of existing highways. And those fees need to be HIGH.
98604	As a resident of Washington State I already pays taxes in Oregon, for which I get NO VALUE. I resent being taxed for road improvements I will never use. If the tolls were for a new bridge over the Columbia River, and would be removed once paid for OK
97123	Do not add tolls to any existing lanes! Tolls don't reduce traffic, they just move it.... causing a inequity for working people by forcing their cars to drive near pedestrians on local roads and increasing the time it takes to get from point A to B
97201	Please toll i5 and 205. Both have max lanes adjacent and it would also be a good source of funding for roads.
97030	Consistency of use, social/economic standing
97209	As long as it's free and obviously free for people who are broke, and we provide free transit options with the proceeds,
97002	Different pricing for different times. Encourage large truck traffic at night rather than daytime hours. Ban triple trailer trucks altogether.
97080	I have traveled all over the US and see Texas as having the best roads and toll systems. I use to drive to Renton Wa to several times a month for 40 years. I didn't see the toll fee variations based on time helping.Rentals help pay a toll fee.
98607	People who live in Clark County and work in Portland are causing most of the problems, and will also complain the most about any tolling. Don't cave in to their whining - they can and should be paying for the transportation system which they use.
97230	add more lanes to the highways without adding tri-met or bus. no tolls
97009	Manage growth!!!!
97062	This just another way to tax the people! Use the taxes you already have. Stop wasting money. Allow the people to travel using the absurd amount of gas tax they already pay! No new taxes until you figure out how to use it right no tolls, no fees!
97229	The only way to fix this problem is use the funding to build a by-pass route on the West side of town similar to that on the East side with a new bridge over the river. Anything less will result in major adverse economic consequences.
97045	Instead of spending money on light rail, spend it on the roads.
97045	No tolling all lanes - anywhere! Abernethy bridge toll would be disastrous to the OC area. No tolling of lanes that are already built. New tolled express lanes would be the only way I would accept tolls in Oregon. This is going to result in gridlock

97214	Have it cover the whole Portland Metro interstate system. Make pricing dynamic (hi tolls during hi congestion). Put revenue directly toward improving active trans alternatives (e.g. C-Tran/TriMet, I-205 MUP, 82nd Ave multi-modal enhancements, etc).
97124	my biggest concern is traffic actually worsening from a lack of available lane miles. Most cities with congestion pricing have more lane miles than Oregon. We also need to enforce left lane passing laws to keep movement. Also, do this on 217.
97078	Think about adding exit lanes for toll lanes so traffic doesn't come to a stand still so cars in that lane get get all the way over. Use roll money to increase public transportation, biking, and other options.
97214	I fully support congestion pricing on the majority of I-5 and I-205. And some of those funds must go back into pedestrian and biking paths and public transportation options to create alternatives for people who want to get out of their cars.
97223	Despite the trillions in cost, build an additional lane on each highway or build a double decker highway and toll it. If we can't get the money in the foreseeable future, take baby steps. Expanding highways can't be avoided much longer.
97062	Congestion pricing combined with additional lane capacity is a viable model. In this way, status quo remains and new "premium" lanes are opt-in. Charging for existing ROW capacity w/o new capacity doesn't solve the issue. Target: 2 priced+3 unpriced.
97204	Other cities (Dallas, Orange County, Seattle) only toll new special lanes, not the entire pre-existing highway. You should toll US 26 & OR 217 first to prove its' popularity.
97224	Don't punish people for going to work. Don't do this. No. No. No.
97233	You ask questions about paying a toll - how can we answer without knowing how much, the basic question you avoided. Define carpool, another question not quantified; do you really want input ? or looking for justification of your decisions. Get real.
97229	People (me included) need to pay more for using single occupant cars. We need to develop programs that reward those who use alternative forms of transportation whether it's MAX, Bus, Carpool, Bike, Walk. Anything but single car occupancy vehicles!
98663	Stop trying to screw poor people and middle class, working families who have been pushed out to the margins of the metro area due to the unaffordability of Portland. We paid \$8k to Oregon last year and receive no services besides crappy roads.
97213	Congestion pricing is the only tool shown to reduce congestion now and in the future. We must implement it BEFORE expending any more resources on additional pavement or concrete. Future local taxpayers and all residents of earth will thank us.
97223	If traffic congestion time is not significantly reduced how would this program deal with it? I know we are trying to promote biking and walking. I feel it is being cramed down my throat. Sometimes that really is not an option for many people.
97222	People travel when and where they need to. . Trucks are the main problem in road congestion. They should be restricted in hours they can travel .to nighttime as much as possible. They create many accidents. Increase fines on truck caused accidents.
97218	I think it needs to be widespread, across the region. Portland has terrible air quality and many maintenance needs, it's time for those of us using the roads to pay for the true cost of the convenience of single occupancy travel.
98683	I dislike the idea of having some lanes tolled and others open. My prediction is that the untolled lanes will become more congested, and the tolled lanes will be open. I prefer all lanes tolled to encourage people to use other transit options.
98607	Just leave it alone. I do not get to choose when I go to work or go home. This is just another Oregon money grab. Nobody is complaining or asking for this. We don't want your light rail. We are not asking for a new bridge.
	Work towards a congestion pricing design that has the best impact on demand management and use the revenue to invest in transit, ped and bike safety and infrastructure to give people other options. Also prioritize low income mitigation.
97227	Please, please do not roll all lanes of I5. It doesn't work In other cities. It just causes poor people not to be able to see their families that were more fortunate to be able to buy houses in Portland before everyone else got priced out.
97239	No. No. No. No. No. This punished people who are trying to go to work and earn a living.
98685	No Tolls. No more using OUR money for bikes and walking. Clark County residents give MILLIONS of dollars in Income Taxes already. Use OUR money for more freeways, double decker freeways, a West side freeway loop, and more Columbia River Bridges!

98604	Here are two very simple way to reduce congestion: 1) Add more lanes on both 5 and 205 2) Replace I5 Bridge with something that has MORE lanes Bonus: Add a third bridge across the Columbia. Tolls WILL not fix this problem.
97214	Many workers don't get to chose their working hours. A variable toll might be more expensive for a trucking co. than sending the driver earlier. Everything that this promises, ramp signal algorithms can do. Why not increase training for highway flow?
98685	Implement variable pricing lanes with periods of no-cost travel. Apply the revenue to those segments of road in a very transparent manner. Hold open forum meetings to allow for user feedback for continuous improvement.
98642	I would willing pay a toll for increased capacity, but tolling existing roads that are paid for is wrong. This is the first city I have lived in that does not increase the infrastructure to meet the demands of a growing city.
97217	If a toll is imposed, it needs to be on 1 lane, and only in an area with at least 3 available lanes. Otherwise you will be forcing people to pay to drive on roads their taxes pay for, and that is just wrong.
	concern greater traffic on side roads and alternative paths. Public transportation in West Linn is limited so is not a viable options. Feel like it punishes middle class for using roads.
98684	Portland can STAY OUT OF VANCOUVER. What you NEED to do is revamp your system.. It is not our fault you designed it so badly in the first place. NO TOLLS ON INTERSTATE BRIDGES. STAY OUT OF VANCOUVER.KEEP YOUR LIBERAL NONSENSE SOUTH OF THE RIVER.
97221	Why not toll the I-5 bridge over the Columbia? It isn't among or part of any of the alternatives. Make Vancouver commuters pay their share. Tolling would help fund a common sense alternative to the CRC. See .
97027	Plan for future needs -lack of foresight. Bridges/roads not designed with adequate expansion capabilities. The philosophy that restricted transportation keeps Oregon "livable" is BOGUS! Stop being "politically correct" and do your job! NO TOLLS/FEES
98661	I oppose any congestion pricing scheme that targets WA residents. Taxing I-5 and I-205 bridges exclusively is wrong. I oppose revenue improving roads that are not directly taxed. WA commuters have minimal options to change time of day or route.
98682	Vancouver is overbuilding and it will cause a migration to Clark County. They will still work and shop in Oregon yet attend our schools. We do not have the infrastructure in place for this. A 3rd commuter bridge with diamond lanes might be helpful..
97219	I support congestion pricing, in whatever form. Areas of impact: I-5, Wilsonville to Barbur Blvd / Taylors Ferry (S); I-5, Jantzen Beach to I-84; I-84, I-205 to Lloyd Center; Hwy 26, 185th to Hwy 217.
98684	Washington workers are non exempt from paying Oregon Income taxes! I was told many years ago this was to pay the infrastucture! I paid \$2900 more than SS! I only received \$111 back and now Oregon is expecting me to pay more money???? This ver UNFAIR
98685	This toll is just another way for OR to generate \$\$ from out of area drivers. I-5 and I-205 are interstate routes that pass through PDX. There is no alternative to get north or south of PDX. If this is strictly for cong why not toll I-84 or hwy 26
97034	do not do congestion pricing. Build more highway lanes. Eliminate bike lanes
98663	A new bridge is needed. What about the bridge lanes ...ODOT is responsible for maintaining the bridge, WA then pays for half....what will SW WA commuters/travelers receive? SW WA people who work in PDX already have "taxation without representation.
98632	If you make Portland too difficult to drive through or drive to, we will likely shop, dine and find entertainment elsewhere. To a certain extent, traffic congestion is self-limiting. Don't spend too much effort trying to fix what isn't broke.
98662	Have you actually assessed how many Washington cars actually cross the bridge to work for 8 hours or more? You already collect income tax from Washingtonians why do you need more? Exempt shift workers work 8 hours or more to work a shift.
98625	As a fairly frequent traveler of these routes, I am very much against creating a toll because it would literally be a toll on peoples lives. Yes, it might help minimize the traffic (for a short time) but the cost would fill the gap. Please don't toll
97124	As I said I resent having to pay any toll to visit my wifes grave each month. If you have to toll then do it at peak commute times & not all day or night. That would leave times of the day for people like me to make our less freak went trips

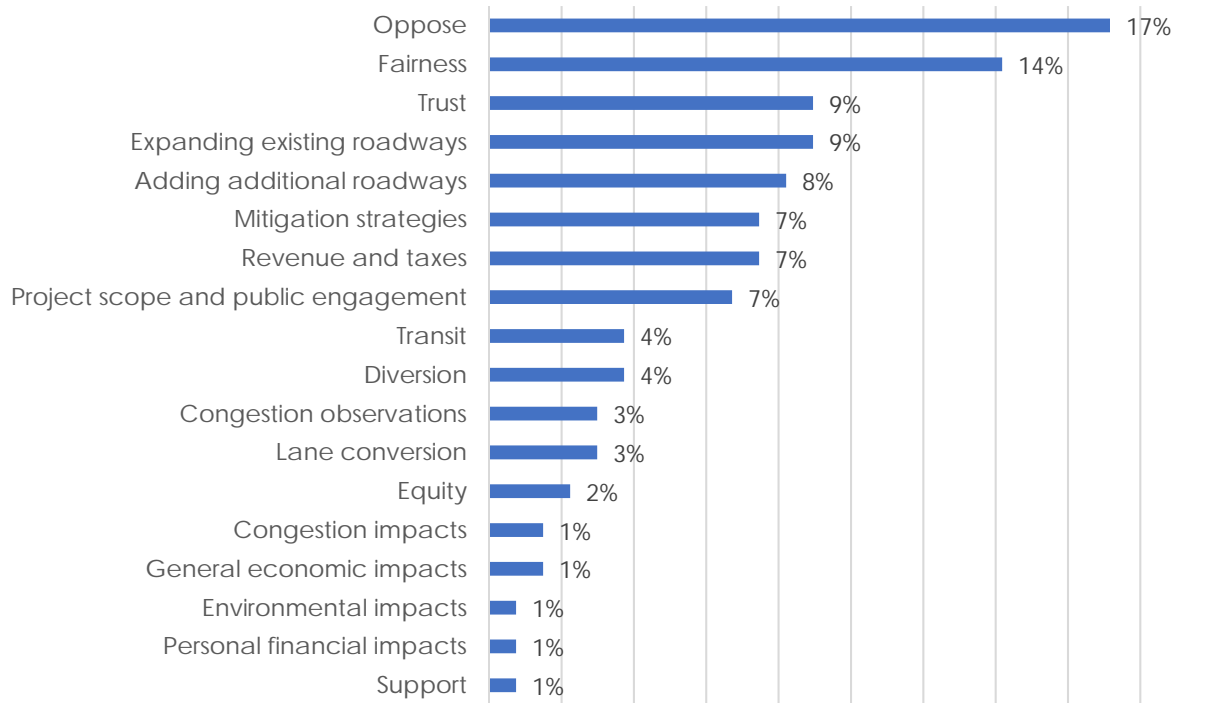
97023	If the tolls are successful in reducing traffic that will only be confirmation that the roadway has been gentrified, and people cant get where they need to be. This plan is expensive inefficient and antithetical to the mission put forth to ODOT
98684	I am completely against and do NOT support any type of tolling in our area. I beg you, please do not implement any type of pricing program to our local roads and highways.
97218	WA and OR residents should be allowed to deduct sum of all tolls from their Oregon State Income tax. Tolling I 205 and I-5 seems wrong without tolling 217 and I-84.c Tolling existing lands seems wrong. Adding new lanes and rolling those seems okay.
97027	ODOT should make it advantageous for business to stagger start and end of shift times. Business could alter the work week- go to 4 ten hr. days and alter the days employees work, ie: M-TH, T-F etc. Work from home etc.

No tolls - there cannot be fairness in charging for public roads.
Ensure toll revenue is ONLY used for highway costs and only in Portland metro
The HOV lane doesn't work, neither would a toll for one lane. It would just make the congestion worse. Look to LA and Seattle for comparable systems
Don't do this! Don't toll the roads! Add lanes. Don't toll the freeway!
Build new roads to alleviate congestion.
I think this would just divert more traffic to surface streets and increase crash rates on those streets
tolls won't improve traffic
No tolls!
Why can't we use current revenue streams from gas taxes, licensing, other taxes to increase size and expanded roadways to drive on? Adding more fees doesn't make sense for those of us who use the highways to make a living.
How about actually building a bridge to relieve the traffic then toll everyone until it is paid off then drop the toll as we have on other bridges in this State
No changes
Ditto
build more highways
Make sure toll money goes toward congestion improvements not gov't pet projects.
Add an additional lane as the toll road, preventing the other lanes from being crowded by drivers choosing not to, or CAN NOT AFFORD to pay it
Requiring 3 options is artificially inflating the importance of the preselected issues.
Tolls are not the solution
Don't charge tolls - bad idea
Abandon the project immediately and cease all tolling. Fire the idiots who thought this rip off up!
Make a new freeway
If we settle on this option I hope that those impacted believe that we did a careful and objective job of it. It seems like it's the easy one politically because it mostly impacts non-Oregonians. With regard to congestion relief, I'd like to see it started south of its current terminus to the Marquam Bridge regard it
Eliminate ability for Waze, etc to redirect to city streets. Eliminate ALL truck traffic. More cops policing the inevitable jerks who drive on city streets to get around freeways (ALREADY an issue on N Albina, Lombard, etc!!)
Increase freeway capacity by adding lanes & bridges. Adding a bypass freeway west of Vancouver & Portland
Make sure bicycles pay as well
Expand the freeway!
Full transparency in advance how the funds will and can be spent and for what
Don't want toll roads at all
There are studies that show changing a gp lane to a paid lane increases congestion. This idea will hurt traffic patterns.
Oregon already has one of the highest income taxes in the nation, how about use the money to make our roads better not charge people more money. If any freeway is to be tolled I will move from Oregon
Provide a viable transit alternative across the river on dedicated right of way.
Include train route on I-205 NOW
I imagine while you are speeding up people who own fancy sports cars you are actually slowing down everyone else by taking lanes away. Working as intended?
Put in the bridge that should be there. Zero profit to Oregon. The HOV didn't work and the built-in design flaws of the current I-5 should be fixed first. Get serious, ODOT KNOWS where the pinch points are. They built them in. OR has made it clear that they hate WA residents.
Deal with the real issue - too many semi-trucks on the road.
Using an existing lane for a toll will only make congestion worse.
Give discount to WA drivers who work in OR. We already pay OR tax. This is essentially a second tax for a state where we don't live.
actually add capacity to the freeway!!
don't reduce existing carpool lane
You already steal enough in tax payer money.
Administrative overhead wasting funds instead of actually improving roads.
Revenue must not be used for bike lanes, side walls, or buses
Full transparency in project costs, ongoing costs, and demographics of revenue generated.
Add Capacity
Look at the efficacy of Renton WA 405 pay to drive lanes! Congestion is same or worse and those tax dollars used for the "improvement" were wasted.
Add lanes of travel
Lexus lanes. Penalize the working poor, great plan.
No tolls!
Hi
Getting stuck behind trucks in the right lane and making the highway slower.
I don't care...

Do not add a toll. Ignore other check boxes as not relevant.
this proposal is just a scam by oregon to extort money out of washington residents who are already victims of their taxation without representation policies
Charge additional cost for commercial vehicles regardless of which lane or freeway they use if they are traveling during the day.
Just charge those from Washington
Keep Tolls low so those who have to drive this route to work and have no other option aren't unfairly over-taxed.
Improve roads and stop trying to force things. Let natural consequences provide the controls.
Build more freeways
Build more roads / freeways.
Foremost: deal with likely congestion on US/State Hwys (217/24/10/43/99)
new bridge
Income & Property taxes are already high. I don't see a reason for charging more for the roads. Charging a toll will not only impact low income families, but everyone who uses that route to drive to their jobs. Requiring a toll for the faster lane also ONLY helps the privileged. The people who need their jobs and need to get there on time can not afford a toll every day.
Congestion would get worse if an existing lane was converted to a tolled lane and no expansion occurred.
increase capacity
use revenue to subsidize mass transit
Design to specifically improve freight movement
more lanes
add travel lanes
Unless you build another bridge and extreme Max then this plan will never reduced congestion.
Expand the current infrastructure without tolling, use the current federal and state funds to fund this future expansion. hy are you even considering this? Your job is to use existing funding to make transportation work.
Minimize traffic impact to I-205. Most through & commercial would go around. Big mess already on the east side
no tolls on weekends
People in Portland will say no to anything that looks like progress and should be excluded from participation in the debate
Don't Toll us. Tolls Suck!
Stop new home and apartment construction until tolling is eliminated
Seriously, this area needs a lot more than a toll lane!
There should be NO TOLLS!
see previous
Build a bridge from Woodland to Columbia City and then improve highway 30
DO NOT USE ANY TOLL SYSTEM!!!!
This is a regressive tax, not a solution.
Crossing the Columbia river has no other options. Start tolling after the Marine Drive exit.
Throw this out. It looks like only Washington residents would be paying this toll
Use funds to build a 3rd bridge over the Columbia
add more lanes, not more taxes and fees. revenue used fairly does not apply, you're too corrupt to use funds properly. some of us don't mind clogging up side streets to avoid your taxes.
See first comment
No tolls ever!!
1 lane southbound untolled will force s. bound traffic onto i-205...
Divert money from the overbudget MAX program to simply expand all roads!!!
Add capacity - 1 unpriced lane isn't sufficient - need AT LEAST 1+2 = 3 total lanes
consider proposed baseball stadium
How about you stop building cyclist shit no one, not even they use and use the money to build actual roads, you know that the taxes on fuel pay for.
Build New lanes. Widen the highway and have an express lane that is tolled. Make the express lane change from south going in the morning to northbound in the afternoon
Don't let the government be in control of the roads. Be more like Texas.
Should not be a toll
Make sure revenue is used for transit and walk/bike options
NONE coming out of WA
NO TOLLS!!!!
The bottleneck at 99E and Marine Dr. needs to be addressed - increased capacity over the bridge
Eliminated the last two NB on-ramps and relocate them.
Use revenue to increase freeway capacity
Toll goes away once it's paid. This should not be a permanent revenue source. Tax the new residents. Targets commuters. Cost will be passed to consumers

Use funds for improvements on the same corridors where collected. Do not use funds for ANY purpose other than road improvements, with highest priority given to reducing congestion/improving commute times
Do not add tolls or volume pricing to our existing taxation for roads. This poll is unfairly biased!
Allow people to park at Delta Park without a toll. I almost always park and ride when I go to OR. I am already trying to do my part
Making sure you are not hurting employees who live in WA but work in OR.
I'm already taxed by working in Oregon with no representation in the Oregon government. I only utilize Oregon government services for 9-10 hours per day, Monday through Friday, so I am being "overtaxed" based on my time in Oregon. Now you want to tax me more for using roads as well. If you implement this, 1) I should get a refund on my taxes, 2) have a waiver for my family driving on tolled roads, and 3) get voting rights in Oregon.
Spend what you already have, NO NEW TAXES, TOLLS NOTHING. WE have to live within our budget, so should you. And just WHO ARE YOU anyway? Why haven't you consistently updated/upgraded projects to deal with excessive traffic years ago while everyone and their brother was moving here. Now that it's almost in crisis mode you feel the need to do something? YOU ARE PATHETIC, and I think I stand with 100% of Oregon and SW WA people when I say NO NEW TAXES/TOLLS. ENOUGH !!!
There is only one answer here. Not three answers as required by the questionnaire. Government should spend the people's money more wisely. Expand motor vehicle lanes which represents the great majority of all transportation in your region. My other two selections for this question are not valid and only selected to meet the requirements of this questionnaire.
you HAVE to provide more transit options for PDX residents working all over Vancouver. Don't fault us for driving during low congestion hours.
Unfairly targets WA residents. There are not alternative routes
Take into account transportation services from Vancouver WA into Portland that use volunteers, e.g. Veterans shuttle, Catholic Community Services volunteer drivers who take low income clients to appointments via I-5 and I-205
Discourage SOV use in support of regional climate goals.
Stop trying to control my driving habits
I would no longer work in Oregon.
Do not charge Oregon nonresidents ANY tolls, we already pay your garbage income tax and the only Oregon service we are allowed to use is the roads
CONCERN WITH SURFACE STREETS IMPACT, ESPECIALLY WITH SEVERE WEATHER
Don't do it. Unfair to people who must go to Vancouver frequently. There is no other way to approach this bridge across the river. This is an undue burden
More Tax B.S. NO! Disregard All checked boxes but this one
use taxes as intended, quit wasting money
No tolls during off peak hours.
No charge for non peak driving
Come up with alternative ideas to tolling. Get the trucks off of the main through fares as they are more likely to pay the tolls in order to avoid slowdowns. Normal people will stay off the tolls to save money as everything is going up in price and most people will not be able to pay for it to use it daily..
Reduce the number of large trucks.
Use existing lanes for carpools 2+ during peak hours.
Place limits on the hours of tolling, and devise a procedure to govern any changes to those hours.
Stop new home and apartment construction until tolling is eliminated
The free use during off-peak pricing is recommended and desired

Concept B. Q9: Other, specify (N=134)



Q9 Responses

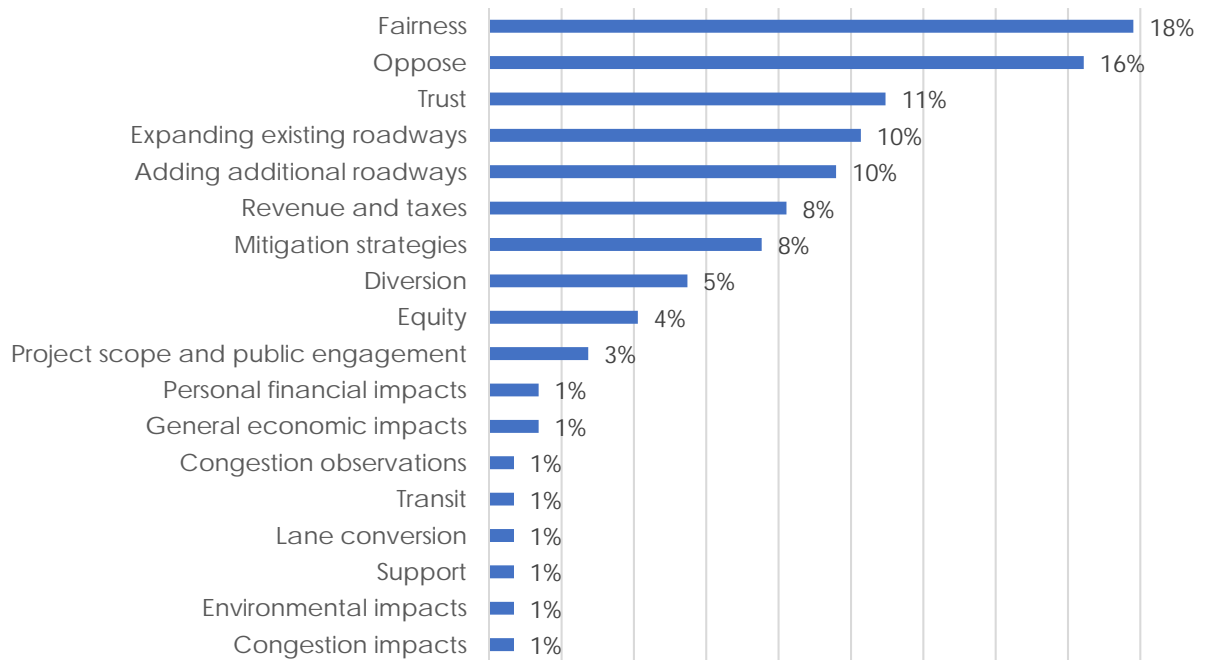
Change college start times to be different from rush hour and furnish free passes to students.
Tolling doesn 't work, people don 't want to pay extra.
Fix the slow down caused by the I5 84 cluster
HOV lanes
nobody will shop or visit downtown Portland
Add Freeway Capacity
Fund good non-automobile alternatives, and allow a long time for the resistant to decide they need to try something different.
Build more roads.
Build another bridge across Columbia
set tolls to manage congestion, not generate revenue
Regressive tax on average workers not only low income
NO TOLL
Don 't add tolls. We already adapt by avoiding driving the congested freeways during peak hours. We pay our taxes. We shouldn 't have to pay to drive on our roads. Be more responsible with the money you already have. Quit paying for social programs such as free abortions for all Oregonians. Allocate more money for infrastructure, and build more roads.
Privacy - I don 't need government monitoring my movement
extend toll zone to OR 217 interchange both directions
Build MAX line to Vancouver
This is a bad idea. It will only result in the rich using our roads that we all paid for, or a disproportionate tax on the middle income or poor
Toll roads are never fair. They increase costs for those least likely to be able to afford them. Increases unemployment and homeless.
Ensure toll revenue is ONLY used for highway costs and only in Portland metro
Don 't toll the freeway!!! Don 't do this!!! Add lanes!
No tolls during off peak hours.
New tax you need to make new roads
Build new roads to alleviate congestion.

I think this option would be a big negative for the community as it would just divert more freeway traffic to speeding on surface streets and increase crash rates there. The real solution is to add capacity, or to build good transit service that actually serves the people and not developers.
won 't help
No tolls!!!
No charge for non peak driving
I have to make a living by using the highway at times that I can 't control. Mass transit or carpools don 't go where I go.
Design system to avoid diversion of traffic onto I-84, I-405, and US 26.
Fund projects to relieve traffic and if tolling only until the projects are paid off as the case with other bridges in Oregon
No changes
Come up with alternative ideas to tolling. Get the trucks off of the main through fares as they are more likely to pay the tolls in order to avoid slowdowns. Normal people will stay off the tolls to save money as everything is going up in price and most people will not be able to pay for it to use it daily..
Do not toll all lanes
stop spending transportation dollars on light rail and build more roads
Add an additional lane as the toll road, preventing the other lanes from being crowded by drivers choosing not to, or CAN NOT AFFORD to pay it
Requiring 3 options artificially inflates the importance of the preselected issues.
Tolls are not the solution
Don 't charge tolls
Abandon the rip off immediately and cancel all tolling!
Make a new freeway
This option would make congestion worse on I-5 bdue to te backups at exit rampos to avoid the priced section. Without a systemwide system suyrounding te Centrak City, this woukd have significant adverse i,pacts and not resykt in any positive effects
We need more capacity in our freeways or we need to stop people from moving in! We need a new freeway on west of town that bipasses town/ Vancouver
Make sure bycle 's pay as well
I think this idea is horrible. How can you toll when you are adding nothing? Makes no sense. Please do not add any more public transit options. I do not know anyone that uses or would use public transit.
Expand the freeway
Don 't want at all
You already tax Portland residents a ridiculous amount of taxes. Kate brown needs to get her head out her ass and make better use of the millions we already give you. NO TOLLS ON ANY HIGHWAY, NOW OR NEVER!
I drive on a very short distance on the portion marked in blue. Perhaps a mile or so, so what happens to me? I 'm going south away from the city, I shouldn 't be penalized
study who and where you are diverting the congestion to while you 're clearing up the paid stretch
The concept of changing working hours is absurd and shows how out of touch OR is with reality. People can 't just choose their hours.
Reduce the number of large trucks.
Roads are already taxed. This plan goes against federal guidlines for tolling interstate freeways.
actually increase the capacity of the freeway
Use existing lanes for carpools 2+ during peak hours.
Tolls will not reduce traffic. We 've already paid for the roads
Administrative overhead wasting funds instead of actually improving roads.
Revenue should be used solely for improving roads. Not bike lanes or pedestrian sidewalks.
Full transparency in project costs, ongoing costs, and demographics of revenue generated.
Add Capicity
Metro has not upgraded roads in its area in 30 years, but has collected our taxes for that long. State property tax is one of the highest so is state income tax! Now because of their incompetence their solution is to tax us more
Dont charge. I already paid for the road
Make public transit pay its fair share.
Place limits on the hours of tolling, and devise a procedure to govern any changes to those hours.
No tolls!
It
Low income people will be impacted by this stupid proposal.
Stop the idea altogether
Most implies you want ONE answer, not three.
Fraudulent poll
again the tolls are just a scam attempt to gouge more money from washington residents
This could encourage greater congestion on 205 leading to a less balanced system. Toll both I-5 and I-205 at the same time!

Here is the thing about tolls...I hate them.
Improve roads and stop trying to force things. Let natural consequences provide the controls.
Don 't do it
widen the freeway
new bridge
Nothing has been done to I-5 for many years, while high income and property taxes are being charged. The toll is NOT needed.
Why are users being double taxed to use a federally funded highway?
increase capacity
Use fees to subsidize mass transit
add lanes to free ways
Expand the current infrastructure without tolling, use the current federal and state funds to fund this future expansion.
Toll roads are not the answer
Minimize Impact to I-205 / Hwy 224 because of diversion traffic. 205 would be a parking lot at the expense of I-5
no tolls on weekends
NO NO NO
Don 't toll us. Tolls Suck!
Stop new home and apartment construction until tolling is eliminated
If you toll this section, I-205 will beomce SO MISERABLE!!!
There should be NO TOLLS!
Don 't do it! I split time between Kirkland Wa and Portland. Kirkland is directly along I405 where they added the express toll lanes. It makes traffic worse for everyone except those willing to pay. The entire idea is seriously an absolute joke that only hurts traffic and increases accidents. There is not a single person I know in the Seattle area that likes what was done on 405. I saw your report that it would reduce drive time by 22 minutes. That study was clearly biased and manipulated to make it sound better than it is.
how much are we charged to go from the 405 to 84 ? The same as the full length of the I-5 section?
Build new bridge between Columbia City and Woodland, Washington.
Don 't implement it in the first place. It 's NOT fair to anyone!
This is just a regressive tax, not a solution to the problem.
Find funding from another source
Don 't do it
This is option is, by far, the most likely to generate significant income. Many, many non-locals use this segment daily. A toll here shifts the burden from everyday, local commuters, so everyone who uses the road.
Ditch the whole the thing.
Toll only during peak times
add more lanes, not more taxes and fees. revenue used fairly does not apply, you 're too corrupt to use funds properly. some of us don 't mind clogging up side streets to avoid your taxes.
See 1st comment
Fuck tolls altogether...my taxes already cover this
We need MAX down to Wilsonville or make the WES train run 7 days a week and at least 10hrs per day. Drivers all along I-5 have no options to commute other than by car. Stop blaming drivers & start providing solutions; taxing/tolling us is not the answer. This is especially relevant when my f 'd up rent keeps increasing, my insurance keeps increasing and my pay went DOWN by \$20K per year. Exactly how am I suppose to get ahead when I don 't even get paid a decent salary?
Traffic will move to i-205 and plug the east side
Please don 't do this, Portland is such a great city and does not need to be bounded by tolls. Sure, protect the poor, but you 're going to hurt the middle class
Need to add lane capacity - 99W and 43 aren 't enough for alternates
consider proposed increased traffic due to proposed baseball stadium
Use income to expand the highways. More lanes are needed. Congestion pricing will not resolve this issue. Stop with the bike lanes and add highway lanes
Don 't let the government be in control of the roads. Be more like Texas.
Should not be a toll
Make sure revenue is used for transit at walk/bike options
NONE
Widen the interstate!
NO TOLLS!!!!
Add more lanes. Build a better I-5 bridge. Adding costs won 't fix this problem.
The 99E / Marine Dr. interchange bottleneck will back up into this area - how would that help?
Use tool revenue to increase freeway capacity.
Feel like I 'm living in New Jersey. Has tax revenue been this mismanagemed
Use funds for improvements on the same corridors where collected. Do no use funds for ANY purpose other than road improvements, with highest priority given to reducing congestion/improving commute times

Do not add tolls or volume pricing to our existing taxation for roads.This poll is unfairly biased!
People working in OR but living in WA are unfairly affected. You would lose workers and businesses
Please see my previous write-in. Southwest WA residents have no other choice if we retired people have to keep medical appointments in suburban Portland area.
NO TOLLS
The only options you provide are biased and assume implentation of an unfair and impractical idea for most travelers. I am asked to choose at least three of the above choices of which none are reasonable to most individuals. Questionare is biased toward a fee.
build a PDX Express Bi-pass
Take into account transportation services from Vancouver WA into Portland that use volunteers, e.g. Veterans shuttle, Catholic Community Services volunteer drivers who take low income clients to appointments via I-5 and I-205
Minimize SOV use in support of regional climate goals
Stop trying to control my driving habits!
I travel from Hillsboro to Willamette Cemetery & Back once a month to visit & place flowers on my wifes grave & I resent having to pay any price to make this visit
Give the folks in Vancouver a break
Do not charge oregon nonresident taxpayers tolls, we already pay your stupid income tax and our money taken should already go to roads
The free use during off-peak pricing is recommended and desired
Terribly unfair to those of us who have to go to Portland for specific appointments from out of town and need to drive this way. We can 't change times or locations
NO!!!! Not toll tax! FREEWAY Quit wasting our \$ and do your job!
Drop the plan
use our taxes more efficiently, cut waste of which there is plenty of

Concept C. Q13: Other, specify (N=146)



Q13 Responses

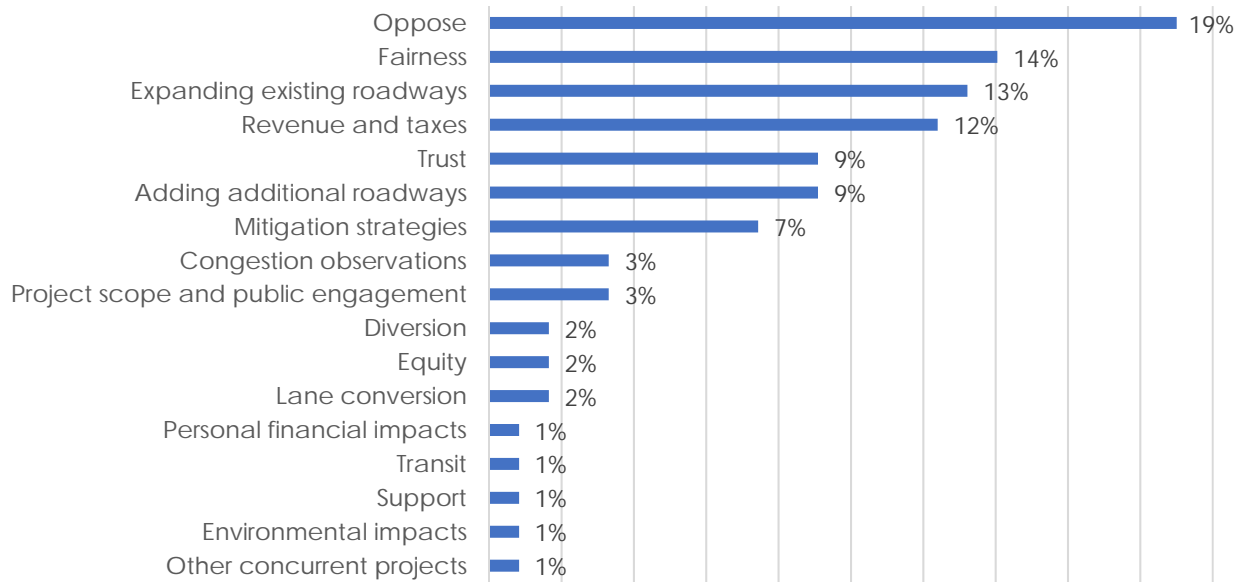
Change college start times to be different from rush hour and furnish free passes to students.
Tolling doesn 't work, people don 't want to pay extra
How about we solve the trucks driving in the city and the 26 tunnel and the 84/5 e change instead of putting a bandaid on it
Designate % funds to install free HOV lanes
keep traffic off neighborhood streets
Add Freeway Capacity
This will destroy quality of life in our neighborhood and town.
Add capacity to the system
Regressive tax on average workers and a massive way to discourage commuting from suburbs to Portland down town
NO TOLL
Don 't add tolls. All it really does is make it so the rich who can afford to pay get to use the roads, while the middle class and poor can 't afford it. We all pay taxes for the road system. We all should have equal access to the roads.
Privacy - I don 't need government monitoring my movement
Make it cheap, or leave it free!!
Extend tolls to inbound I-84, US 26, and OR 217 (both directions)
Use revenue for bike/bus infrastructure
Design alternative with no further cost to travelers. We already pay taxes to support roads. The state legislature can reduce budget cost elsewhere and increase financing here. This is a idea that only causes further congestion and accidents and deaths on the lanes that are left. This gives a disproportionate taxation on lower income or if we don 't pay it makes us travel in more congested and hazardous lanes. You can see the congestion is more and accidents have increased on 405 and I5 in WA where they have this
Toll roads on public highways cannot be fair or justified. NO TOLLS!!!
Ensure toll revenue is ONLY used for highway costs and only in Portland metro
Drive businesses out of Portland
I don 't want tolls
Don 't toll the freeway!!! Add lanes!!! Don 't toll the road!!!
No tolls during off peak hours.
Build more roads to alleviate congestion.
Actually build more capacity to handle the increased demand from more people living in this area. Drivers that should be on the freeway end up using local streets (whether due to congestion or tolls) and speed through communities making the surface streets less safe.
Use existing state and federal funds to build more lanes and eliminate bottle necks

won 't help
No tolls!!
Enforcing common sense merging of vehicles would speed traffic more than another tax on driving
We need more roadways for the vehicles we have. I have to make a living by driving on the roads and can't depend upon mass transit -- it doesn't go where I need to go.
Measures to prevent congestion increases on I-84 from drivers trying to avoid tolls
Make pricing fair to those who live around these freeways
Use toll only to pay off cost of project to relive traffic until project is paid then stop toll
No changes
Look to Austin to see how this is a bad idea. Very few will use it and traffic will divert to side streets to avoid the tolls. A better option would be to divert truck traffic around Portland to relieve congestion off these roads. Think outside the box.
Side streets would get clogged. Almost impossible to get to critical services from Oregon city... plus work
Build more bridges and roads, stop wasting money of light rail expansion
Most sts gov 's use dept of trans money as a slush fund for pet projects not for improved trans. Garentee use on roads
Add an additional lane as the toll road, preventing the other lanes from being crowded by drivers choosing not to, or CAN NOT AFFORD to pay it
Requiring 3 options artificially increases the importance of the preselected issues. None of which are important to me.
Tolls are not the solution
Don't do it - Tolls suck!
Abandon the project immediately and cease all tolling. Fire the numbskulls who thought up this idea!
Make a new freeway and bridge!!!
After Pricing new capacity on both I5 an I205, this option would be the most equitable and most effective ytraffic management option
We need added lanes & bridges to increase capacity. We also need a new freeway west side of town from Longview to Sherwood.
Make bikes pay as well
This is unfair! You are making people pay for NOTHING, how is this even a possibility?
Expand the freeway
Be transparent & clear where and how specifically the revenue would/could be used
This is worst option of all
Please tax gas instead of transit on roads.
Is this a joke? No way in hell are priced tolls going to reduce congestion when everyone has to go through a check point and pay. For the love of God use our already extremely high taxes to pay for a wider freeway you liberal cucks!
Incorporate lite rail on the entire loop
Don't tool us for using our own roads, toll on new roads
Selecting this because I don't agree with any others
Now everyone will be on all the side streets and you just increased my commute going a back way by 30 minutes. Thank you
investigate government corruption
See all my other comments. Do it right, fix the existing pinch points, stop holding everyone hostage on federal roads.
Reduce semi-trucks on the road.
Roads are already taxed. This plan goes against federal guidelines regarding tolling interstate freeways.
actually add cacacity to the freeways
Tolls just make poorer population more disadvantaged.
Create carpool lanes from existing lanes; 2+ = usage.
bulid new lanes accoss state line
This won't help congestion.
Administrative overhead wasting funds instead of actually improving roads.
Make sure revenue is used solely for vehicle traffic. Not bike lanes or sidewalks.
Full transparency in project costs, ongoing costs, and demographics of revenue generated.
Build more Capacity
I do independent contracting. Every day a different place. Carpool, transit, deviation of work hours are all out of the question. Increasing my fees to my customers is my only option.
Apperantly you don't understand that we have to travel when we do for WORK
The ODOT creates congestion with road construction, lane restrictions and bike lanes and then uses this as leverage to extract more money from the public. Nice plan!
Build more freeway lanes with the revenue. Many people have set schedules for work, and can't change times. Healthcare workers work 12 hour shifts at night time, carpooling isn't always an option, and riding public transportation workers could increase a day to be 14 hours or more leaving little time time to sleep for the next shift.
Dont toll!
Low income people will be especially impacted by this ridiculous proposal.
Don't do it

No toll. Ignore other check boxes
this whole proposal is a scam by oregon to unfairly extort more money from washington residents because they can't manage to use the money wisely and fix decades of horrible policies and wasting tons of money on things noone wants that don't actually fix the problem see http://johnley.us/a-tale-of-two-transportation-projects/ for an example
HOV and Toll Lanes should be introduced on all freeways
Government should provide equal and free access to public infrastructure, not require those that with fewer means to disproportionately suffer.
Improve roads and stop trying to force things. Let natural consequences provide the controls.
Don't do it.
build more roads
adding a new bridge,
Introducing a toll will impact the community in very negative ways. People use these roadways to drive to jobs to support themselves and their families. There has got to be another way to acquire sufficient funds. These highways are also used by people on holiday. charging them is also not fair. This will also disadvantage not only low income families, but anyone driving on these roadways.
This would be an unfair burden for users of these freeways that are already paying taxes for!
increase capacity
Use fee revenues to subsidize mass transit.
more freeway lanes
add more lanes no toll
Extend Max and provide another way across the river. You are taxing the only entrance to Oregon.
Expand the current infrastructure without tolling, use the current federal and state funds to fund this future expansion.
If you toll the road, figure on heavy side road traffic
Worst. Idea. Ever.
There aren't enough "work arounds ". Basically a tax on using existing roadways. No Public transit available
no tolls on weekends
laughable. PDX population has grown every year since I am aware of ('04). I have not seen any indication of increasing highway capacity since then. we are a large city & yet, in many areas, only have 2 thru lanes on the only highways available. How is that considered a highway?
NO NO NO
Raise tolls as high as possible to minimize congestion
Tolls Suck! Don't toll us!
Make sure that there is a way to get from Vancouver to Portland that isn't taxed/tolled, or delay the toll until after the first few exit's south of the river.
Stop new home and apartment construction until tolling is eliminated.
Have you checked how tolls have worked in other growing cities?
There should be NO TOLLS!
Stop making it harder to survive as a working family in an overpriced area!
This is the worst idea ever.... money hungry.
No impact on senior citizens/ Oregon pioneers that have paid for these roads you are co-opting.
This section also goes through suburban towns and traffic diversion will negatively affect the quality of life for residents
STOP ALL TOLLING!!!
This is a regressive tax, not a solution
Do not charge Oregon residents for funding as many out of states use the highways
Don't do it
I don't want to make sure revenue is used fairly, I want it used efficiently and effectively. The bottom line is too many people have moved here and our entire transportation infrastructure is insufficient to support the increase. We need more bridges, more lanes on existing freeways, and new freeways. Simply adding tolls and fees does not change the number of people on the roads. So, any funds collected NEED to go toward increasing bandwidth.
Crossing the Columbia river has no alternatives. Start tolling after the first viable exit on both freeways.
Ditch plan
add more lanes, not more taxes and fees. revenue used fairly does not apply, you're too corrupt to use funds properly. some of us don't mind clogging up side streets to avoid your taxes.
see 1st comment
Easy pay system so our employers can pay for those of us who drive for work
No. No. Never a toll
The problem with the ENTIRE stretch of I-5 from Aurora to Vancouver is semi-trucks! They should not be allowed to drive past the 205. That is why the 205 was created. Semi-trucks clog I-5, cause accidents & make driving I-5 a nightmare. They don't use the by-pass lane at Barber, and they frequently use the middle & left lanes which causes more traffic backups. I-5 runs very well when there are NO semi-trucks. Get rid of them, they are the problem. Car drivers are not and we should NOT be taxed/tolled for this! It's stupid.
What a nightmare to try to get from Oregon City to West Linn. Will totally cut off parts of the area because of tolls.
DON'T BRING TOLLS TO PORTLAND

Build the 405 route that has been study for years and toll that
Widen existing freeways. Don 't make traffic worse by adding tolls
Let a private entity construct take over the toll roads so the government isn 't involved and the roads will be maintained.
No toll!
Make sure revenue is used for transit and bike/walk options
NONE coming out of WA
tolling is completely unacceptable and not in Oregon or WA best interest. Asking WA to pay OR? These are interstate! What about commerce and employment hardships? Or has it completely out of touch with reality of working class. Or would not have the business if not for employees from W either. Build another bridge damn it!
NO TOLLS!!!
Use toll revenue to increase freeway capacity.
These tolls unfairly target commuters and West Linn residents. It is costly enough to live here.
Use funds for improvements on the same corridors where collected. Do no use funds for ANY purpose other than road improvements, with highest priority given to reducing congestion/improving commute times
Disparate impact to locals with no alternative options
Do not add tolls or volume pricing to our existing taxation for roads.This poll is unfairly biased!
Allow drivers to park at Delta Park or Cascade station with out a toll fee. I already do this when I can. Trying to do my part. Please don 't make it harder.
70k WA residents working in OR. Non-resident 9% OR income tax paid on average \$20k income OR. = \$126,000,000 ROAD TAX and growing every year because Salem won 't raise vehicle taxes to pay Oregon 's infrastructure maintenance expenses.
NO TOLLS. USE THE MONEY YOU HAVE IN THE COFFERS. NOBODY TRUSTS THE GOVERNMENT TO NOT WASTE OUR MONEY AS YOU HAVE PROVEN YOU CAN 'T MAINTAIN A BUDGET. BUILD A COUPLE OF NEW BRIDGES !!!
Most important would be to build additional roads and bridges for motorists. Quit spending our money on bike and trimet which are under used.
As a WA driver who comes into OR frequently, paying a toll where the funds will not benefit me is quite frustrating building additional route across Columbia River
Take into account transportation services from Vancouver WA into Portland that use volunteers, e.g. Veterans shuttle, Catholic Community Services volunteer drivers who take low income clients to appointments via I-5 and I-205
Minimize SOV use in support of regional climate goals
Stop trying to control my driving habits.
I would no longer travel to Oregon
Do not tax Oregon non-residents who pay Oregon Income tax or there will be REAL protests
least encouraged option; change to let WA people have an option without tolls. If WA pays tolls, rev goes back to WA
Don 't do it. Unfair to people who must go this way with no alternatives and who drive FAR to get to Portland in the first place
More tax B.S.
Dump the plan completely
use revenue as intended, take care of infrastructure

Concept D. Q17: Other, specify (N=121)



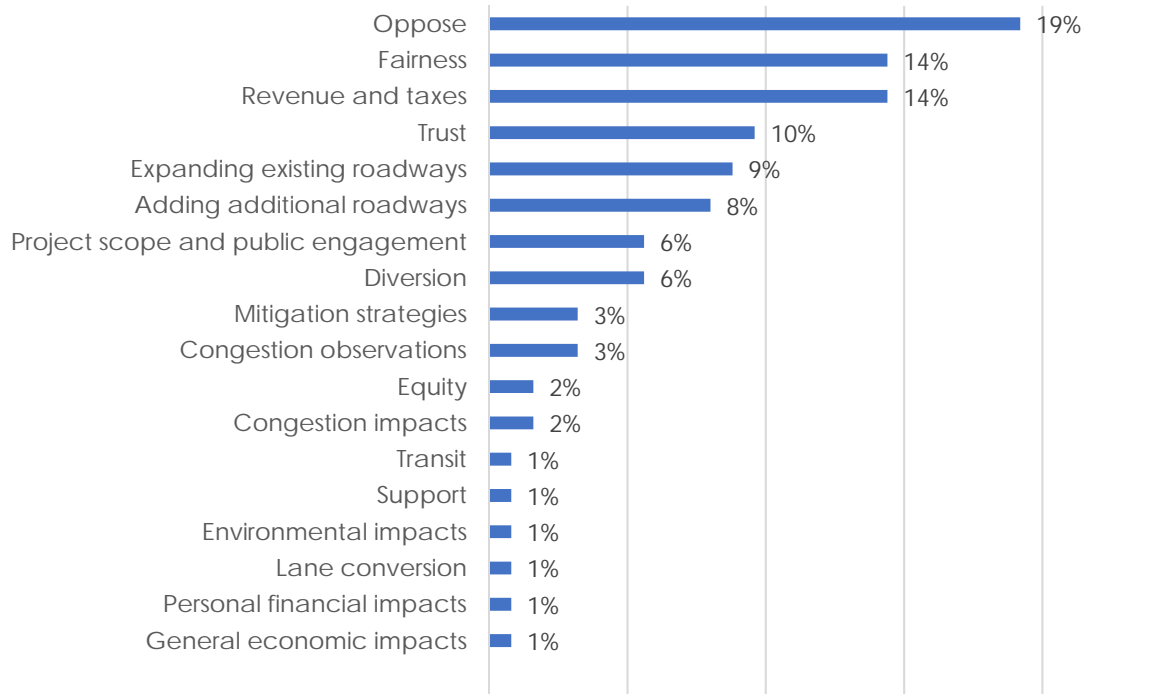
Q17 Responses

Change college start times to be different from rush hour and furnish free passes to students.
Tolling doesn 't work, people don 't want to pay extra.
Designate % funds for system of free HOV lanes
neighborhood traffic
Add freeway capacity
Build more roads.
Add capacity to I-205
set tolls at rates to manage congestion, not generate revenue.
Regressive tax on average workers
NO TOLL
Don 't add tolls. Just look at Seattle. The rich get to drive on the roads that the middle class paid for. Raise taxes on everyone, tell the legislature to be more responsible in their budget and to allocate more money for more roads. Keep our freeways free to all classes.
Privacy - I don 't need government monitoring my movement
Make it cheap, or free!!
Get real...this plan is guaranteed gridlock regionally
This is a bad idea, it causes more congestion and traffic congestion and accidents
Tolls are unfair.
Male it law that toll funds can ONLY be used for highway projects and only in Portland metro
Don 't toll the freeway!!! Add lanes!!!
You found new tax
Build more roads to alleviate congestion.
I would support this option if it actually increases capacity
Add additional lanes and eliminate existing bottle necks
won 't help
Don 't support tolling. Use existing funds
I205 has space to expand. Don 't tax us to drive when we need to drive.
Use tolls to relive traffic projects until projects are paid off then stop toll as we have with other projects in this state
No changes
Have a cap, so thise of us that have long comutes so we can afford a place to live don 't go bankrupt getting back and forth from work.
I understand you need revenue to create new roads, but tolling doesn 't work well. Look to cities like Houston, Austin and Dallas with lots of toll roads as people avoid the tolls and find ways to avoid them for short trips. Only those traveling through the area and not living there use the tolls.
There are only 1 or 2 roads other than 205 to go between Stafford and Oregon city. The alternate roads are already jammed

Use toll money to build new lanes
Add as many lanes as possible
Add an additional lane as the toll road, preventing the other lanes from being crowded by drivers choosing not to, or CAN NOT AFFORD to pay it
This is disengenuous. You are artificially raising the importance of the preselected issues by requiring 3.
Tolls are not the solution
Don't charge tolls
Abandon the project immediately and cease all tolling. Fire the idiots who thought this idea up!
Make a new freeway.
Use revenues fairly
As with the Abernethy Bridge option, this solves a relatively minor congestion issue in a very minor segment of the system. The Legislature had and its stakeholders had a big payback in mind.
Expand the freeway
Please be transparent where and how the money will be used
Once again no amount of tolled roads will help congestion you ignorant fools. Use our current tax money and fix the congestion by adding more lanes or alternate roads.
Revenue should go to more permanent solutions.
How dare you say "minimal" diversion after building the Stafford exit roundabout and upgrading bridge to help DIVERT traffic off I-205 to Stafford Road for cut through traffic on local streets!
I work in Canby. It seems unfair to charge me for working when there is no public transportation option that offers less than a five hour commute.
Don't penalize people who took the only job they could get in an area where they have no choice but to drive!!!! I don't have a transportation option. I'm providing for my family. Whatever you implement, will not stop people from needing to drive, you are penalizing working people. You shouldn't penalize people who have no other choices to get to work.
do not shift the burden of solving / paying for tax congestion to east side residents
Get it right. Stop abusing the citizens
Reduce commercial truck volume.
Roads are already taxed. "Congestion pricing" goes against federal guidelines.
actually add capacity
Dedicate one lane/each direction to be a carpool lane during worst hours.
Tolls will not help reduce traffic. Taking the corrupt liberals out of Oregon will. Or build another bridge.
Administrative overhead wasting funds instead of actually improving roads.
Revenue must not be used for sidewalks, bike lanes, or buses
Full transparency in project costs, ongoing costs, and demographics of revenue generated.
Build more Capacity
don't toll
No tolls!
Not implement congestion pricing in the first place.
Just NO to tolls!
Don't do it
Forcing a choice gives you biased results.
Ask a yes or no question on the poll to make is valid.
Toll non WL residents only/offer a resident bypass of the toll
don't do it its just a ripoff scam to extort money out of washington residents
Raise the speed limit for passenger vehicles
Transit service in this area is terrible!
Make sure everyone suffers equally.
Stop trying to force things. Let natural consequences constrain usage.
Widen the freeway to take more cars
build more roads
Ensure congestion on alternative routes (Arch bridge/43, Sellwood/43, 99) does not increase
add a new bridge
Paying the toll will slow the roadways, and people will just use alternative routes. This is not a viable option for the community.
Expand the freeway FIRST, then toll the new lane.
Use fees to subsidize mass transit
add travel lanes
Expand the current infrastructure without tolling, use the current federal and state funds to fund this future expansion.
Issue is the Bridge. Traffic in downtown OC would be horrendous trying to get to West Linn and back. The OC bridge isn't built to handle the traffic load that the toll on the bridge would cause. Toll the lane but leave travel on the bridge out of toll
no weekend tolls

grow up and expand the highway 1st before looking to try to divert or tax users who have no other options.
NO NO NO
Don 't toll us. This toll idea sucks!
Stop new home and apartment construction until tolling is eliminated.
it is ridiculous to think that this is going to really help congestion
There should be NO TOLLS!
Traffic diversion is already a problem on Willamette Falls Drive, creating major delays and traffic through West Linn and causing regular problems like getting out of my driveway between 4-6pm
Don 't toll even like this if you can help it. It doesn 't help the public.
I currently use this route to get to work. From Stafford to 99E. I usually encounter no traffic (north bound in the morning, south bound in the evening) I wouldn 't pay the toll but it may make my commute longer since everyone would have one unpriced lane or forced me to use the toll.
This is a regressive tax, not a solution.
Do not charge Oregonians.
I would rather see an additional lane or two, per direction, be added. There is adequate space.
Ditch plan
End date of toll when project is paid
add additional lanes on I-5 and I-205, no bus or tri-met on highways. and really ? forcing people to choose 3 options when only one makes sense ? you 're too corrupt to use revenue fairly, and too broke to provide alternative driving routes. again. add more lines of traffic. simple!
Toll lanes do not decrease -traffic-Amen! I resent constant demand for money-toll roads still get backed up and congested and the lines to pay for toll are crazy so you pay to spend MORE time on the road-How about limiting the number of people that move to this State/City-I have been in other states that actually do that and build their infrastructure as they slowly grow!
No new regressive taxes
Stop taxing the people!
Tolling new lanes only seems a way to go
Too much money going to mass transit in Portland and not enough on Portland roads, please figure this out without adding tolls to our beautiful home
This would likely only further exacerbate the increasing amount of traffic getting off at Stafford and driving Johnson to cut through to West Linn
Don 't let the government be in control of the roads. Be more like Texas.
No tolls
Use revenue for transit and walk/bike
Stop! Do nothing Money in OR hands is not spent well
NO TOLLS!!!!
Proper use of gas taxes and federal funds.
Use toll revenue to increase freeway capacity.
Commuters don 't have a choice of when they travel. Hi congestion times are until 7:00 pm. These tolls become a permanent revenue source. This is a terrible plan
Do not add tolls or volume pricing to our existing taxation for roads.This poll is unfairly biased!
Tolling will make our son-in law (lives in Gresham) pay for his kindness to come and cut/trim our Vancouver home grass/shrubs
NO TOLLS PERIOD.
We need more lanes which have been and are paid by motorist. Please represent the people you are elected to represent. Not the vocal minority. Why must I choose three answers to this question when only one applies. This is another way to make it look as there is approval from some citizens. I selected three choices, but only one choice is valid.
build new lanes and/or Portland by pass
Take into account transportation services from Vancouver WA into Portland that use volunteers, e.g. Veterans shuttle, Catholic Community Services volunteer drivers who take low income clients to appointments via I-5 and I-205
Dislike this project in particular because it encourages more private vehicle use, when we need to be reducing private vehicle use to meet regional climate goals
Stop trying to control my driving habits
Do not charge oregon nonresidents who pay income tax anything. Period.
like that this give option for non-tolled lanes
Don 't do it at all!!!
More tas B.S.
use revenue as intended

Concept E. Q21: Other, specify (N=125)



Q21 Responses

Toll roads don't solve problems because people already pay enough taxes that don't get used appropriately, they don't want to pay more just to travel from one place to another.
Designate % of fees to install system of free HOV lanes
I don't like how the revenue would go to highway expansion, the point is to reduce congestion, not increase it by getting more cars clogging I-205 neighborhood streets
Add freeway capacity
We live on what is already the number one diversion route. It is a nightmare every day during commute times. Also, live in West Linn, work in Vancouver. No option to carpool, use mass transit, or shift my work time. Commute is HELL. Build more lanes.
Build more capacity for I-205
Set tolls to manage congestion, not raise revenue
Regressive tax on average workers
redesign the on ramp entrance to improve safety
NO TOLL
Don't add tolls, especially to all lanes. You're just making it so the rich have the road to themselves, while the middle class and the poor don't get to drive on the roads their taxes paid for. That's not right.
Privacy - I don't need government monitoring my movement
Make it cheap, or leave it free!!
more fairly balance interstate users fee participation (i.e. commercial traffic and through travellers
This is a bad idea
There cannot be and fairness in toll roads.
Ensure toll revenue is ONLY used for highway costs and only in Portland metro
Don't toll the freeway! Don't do this! Add lanes. Don't toll the freeway!!!
Build more roads to alleviate congestion.
This concept would be best if the tolled lane is actually new capacity
Add more lanes and eliminate existing bottle necks
tolls won't work
No tolls!!!

Congestion pricing is not anything but another money grab. Don 't do it
Mass transit is already contesting our highways and is unreliable. The ridership doesn 't pay for the costs. Build more highway space.
Again if there 's a toll use it to fund projects to relive the traffic and stop tolls after projects are paid
No changes
Look to Austin to see how this is a bad idea. No one will use it and traffic will divert to side streets to avoid the tolls.
Hell no! worse congestion & economic impact than when the OC bridge was closed
build more highways and get rid of the inept planners at trimet
Add an additional lane as the toll road, preventing the other lanes from being crowded by drivers choosing not to, or CAN NOT AFFORD to pay it
Requiring 3 options in this section is artificially inflating the importance of the preselected issues.
Tolls are not the solution
Don 't charge tolls
Abandon the project immediately and cease all tolling! Have the officials who i plemented it fired!
Make a new freeway
This option would only resolve problem that are rekatively minimal in the region 's systm and would be intended primariuly to ruse revenue for the bridge.
DO NOT WIDEN ANY FREEWAYS. There are so many studies proving this doesn 't work, and I 've live in so many cities and experienced how this does not work and WASTES money and cuts off neighborhoods.
Expand the freeway
Be clear and transparent where and how the funds generated can and will be applied
Don 't like this option as more traffic congestion will result
People will just take the other bridge!
I swear if you start tolling highways in Oregon hell will be raised
There ARE NO OTHER ROUTES over the river that can take any more traffic.
West Linn citizens will be overly impacted by having to pay tolls due to no other choice, endure congestion and decreased safety on local streets and increased burden on transportation maintenance budget, NO mitigation plans noted
do not place burdens on east side residents to solve congestion
investigate if this is just a money pinch on the working people of Portland, while actually doing the opposite of what it says is its intention. It will be slower, more congested traffic for most.
See all my other comments. Do it right, fix the existing pinch points, stop holding everyone hostage on federal roads.
Reduce large truck traffic.
Unless the toll will be used for maintenance or a new bridge, this plan goes against federal guidelines regarding tolling interstate freeways.
actually add freeway capacity!!
How do you minimize impact without introducing add 'l costs?
How is this actually going to reduce traffic? I get to work fine, with plenty of time. Traffic isn 't that horrible.
Administrative overhead wasting funds instead of actually improving roads.
Revenue should be used solely to improve vehicle traffic. Not bike lanes, side walls, or bus transportation.
Full transparency in project costs, ongoing costs, and demographics of revenue generated.
Add additional capacity
The plan proposed has only on good idea. The round about & Willamette & 43. Removing the far right ramp and keeping the dangerous clover leaf shows how out of touch this board is to the local traffic patterns, this plan is a disaste, I believe traffic will be much worse! Taxation is never a solution it is a punishment. I will do everything I can to replace Metro board
add lanes to reduce bottlenecks
No tolls!
Not implement congestion pricing in the first place.
Stop the idea
Not applicable, you dweebs. Throw out my other two choices. They don 't apply.
No toll. This is a faulty poll.
Provide WL/OC residents toll waivers
Increased diversion to local streets currently occurs during high volume times and this would get much worse.
Please do not reduce the current lanes on bridge when creating the toll lane. This will cause more traffic has current vehicles try to merge and change lanes due to reduced lanes that are not tolled.
Broader pricing will work better than this narrow option. A narrow option like this should only be pursued after improving transit and active transportation across the Willamette between Milwaukie and souther Oregon City. Too few bridges at present.
Really...just this little section?
Improve roads and stop trying to force things. Let natural consequences provide the controls.
Build more highways
build more roads

Nothing has been done to change this highway for years, despite taxes already being high, and now you want to charge a toll? This bridge is vital for connecting different parts of the county, and charging people to use it will impact the community in VERY negative ways.
I do not like the idea of having to pay a toll to visit my family. :(
If you toll an existing bridge, the revenue should go exclusively for bridge replacement
increase capacity
Use fees to subsidize mass transit
Dont charge
Tolling is ridiculous in a state with 9% income tax
Expand the current infrastructure without tolling, use the current federal and state funds to fund this future expansion.
Toll roads are not acceptable options
This one sucks
Oh Hell No. Back and forth OC to WL-- only 2 ways..I-205 & the OC bridge. traffic would choke downtown Oregon City. Would need a free bridge from Gladstone to WL to compensate
no tolls on weekends
any toll approach does nothing for the core issue- 2 lanes thru traffic at a major choke point (the only major access point across a river in the region. How many major cities have only two lanes thru traffic at a choke point with high density use on/off ramps involved. When are our city leaders and planners going to take responsibility for expanding capacity to match use/population growth vs. saying public trans is available and is the solution? public trans does not get me to where I need to go. for a section where I could use, it would triple my commute time.
Don 't toll us. Tolls suck!
Re-invest revenue into widening freeways
More than a toll bridge is needed.
There should be NO TOLLS!
By doing this you will force people to use the old Oregon city bridge, which will become congested and then you will toll.
This would cause most people to jump off 205 and travel through Oregon City which is already congested
Keep up with appropriate infrastructure, rather than building Metro. Like the scrapped Mt. Hood Highway that was misappropriated to Metro.
DO NOT CHARGE ANY TOLLS!!!
The old bridge the only other alternative I know for crossing the river. I don 't think this will alleviate the traffic in this area.
This is a regressive tax, not a solution.
Not charge at all, find another way to fund the project
I understand the concept of a use toll, but the reality is that many will simply take the OC bridge, instead.
Ditch the plan
End date of toll when project is paid
add more lanes, not more taxes and fees. revenue used fairly does not apply, you 're too corrupt to use funds properly. some of us don 't mind clogging up side streets to avoid your taxes.
See 1st comment
Morally opposed to using more money to use something already paid for
OMG - what a mess this would be. The only way to West Linn untolled by car would be the OC bridge. OC would be gridlock. This is basically a "location " tax for people in Oregon City
This is going to divert people from jobs in Portland hurting the Oregon economy
The only other option is OC-WL local bridge - hardly able to accomodate alternative demand
Don 't screw over people in Oregon City, West Linn, and Gladstone. That bridge just got redone, we don't need more traffic in the area. Just no. Stop it.
No toll
Make sure revenue is used for transit and non motor vehicle options
Do Nothing! Stop Micro managing
NO TOLLS!!!!
Add lanes.
Use tool revenue to increase freeway capacity.
That this isn 't a permanent toll and revenue is strictly used for these improvements. This should not be viewed as a long term revenue source used for anything other than these improvements and lifted once paid. A retroactive new resident tax seems more fair as our they are the reason for the congestion. This is an unfair tax on commuters who have been paying their taxes for years
Take into account Clark County residents working in Oregon already pay income tax. Adding tolls will leave a sour taste in most mouths if the funds collected are not used for the improvements on the very roads where collected
Do not add tolls or volume pricing to our existing taxation for roads.This poll is unfairly biased!
Rarely go that far South
NO TOLLS

Flawed multiple choice questionnaire. The only choice is for gov to spend the peoples money wisely and build roads that work for a majority of the people, the motorists. Represent your constituents not your own agenda.
add additional lanes without tolls
Take into account transportation services from Vancouver WA into Portland that use volunteers, e.g. Veterans shuttle, Catholic Community Services volunteer drivers who take low income clients to appointments via I-5 and I-205
Discourage SOV trips as much as possible in support of regional climate goals
Stop trying to control my driving habits
Do not charge oregon nonresident taxpayers any tolls, that 's garbage and we already pay for our roads so we should see them improved
would push many people on to I5 & 84. Create additional bridge to toll.
widen the bridge. Use general obligation bonds
More tax B.S. Disrgard first 2 checked boxes
quit wasting our taxes and use them as intended

APPENDIX F: MITIGATION STRATEGIES

Mitigation strategies offered in the other, specify Concept-specific questions (N=31)

#	Concept	Comments
1	A	Change college start times to be different from rush hour and furnish free passes to students.
2	A	Eliminate ability for Waze, etc to redirect to city streets. Eliminate ALL truck traffic. More cops policing the inevitable jerks who drive on city streets to get around freeways (ALREADY an issue on N Albina, Lombard, etc!!).
3	A	Give discount to WA respondents who work in OR. We already pay OR tax. This is essentially a second tax for a state where we don 't live.
4	A	Charge additional cost for commercial vehicles regardless of which lane or freeway they use if they are traveling during the day.
5	A	Design to specifically improve freight movement.
6	A	No tolls on weekends.
7	A	Eliminated the last two NB on-ramps and relocate them.
8	A	Allow people to park at Delta Park without a toll. I almost always park and ride when I go to OR. I am already trying to do my part.
9	A	I 'm already taxed by working in Oregon with no representation in the Oregon government. I only utilize Oregon government services for 9-10 hours per day, Monday through Friday, so I am being "overtaxed " based on my time in Oregon. Now you want to tax me more for using roads as well. If you implement this, 1) I should get a refund on my taxes, 2) have a waiver for my family driving on tolled roads, and 3) get voting rights in Oregon.
10	B	No tolls during off peak hours.
11	B	No charge for non-peak driving.
12	B	Come up with alternative ideas to tolling. Get the trucks off of the main through fares as they are more likely to pay the tolls in order to avoid slowdowns. Normal people will stay off the tolls to save money as everything is going up in price and most people will not be able to pay for it to use it daily.
13	B	Reduce the number of large trucks.
14	B	Use existing lanes for carpools 2+ during peak hours.
15	B	Place limits on the hours of tolling, and devise a procedure to govern any changes to those hours.
16	B	Stop new home and apartment construction until tolling is eliminated.
17	B	The free use during off-peak pricing is recommended and desired.
18	C	Enforcing common sense merging of vehicles would speed traffic more than another tax on driving.
19	C	Reduce semi-trucks on the road.
20	C	Easy pay system so our employers can pay for those of us who drive for work
21	C	The problem with the ENTIRE stretch of I-5 from Aurora to Vancouver is semi-trucks! They should not be allowed to drive past the 205. That is why the 205 was created. Semi-trucks clog I-5, cause accidents & make driving I-5 a nightmare. They don 't use the by-pass lane at Barber, and they frequently use the middle & left lanes which causes more traffic backups. I-5 runs very well when there are NO semi-trucks. Get rid of them, they are the problem. Car respondents are not and we should NOT be taxed/tolled for this! It's stupid.
22	C	Let a private entity construct take over the toll roads so the government isn't involved and the roads will be maintained.
23	C	Do not tax Oregon non-residents who pay Oregon Income tax or there will be REAL protests.
24	D	Have a cap, so those of us that have long commutes so we can afford a place to live don 't go bankrupt getting back and forth from work.
25	D	Reduce commercial truck volume.
26	D	Toll non-West Linn residents only/offer a resident bypass of the toll.
27	D	Raise the speed limit for passenger vehicles.

28	D	Proper use of gas taxes and federal funds.
29	D	Do not charge Oregon nonresidents who pay income tax anything. Period.
30	E	Redesign the on-ramp entrance to improve safety.
31	E	Reduce large truck traffic.

Mitigation strategies offered in the open-ended question (N=17)

#	Comments
1	Any tolls to promote a "faster highway trip" should be exclusive to a "fast lane" only. Nothing else in the explanation would make sense and otherwise it seems pandering.
2	If you implement tolls, please toll the entire freeway system in the metro area consistently and set the tolls to manage congestion, meaning, when there is adequate capacity for demand, the toll should be \$0.
3	Any household with an individual who receives OHP, SSI, Medicare, VA Benefits etc should get a free pass in the tolling system as they are low income. Make it easy!
4	Toll subsidies for low income. Toll credits for those who use transit on the route. No tolling after certain hours. Plate recognition vs transponders (which can incur addl non-toll costs). Solutions for the unbanked (pay in local retailers).
5	The Semi Trucks on the Freeway are a huge congestion problem. I understand in Southern California they are not permitted 7am to 7pm. Or on the subject of tolls restrict to very high tolls on cargo transport during those hours. Yes on congestion \$
6	Put toll across all of I5 & 205 or don't do it at all. Don't waste our money widening freeways. Spend that money on more cops to monitor diversion traffic, issue tickets to people who don't live on a neighborhood street who use it as a HWY detour.
7	Optimizing stoplights is the best strategy. Traffic calming is the worst idea I have ever heard of for a strategy of diverting traffic. You are just going to make traffic even WORSE on roads adjacent to the tolled freeway.
8	You must first deal with the thousands of semi-trucks that were added to the highways when the shipping companies pulled out of the Port of Portland. This is the main driver of congestion in the last few years. Tolls aren't going to change that!
9	Consider transit credits and toll subsidies for low income drivers. This is a great idea that makes economic sense, but mitigation policies are needed to make sure low income drivers don't face a disproportionate impact. Few transit options in SW pdx
10	Toll discount for low income drivers Low/no toll off hours Transit incentives No tag-pay by mail Traffic calming on impacted arterials Bans on heavy vehicles from neighborhood streets Special cards for low income to buy credits locally
11	I work odd hours, so I can never be in a carpool into Oregon. I like the idea of tolling, seems neat. Hope it does move forward once others understand the benefit, but please no more carpool lanes, unless low emissions cars with singles can use it
12	Fare equity based on age and income
13	no, just no. Seriously, no. No tolls. unless you remove income and local taxes.
14	Different pricing for different times. Encourage large truck traffic at night rather than daytime hours. Ban triple trailer trucks altogether.
15	People travel when and where they need to. Trucks are the main problem in road congestion. They should be restricted in hours they can travel .to nighttime as much as possible. They create many accidents. Increase fines on truck caused accidents.
16	Have you actually assessed how many Washington cars actually cross the bridge to work for 8 hours or more? You already collect income tax from Washingtonians why do you need more? Exempt shift workers work 8 hours or more to work a shift.
17	WA and OR residents should be allowed to deduct sum of all tolls from their Oregon State Income tax. Tolling I 205 and I-5 seems wrong without tolling 217 and I-84.c Tolling existing lands seems wrong. Adding new lanes and rolling those seems okay.

Mitigation strategies offered in the project inbox (N=20)

#	Comments
1	<p>Hi,</p> <p>My name is [REDACTED] and I live in Vancouver, Wa and commute over the I-5 bridge every week day for work. I just wanted to provide my comments as I will not be able to attend the meetings due to the meeting times. I definitely understand the need to reduce congestion going through Portland but I have some concerns on how this may be implemented.</p> <ul style="list-style-type: none"> • My main concern is the check points that the Value Pricing will be placed at. I believe the check points should be after accessible Public Transportation Hubs. Mainly allowing commuters the option to use a Trimet Park and Ride Station. I am most familiar with my own route to work which is using I-5 southbound over the Columbia River bridge. I park at the Delta Park Station Park and Ride where I take the train into Portland. If you want to encourage drivers to use Public Transportation please make all checkpoints for value pricing starting after an area such as this. Otherwise you are punishing drivers who do use Public Transportation. I would suggest just to the North of the I-5 and I-405 split to encourage southbound drivers to use public transportation or use alternative routes through Portland. I am not familiar with the I-205 southbound route out of Washington or the routes coming North on I-5 or I-205 from the south of Portland. But I would suggest similar areas that are after commuters have the option for public transportation or alternative routes. • Will I-84 into Portland be considered for Value Pricing? If not it makes it look like Washington drivers are the specific target as we have no other route into Portland other than I-5 and I-205. Oregon drivers would have the option to take surface streets to I-84 and then into Portland without being affected by Value Pricing. • Has expanding TriMet bus service into Vancouver been considered to help with reducing congestion? While Vancouver's Public Transportation does have service into Portland it is much more limited than what Trimet could provide in terms of service times and route connections. Also for commuters from Vancouver who already pay for a monthly TriMet pass this would allow us to use this coming out of Vancouver rather than needing to drive into Oregon first. <p>Thank you for taking the time to read this and if possible I would like to receive a confirmation that this email has been received.</p>
2	<p>Subject: Follow up on remarks at Feb 28 PAC meeting</p> <p>Since the time for public comment was short I would like to finish the remarks I intended to make during Public Comment.</p> <p>1. In reference to the two issues that will make it impossible to REDUCE overall traffic demand these are that the Portland Vancouver area population is very rapidly increasing; and that West Coast industries will ship more and more freight through here. Now I agree that Single occupancy vehicles should be offset by things like ridesharing, improved transit, or alternatives. However the net change will still be overwhelmingly to greater congestion. This is why I say we need added capacity in the form of a western highway.</p> <p>2. In reference to multi tolls: There is an idea, promoted largely by the SW Washington Democrat delegation to completely replace the Interstate 5 Bridges and this would have to be paid via tolls. If I-5 were to have tolls on it, especially if all lanes were tolled, then this would mean that drivers from Washington to Oregon would pay two tolls. This would be an onerous burden on lower income persons. The upshot also would be more people would use side streets to avoid paying tolls.</p> <p>3. The Western Arterial Highway that I emphasized will use existing routes with additional links that are not overly expensive. This route was also identified in a 2017 Washington County Study as "the Northern Connector." Susi Lahsene, of Port of Portland had testified that it was vital to the Washington County economy to have better access to port facilities. Existing thoroughfares that are already adequate to function as portions of this Highway are: N. Columbia Bv, N. Marine Dr., US Hwy 30, portions of Cornelius Pass Rd (and the rest of it with widening to four lanes).</p> <p>4. At present traffic levels the Western Arterial Highway (if operating now) would remove enough commuting traffic from I-5 to make I-5 function close to normal now. I-5 has encountered Speed Flow Delay, a tipping point where it no longer processes the number of vehicles that could use it, if speeds were normal. The Stopping distances are now inadequate, so all traffic slows down in a crescendo. However, the interstate system may need another additional crossing, probably one on the eastern edge of the metropolitan area.</p> <p>5. The Western Arterial Highway was also identified as a High Capacity Transit Corridor. For the new, major commuting route of Vancouver to West Union Junction (Beaverton Hillsboro area) the distance via I-5 and US 26 of 20 miles, is reduced to 14 miles via the Western Highway. This improves it for public transit, and even more if express</p>

	<p>routes are used. Express service could have major stops at intersecting highways, since presently there is not a lot of development in between to service---the Cornelius Pass link is mostly farmland. Thus this route could greatly improve public transit in the Northwest Metropolitan region.</p> <p>6. Since this is a shorter, more efficient path on an increasingly popular commuting route it would support a reasonable toll. Even with additional capacity like this, I-5 could be faced with increasing impact as our region grows. Therefore the Western Arterial Highway would remain a popular option, even with tolls.</p> <p>██████████</p>
3	<p>Subject: Fw: Tolling is not sharing the load ██████ here are my unedited thoughts.... good luck today!</p> <p>Congestion No we have not gone over the edge yet, There is an answer one block over. Tolling is not sharing the load</p> <p>Taxes paid by gas taxes and vehicle fee is meant to pay for the basic infrastructure and maintenance for our sociality to move around. This enormously powerful, needed infrastructure is so important to the economy, safety, and health of our sociality. That's huge. What would we have with no paved roads, highways, bridges, and sidewalk? Vehicles are a tremendous boost for the economy, parts, trinkets, music, items for cars, trucks, and recreational vehicles. Good business, money, and jobs from maintenance, shopping, travel, entertainment, so vehicles are not only to shop for but also to shop with. And - vehicle share their roads everyday with everyone from main streets to the roads less traveled. This service has worked very well for several years. The gas taxes and vehicle fees paying for the basic infrastructure and maintenance percentage has dropped significantly from nearly 100% to approximately 60%, with high debt repayment for many years. The move of taking money from basic transportation infrastructure for social transportation engineering has greatly damaging our road system. The value of social control issues is important enough to have its own funding sources. Trying to get all services and needs paid for out of one group's pocketbook for everyone's use will not work. Directing grants and funding away from basic infrastructure and maintenance to: speed bumps, trees in Blvds., bike infrastructure, extended curbs, "road art", planting, benches, "ped-zones", pet projects, and care of expensive trees and shrubs etc. Those items must get their own funding, not the basic services funds. Basics services such as signage, lights, crosswalks, roads, bridges, freeways, construction, and maintenance is enough of a burden for the vehicle user to handle for sociality. The taxes and grants spent on issues other than basic infrastructure since 1980's need to be added up and returned to the basic infrastructure funds.</p> <p>Adjacent to almost every main street is a side street paralleling it. By creating a multi-modal corridor for walkers, runners, scooters, and bikes, with 5mph limited speed for local vehicle access. License vender to sale coffee, food, rides, and etc., to pay for the upkeep of the multi-modal corridor, provide benches, bathrooms, cost, clean-up, and extra insurance. A safer, less polluted, way to get around, that is pedestrian centered will attract people. Paralleling congested busy streets provide quick access to businesses, while avoiding vehicle traffic, and not adding to it. To start with all you need is stop signs, speed signs, and paint to make a healthier move to a cleaner environment. Move over, from painted lines on a congested fumed street, immediately removing congestion on our main throughways, cleaning the air, and helping everyone. On busy commerce streets, just like pedestrians, scooters, bikes, etc, will still need to use yellow line streets, however for the most part they will have their own limited motorized corridors separated for everyone's benefit.</p> <p>No we have not gone over the edge of no return yet, when it comes to congestion. We just need to move one block over were the gas taxes and vehicle fees have paved yet another road waiting for us to share.</p> <p>Portland is 26th size and 60th in density and yet Portland has been in the top ten most congested cities in the United States for over a decade. That is policy not people. We spend over 50 hours of time in congestion a year then is normal driving congestion. We have lost miles and miles of important lane usage inside the city limits, adding to unsafe environment and congestion. Several major corridors have lost lanes - Interstate Ave, William's Ave, Vancouver Avenue, Glisan, Burnside, plus several streets in downtown, extended curbs keeping vehicles from turning right, traffic calming, removing parking spaces, mixing bikes in traffic, and bus stop placement, etc. We did not have a congestion problems when Metro and the City of Portland started working on making sure we would "Not" get congested at a time when you were able to get most anywhere in Metro area in about 20-minutes, by making policy changes. Changes many people pointed out would cause congestion, were ignored. We used to have a great bus system almost 24 hour everywhere. Now they service is used as a feed-line to light rail, greatly increasing time and transfers, leading people to return to their cars over transit. Data shows this and has shown a loss in transit ridership percentage for awhile. Yet less expensive more flexible bus lines are cut, putting in expensive "Fail Rail", with problems, too hot, too cold, 1-vehicle accident, system shut downs, non-flexible, and a closet smoker getting ½ it's energy from coal electrical plants. Orange road-work signs are everywhere, often closing lanes when workers are not present. The Boardway Bridge now with lane closures for a second time in two years has lanes closed the weekend, evenings and holidays with no workers. The workers</p>

	<p>doing our road work often are working 9-5 Monday- Friday when the majority of the traffic needs to use the bridge. Having our "orange -up" from 5AM – 9PM especially Monday thur Friday will help significantly with congestion.</p>
4	<p>Subject: 5/205 tolls</p> <p>I am submitting my opposition to OR imposing a toll on the 5/205 bridges.</p> <p>I am a frequent user of the bridges and I work and pay significant Oregon state income taxes, and property taxes. If you levy a toll on these bridges I will be taxed even more.</p> <p>This unfair toll will do nothing to ease the traffic congestion.</p> <p>I would encourage you to seek other measures such as extending the transit trains into SW Washington as a means of relief rather than a toll. You could also consider other options but placing a toll would be unfair, and add an additional financial burden to me and my family.</p> <p>Thank you</p> <p>██████████</p>
5	<p>Subject: Don't Penalize Washington Drivers for Working in Oregon!</p> <p>Dear ODOT,</p> <p>I live in Washington and work in Oregon (OHSU). I pay income tax that benefits Oregon. I ride a bus from downtown Vancouver, WA most days and occasionally drive to work. I should not have to pay more to get to work via toll roads. Oregon should apply the income tax I pay for any roadwork needed to help with congestion.</p>
6	<p>Subject: Tolling WA residents</p> <p>I already pay Oregon income tax and as Oregon has said it is because I use the roads. Since I'm already paying for the roads why should I have to pay more?</p> <p>I already have adjusted my commute to get in by 6:30am and spend hours in traffic each day.</p> <p>My quality of life would be much better if Oregon would fix the roads, thereby cutting my commute time and the need to get up so early.</p> <p>If you start tolling I will be forced to make a choice... pay or don't. I will elect to not pay by either quitting my job or will work from home all the time. Both of which achieve your stated goal of reducing traffic, so great! It will also allow me to not pay Oregon income tax and the toll.</p> <p>A decent car pool lane can make a huge improvement. Oregon completely ignores the current lane and the fact that simply extending the lane and patrol it once a year would make a big improvement. Oregon should do the basics before asking for more money.</p> <p>Lastly, I'm lucky I can adjust my schedule or work from home. What about service workers? They are always scheduled and have no choice in the matter. Do you really want to saddle your infrastructure and tax issues on low wage WA service workers?</p>
7	<p>I almost had a crash tonight Mar.- 05-2018 on the way home. I had plenty of room to change lanes to the right. Me & another pulled out of Sacramento onto ne 122 @ the same times. I put on my right turn signal and the nut behind me went screaming by on my right side horn on. IT did not stay in the lane like they are supposed to then change lanes. You people need to get on the stick and enforce traffic laws. This is why you have such traffic problems, no one gives right of way. I just mail the Info. to Portland ODOT as to the problems of east bound I-84 where it goes over N-205 & where we get off at ne 122 Both are very dangerous. How many miss the 84 over 205 I can just guess of hundreds. OUT here they are very stupid when it comes to traffic E-99 means EASTBOUND & W-99 means WEST BOUND.</p>
8	<p>Hello ██████████</p> <p>-FYI only; there is no need to respond-</p> <p>Ask ODOT received a call from Frank Mounce and he wanted to share his opinion Value Pricing. Here are the main talking points that Frank wanted to get across:</p> <p>Citizen lives in Tigard but works in Vancouver.</p> <p>Citizen is disabled and does not want to take public transit.</p>

	<p>Citizen thinks public transit would take too long to travel to work. Citizen thinks the congestion problem is mainly because of semi-trucks. Citizen thinks limiting access of trucks and/or the hours of their operation would help. Citizen thinks the addition of truck lanes and passenger car lanes would help congestion on I205. Citizen wants another bridge from Portland to Vancouver.</p>
9	<p>I am against tolls. If we're going to do toll roads, they should be strictly for Oregonian residents, not for people coming in and out of the state of Oregon from other areas.</p>
10	<p>Hi [REDACTED]</p> <p>Thanks for taking input from the Chinese community for your traffic congestion study. So far, all we have talked about were charging a toll to keep the poor people off the freeway and widen the existing roads. No one has tried to find the ROOT CAUSES of the congestion problem. Without knowing the root causes and solving them, the congestion problem will never go away.</p> <p>A toll road/lane without a newly build designated lane would not do much to ease the current congestion problem. It is very costly and wouldn't happen soon. As shown in a survey at the meeting, most drivers are already avoiding the freeways during the rush hours. A toll road will only put more drivers into the side streets. It will congest the streets to the point where the cost of time and gas will no longer justify for the saving of the toll. Then everybody will eventually go back on the freeway as before.</p> <p>Seattle has converted the Northern section of I-405 into two tolled carpool lanes and two non-tolled lanes. Traffic is still backing up miles after miles, and well into mid-night while the two tolled-lanes are stand nearly empty.</p> <p>Adding a new lane wouldn't help much either. The northbound section of I-205 changes from two-lane to a three-lane road at Oregon City, traffic still backed up before and pass Oregon City. The same thing happens at Northbound I-205 near Airport Way. It changes from 3-lane road to a 4-lane road over the Glenn Jackson bridge. Traffic still backed up until it passes the bridge. Then the road on the Washington side is wide opened. Why?</p> <p>If you'll look closer, all traffic congestions are around a freeway entrance and exit, no matter if you have a two-lane road or a four-lane road, and no matter if it is a heavily used freeway entrance or not, as in those on I-205 between I-5 and Oregon City. Why?</p> <p>At the freeway entrance:</p> <p>That is because some people are entering the freeway and change lane prematurely. They did not fully utilize the acceleration lane to reach freeway speed before merging into the freeway. That caused the drivers in the nearby lane to change lane, brake or stop to let them in. Also, some of those drivers would immediately move to the far left lane and cause those other lanes to become slow too. And some drivers on the left-lane would slow down to anticipate those drivers to move into their lane from the right side as they see them coming.</p> <p>For the situation at the Glenn Jackson Bright when the 3-lane road becomes a 4-lane road, the 4th lane is added following the freeway entrance. The extra lane should be able to handle all incoming traffic. But it is congestion by those drivers who always slow down or stop to move to the left lane as soon as they reached the freeway. To making it worse, there are drivers from the left side eagerly move to that 4th lane as soon as it becomes available. That 4th lane is also the exit lane to SR14, but isn't until 2 miles later. The crossovers really making a big mess of congestion on the freeway and extend well into the Airport Way.</p> <p>At the freeway exit:</p> <p>People are trying to cut in front of a line at an exit. They were in the left-hand lane, they didn't move to the right-hand lane until the very last minute, then they slow down, brake, and stop to wait for other drivers to let them in. It also is a major cause of an accident.</p> <p>What can we do?</p> <p>Besides educating the drivers, we can use road stripes (double solid lines, solid and dash lines) like those used in Southern California for their carpool lane to tell the drivers when can change lane and when to move to the right or left. The left-lanes should be reserved for those who are traveling a long distance such as passing through the town. Drivers need to move to proper lane early if they want to exit the freeway. Prohibit any lane change around an exit or entrance. This will allow drivers on the left-hand lanes to maintain its speed and keep the traffic flowing by knowing there will not be any driver cutting in front of them. Use road signs, cameras, and heavy fines to enforce the rule.</p> <p>Also, there are drivers leaving too much spaces between their car and the one in front of it during rush hour traffic. If everyone is like that, the line would be backed up to the border. We need to educate and issue fine to those</p>

	<p>drivers who are taking up too much spaces between cars.</p> <p>I hope you guy will take a serious look into this suggestion. For the cost of the paint to re-stripe the road, it would ease the traffic congestion for many years until the road is widened. Let me know if I need to elaborate more.</p> <p>Thanks for your time,</p> <p>█</p>
11	<p>Subject line: comment on value pricing</p> <p>Hello ODOT,</p> <p>Please kindly consider my comments in regards to your Value Pricing plans. I have watched your online video, the power point and explanation, about the "options" for Keep Oregon Moving.</p> <p>I am a resident in Oregon in Washington County, on the border of Multnomah County, and have lived in Portland Metro all my life. I remember riding max in the 90s when the blue line from Cleveland to Downtown was the only route, and buses were color coded with symbols like beavers and raindrops. While in high school my friends and I would walk to the max in Gresham and take the train into the City. We loved it, it was our ability to get around, we took max to prom at the Tiffany Center. We experienced Portland from that train. And, when I didn't have a car, I relied on the Trimet bus to get to work, boy I hated the bus always being late or now show, but was thankful for it as it got me to work. When I became an adult and worked downtown, I commuted by buses over east side bridges when I live over that direction, and later took the max from Hillsboro when I moved out that way. Also I currently live in walking distance of Sunset Transit. So you see, I have quite extensive life experiences on Trimet. Additionally, as a driver on our roadways as well, I have witnessed the massive explosion of congested traffic, which became quite noticeable about 2009-2014. I have particularly noticed the general driving patterns changing to more aggressive and fast, especially on the freeways. These life experiences are the basis for my comments.</p> <p>My number 1 preference is that the I5 bridge OR/WA border is tolled on all lanes, priced roadway at one point only and during peak times; and the money should be used to build another new bridge, new construction, which is ultimately what we need. The new bridge should be multi vehicle and pedestrian friendly, max, bike lanes, walk lanes, car only lanes, truck only, and bus only lanes. Toll vehicles different prices based on the lane for the vehicle type. Consider a peak time pricing rate difference.</p> <p>My number 2 preference for I5 and I205 congestion, is toll nothing, and build nothing. Instead fund incentive programs to get people using Trimet, carpool, walking or biking. You guys have expanded max greatly, and streetcars, and the Wes train, and I'm sure other endeavours. Go back to having a fareless square, big bonus right there. Give huge discounts to people that buy annual or monthly "commuter" passes, some kind of program to get commuters interested. Like ads ditch the pay to park lot, save tons of money with Trimet, to be clear *slamming good deals on passes for commuters. Help big businesses give shuttles from max stations again like you use to. Give honored citizens better access without disrupting services times, not to be unpopular, but when your in a hurry on the bus and it pulls over for a wheel chair, your stress level elevates because of the extra time it takes. I'm sure the person in the chair feels everyone's gazes, I mean, white elephant. That's the way of it. That's no fair to anyone, help them along quicker and safer somehow and help us get where we need to go faster. People on the train are jerks and stand in the way so wheelchair users can't get on safely and won't move out of their designated area so they can ride safe and comfortable. Honored citizens are harmed, more needs to be done about it. During peak times max gets so full, so also perhaps subsidize uber pool or lyft line for commuters during peak times, as it forces carpooling. Give other carpooling incentives. Don't give bikers a bike tax, (come on Portland!), instead give bike users some kind of perk for miles they track on the bike instead of a car; and same with walkers, distance on foot versus in a car. Also please dear god do something about trimet security. When I was in London, they had CCTV everywhere on the Underground Tube, with spotlight cameras and intercoms monitored 24/7. All you need is those all up in people's faces, people get out of hand, use the speaker and bright light and have staff alert and ready. Some deterence goes a long way.</p> <p>My preference 3, please think about how to expand the Sunset Vista Ridge Tunnel transportation. Perhaps toll the tunnel during peak times, in a similar way to my number 1 preference. We need better transit projects there, specifically enhancements and lane improvements, so many accidents! We need better bike access from westside into Portland, it's very dangerous on Burnside and Cornell and Germantown these days for bikers.</p> <p>Thank you for allowing me to comment and your consideration.</p>
12	<p>Subject line: Tolls on Columbia River Bridges</p> <p>I support tolls to support infrastructure maintenance and capacity improvements. I think some discount pricing for frequent commuters who only use a small part of Oregon's highway networks, for example pay for only the first 10</p>

	crossings in a month (instead of about 40 for a five day a week commuter) is reasonable. I am a retired Civil Engineer, I cross the river about 6-8 times a month.
13	<p>Subject line: tolling</p> <p>The tolling idea as a way to cut congestion doesn't fly with me. It is just a revenue generator. People know it's going to be a slow slog no matter what is done at the bridges. It's just that there are too many cars for lane space at the same instant. Just have to put up with it. Times change; it can't be back in the 1960's. The freeways weren't built with enough capacity back when things were cheaper. We'll just put it off until a future time when expenses are greater. If there is a wreck it needs to be cleared faster than it is.</p>
14	<p>Subject line: Congestion Pricing Initiative aka Oregon Tolling Scheme</p> <p>This is a horrible plan that will place unnecessary hardship on the general population. Due to decades of poor insight and planning on the part of the government the roads are in disrepair with massive congestion. Instead of repairing roads and funding for future needs such as roads and bridges billions of dollars have been spend installing light rail that people do not use and are afraid to ride. They are simply unsafe. TWO additional bridges are needed crossing the Columbia River. Build at least one with PRIVATE FUNDS and toll that road. Build one with existing tax revenue OPEN TO THE PUBLIC with no additional fees. Expand I-5 and I-205 adding additional lanes. Eliminate the Davis-Bacon Act "Prevailing Wage" that dates back to 1931 that mandates that ALL government initiated projects are 30+% more expensive than real world pay.</p>
15	<p>This is a stupid concept. We pay taxes to get these types of projects handled. Private investment should be able to handle the rest. Putting this on our residents is unfair and will only cause frustration, grow the divide between the wealthy and the poor, and further diminish the existence of a middle class. This is almost as bad as PBOT forcing local businesses to pay for city repairs it should be responsible for handling. I drive a ton for work and have noticed I save a lot of time simply by knowing roadway trends. I STRONGLY believe that better signage and/or regular painting of the roads with "directions" would greatly alleviate traffic on Portland area Highways like I5, I405 and I205. For example, I commute from my home in North Portland's Kenton neighborhood to my office in inner SE at MLK and Main. This means I use I5 until the OMSI exit, 300B. Exit 300A is for I84 and traffic stacks up and congests the whole freeway for this lane shift. If the road had clearly marked signage/roadway paint messages indicating which lane was for which trajectory, I believe this traffic would be greatly reduced. Almost all the build up in traffic here is just due to drivers realizing they are in the incorrect lane for where they're wanting to go and merging lanes. In addition, we NEED better driver's education! We have some of the worst drivers in the country here. Driver's need to understand how to use the "fast" or passing lane. If driver's only used the left lane for passing and not cruising, we would have greatly reduced traffic on highways across the state. This single factor, hands down beyond anything else, is the greatest cause of traffic on interstates and highways.</p>
16	<p>Subject: Better improvement plan than the current one that will have to be expanded upon anyways</p> <p>For successful program build car bridge to Vanc. from St Johns to west of vancouver and bridge to area east of vancouver to eliminate congestion without tolls. Also max line extensions to vancouver and additional hov lanes from existing shoulders. We have lived in dallas texas and orlando florida which you havr used for your study and are trying to emulate. The only problem is that these areas are much larger than portland metro and have many more roads leading out of them. You are most likely going to cause more congestion by not building more bridges first. You have a budget of billions but 2 bridges on both sides of the existing columbia bridges will provide more flow out of the area instead if just taxing vehicles. Eventually you must buold more bridges and I think everyone in government and out of government sees this and knows this so why not start with this issue first as well as completing the max up to vancouver and then around from I5 to 205 with large park and ride spots so those washington cars can stay in washington on a daily basis and people can get on the max from the washington side. Then work on extending the max further west and east from portland out past banks and eventually to seaside by vutting through hills and up to governement camp for an eventual winter olympic bid and then down to eugene for and eventual summer olympic bid. Places like Japan are already equipped for this. There is a better way to use our tax payer money than your current plan. You are thinking too small and will eventually have to address these concerns so lets just start doing these things now.</p>
17	<p>Hi, my name is [REDACTED]. And I just want to leave a comment for the project committee. And that is I am encouraging no toll for the Wilsonville I5-I205 area. What I would suggest is if you lower the speed from Aurora to Tualatin. Or even Tigerd maybe even further up to 77end up to there so that there's not the congestion that you have with those two exits. People drive way too fast. Get police in there or get cameras in there to slow the people down and get the speed lowered to 45 miles an hour so that people don't have so many accidents and you don't have the congestion. You keep the traffic flowing at a moderate pace. Thank you very much. Goodbye.</p>
18	<p>Subject line: Comments on value pricing</p> <p>Issue regarding I-5 & I-205 in Portland area seems to be focused on Portland drivers, but ignores drivers from other parts of the state or from other states. We often drive thru Portland on our way north to Washington.</p> <p>I have driven multiple times I405 and SR 67 in Washington that has lane tolls. I have a daughter who lives in that</p>

	<p>area. The toll lanes has made very little positive difference, if anything, congestion is worse now than before.</p> <p>Suggestions</p> <p>Since Portland mayor and government seem to not want to make improvements to add lanes to I-5 to reduce congestions, but rather sees road congestions as a good thing to force people to use mass transit, I suggest the following that seems to meet Portland mayor's goal and would provide less impact to drivers outside Portland area:</p> <ol style="list-style-type: none"> 1. Place a toll on all on ramps to I-5 and I-205 in Portland area. Because most of the congestion is caused by Portland area drivers entering the freeways, they should be the ones most affected by the tolls. 2. Close about half of the on ramps to I-5 and I-205 in Portland area, especially where the pinch points seem to occur the most. This would achieve 2 things, reduce congestion on I-5 and I-205, and achieve the Portland mayor's objective of forcing Portlanders to use mass transit by making it more difficult to use cars. 3. Add an express lanes(s) that drivers can only get in south of Portland and get off in Washington.
19	<p>Subject line: Toll on I205 and I5 in Oregon</p> <p>Hello,</p> <p>My name is [REDACTED]. I live at [REDACTED].</p> <p>I am against tolling either of these freeways. I drive a portion of each of these freeways at least five days a week. I often drive them during rush hours. I never drive these stretches of road for pleasure, I drive them out of necessity. There are so many construction projects blocking the main arterial streets in NE Portland its hard to find a way out.</p> <p>Lately, in the last year or so, I have taken to driving the surface streets as much as possible because people driving the freeways are crazy. I am forced to exceed the speed limit on the freeways (while driving in the right/slow lane) to avoid becoming a speed bump.</p> <p>I think you could ease congestion on both sides of the Columbia River by closing the on ramps to I-5 and I-205 that join the freeway just before the freeways cross the river during peak traffic hours. It would also help with congestion on surface roads around those entrances. On the Oregon side for I-205 this would be the ramps from Airport Way to I-205 and possibly the ramps from Sandy Boulevard/Killingsworth. I'm not sure what ramps join I-5 north of downtown Portland because I gave up driving that stretch of road years ago.</p> <p>If you want to speed up traffic on I-5 North in the afternoon and evening, try closing the I-84 east ramps from the Morrison Bridge and NE MLK Junior Blvd. (I think that's the street) at peak hours in the afternoon, it would speed I-5 along. I currently cut through downtown Portland and catch I-84 east from the Morrison Bridge when driving from the Beaverton area to NE Portland in the afternoon. Saves a lot of time to avoid 405 and the Marquam Bridge. I'm sure a lot of people do this.</p> <p>A suggestion to help short-term would be to have Oregon State Police and Washington State Police crack down on people who speed and weave through traffic on I-5, and I-205. If an unmarked police car, try using a sea-foam green Toyota Yaris, was used you would not believe how much money would be collected. I-84 and the Marquam bridge are in desperate need of policing to slow traffic to prevent the current chaos. When people weave through traffic and speed it slows everyone else down, we have to brake and take evasive action to avoid being hit by these wild drivers. If this suggestion does not fall within the scope of your project, please forward the suggestion to the Oregon State Police.</p> <p>Anyway, thanks or listening,</p>
20	<p>To: Value pricing Policy Advisory Committee Subject: No More Freeway Expansions - Value Pricing PAC Community Testimony</p> <p>Please find our letter in support of Option 2, with particular policy recommendations for designing appropriate, equitable, and climate-smart decongestion pricing policy, attached to this email. We request that this letter be added to ODOT's formal Open House public testimony.</p> <p>Our grassroots organization's letter has been endorsed and co-signed by 225 community members across the state. Their comments, names and zip codes are included in the document.</p> <p>Tremendous thanks for your consideration on this important issue, and for your public service.</p> <p>[REDACTED]</p>

---[SUBMITTED LETTER AND SIGNATURES]---

Date: Monday, April 30, 2018
To: Portland Region Value Pricing Policy Advisory Committee
Oregon Transportation Commission
CC: Portland City Council
Oregon Metro Council
Megan Channell, Project Manager, Oregon Department of Transportation
From: No More Freeway Expansions Coalition

The No More Freeway Expansions Coalition is submitting this letter outlining our grassroots organization's position to be included in public testimony for the current Oregon Department of Transportation (ODOT) Value Pricing Open House. It has been cosigned by 225 community members who support our position, outlined below, in which we ask ODOT to move forward with Option 2 and direct revenue raised from decongestion pricing towards transit investments instead of freeway expansion.

Traffic congestion is miserable, and without policy change, it will only get worse. There is only one transportation policy that has ever been proven to improve traffic and stop congestion. We are heartened to see the Oregon Department of Transportation (ODOT) move forward under the direction of the Oregon State Legislature to convene this committee of community partners to discuss how to implement decongestion pricing thoughtfully and equitably.

DECONGESTION PRICING INSTEAD OF FREEWAY EXPANSION: FASTER COMMUTES INSTEAD OF FREEWAY CONGESTION

Our advocacy in support of thoughtful decongestion pricing policy stems from our stark belief that the Portland metropolitan area needs to avoid giving the Oregon Department of Transportation a blank check to spend billions of dollars to expand freeways across the region. There isn't a single city anywhere on the planet that has alleviated traffic gridlock by expanding their freeways. It's important to be explicit here - every dollar the region can wrestle away from regional proposals to expand I-205, I-5, and Highway 217 is a dollar we can instead spend on transportation investments quantitatively proven to lead to healthier communities, cleaner air quality, anti-poverty initiatives, traffic safety, a reduction in carbon emissions, preservation of farmland, and (most importantly in the context of this advisory committee), less traffic congestion. Freeway expansion will do none of these things.

Given that we know this to be true, our coalition has taken a stance that we are opposed to any expansion of capacity on the freeways inside the urban growth boundary unless decongestion pricing has been implemented and studied first before expansion. It's senseless for our region to embark on these costly, dangerous, environmentally disastrous freeway expansions that won't solve congestion without first determining if decongestion pricing and robust investments in transit won't solve our traffic gridlock problems first.

Our organization's statement in opposition to the \$450 million Rose Quarter Freeway Expansion Plan has been endorsed by over 1,000 community members, dozens of local advocacy organizations and 9 of the eleven candidates running for Portland's two city council seats; this letter represents the specific opinions solely of the names signed below. Skepticism about ODOT's claims in their support for the freeway project have been covered repeatedly by local media including Willamette Week (1), Portland Mercury (2), BikePortland.org, CityLab (3) and City Observatory.

We believe decongestion pricing is an important, progressive policy tool that must be thoughtfully implemented to address Portland's growing traffic woes while also working in concert with our region's goals for improved public health, carbon emission reduction and development of an inclusive regional economy.

DECONGESTION PRICING SUPPORTS A MYRIAD OF PUBLIC HEALTH INITIATIVES

Portland has some of the worst air quality in the nation. (4) Minor upticks in daily walking and biking provide astronomical public health benefits, and building walkable communities where transit, biking and walking is safe and encouraged has been proven to encourage physical activity. (5) Despite commitments at local and state levels of government to work towards

eliminating traffic fatalities, crashes and collisions are on the rise, often on busy arterials with high speeds with poor sidewalks and crosswalks. (6) The stress of driving through a daily traffic jam has been shown to be linked to significant stress, as well as pulmonary and cardiac disease. (7)

Given these realities, it's difficult to disagree that instituting decongestion pricing and using the revenue raised to fund reliable, dedicated transit service isn't a massive opportunity to improve public health across the region.

DECONGESTION PRICING IS EFFECTIVE AND NECESSARY CLIMATE POLICY

Forty percent of Portland's carbon emissions come from transportation. Last summer, 1,060 square miles of Oregon burned in wildfires, an area roughly the size of Rhode Island. (8) Reports from the Antarctic this spring suggest that the polar ice caps are melting at a cataclysmic clip beyond what climatologists previously thought possible. (9)

Given these unpleasant realities, it seems wildly inappropriate that the Oregon Department of Transportation is moving forward with massive freeway expansion plans that perpetuate land use patterns with abysmally high carbon emissions. It flies directly in the face of Oregon's reputation as steward of our environment, champion of cogent land use law, and leader on climate action. Moving forward with auto-centric land use patterns that lock our region into further decades of carbon emissions, especially considering the lack of climate leadership at our federal level of government is nothing short of intergenerational theft and predatory delay. (10) Even in the most optimistic world of electric automobiles and robust paradigmatic shifts towards clean energy, our efforts to meet our climate goals will be greatly assisted by efforts to encourage more transit, biking and walking for everyday trips, and no longer heavily subsidizing and encouraging the use of single occupancy vehicles. Oregon's Greenhouse Gas Commission reported last year that Oregon is way off track in achieving its statutorily mandated goal to reduce greenhouse gases by 10 percent from their 1990 levels by 2020. (11) An Oregonian born today is expected to be alive in 2100; acquiescence to our status quo transportation investments is complicity in asking children alive today to clean up our mess.

Decongestion pricing inherently provides the appropriate incentives to help encourage our region to develop climate resiliency. Failing to meaningfully address our regional transportation plans is a failure to act on climate. Period.

DECONGESTION PRICING CAN AND SHOULD SUPPORT EVERYONE IN AN INCLUSIVE REGIONAL ECONOMY

There are legitimate concerns from many disenfranchised communities about the implementation of decongestion pricing. With decades of rising housing costs, many low-income communities have displaced to the periphery of the region and rely on automobiles for the majority of their transportation; for many, it's the only reliable transportation option in low-density, sprawling suburbs in a region still lacking robust, reliable transit options in low-income neighborhoods that effectively and reliably provide access to employment centers and other destinations.

Our coalition is sympathetic to these concerns, and aspires to mitigate them by designing pricing policies that don't place undue burden on low-income communities already experiencing economic precarity. Everyone, especially low-income communities, benefits from the end result of decongestion pricing - the elimination of traffic congestion on our major freeways and arterials, which allows better and more reliable access to jobs and services. Initial research suggests that low income commuters are rarely on the freeways during peak travel times; studies published in City Observatory in 2017 and in the Northwest Journal of Business and Economics in 1998 suggest that peak travel time pricing on I-5 would raise more revenue from wealthier commuters. (12)

Given that automobiles are the second largest expenditure to the typical Oregon family, depreciate substantially immediately upon purchase, and require heavy recurring investment in insurance, maintenance and gasoline, any government investment in infrastructure that makes it more necessary (as opposed to less necessary) to own an automobile to access jobs, education, and shopping has significant consequences for mobility options and for asset accumulation for low income communities. Decongestion pricing, designed with appropriate rebates and programs to mitigate harm to low income communities, provides us the opportunity to begin investing in reliable, healthy transportation options that serve people rather than

vehicles. As UCLA Professor Dr. Michael Manville writes,

“It’s easy to think of free roads as a subsidy for the poor, but it’s more accurate to call them a subsidy for the affluent that some poor people are able to enjoy... It is appropriate to worry that priced roads might harm the poor while helping the rich. But we should also worry that free roads do the same, and think about which form of unfairness we are best able to mitigate. People who worry about harms to the poor when roads are priced, and not when roads are free, may be worried more about the prices than the poor.” (13)

Dr. Lisa Schweitzer shares a similar diagnosis, noting that decongestion pricing as a form of taxation must be compared to other forms:

Those who use scarce public resources—including space on the roads—should pay for what they use, in proportion to what they use, and know that they are paying. Knowing that resources have a cost is essential to using those resources judiciously, and our road network will function better when drivers pay the costs of their travel. (14)

NO MORE FREEWAY EXPANSIONS - OUR POLICY RECOMMENDATIONS

Given these reasons, The No More Freeway Expansions group ardently supports Concept 2 proposed by ODOT, which recommends instituting full, variable decongestion pricing tolls on all lanes of I-5 and I-205. Additionally, in the interest of maximizing the full congestion relief, public health, anti-poverty and climate-based benefits that are inherently possible through the implementation of decongestion pricing, we propose additional stipulations. These recommendations represent our good faith effort to address concerns of implementing this policy thoughtfully, equitably, fairly, and with an eye towards data-driven outcomes for public health, climate, equity goals, most notably eliminating the amount of time Oregonians spend stuck in traffic.

? Revenue raised from decongestion pricing should be directed towards investments in transit, biking, walking, not freeway expansion.

We encourage TriMet and C-TRAN to work closely with ODOT to determine how funds from pricing mechanisms can best be channeled into cost-effective, reliable transit investments that will provide better opportunities for commuters who wish to avoid paying the price to drive on the freeway at peak hour. Our coalition believes that decongestion pricing revenue should be spent on investments that increase the frequencies, reliability and efficiency of transit service. This includes capital investments in bus-priority lanes and traffic signals, improvements to bus stops, better sidewalks and crosswalks near busy intersections, and other physical investments that fall within the constitutional limitations of the Oregon Highway Trust.

We’re heartened to join organizations including The Street Trust, OPAL Environmental Justice Oregon, Oregon Environmental Council, and Verde in asking for revenue from decongestion pricing to be directed away from freeway expansion.¹⁵ As our coalition alluded in a recent article in BikePortland.org, spending revenue raised from decongestion pricing on freeway expansion is like spending money raised from a carbon tax on a new coal plant. We emphatically believe in induced demand, and that the only way to alleviate traffic congestion equitably is to both price our roads and channel our resources into alternatives to congestion instead of freeway expansion.

Low-Income Rebate/Refund Program

We encourage ODOT to model and implement a peak road pricing scheme that provides a program to ensure that low-income workers are not unduly burdened by this anti-congestion measure. We’re heartened by TriMet’s work to establish a Low-Income Fare, funded thanks to OPAL - Environmental Justice Oregon’s advocacy in the state legislature, which is scheduled to launch this July. TriMet intends to allow “adults at or below 200 percent of the federal poverty level” to be eligible for “half-price fare,” and we encourage ODOT to conduct further study of how similar discounts or rebates could work for decongestion pricing. Ideally, applicants to TriMet’s “low income fare” program could also automatically enroll their vehicle in ODOT’s decongestion pricing program.

? Mitigation for High Crash Corridors and Potential Cut-Through Routes
Many community members across the region have expressed concern that pricing

freeways will lead towards additional "cut-through" traffic on neighborhood streets. This is concerning both in low-trafficked neighborhoods that already suffer disproportionately from proximity to freeways in poor air quality, and on nearby busy arterials, many of which (such as 82nd Avenue) suffer disproportionately high rates of traffic violence. We encourage ODOT to consider setting aside decongestion pricing revenue for local neighborhood traffic remediation improvements, including bollards on neighborhood greenways, safety improvements for pedestrians on arterials (particularly near transit stops, schools, libraries and community centers), and traffic safety cameras. These investments should be done in direct collaboration with local neighborhood organizations and community partners.

? Data Privacy

Oregonians, Southwest Washingtonians, and all who drive on our freeways deserve assurances that the data collected on vehicle travel and address registration be kept appropriately secure. Many members of our community feel actively threatened by the presence of Immigration and Customs Enforcement (ICE), particularly Washingtonians using drivers cards. We strongly encourage ODOT to work closely with data privacy experts such as the American Civil Liberties Union (ACLU) to adopt best practices that allow ODOT maximum efficacy to study decongestion pricing implementation while protecting the security of families across the region.

We understand that this is a bold, unprecedented position. We also understand that our region has a history of bold, unprecedented action and leadership for designing our communities with public health, livability and equity as our top line values. Anything short of bold, visionary leadership is unacceptable for anyone who claims to care about acting on climate, designing public policy for public health, or addressing inequalities in our transportation system.

This letter represents our good faith effort to remind ODOT's Stakeholder Advisory Committee of the urgent necessity of displaying similar leadership to vigorously support thoughtful decongestion pricing policy in Oregon. Our ability to innovate with unique, thoughtful answers to our regional transportation problems previously defined us. It's up to elected officials, community leaders, and advocates such as yourself to determine if this will be the legacy we leave to future generations of Oregonians.

The policy decisions championed by this committee should keep these values in mind as we address our myriad of overlapping, intersecting policy aspirations. We encourage this committee to double down on championing instituting pricing on our scarce freeway space, doing so deliberately to avoid undue burden to vulnerable communities, and prioritizing decongestion pricing over costly and ineffective freeway expansion proposals.

The names of 225 community members (from 46 area codes across the Portland Metropolitan region) who have signed on to our letter in support of decongestion pricing, and the necessity of instituting this policy before expanding any freeways inside Metro's Urban Growth Boundary, are provided below, with their additional commentary.

[REDACTED]

Name Zip Code Additional Submitted Comments

[REDACTED] In addition to the general arguments against freeway expansion made in this letter, the PAC and the OTC need to understand that the so-called Rose Quarter project is a particularly wasteful expenditure of money, purchasing very little of value for anyone. If safety were indeed the motivation, then a southbound braided exit lane to I-84 would be the obvious choice, and could be implemented at low cost, leaving the majority of funding available for projects that would actually improve safety and facilitate transit, bicycle, and pedestrian movement. This Rose Quarter project is not at all cost-effective, and clearly the implementation of "value pricing" would reduce congestion, improve safety, and improve travel time for freight. Now is the time to do the analysis, before the money is spent -- am I right?

[REDACTED] Freeway expansion has never helped solve congestion and ultimately makes our community less livable. We need to invest in walking, biking, and transit options, as well as implementing congestion pricing as a strategy.

[REDACTED] It makes no sense for a growing region to invest in transportation that gets worse as more

people use it. Instead we should invest in mass transit, which gets more efficient as more people use it.

[REDACTED]

[REDACTED] As long as we consider and implement strategies to mitigate inequitable impacts of congestion pricing, we absolutely need to start congestion pricing before freeway dollars are spent. This is the 100 year solution. The one our (great) grand-kids will be glad we made when they are addressing transportation issues 100 years from now.

[REDACTED] I own a business in downtown Portland and have lived in Portland for 10 years. I regularly use transit and bike. I drive somewhat regularly. I'm convinced that decongestion is the most effective way of controlling highway demand and traffic, and spending my tax dollars smartly. I support this approach instead of freeway expansion.

[REDACTED] As some one who grew up in Los Angeles for 25 years I can attest that freeway expansion simply doesn't work. More lanes just leads to more cars and you can not build your way out of traffic. Decongestion pricing can help solve this and the funds collected from it can help provide equitable benefits for everyone if it is used wisely, such as reinvesting in active transportation. Take a hint from the traffic capital that is Los Angeles who has realized building more freeways doesn't work and investing in active transportation gets people out of their cars and cars of the road.

[REDACTED]

[REDACTED]

[REDACTED] Running a freeway through the middle of a city was a mistake. It displaced and impoverished communities with little political power. It allowed people to take their taxes away from the city while still using its resources. Portland should focus on serving people who live in Portland, and undo-ing the inequities of the past. This means cleaner air, more transit options, schools safe from traffic and pollution, more close-in housing, and reconnecting neighborhoods torn apart by freeways.

[REDACTED]

[REDACTED] I'm a wife, mother, and full-time employee who lives in inner North Portland. I started bike commuting (with my child!) this year because traffic congestion is so unpredictable and time-consuming that I cannot reliably make it to work and daycare via car or transit. Portland has an obligation to remain a national leader on TRULY livable city planning and transportation options. Help me continue commuting safely and carbon-free, while nurturing my family, my health, and contributing to the economy. Decongestion Pricing Please!

[REDACTED] I believe it will help by reducing congestion, but it will also get people to commute by other means, which in turn may increase retail spending in local communities (cafe's, restaurants, etc) while commuters wait it out while raising money for new transportation methods. Because of this, Vancouver may grow as to have their own identity as a destination and not just a place to reside. It's really a win-win.

[REDACTED] Due to induced demand, freeway widening never works for long. Decongestion pricing has worked in other locations. It's time to try it in Portland! And make sure the resulting funds go toward improving transit and other alternatives.

[REDACTED]

[REDACTED]

[REDACTED] Freeway infrastructure expansion will not only cost a fortune, but is unlikely to reduce congestion. Congestion charging will actually generate revenue that can be used to improve our transportation system, while actually reducing congestion. It is the smart choice. But more than that, it is the moral choice. People die on our roads. They die because cars crash. The more cars on our roads, the more crashes, and the more people who will die. More cars on our roads by expanding freeways will kill more people. Getting less cars on the road via congestion charging will mean less families are destroyed. Please implement robust congestion charging for this reason.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] "Forget the damned automobile and build cities for lovers and friends."

[REDACTED]

[REDACTED] The Rose Quarter Freeway expansion will not solve the congestion problems on I-5. It's safety benefits will take us no closer to Vision Zero on fatalities. It takes out Flint Street, a heavily used bicycle street to cross the freeway. Decongestion Pricing is the best answer and should be implemented ahead of any freeway expansion within the urban growth boundary.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The planet is melting!!!! Stop freeway expansion!

[REDACTED] It's sensible and fair, and it will make life healthier and safer for all of us in Portland. Behavior that hurts others should be discouraged rather than encouraged, and we will have a better city for everyone when we stop subsidizing car overuse.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Freeway expansion means driving expansion. Opposite of what our future goals are. We need transportation for ALL, not just for drivers sucking the life out of cities.

[REDACTED]

[REDACTED] there is but one solution to help alleviate congestion and improve freight and other high value transportation movement: implement pricing now!

[REDACTED]

[REDACTED] It is well understand from extensive research that increasing road size does not help solve traffic congestion. Knowing what we know how can we double down one of the fundamental failures of the 20th Century? The amount of money to be spent on the proposed expansion could be used more effectively elsewhere to meaningfully decrease congestion for the long term.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The dirty little open secret among transportation engineers is "if you build it, they will come" - widening freeways doesn't work, it only adds more congestion, more pollution, more problems. I saw this happen over many years while living in California. This is 2018 - greener and more ecologically smart choices must be implemented. We've seen lots of bad examples around the country of transportation decisions creating more damage than solutions - this is a great opportunity for Portland decision makers to learn from others' mistakes. Be smart! No freeway expansion; decongestion pricing is the way to go.

[REDACTED] Because more lanes create more traffic!

	<p>██████████ Freeway expansion keeps inducing demand: we know we will never be able to expand our way out of congestion. Let's make smarter decisions by pricing congestion appropriately!</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████ More freeways bring more traffic, more pollution, more cars.</p> <p>██████████ I understand this section is a traffic problem, but it's too much money to solve an issue that should further down the queue of things to fix.</p> <p>██████████ As a car-less individual I'd love to see more resources put into public transportation and biking corridors. On the few occasions where I may borrow a vehicle I am glad to pay congestion prices to use the freeways. I believe making public transportation easier to use at an affordable price will encourage people to change commuting habits. As the city grows, expanded freeways will likely only lead to an expanded congestion problem.</p> <p>██████████</p> <p>██████████ I bike everyday to work because i can't stand the current car traffic situation. The bridge I commute to work on my bike makes me feel safe because there are not many cars or busses for that matter. it is a safe haven. So yes, i support decongestion pricing over freeway expansion. You have to work to make the city less reliant on car transportation not just trying to patch things.</p> <p>██████████</p> <p>██████████ The future of our landscape, quality of air, and wellbeing of all Oregonians begins with the actions of every individual in this state. When we choose to walk, take the bus, ride a bike, or drive a car, these actions have an impact around us. The impact could be the air we all breathe or the time it takes to get to our destination. Expanding freeways will cost us in the long term. As a frequent person who both rides a bike and drives, I would gladly pay money to the state for decongestion pricing. Why? It's for our future. I would love to see the state of Oregon reduce it's deficit and not spend money wildly on freeways. No state has been able to successfully build its way out of congestion. There are many ways for Oregonians to get around, but over reliance on driving is the problem! Encourage people to take alternate methods of transportation instead of driving everywhere.</p> <p>City of Portland and Multnomah County leaders have pledged to make to transition to 100 percent clean energy by 2050. Adding freeways goes against this pledge as it will encourage Oregonians to consume for fuel that necessary. Bring money into the state, add congestion pricing and I, and many other Oregonians, will gladly pay for a roads with less car traffic. Don't dig our state further into debt.</p> <p>██████████ Safer streets for all. Cleaner air too. Investing in community, not cars going by.</p> <p>██████████ It feels great to be in the good company of the many individuals & organizations who are signing this letter, & who've already signed similar petitions! I live in a suburb of Portland, & do not own a car. I love walking & biking in the outdoors, & I want to save remaining unpaved green spaces of Washington County from becoming roads. True to these values, my household relies on public transit to go to downtown PDX. I'd like more bus lines, bus lanes & transit options from Tigard/Beaverton/Hillsboro to Portland, & all the way into Vancouver, WA. I'm signing this letter for myself, & because I envision there are a lot of other people like me, who'd rather ride happily on a clean, efficient bus to commute than behind the wheel of a car they must drive & maintain themselves. And surely, many people would rather see expensive acre</p>
21	<p>Re: Value Pricing Mitigation Measures</p> <p>Dear Commissioners:</p> <p>I want to thank you both for your time and commitment to the Value Pricing Policy Advisory Committee. I am sorry I was unable to join you in your discussion of mitigation measures at our last meeting due to other commitments. Policies that mitigate the adverse impacts of value pricing are a key factor in the acceptance of a tolling</p>

approach and I would like to take this opportunity to share my comments. Please consider these comments along with the other mitigation ideas that were raised at the meeting.

The data we have seen at the PAC coupled with everyday experience demonstrates both I-5 and I-205 do not have enough capacity to meet travel demand. Traffic diverts onto other arterials where it contributes to additional congestion and safety problems. The impact this has on travel region-wide and state-wide is clear.

Value pricing has the potential to shift trips to transit or to other times of day. Without additional transit or road capacity added to the system however, value pricing has the potential to greatly impact adjacent facilities and not provide additional capacity for those who pay the tolls. To mitigate this, I would like to see the evaluation consider mitigation measures that focus the tolling revenue on adding capacity to the system.

I look forward to learning more from the study about the potential for pricing to improve traffic flow on I-5 and I-205 and shift traffic to other times of day, modes or facilities. When our adjacent facilities are already congested, safety is a key concern and transit options are limited, tolling could have adverse impacts and needs to be carefully understood and mitigated.

Please share my comments with fellow members of the ODOT Value Pricing Policy Advisory Committee

Sincerely,

A solid black rectangular redaction box covering the signature area.

Mitigation strategies recorded by staff, general (N=46)

#	Comments
1	Identify ways to incentivize public transit (toll credits) to complement pricing
2	Limit special privilege access to express lane (CAV)
3	I-205 between Foster and Powel - northbound, build an auxiliary lane between Foster and Powel, seems to be plenty of room
4	what if paid parents to (?) to homeschool to open school capacity
5	Incentivize businesses to start in rural area
6	Need more comprehensive plan for the system
7	improve local (?) get local ppl off freeway to address congestion
8	Heavy vehicle restrictions
9	Don't just build more lanes. Also needs alternative modes. Make accommodations for bike/peds
10	pair w/alternative modes, not just one answer
11	Speed bumps?
12	Phase tolling implementation by testing it.
13	Offer incentives not penalties
14	Free transit on I-405/I-5
15	If want to increase safety on roads, then raise driving age to 18.
16	Have speed feedback sign on Interstate Bridge because you can't see the traffic ahead at the rise in the roadway
17	enforcement of keeping trucks off streets and entering and exiting toll lanes
18	What about if hotels provided more shuttles?
19	There should be a mileage based system for the driving no you pay for how long the segment is.
20	Some aux lanes cause too short of a distance for merging and exiting
21	Balance - multiple modes, education, enforcement
22	Make tolls payable in cash or a pre-pay system
23	Comcast has a program for reduced internet for families w/children on reduced lunch cost programs. Leverage that for mitigation. Reduce tolls or prepaid transponders.
24	Suggest making the I-5 and I-405 loop a one-way hwy. Let the engineers figure out which direction. Make it binary.
25	Use a combination of tolling w/ramp metering
26	Consider different tolls at different ramps
27	Don't allow trucks to use the left lane where drivers aren't used to seeing them. Trucks are dangerous to drive around.
28	Test toll lanes then scale up if it works
29	No trucks of a certain size at certain time of day (peak)
30	ODOT encourage City of Portland to have new container contractor
31	PSAs etc classes on how to drive on freeway
32	Managing traffic flow - people don't use left lane for passing, enforce
33	Attractive work schedules, start w/state employees (5% of 9-5)
34	Ban studded tires at elevations below 500'
35	Truck bans in the neighborhoods
36	Use specific windows for trucks on freeways
37	Traffic calming or speed limits may not work in all areas. We already have speed bumps
38	incentivize to use other times of day. Especially drivers who can change time of day
39	Use Jantzen Beach for park and ride
40	Make side roads inconvenient for cars (surface streets)
41	Have speed feedback sign on Interstate Bridge because you can't see the traffic ahead at the rise in the roadway
42	enforcement of keeping trucks off streets and entering and exiting toll lanes

43	Change train bridge to lift in middle of the river. Would drop 15 lifts per day. Bridge will last longer, little better flow.
44	Use BNSF bridge with "the Cascades" train during rush hour.
45	Discounts for getting work - 2 free trips a day, not for discretionary trips
46	Free pass for those with disabled placards in vehicle (not discounted based on income, free for disabled)

Mitigation strategies recorded by staff, Concept-specify (N=23)

#	Concept	Location	Comments
1	A	Tigard	Allow vehicles to drive on the shoulder when there is congestion
2	B	E. Portland	Think about freight incentives to travel at other times of the day
3	B	Tigard	Have state electeds and offices start later/work later as trial to change behavior (demonstration project)
4	B	Tigard	Pay attention to business freight
5	B	Tigard	On-ramps should be "smarter"
6	B	Tigard	HOV lanes for faster buses
7	B	PDX	Incentivize truckers to use I-205, subsidies.
8	C	Tigard	Freight and trucks removed from I-5
9	C	Tigard	Divert trucks off I-5 - make them divert
10	C	Tigard	Better logic behind ramp meters and conditions on the freeway
11	C	Tigard	Quicker clearance of crashes and breakdowns
12	C	PDX	Provide incentives for off-peak travel (credit)
13	C	PDX	Advisory speed signs on I-5 interstate bridge could help traffic flow
14	C	PDX	Traffic signals leading to freeways should be marked/more coordinated (on-ramps and others)
15	D	Oregon City	Essential for relieve traffic on side street
16	D	East Portland	Need to create viable alternatives to using a tolled road - improve public transit
17	D	PDX	Real carpool lane enforcement
18	D	PDX	Pay trucks to sit out Peak Periods
19	D	Vancouver	Build a lane for truck/freight only - will free up all congestion
20	D	Vancouver	Put in Heavy Rail (like Long Island RR) - more more people
21	E	Oregon City	Would help free up 205 stafford to bridge
22	E	PDX	Travel time signage is useful
23	E	Vancouver	Think about tolling the entrance ramps to bridge so it wont be used for local traffic

Attachment 5: Agendas and Materials from PAC Meetings



Portland Area Value Pricing Feasibility Analysis AGENDA

Policy Advisory Committee: Meeting 1

DATE: November 20, 2017

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 8:30 a.m. – 11:00 a.m.

MEETING OBJECTIVES

- Develop shared understanding of committee charge and purpose
- Seek conceptual agreement on committee charter
- Develop shared understanding of conditions on I-5 and I-205 and value pricing principles, terminology and potential applications in Oregon
- Review feasibility analysis schedule and scope and begin discussions on feasibility analysis key considerations

AGENDA ITEMS

Time	Topic	Lead
8:30 – 8:40	Welcome and Agenda Review	Penny Mabie, Facilitator
8:40 – 8:55	Committee Charge and Purpose	Alando Simpson and Sean O'Hollaren, Oregon Transportation Commission, PAC co-chairs
8:55 – 9:15	Introductions: Name, role, goal for committee participation <i>Objective:</i> Meet each other, hear goals for committee participation and identify mutually held goals	All
9:15 – 9:30	Review Committee Charter (<i>Discussion</i>) <i>Objective:</i> Identify proposed additions, areas of support and concerns to reach conceptual agreement.	Penny Mabie, EnviroIssues
9:30 – 9:50	Portland Region Conditions and Trends (<i>Information</i>) <i>Objective:</i> Learn about and understand context and conditions of the analysis area	Mandy Putney, ODOT



Agenda

Time	Topic	Lead
9:50 – 10:15	Value Pricing Overview (<i>Information</i>) <i>Objective:</i> Learn about and understand value pricing	Trey Baker, WSP
10:15 – 10:45	Feasibility Analysis Timeline, Scope and Policy Considerations (<i>Information and Discussion</i>) <ul style="list-style-type: none"> • Timeline and milestones • Scope of the feasibility analysis • Policy considerations • Objectives and proposed performance measures <i>Objective:</i> Understand feasibility analysis process and provide initial feedback on policy considerations for the analysis	Kirsten Pennington, WSP
10:45 – 10:55	Public Comment <i>Meeting observers are welcome to provide comment to members of the PAC. Comments or questions will not be responded to by PAC members. Individual comment time limits will be determined by number of people desiring to make comment.</i>	Penny Mabie
10:55 – 11:00	Next Steps <ul style="list-style-type: none"> • PAC meeting schedule • Action items 	
11:00	Adjourn	

Policy Advisory Committee Meeting Schedule:

- Meeting 2 – December 7, 2017
- Meeting 3 - February 2018
- Meeting 4 – April 2018
- Meeting 5 – May 2018
- Meeting 6 – June 2018



Portland Area Value Pricing Feasibility Analysis Policy Advisory Committee

DRAFT Committee Charter and Protocols

Preamble

Oregon House Bill 2017 from the 2017 Legislative session directs the Oregon Transportation Commission (OTC) to seek approval from the Federal Highway Administration (FHWA) by December 2018 to implement value pricing on the I-5 and I-205 corridors, from the Washington state line to their intersection in Oregon. Per the legislation, value pricing would be used to reduce traffic congestion in the Portland metropolitan region. If FHWA approves, the OTC is required to implement value pricing.

Value pricing, also known as congestion pricing or peak-period pricing, is a type of tolling in which a higher price is set for driving on a road when demand is greater, usually in the morning and evening rush hours. The goal is to reduce congestion by encouraging people to travel at less congested times or by other modes, and to provide a more reliable travel time for paying users. Value pricing can include converting a carpool lane (also known as a high occupancy vehicle or HOV lane) to a high occupancy toll (HOT) lane so non-carpoolers can choose to pay to use the lane to save time; putting a variable toll on a new highway lane; using tolls on bridges that vary by time of day; and other applications.

In order to develop a proposal to FHWA by December 2018, the Oregon Department of Transportation (ODOT) will conduct a feasibility analysis to determine where value pricing may be successfully applied on these corridors and what the impacts of each option will be. Throughout this process, ODOT will work with local government officials and stakeholders and seek public input so that the voice of all those who may be affected can be heard.

Purpose of Charter

This charter is intended to provide a clear and mutually agreeable statement of the roles and responsibilities of Policy Advisory Committee (Committee or PAC) members, ODOT staff and OTC. It also identifies the way in which the Committee will operate, including decision-making processes, meeting conduct and communication. Once agreed upon by the Committee, the charter will guide the work and conduct of the Committee in an open and transparent process.

Purpose of the Committee

The Value Pricing Policy Advisory Committee shall advise the OTC in implementing Section 120 of HB 2017 by:

- evaluating options to implement value pricing to reduce congestion on I-5 and I-205 in the Portland area based on factors provided below by the Commission
- considering public input for the various options



- determining effects and potential mitigation strategies for options
- providing input and recommendations on value pricing to the Commission prior to applying to the Federal Highway Administration

Committee Composition

As directed by the OTC, the Committee will be composed of approximately 20 voting members representing a variety of interests and perspectives, including:

- Oregon Transportation Commission
- Oregon Department of Transportation
- City, county, and metropolitan planning organization officials from Oregon and Washington
- Highway users
- Advocates for equity, social justice, and environmental justice
- Public transportation
- Environmental advocacy groups
- Port of Portland
- Business community

The PAC will also include ex officio members representing FHWA and Washington State Department of Transportation.

Should a member be deemed to no longer represent their constituents, agency or organization (through change in office, position or other circumstance) the OTC reserves the right to revisit the committee's standing membership to ensure the committee's representativeness.

As directed by the OTC, Committee members will be appointed by the ODOT Director.

The full Committee will meet about six times between fall 2017 and summer 2018. It will be facilitated by a neutral facilitator. Meeting observers are asked to silently observe the meeting. An opportunity for public comment to the Committee will be provided at each meeting. In addition, a dedicated email address enables the public to provide comment directly to the Committee.

Committee Responsibilities

Members will be responsible for representing stakeholder organizations, communicating routinely with their constituencies and providing recommendations to the Oregon Transportation Commission.

As described in Section 120 of HB 2017, value pricing is designed to relieve congestion on I-5 and I-205 in the Portland metropolitan region. The OTC intends to evaluate value

pricing options that will address congestion through one or more of the following means.

- Managing congestion: Value pricing used to manage demand and encourage more efficient use of the transportation system by shifting trips to less congested times or designated lanes through pricing and/or maximizing the use of other modes to improve freeway reliability.
- Financing bottleneck relief projects: Value pricing used as a means to finance the construction of infrastructure, such as new freeway lanes, that will address identified bottlenecks that improve the efficient movement of goods and people.

When evaluating value pricing options, the Committee shall at a minimum consider the following factors, and others as appropriate:

- Revenue and cost: To what extent the option will raise sufficient revenue to cover the cost of implementing value pricing as well as the ongoing operational expenses, including the costs of maintenance and repairs of the facility.
- Traffic operations improvements: To what extent the option will improve the traffic operations of the priced facility, including but not limited to increasing reliability and mitigating congestion.
- Diversion of traffic: To what extent the option will cause diversion to other routes and modes that will impact the performance and operations of other transportation facilities, including both roads and transit service.
- Adequacy of transit service: To what extent public transportation service is available to serve as an alternative, non-tolled mode of travel.
- Equity impacts: Whether the option will disproportionately impact environmental justice households or communities and to what extent mitigation strategies could reduce the impact.
- Impacts on the community, economy, and environment: Whether and how the option will impact the surrounding community, economy, and/or environment and the economy of the state in general.
- Public input: To what extent the public supports a particular pricing option as a way to address congestion.
- Consistency with state law and policy: Whether the option will comply with existing Oregon Transportation Commission policies, state laws, and planning regulations.
- Feasibility under federal law: Whether the option is allowable under federal tolling laws or will require a waiver under the Value Pricing Pilot Program or some other authority.
- Project delivery schedules: Whether a value pricing option has the potential to alter the expected delivery schedule for a project on the corridor.



The Committee will also serve as a communications link between the feasibility analysis and stakeholders. Members will convey project-related information to and from respective communities and interest groups, and identify stakeholders and help facilitate contact with those groups and individuals.

Process and Protocols

The purpose of the Committee is to allow a diversity of perspectives to help shape the design of key elements of the project in the project area. While the Committee is advisory and does not have decision-making authority, the Committee will be called upon to provide insight, observations, feedback and recommendations to the OTC. All Committee feedback will be respectfully considered, in addition to technical findings and input received from the broader public. The OTC is the tolling authority in Oregon and will make the decision about what to submit to FHWA for approval.

Committee Decision-making Process

All members are encouraged to challenge themselves and each other to think creatively and to approach the feasibility analysis with an open mind. While it is important to identify problems, it is even more important to seek thoughtful solutions that advance the conversation.

The Committee's work will center on providing recommendations to the OTC by mid-2018. Recommendations will address the following questions:

- Based on the considerations described under Committee Responsibilities, what location(s) on I-5 and/or I-205 are best suited to implement value pricing?
- For the recommended location(s), what type of value pricing should be applied?
- What mitigation strategies should be pursued based on their potential to reduce the impact of value pricing on environmental justice communities or adjacent communities?

At key milestones, votes may be taken. Majority and minority opinions may be included in the recommendation. Ex officio members will not take part in any votes or the development of minority or majority statements.

Meeting Protocols

- Meetings will be actively facilitated to ensure that discussions are consistent with the Committee charter and to ensure that feedback and recommendations are advanced from the group in a timely manner.
- Two Oregon Transportation Commissioners will serve as co-chairs for the Committee. In this role they will provide input to meeting agendas and act as active liaisons to the Oregon Transportation Commission.

- The facilitator will be a 'content neutral' party who ensures that all committee members have an equal opportunity to participate.
- Members agree to follow the meeting ground rules agreed to by the Committee as established with the group's facilitator, including:
 - Silence electronics.
 - Ask questions of each other to gain clarity and understanding.
 - Express yourself in terms of your preferences, interests, and outcomes you wish to achieve.
 - Listen respectfully, and try sincerely to understand the needs and interests of others.
 - Be curious and willing to learn and contribute.
 - Honor each other by being honest, authentic, and brave.
 - Respect timelines by being concise and brief with comments and questions.
 - Seek common ground.
- Members agree to give the facilitator permission to keep the group on track and table discussions as needed to keep the group moving.
- Meetings will be scheduled in advance and attendance is important given the limited number of meetings and the fast-paced schedule provided by HB 2017. Members will make their best effort to attend all meetings. Members will notify the facilitator or designated staff in advance if unable to attend and will provide written comments or vote prior to the meeting. Alternates are not allowed.
- Should members be absent for more than two consecutive meetings, the OTC reserves the right to reconsider their standing membership in the Committee, and may offer their membership to another party. An alternate member may not be nominated to participate in the meeting on behalf of a standing Committee member.
- Ex Officio members will actively participate in conversations, sharing their perspectives and expertise with the group. Ex Officio members will not participate in votes or the development of minority or majority statements.
- Public notification of Committee meetings will occur at least one week in advance and the agenda and meeting materials will be made available on ODOT's Value Pricing website.
- The project will make every effort to ensure meeting materials are finalized at the time of electronic distribution to Committee members, however, there may be instances where updated versions of materials are provided; in these cases, staff will describe the changes. Please review all materials in advance and come prepared to participate.
- A printed version of materials will be provided to all members at the commencement of the meeting.



- Meetings will begin and end on time. If agenda items cannot be completed on time, the committee will decide if the meeting should be extended, an additional meeting scheduled, or the discussion continued at the next scheduled meeting.
- Meeting summaries will be produced for each meeting by the project team to reflect group discussion, feedback, areas of agreement and tasks and assignments related to advancement of the group's work. Draft summaries will be distributed, and committee members given the opportunity to clarify or edit the summary to make sure it accurately reflects the meeting.
- Meeting summaries will be published online after Committee members have been provided an electronic copy of the summary for their information or clarification if required.
- Members are asked to silence mobile phones and electronic devices and refrain from personal live streaming or other use of social media during the committee meeting sessions.

Communication

- Members will share information with their organizations and/or constituents, gather information from their constituents to help inform committee discussions and encourage their participation in the process.
- Members will not take actions or discuss issues in any way that undermines an open and transparent group process.
- Members will notify designated ODOT staff of all requests from the media. If members do speak with the media, they will clarify that they are speaking as an individual and not speak on behalf of the project or the Committee, nor characterize the points of view of other members.
- The facilitator and supporting staff will be available at and between meetings to address questions, concerns and ideas. The facilitator and staff will respond to all member inquiries in a timely manner.
- The facilitator may contact Committee meeting members between meetings to address any potential areas of concern or conflict that may arise during the committee process.



Committee Member Name	Signature	Date
Tony DeFalco Verde		
Craig Dirksen Metro		
Marie Dodds AAA Oregon		
Chris Hagerbaumer Oregon Environmental Council		
Marion Haynes Portland Business Alliance		
Matt Hoffmann Fred Meyer		
Katrina Holland Community Alliance of Tenants		
Jana Jarvis Oregon Trucking Association		
Gerik Kransky The Street Trust		
Neil McFarlane TriMet		
Anne McEnery Ogle City of Vancouver		
Sean O'Hollaren Oregon Transportation Commission		
Eileen Quiring Clark County		
Curtis Robinhold Port of Portland		
Roy Rogers Washington County		
Dan Saltzman City of Portland		
Vivian Satterfield OPAL		
Paul Savas Clackamas County		
Alando Simpson Oregon Transportation Commission		
Kris Strickler Washington State Department of Transportation		
Pam Treece Westside Economic Alliance		
Jessica Vega Pederson Multnomah County		



Committee Member Name	Signature	Date
Elaine Wells Ride Connection		
Rian Windsheimer Oregon Department of Transportation		
Ex Officio Committee Member Name	Signature	Date
Phil Ditzler Federal Highway Administration		
Facilitator	Signature	Date
Penny Mabie EnviroIssues		



Portland Area Value Pricing Feasibility Analysis

Reason for the Value Pricing Feasibility Analysis





Portland Area Value Pricing Feasibility Analysis

Reason for the Value Pricing Feasibility Analysis

Prepared for



Oregon Department of Transportation

123 NW Flanders Street

Portland, OR 97209

Prepared by:



WSP USA, Inc.

851 SW Sixth Avenue, Suite 1600

Portland, OR, 97204

November 13, 2017



Portland Area Value Pricing Feasibility Analysis

Reason for the Value Pricing Feasibility Analysis

1 WHAT IS VALUE PRICING?

Utilities, sports teams and movie theaters adjust their user fees based on time of day and demand for the good or service. Since the early 1990s, departments of transportation around the world have deployed a similar technique to manage congestion. They have implemented value pricing strategies as a proven, highly effective management tool for reducing traffic and enhancing travel time reliability.

Value pricing may include the use of tolls to regulate congestion, such as priced lanes or pricing on entire roadway facilities, or it may include techniques that do not involve tolls, such as parking pricing (FHWA, 2017). A key component of value pricing, variable pricing during more congested times of the day, encourages some drivers to consider using other travel options such as carpools or transit, or to travel at less congested times, thereby improving mobility for all travelers.

2 WHY IS ODOT DOING A VALUE PRICING FEASIBILITY ANALYSIS?

Developing new tools to manage congestion is of vital importance to Oregon. The 2016 Portland Region Traffic Performance Report (ODOT, 2017) showed increasing congestion and delays, and unreliable travel times as the Portland region has grown in recent years. This delay has a significant impact for the region and the state:

- Travel time on I-5 and I-205 has increased in the morning and evening peak periods.
- Travel speeds on I-5 and I-205 during the morning and evening peak periods have decreased.
 - During the evening peak period, vehicles traveling on northbound I-5 moved at an average 31.5 miles per hour, and on northbound I-205 at an average 35.4 miles per hour.
- I-205 experienced a 29 percent increase in crashes and a 48 percent increase in daily vehicle hours of delay, which amounts to more than \$60 million total cost of delay for 2015.



- I-5 experienced a 15 percent increase in crashes and 17 percent increase in daily vehicle hours of delay, which amounts to more than \$80 million total cost of delay for 2015.
- Bottlenecks at 12 locations on I-5 and 6 locations on I-205 contribute to congested and unsafe conditions.
 - Most crashes on I-5 are rear-end (72 percent) or side-swipe/overtaking (18 percent), which are typical of congested conditions.

Recognizing that increased congestion has negative community, economic, and environmental impacts, and that even after completing the planned transit and operational improvements in the Regional Transportation Plan, congestion will still grow, the Oregon State Legislature passed House Bill (HB) 2017.

HB 2017 requires the Oregon Transportation Commission (the Commission) to request approval from the Federal Highway Administration by December 31, 2018, to implement value pricing to provide congestion relief along I-5 and I-205. The Commission directed ODOT to do a feasibility analysis to determine where and how a new tool of value pricing may be successfully applied on I-5 and I-205, and what the impacts and benefits of value pricing on these highway sections will be.¹ The Commission convened a Value Pricing Policy Advisory Committee (PAC) representing a broad range of stakeholders to help inform the Commission about which value pricing option(s) to move forward.

3 WHAT WORK WILL HAPPEN DURING THE VALUE PRICING FEASIBILITY ANALYSIS?

ODOT is undertaking several tasks, including conducting extensive technical analysis and public outreach throughout the feasibility analysis. ODOT will share the results with and seek the input of the Value Pricing PAC and the public. The tasks include:

- Establish the reason for the feasibility analysis, and understand parameters for value pricing concepts to be considered
- Work with the PAC to define performance measures related to key policy considerations relating to community, the economy, and the environment

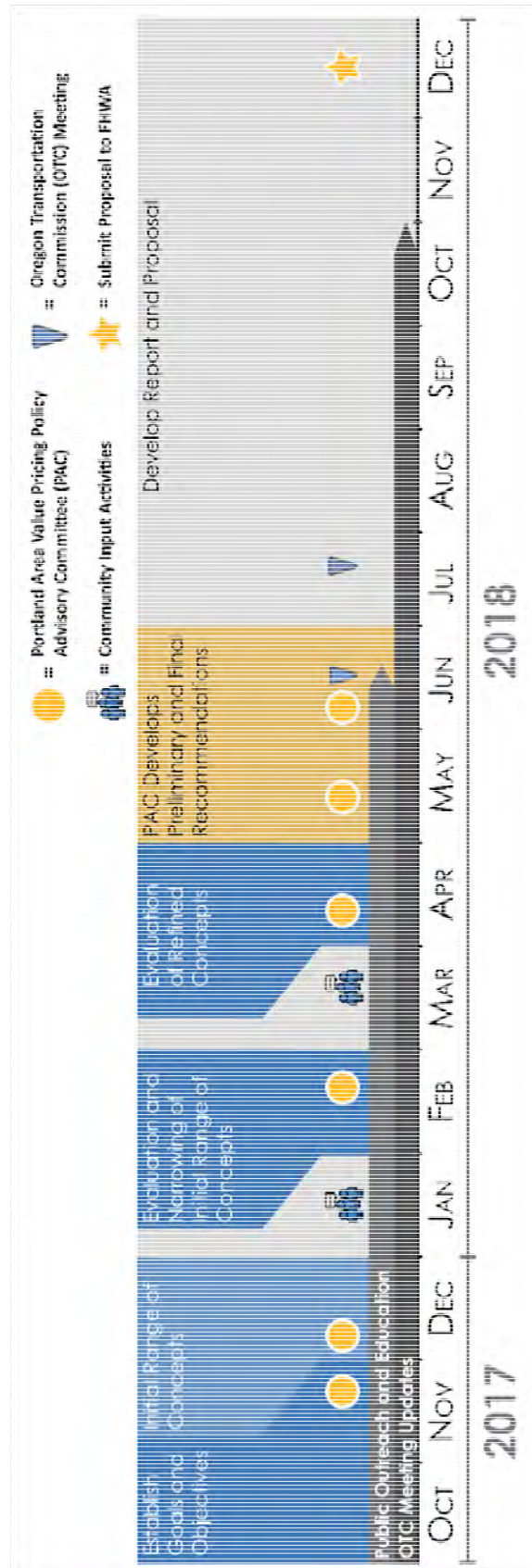
¹ The Oregon State Legislature stated in HB 2017 that the Commission may implement value pricing in other areas of this state. However, the Portland Area Value Pricing Feasibility Analysis is limited to value pricing on I-5 and I-205 between the Oregon/Washington state boundary line and the intersection of I-5 and I-205 in southeastern Washington County, Oregon.

- Identify a range of value pricing concepts for further evaluation and public consideration that meet the parameters
- Analyze the impacts and benefits of the value pricing concepts
- Refine and narrow the range of value pricing concepts, and conduct additional analysis, if needed
- Summarize the impacts and benefits of the refined value pricing concepts, and identify potential mitigation measures
- Engage the public throughout the analysis and evaluation process

Once this work is complete, the Value Pricing PAC will make recommendations to the Commission regarding which value pricing concept(s) to advance for federal approval, as well as mitigation strategies to further consider. This input will be vital to the Commission as they develop a report and proposal to FHWA seeking authority to implement value pricing on I-5 and I-205. Figure 1 shows the schedule from October 2017 to December 2018.



Figure 1. Schedule



4 WHAT IS THE VALUE PRICING POLICY ADVISORY COMMITTEE'S ROLE?

The Value Pricing PAC shall advise the Commission, the tolling authority in Oregon, in implementing Section 120 of HB 2017 by:

- Evaluating concepts to implement value pricing to reduce congestion on I-5 and I-205 in the Portland area based on policy considerations provided by the Commission,
- Sharing information with their constituents, as feasible, and considering public input for the various concepts,
- Evaluating effects and potential mitigation strategies for concepts, and
- Providing input and recommendations on value pricing to the Commission prior to applying to the Federal Highway Administration.

The committee consists of 24 members appointed by the ODOT Director, as directed by the Commission, to represent:

- Oregon Transportation Commission
- Oregon Department of Transportation
- Washington State Department of Transportation
- City, county, and metropolitan planning organization officials from Oregon and Washington
- Highway users
- Advocates for equity, social justice, and environmental justice
- Public transit and active transportation
- Environmental advocacy groups
- Port of Portland
- Business representatives

5 WHAT HAPPENS ONCE ODOT COMPLETES THE PORTLAND AREA VALUE PRICING FEASIBILITY ANALYSIS?

In summer 2018, ODOT will present its findings from the value pricing feasibility analysis and the PAC recommendations to the Commission. This will include an explanation of the process and outcomes of the value pricing feasibility analysis, a summary of public input received, as well as a summary of impacts, benefits and trade-offs of the value pricing concepts. It will describe the Value Pricing PAC recommendations to the Commission. The Commission will review and consider the report, and may do



additional outreach. As required by the Oregon State Legislature in HB 2017, the Commission shall prepare and submit a proposal for federal approval to carry out value pricing to reduce congestion on I-5 and I-205² by December 31, 2018.

Based upon previous consideration of value pricing strategies, Oregon is currently a member of the FHWA Value Pricing Pilot Program and will seek to maintain this spot as the feasibility analysis progresses. This program provides an opportunity for states to propose traffic congestion solutions utilizing value pricing that may not otherwise be permitted under the terms of Federal law under Title 23, Sections 129 and 166. The process involves submitting a preliminary Letter of Interest to FHWA for review, commentary, and revision, followed by a detailed proposal for the implementation concept. The proposal, which HB 2017 mandated be submitted by December 31, 2018, would identify any subsequent analyses necessary to fully adopt the concept. Subsequent analysis may include full documentation of the Systems Engineering Process for developing the traffic management and toll systems, additional review under the National Environmental Policy Act, consistent with any similar non-priced action on the interstate system, and public engagement. The proposal must be approved by the U.S. Secretary of Transportation before Oregon would have permission to deploy value pricing on I-5 and I-205.

6 REFERENCES

Federal Highway Administration (FHWA). 2017. What is Congestion Pricing?

https://ops.fhwa.dot.gov/congestionpricing/cp_what_is.htm.

Webpage accessed October 26, 2017.

Oregon Department of Transportation (ODOT). 2017. Portland Region 2016 Traffic Performance Report. June 2017.

Oregon Transportation Commission. 2017. Portland Region Value Pricing Policy Advisory Committee – Charge from the Commission.

² The federal government provides funding to states to build and maintain the nation's roadway and bridge infrastructure, distributed through the federal-aid highway program. ODOT receives federal aid to maintain I-5 and I-205. Therefore, ODOT must apply to the Federal Highway Administration for approval to implement value pricing on these highways.



Portland Area Value Pricing Feasibility Analysis

Draft

Technical Memorandum #1: Objectives and Proposed Performance Measures





Portland Area Value Pricing Feasibility Analysis

Technical Memorandum #1 Objectives and Proposed Performance Measures

Prepared for



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November 13, 2017



Portland Area Value Pricing Feasibility Analysis

Objectives and Proposed Performance Measures

1 BACKGROUND

Oregon House Bill 2017 from the 2017 Legislative session directs the Oregon Transportation Commission (OTC) to seek approval from the Federal Highway Administration (FHWA) by December 2018, to implement value pricing on the Interstate 5 (I-5) and Interstate 205 (I-205) corridors, from the state line to their intersection in Oregon. Per the legislation, value pricing would be used to reduce traffic congestion in the Portland metropolitan region. If FHWA approves, the OTC is required to implement value pricing.

The goal of the Value Pricing Feasibility Analysis is to develop a value pricing program that will reduce congestion on I-5 and I-205 and meet the Oregon legislature's schedule for submittal to FHWA by the end of 2018. Some tolling options that could be considered would be allowed under FHWA's Section 129 General Tolling or the Section 166 HOV/HOT Lanes program. These programs have no restrictions on the number of projects or states that may receive tolling authority through them. In addition, tolling agreements with FHWA are not required with these programs.

Another FHWA tolling program is the Value Pricing Pilot Program (VPPP). ODOT currently has an active slot in this program and will be applying to maintain this status. This provides the OTC with broad flexibility to implement a wide variety of congestion pricing applications beyond those allowed in the two programs mentioned above. To gain FHWA approval for pricing scenarios authorized through the VPPP, ODOT would need to demonstrate that the pricing application addresses a congestion issue and that it uses variably priced tolls.

Value pricing, also known as congestion pricing or peak-period pricing, is tolling in which a higher price is set for driving on a road when demand is greater, usually in the morning and evening rush hours. The purpose is to reduce congestion by encouraging people to travel at less congested times or to change travel mode, thereby providing more reliable travel time. The main types of value pricing tools that will be considered include:

- priced lanes, which give drivers a choice to pay to use the lane to save time or to use the "general purpose" (unpriced) lane; and
- priced roadways, a mainline concept under which all lanes would be priced.

Both types of value pricing tools could be applied to the entire facility or to discrete interstate segments, which could include bridges. Implementation of priced lanes requires a decision about whether to construct new lanes or convert general purpose lanes.

Additional variants of value pricing that would not be applicable to these two corridors include non-freeway pricing concepts, such as cordon pricing of defined areas, zonal pricing of segment screen lines, and parking pricing. Not all concepts are currently in operation; some remain theoretical. The Portland Area Value Pricing Feasibility Analysis will determine where value pricing could be successfully applied on the I-5 and I-205 corridors and what the impacts of each option would be. Throughout this feasibility analysis, ODOT will work with local government officials, community based organizations, business representatives and other stakeholders, and conduct extensive public engagement to gather community input about value pricing.

Purpose of Memorandum

The purpose of Technical Memorandum #1 is to establish a shared understanding of the project goals and the policy considerations for which the OTC specifically seeks input from the PAC. For these considerations, objectives and potential performance measures have been identified to inform future discussions and PAC input on the alternatives being considered.

This memorandum identifies objectives and potential performance measures to set the foundation for the evaluation framework. For context, here is a definition of objectives and performance measures within the context of this feasibility analysis:

- Objectives describe how project goals will be achieved; these are developed to specifically address the issues that the PAC is asked to consider in the Charter.
- Performance measures are the criteria that will provide quantitative or qualitative data to describe how and the extent to which each value pricing option addresses a specific objective; performance measures illustrate the pros and cons of differing concepts when compared with each other.

Clearly defining value pricing objectives and performance measures is essential to establishing a framework for all subsequent evaluation and analysis, and is the critical first step to evaluate the effectiveness of value pricing concepts based on community and stakeholder values.

The Portland Area Value Pricing Feasibility Analysis objectives draw largely from the OTC's charge for the PAC. The project team will review the objectives and proposed performance measures at the first PAC meeting. If there are modifications, the project team will revise and bring them back to the PAC at their second meeting for approval. If there are no changes, the PAC will be asked to approve this document at their first meeting.

2 Portland Area Value Pricing Considerations

The PAC Charter identifies the following 10 considerations for evaluating value pricing options. These considerations will serve as the basis for the evaluation framework for all examined concepts in the feasibility analysis. Other factors may also be considered during analysis.

- Traffic operations improvements: To what extent the option will improve the traffic operations of the priced facility, including but not limited to increasing reliability and mitigating congestion.
- Diversion of traffic: To what extent the option will cause diversion to other routes and modes that will impact the performance and operations of other transportation facilities, including both roads and transit service.
- Adequacy of transit service: To what extent public transportation service is available to serve as an alternative, non-tolled mode of travel.
- Equity impacts: Whether the option will disproportionately impact environmental justice households or communities and to what extent mitigation strategies could reduce the impact.
- Impacts on the community, economy, and environment: Whether and how the option will impact the surrounding community, economy, and/or environment and the economy of the state in general.
- Public input: To what extent the public supports a particular pricing option as a way to address congestion.
- Consistency with state law and policy: Whether the option will comply with existing Oregon Transportation Commission policies, state laws, and planning regulations.
- Feasibility under federal law: Whether the option is allowable under federal tolling laws or will require a waiver under the Value Pricing Pilot Program or some other authority.

- Project delivery schedules: Whether a value pricing option has the potential to alter the expected delivery schedule for a project on the corridor.
- Revenue and cost: To what extent the option will raise sufficient revenue to cover the cost of implementing value pricing as well as the ongoing operational expenses, including the costs of maintenance and repairs of the facility.

3 VALUE PRICING OBJECTIVES AND PROPOSED PERFORMANCE MEASURES

The overall goal of the feasibility analysis is to develop a value pricing program that will manage traffic on I-5 and I-205 and will meet the Oregon legislature's schedule for submittal to FHWA by the end of 2018.

As stated in the OTC's charge for the Portland Area Value Pricing Policy Advisory Committee (PAC),¹ the Commission intends to evaluate value pricing options that will address congestion through one or more of the following means:

- Managing congestion: Value pricing used to manage demand and encourage more efficient use of the transportation system by shifting trips to less congested times or designated lanes through pricing and/or maximizing the use of other modes to improve freeway reliability.
- Financing bottleneck relief projects: Value pricing used as a means to finance the construction of infrastructure, such as new freeway lanes, that will address identified bottlenecks that improve the efficient movement of goods and people.

The **DRAFT** objectives and proposed performance measures listed in Table 3-1 address the considerations listed in the PAC Charter. The evaluation of value pricing concepts against the performance measures identified in the table will take place in two rounds. The first evaluation will be presented to the PAC at their third meeting and the second evaluation will be presented at their fourth meeting.

¹ ODOT. Portland Region Value Pricing. Portland Region Value Pricing Policy Advisory Committee. http://www.oregon.gov/ODOT/Documents/Value_Pricing_PAC_charge.pdf. Accessed October 14, 2017.



Table 3-1. **DRAFT** Value Pricing Objectives and Potential Performance Measures

Factors for Consideration	Objectives	Performance Measures	First-Round Evaluation	Second-Round Evaluation
Traffic operations improvement on I-5 and I-205	I-5 and I-205: <ul style="list-style-type: none"> Manage travel demand and traffic congestion for all users Evaluate travel time and improve travel time reliability for passenger vehicles, public transportation, and freight modes Reduce delay at key bottlenecks to optimize efficiency Consider additional congestion mitigation measures 	<ul style="list-style-type: none"> Vehicle and person throughput on I-5 and I-205: peak hour and change in peak hour 	x (vehicles)	x (persons)
		<ul style="list-style-type: none"> Travel time on I-5 and I-205 (between major freeways): peak hour and change in peak hour 	x	
		<ul style="list-style-type: none"> Assessment of change in duration of peak vehicle traffic conditions 		x
		<ul style="list-style-type: none"> Annual vehicle hours of delay (VHD) and change in annual VHD for priced facility 		x
Diversion of traffic	<ul style="list-style-type: none"> Evaluate traffic diversion onto other routes, modes, or time periods and the implications to overall system operations Include evaluation of traffic diversion through neighborhoods, business districts, and along key pedestrian and bicycle routes near priced facilities 	<ul style="list-style-type: none"> Level of diverted trips (%) onto adjacent facilities 	x	
		<ul style="list-style-type: none"> Trip length distribution 		x
		<ul style="list-style-type: none"> Mode share (HOV, SOV, light rail, and bus) <i>used for multiple objectives</i> 	x	
Transit service	<ul style="list-style-type: none"> Evaluate benefits to transit service resulting from overall traffic operations improvements Evaluate transit service availability and user costs as a potential mode alternative to priced roadways 	<ul style="list-style-type: none"> Transit travel time and change in transit travel time 		x
		<ul style="list-style-type: none"> Mode share shift compared to the no-build scenario (HOV, SOV, light rail and bus) 		x
Equity impacts	<ul style="list-style-type: none"> Evaluate the benefits and burdens to communities identified by federal Environmental Justice and Title VI regulations Include travel costs, travel time, and options between employment centers and residential neighborhoods 	<ul style="list-style-type: none"> Number of trips (and change in number of trips) taken by Environmental Justice/Title VI protected populations 		x
		<ul style="list-style-type: none"> Changes in travel times and costs from key origin/destination pairs 	x	
		<ul style="list-style-type: none"> Access to jobs 		x

Factors for Consideration	Objectives	Performance Measures	First-Round Evaluation	Second-Round Evaluation
Impacts on the community, economy, and environment	<ul style="list-style-type: none"> ▪ Evaluate impacts to freight movement and access to industrial areas and job centers ▪ Evaluate changes in social, time, monetary, and physical costs of travel, including: <ul style="list-style-type: none"> ○ Economic attractiveness of the Portland area ○ GHG emissions 	▪ Regional impact to state highways outside of Metro area	x	
		▪ Regional travel time and change in travel time		x
		▪ Regional travel time savings and change in travel time savings		x
		▪ Diversion impacts on non-tolled facilities		x
		▪ Regional vehicle miles traveled (VMT) per capita and change in VMT per capita (including non-freeway)		x
		▪ Change in vehicle emissions		x
		▪ Value of travel time savings		x
Public input	<ul style="list-style-type: none"> ▪ Determine public understanding of value pricing as one of the tools to address vehicle traffic congestion 	▪ Public opinion research is conducted and results are shared with the PAC and made publicly available	x	
		▪ Opportunities are provided for public input; the project team identifies how public input is incorporated into the project		x
Consistency with state law and policy	<ul style="list-style-type: none"> ▪ Identify and confirm compliance with existing OTC policies, state laws, and planning regulations for consideration by the PAC 	▪ N/A		
Feasibility under federal law	<ul style="list-style-type: none"> ▪ Verify option is allowable under federal tolling laws or if it will require a waiver under the Value Pricing Pilot Program or some other authority ▪ Seek input from FHWA for specific alternatives being considered 	▪ N/A		



Factors for Consideration	Objectives	Performance Measures	First-Round Evaluation	Second-Round Evaluation
Project delivery schedules	<ul style="list-style-type: none"> Confirm whether a project option has the potential to alter the expected delivery schedule for another project on the corridor 	<ul style="list-style-type: none"> N/A 		
Revenue and cost	<ul style="list-style-type: none"> Evaluate expected costs and revenue and the sufficiency to cover the cost of implementing value pricing and ongoing operational expenses 	<ul style="list-style-type: none"> Estimated revenue from tolled facility 		x
		<ul style="list-style-type: none"> Capital expenditure on facility (order of magnitude) 		x
		<ul style="list-style-type: none"> Estimated operational and maintenance costs (order of magnitude) 		x

DRAFT



I-5 Corridor Dashboard



Introduction

I-5 is the major spine running north and south through the center of the region. It carries the highest number of vehicles and has direct connections to all other regional freeways except US 26. I-5 is the longest corridors in the region at 27 miles in length and provides one of two routes over the Columbia River.

I-5 is an international link from Canada to Mexico carrying major freight and through traffic to all of the major cities on the West Coast. Many of the long distance trips are picking up or dropping off freight from the industrial areas in the region. This long-distance connection is especially critical for Portland region and statewide businesses who rely on this long-distance travel to fulfill daily business needs.

Recent/Current Improvements

Auxiliary lane

- I-5 SB and NB: Elligsen Road to I-205 (completed in 2012). This project eliminated a freight bottleneck at the I-205 interchange.
- I-5 SB: Carman Drive to Lower Boones Ferry Road Exit (completed in 2012). This project was the first step in a three-phase plan to address three separate bottlenecks on I-5, extending from Carman Drive to I-205. Already, this first phase has reduced the duration of congestion by one hour.

Upcoming Improvements

Auxiliary lane

- I-5 SB: Lower Boones Ferry Road to I-205 Exit (in design and funded for construction in 2018)
- I-5 NB Lower Boones Ferry Exit: widen ramp to accommodate two-lane exit (in design and funded for construction in 2018)

Active Traffic Management

- I-5 NB and SB: Wilsonville to Tigard
- I-5 NB and SB: I-405 to Interstate Bridge (expected in 2018-2021)

Widening

- I-5 Broadway/Weidler Interchange : widening I-5 to 3-lanes in each direction from I-84 to I-405 (future project, environmental review and preliminary design are underway)



I-5 corridor highlights

Congestion and bottlenecks

Free-flow speed on I-5 is calculated to be 60 mph with an equivalent travel time of 25 minutes for both NB and SB.

The most congested conditions in 2015 occurred during the PM peak. In the NB direction, the average travel time for the corridor increased from 41 minutes in 2013 to 48 minutes in 2015. In the SB direction, the average travel time for the corridor increased from 36 minutes in 2013 to 39 minutes in 2015. In the NB direction, between Marquam Bridge and the Interstate Bridge, there are four

recurring bottlenecks with differing durations that overlap and extend from 6:30 a.m. to 7:30 p.m.

In the SB direction, the most significant recurring bottleneck is at the Rose Quarter (Broadway) with congestion extending back to Rosa Parks Way. This bottleneck begins in the AM and extends into the mid-day and PM, totaling over nine hours of congestion during the day, which poses significant problems for freight.

Reliability

Reliability on the I-5 corridor degraded between 2013 and 2015. For both directions of I-5 in the AM peak, mid-day, and PM peak, both the average travel time and buffer time increased. This means that trips are taking longer for all time periods reported. I-5 NB and SB during the PM experiences some of the most unreliable travel times in the region. I-5 SB during the PM and I-5 NB during the mid-day has one of the largest buffer travel time increases in the region.

Reliable Travel Time on I-5 NB during 2015 PM Peak

Distance: 27 miles Free-flow travel time: 25 min.

Average Travel Time	+	Buffer Travel Time	=	Reliable Travel Time
47.6 minutes		38.4 minutes		86.0 minutes



FREIGHT RELIABILITY

As congestion creeps into the mid-day, truckers find it challenging to deliver goods and services on time. I-5 is a primary north-south interstate freight route. The loss of reliability during the day makes it difficult for interstate travel and delivery of goods resulting in increases in trucking costs. I-5 truck volume accounts for 10 to 17 percent of total traffic, with a daily volume of 13,600 to 17,800 trucks, the highest truck volumes in the Portland region.

Travel time (in minutes)

	Year	Free-flow	AM peak			Mid-day			PM peak		
			Average	Buffer ^A	Total ^B	Average	Buffer ^A	Total ^B	Average	Buffer ^A	Total ^B
I-5 NB	2013	25	30.8	10.2	41.0	29.2	10.0	39.1	41.3	35.5	76.7
	2015		32.7	11.5	44.2	30.6	14.5	45.1	47.6	38.4	86.0
I-5 SB	2013	25	30.6	9.9	40.4	28.9	7.9	36.8	35.5	34.0	69.5
	2015		32.1	10.6	42.7	29.9	11.1	41.1	39.2	46.1	85.4

A. Buffer time is the extra time (or time cushion) that travelers should add to their average travel time to ensure on-time arrival.
 B. Total or reliable travel time is the addition of average travel time with buffer travel time. This is the time travelers should allot for on-time arrival at their destination in 19 out of 20 weekdays (95 percent of the time).

Source: FHWA NPMRDS

Safety

The crash trend is directly related to congestion and the reliability of the corridor. Overall, the number of crashes for I-5 has been increasing. Crashes by time of day are concentrated during the mid-day through PM peak














periods, which also are the most unreliable travel periods. The majority of the total crashes on I-5 are rear-end (72 percent) and side-swipe/overtaking (18 percent), which are typical of congested conditions.



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I-5 Corridor Dashboard

Source: FHWA NPMRDS

I-5 Corridor		2013	2014	2015	2013 vs 2015 % Change
	Daily Vehicle Miles Traveled (DVMT) (Weekday Average Rounded to Thousands)	NB 1,327	1,305	1,222	-7.9%
	SB 1,451	1,408	1,387	-4.4%	
Congestion Indicators (Weekday Average)					
	Hours of Congestion (Daily Hours)	NB 14.4	15.6	15.7	+9.0%
	SB 15.4	15.3	15.5	+0.6%	
	Daily Vehicle Hours Delay (Daily Vehicle Hours)	NB 5,451	6,604	6,440	+18.1%
	SB 4,930	5,782	6,095	+23.6%	
	AM Peak Travel Time (Minutes)	NB 30.8	32.1	32.7	+6.2%
	SB 30.6	31.2	32.1	+4.9%	
	AM Peak Speed (MPH)	NB 48.7	46.7	45.9	-5.7%
	SB 49.1	48.1	46.8	-4.7%	
	Mid-day Travel Time (Minutes)	NB 29.2	30.1	30.6	+4.8%
	SB 28.9	29.7	29.9	+3.5%	
	Mid-day Speed (MPH)	NB 51.5	49.8	49.0	-4.9%
	SB 52.0	50.5	50.1	-3.7%	
	PM Peak Travel Time (Minutes)	NB 41.3	45.9	47.6	+15.3%
	SB 35.5	38.4	39.2	+10.4%	
	PM Peak Speed (MPH)	NB 36.4	32.7	31.5	-13.5%
	SB 42.3	39.1	38.2	-9.7%	
Reliability Indicators (Weekday Average)					
	Buffer Time AM Peak (Minutes)	NB 10.2	10.7	11.5	+12.7%
	SB 9.9	9.0	10.6	+7.1%	
	Buffer Time Mid-day Peak (Minutes)	NB 10.0	13.7	14.5	+45.0%
	SB 7.9	10.1	11.1	+40.5%	
	Buffer Time PM Peak (Minutes)	NB 35.5	39.9	38.4	+8.2%
	SB 34.0	44.8	46.1	+35.6%	
Safety Indicators					
	Annual Crashes	NB 495	536	556	+12.0%
	SB 483	493	564	+17.0%	

● Declining Conditions ● Minor change (+/- 2% or less) ● Improving Conditions

Daily Vehicle Miles Traveled (DVMT)

DVMT has been decreasing on I-5 and congestion has been getting worse. This potentially indicates that the corridor is at or over capacity.

Daily Vehicle Hours Delay (DVHD)

The DVHD for the I-5 corridor has increased between 2013 and 2015 for both NB (18 percent) and SB (24 percent) directions. This indicates that trips on I-5 are taking longer.

Mid-day

Mid-day travel time and speed indicate a slight increase in congestion on I-5 in both directions.

Reliability Indicators

Trip reliability NB and SB in the PM has the worst reliability. The AM and Mid-day are similar but Mid-day has the higher growth.

Hours of Congestion (HOC)

HOC at the corridor level is measured at the worst bottleneck in the freeway corridor. The HOC on I-5 NB and SB measured at their worst bottlenecks are relatively similar. There has been some growth in HOC for NB whereas SB was unchanged.

AM

AM travel time and speed indicate increasing congestion on I-5 in both directions.

PM

PM travel time and speed indicates increasing congestion on I-5 in both directions. NB speed and travel times are worse than SB, indicating a higher level of congestion in that direction.

Safety Indicators

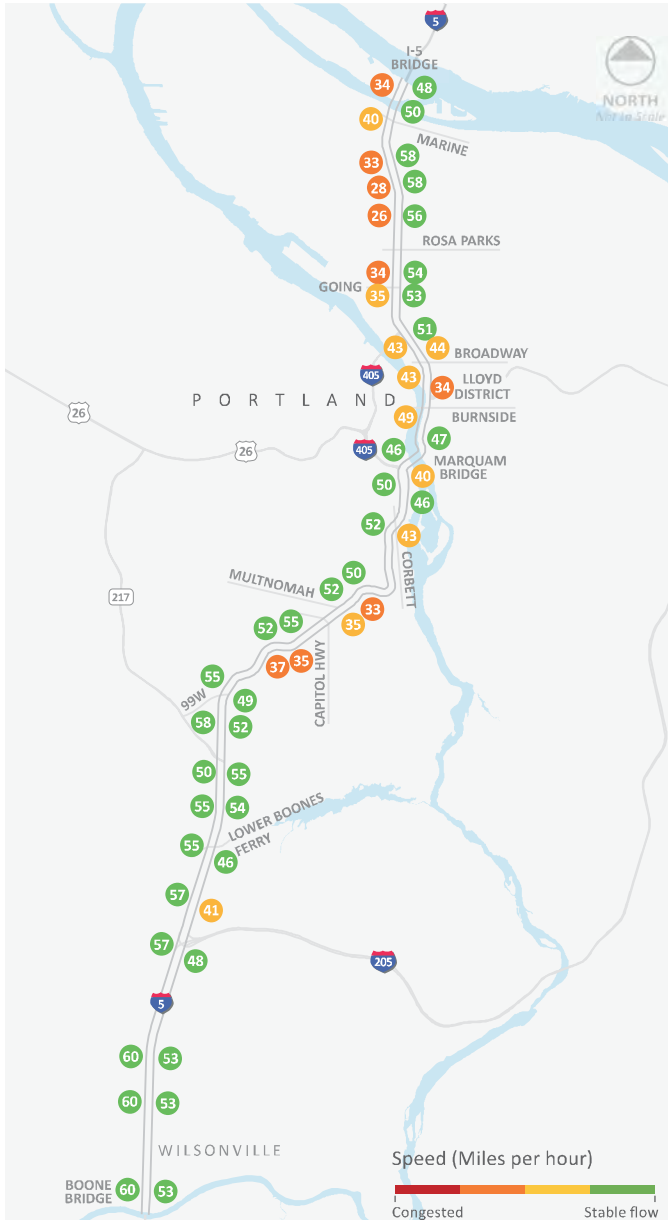
Crashes NB and SB are comparable and the percentage change over time is similar. From 2013 to 2015, the number of crashes has been on an upward trend for both directions.

2015 average speed (mph)

AM weekday

5:00 a.m. to 10:00 a.m.

Source: FHWA NPMRDS



AM WEEKDAY

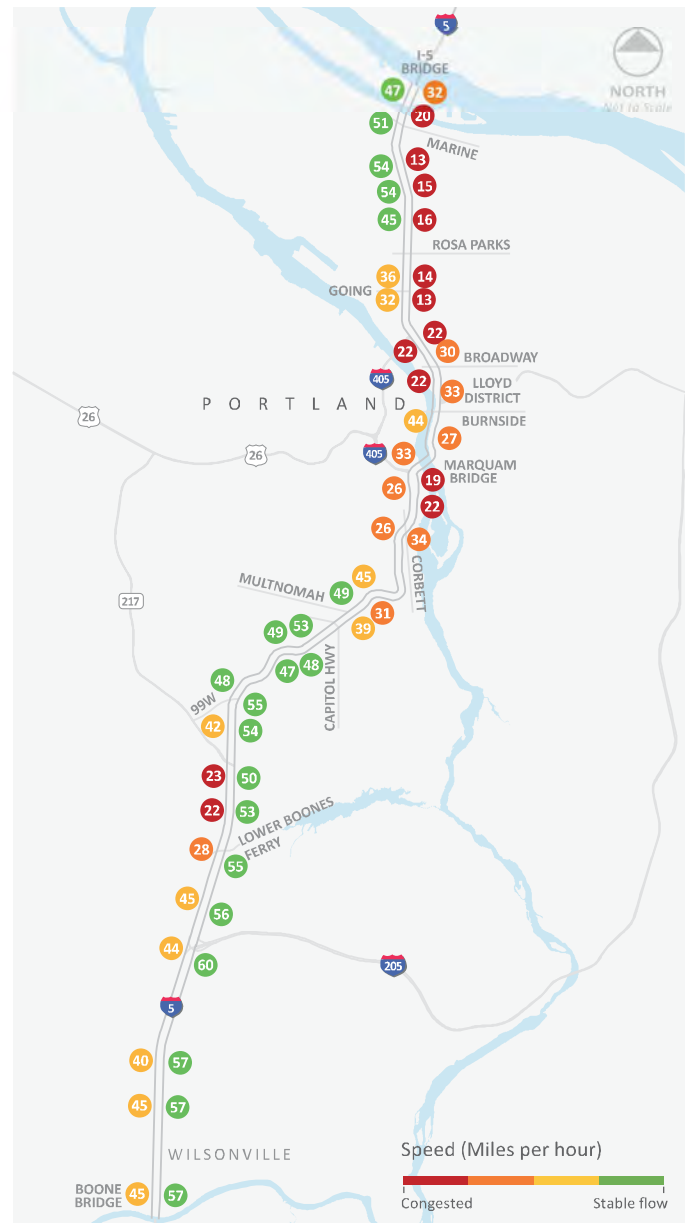
SB direction slows from the City Center to the Interstate Bridge.

NB direction slows from I-405 to OR 99W/Capitol Highway and Lower Boones Ferry Road to I-205.

PM weekday

3:00 p.m. to 9:00 p.m.

Source: FHWA NPMRDS



PM WEEKDAY

SB direction slows in two general areas: Multnomah Boulevard to Rosa Parks Way and Wilsonville through OR 99W.

NB direction slows from the Interstate Bridge to Capitol Highway.



ODOT | 2016 PORTLAND REGION TRAFFIC PERFORMANCE REPORT I-5 Corridor Dashboard

I-5 bottlenecks

I-5 corridor has 12 recurring bottlenecks. The number of bottlenecks has increased from 11 to 12 from 2013 to 2015, and the duration of congestion has increased for 9 of the 12 bottlenecks.

One of the most severe bottlenecks is the NB PM bottleneck at the Interstate Bridge. This bottleneck's queue extends 11.5 miles south, overlapping and blending with the other four NB PM bottlenecks.

In the SB direction, the most severe recurring bottleneck is located at the Rose Quarter (Broadway). This bottleneck lasts for 2 hours in the AM and 7 hours in the PM with a queue of three miles. The Rose Quarter (Broadway) also has a significant NB AM bottleneck, which begins in the AM and extends into the PM.

Duration of bottlenecks

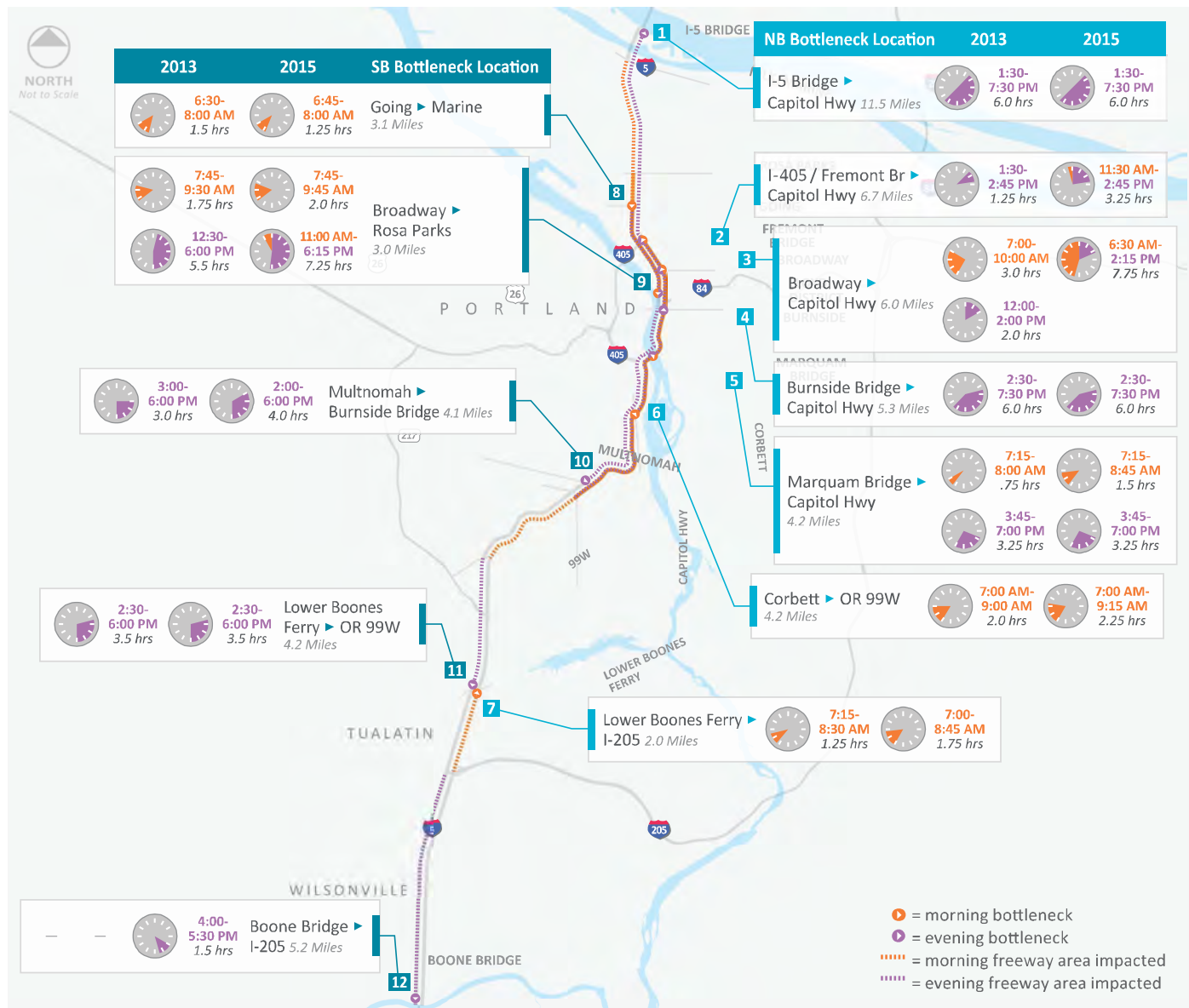
2013 vs. 2015

Source: FHWA NPMRDS

Total bottlenecks

2013 vs. 2015

Source: FHWA NPMRDS



Crash frequency per 10th of a mile

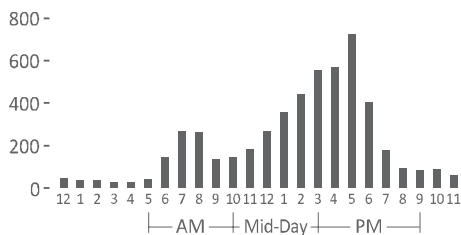
2011-2015
Source: ODOT

I-5 safety

I-5 had a total of 5,144 crashes in the five-year study period. The vast majority of crashes were rear-end and side-swipe/overtaking crashes, which mainly occurred in the PM peak commute period. These types of crashes are typically the result of congestion. There were 23 Top 10 percent SPIS sites along the corridor, most of which were located in the northern section from the Marquam Bridge to the Interstate Bridge where congestion is highest. The I-5 corridor crash rate was 0.92 crash per million vehicle miles traveled, which is higher than the 2014 statewide average crash rate of 0.73 on interstate freeways in urban cities.

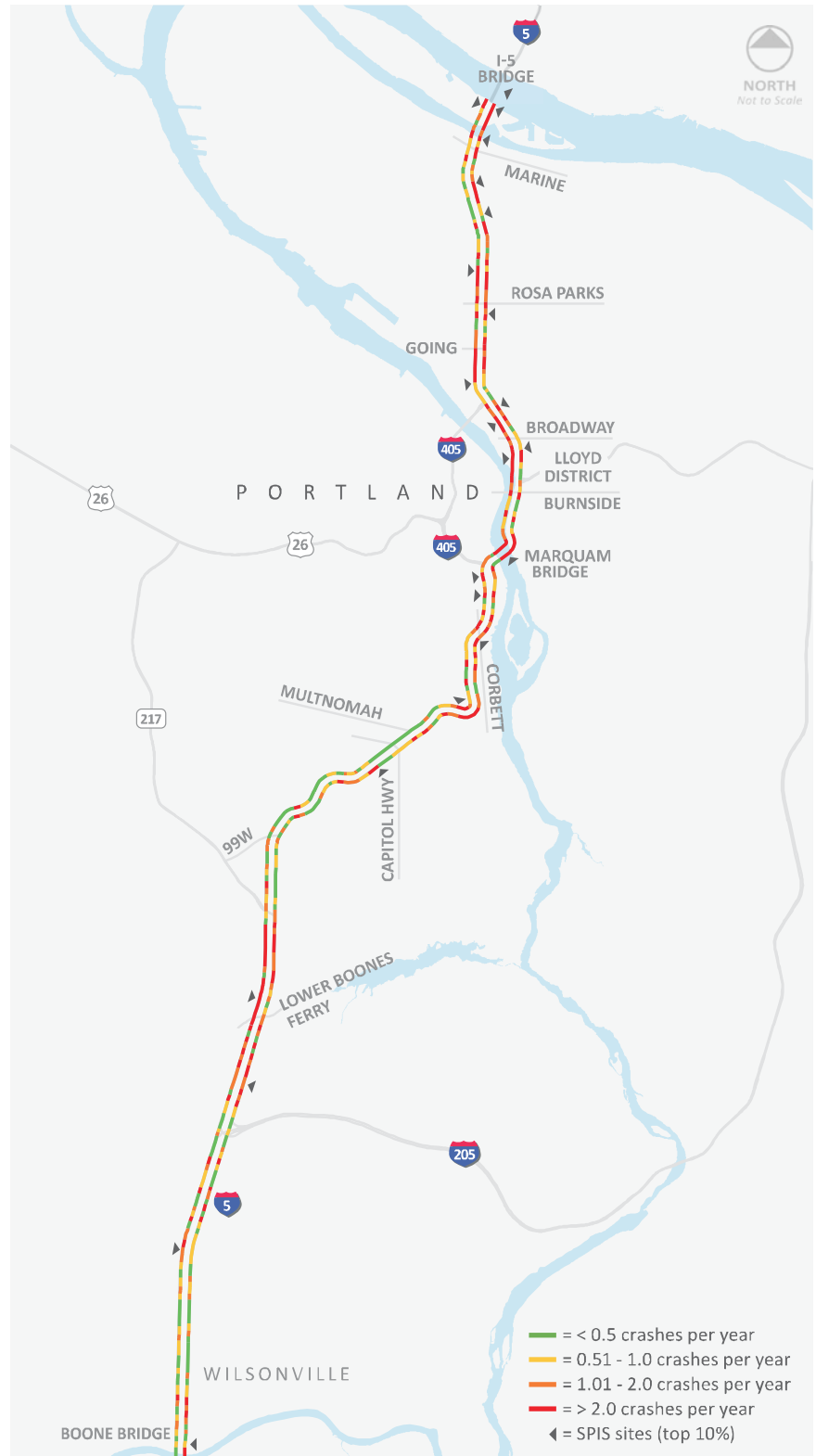
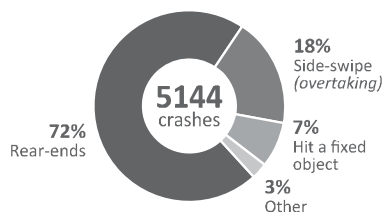
Total crashes by time of day

2011-2015
Source: ODOT



Type of crash

2011-2015
Source: ODOT





ODOT | 2016 PORTLAND REGION TRAFFIC PERFORMANCE REPORT I-205 Corridor Dashboard



Introduction

I-205 is one of the longest corridors in the region, at 25 miles in length, providing one of two routes over the Columbia River in the Portland metro region. I-205 continues north and connects back to I-5 near Salmon Creek, Washington.

I-205 connects the East Portland metro area to the Tualatin/Sherwood industrial area, Clackamas industrial area, and Portland International Airport, making it a corridor of economic importance in the Portland region and state of Oregon.

I-205 from the Willamette River to I-5 was constructed as a four-lane interstate. ODOT has widened the freeway to six lanes from I-5 to Stafford Road. The only remaining four lane section is from Stafford Road to OR 99E. A project is planned to widen this section to six lanes.

The Red and Green light rail lines run adjacent to I-205 from Gateway Transit Station to the airport and from Gateway to Clackamas Town Center, respectively.

Recent/Current Improvements

- Sunnyside Road/Sunnybrook Boulevard split diamond interchange (constructed 2002)
- Connections to the new Sunrise Expressway (constructed 2014)
- Columbia SB entrance ramps widened to three lanes; the widening increased the capacity at the ramp to accommodate the high freight volume from Columbia Boulevard (constructed 2016)



Upcoming Improvements

Auxiliary lane

- I-205 NB: I-84 EB entrance to the Killingsworth Exit (in design development)
- I-205 SB: I-84 EB entrance to the Washington Street/ Stark Street Exit (in design development)
- I-205 NB: Powell entrance to the I-84 EB Exit (future project, 2021)

Active Traffic Management

- I-205 NB: and SB Glenn Jackson Bridge to Sunnyside Road
- I-205 NB and SB Abernethy Bridge area

Widening

- Abernethy Bridge widening, both directions: OR 43 to OR 213 (future project, environmental process underway)
- I-205 widening, both directions: Stafford Road to OR 43 (future project, environmental process underway)

I-205 corridor highlights

Congestion and bottlenecks

Free-flow speed on I-205 is calculated to be 61 mph with an equivalent travel time of 25 minutes for both NB and SB directions.

The most congested conditions in 2015 occurred during the PM peak, with the average speed being among the lowest in the region. The average 2015 PM travel time for the corridor was 42 minutes, an increase of seven minutes from 2013. In the SB direction during the PM peak, the average travel time for the corridor was 34 minutes, an increase of three minutes from 2013 to 2015.

In the NB direction, the most severe recurring bottleneck was at the Glenn Jackson Bridge. This bottleneck lasts from 2:45 p.m. to 6:30 p.m. The second most severe NB bottleneck was at the Abernethy Bridge. This bottleneck has developed over the past couple years and is quickly growing. It lasts from 3:15 p.m. to 6:15 p.m.

In the SB direction, the most significant recurring bottleneck extended from Division Street to the Glenn Jackson Bridge. This bottleneck lasts from 2:30 p.m. to 6:00 p.m.

Reliability

Reliability on the I-205 corridor has degraded between 2013 and 2015. For both directions of I-205 in the AM peak, mid-day, and PM peak, both the average travel time and buffer time have increased. Trips are taking longer for all time periods reported. I-205 NB during the PM experiences some of the most unreliable travel times and largest buffer travel time increase in the region. I-205 NB and SB during the mid-day have some of the largest buffer time increases in the region.

Reliable Travel Time on I-205 NB during 2015 PM Peak

Distance: 25 miles Free-flow travel time: 25 min.

$$\begin{array}{rcl}
 \text{Average Travel Time} & + & \text{Buffer Travel Time} \\
 42.4 \text{ minutes} & & 43.4 \text{ minutes} \\
 & = & \text{Reliable Travel Time} \\
 & & 85.8 \text{ minutes}
 \end{array}$$

FREIGHT RELIABILITY

As congestion creeps into the mid-day, truckers find it challenging to deliver goods and services on time. I-205 is a primary north-south interstate freight route. The loss of reliability during the day makes it difficult for interstate travel and delivery of goods, resulting in increases in trucking costs.

I-205 truck volume accounts for six to nine percent of total traffic, with a daily volume range of 7,900 to 13,100 trucks. It carries the second highest truck volumes in the Portland region, providing an alternative north-south interstate route to I-5 on the east side.

Travel time (in minutes)											
	Year	Free-flow	AM peak			Mid-day			PM peak		
			Average	Buffer ^A	Total ^B	Average	Buffer ^A	Total ^B	Average	Buffer ^A	Total ^B
I-205 NB	2013	24.6	28.2	6.4	34.5	26.8	4.0	30.8	35.2	31.2	66.4
	2015		28.8	8.0	36.8	27.7	8.1	35.8	42.4	43.4	85.8
I-205 SB	2013	24.6	29.2	9.9	39.2	27.0	4.2	31.2	30.8	21.7	52.5
	2015		31.1	11.9	43.0	27.9	9.6	37.5	33.8	24.7	58.5

A. Buffer time is the extra time (or time cushion) that travelers should add to their average travel time to ensure on-time arrival.
 B. Total or reliable travel time is the addition of average travel time with buffer travel time. This is the time travelers should allot for on-time arrival at their destination in 19 out of 20 weekdays (95 percent of the time).

Source: FHWA NPMRDS

Safety

The crash trend is directly related to congestion and the reliability of the corridor. Overall, the number of crashes for I-205 has been increasing. Crashes by time of day are concentrated during the AM and PM peak periods, which

also are the most unreliable travel periods. The majority of the total crashes on I-205 are rear-end (70 percent) and side-swipe/overtaking (18 percent), which are typical of congested conditions.



I-205 Corridor Dashboard

Source: FHWA NPMRDS

I-205 Corridor		2013	2014	2015	2013 vs 2015 % Change
------------------	--	------	------	------	-----------------------

	Daily Vehicle Miles Traveled (Weekday Average Rounded to Thousands)	NB	1,305	1,276	1,339	+2.6%
		SB	1,247	1,212	1,337	+7.2%

Congestion Indicators (Weekday Average)

	Hours of Congestion (Daily Hours)	NB	7.4	8.5	9.8	+32.4%	●
		SB	6.8	9.3	10.0	+47.1%	●
	Daily Vehicle Hours Delay (Daily Vehicle Hours)	NB	3,770	4,724	5,468	+45.0%	●
		SB	2,925	3,762	4,462	+52.6%	●
	AM Peak Travel Time (Minutes)	NB	28.2	29.1	28.8	+2.1%	●
		SB	29.2	30.4	31.1	+6.5%	●
	AM Peak Speed (MPH)	NB	53.3	51.5	52.0	-2.4%	●
		SB	51.3	49.3	48.2	-6.0%	●
	Mid-day Travel Time (Minutes)	NB	26.8	27.3	27.7	+3.4%	●
		SB	27.0	27.7	27.9	+3.3%	●
	Mid-day Speed (MPH)	NB	56.0	54.9	54.2	-3.2%	●
		SB	55.6	54.2	53.8	-3.2%	●
	PM Peak Travel Time (Minutes)	NB	35.2	39.2	42.4	+20.5%	●
		SB	30.8	33.3	33.8	+9.7%	●
	PM Peak Speed (MPH)	NB	42.6	38.3	35.4	-16.9%	●
		SB	48.6	45.0	44.4	-8.6%	●

Reliability Indicators (Weekday Average)

	Buffer Time AM Peak (Minutes)	NB	6.4	7.1	8.0	+25.0%	●
		SB	9.9	11.5	11.9	+20.2%	●
	Buffer Time Mid-day Peak (Minutes)	NB	4.0	5.3	8.1	+102.5%	●
		SB	4.2	6.6	9.6	+128.6%	●
	Buffer Time PM Peak (Minutes)	NB	31.2	34.1	43.4	+39.1%	●
		SB	21.7	24.2	24.7	+13.8%	●

Safety Indicators

	Annual Crashes	NB	405	381	476	+18.0%	●
		SB	297	371	430	+45.0%	●

● Declining Conditions ● Minor change (+/- 2% or less) ● Improving Conditions

Daily Vehicle Miles Traveled (DVMT)

DVMT increased on I-205 in both directions in 2015 and congestion has been worsened.

Daily Vehicle Hours Delay (DVHD)

The DVHD for I-205 corridor has grown by 45 percent in the NB and 53 percent in the SB between 2013 and 2015. Trips on I-205 NB and SB are taking significantly longer.

Mid-day

Mid-day travel times and speeds indicate a slight increase in congestion on I-205 in both NB and SB directions.

Reliability Indicators

The NB and SB PM trips have the worst reliability. Trip reliability is best in the corridor for the AM and mid-day peak in the NB direction of I-205.

Hours of Congestion (HOC)

The HOC on I-205 NB and SB as measured at their worst bottlenecks, are relatively similar. The growth in HOC for NB and SB is also a similar.

AM

AM travel times and speeds indicate an increase in congestion on I-205 in both directions.

PM

PM travel times and speeds indicate an increase in congestion on I-205 in both directions. The average NB speed for the PM in the corridor is 35 mph and worse than SB, indicating higher level of congestion in that direction.

Safety Indicators

Crashes in the NB direction are more than the SB direction. From 2013 to 2015, the number of NB crashes has increased by 18 percent and the number of SB crashes has increased by 45 percent.

2015 average speed (mph)

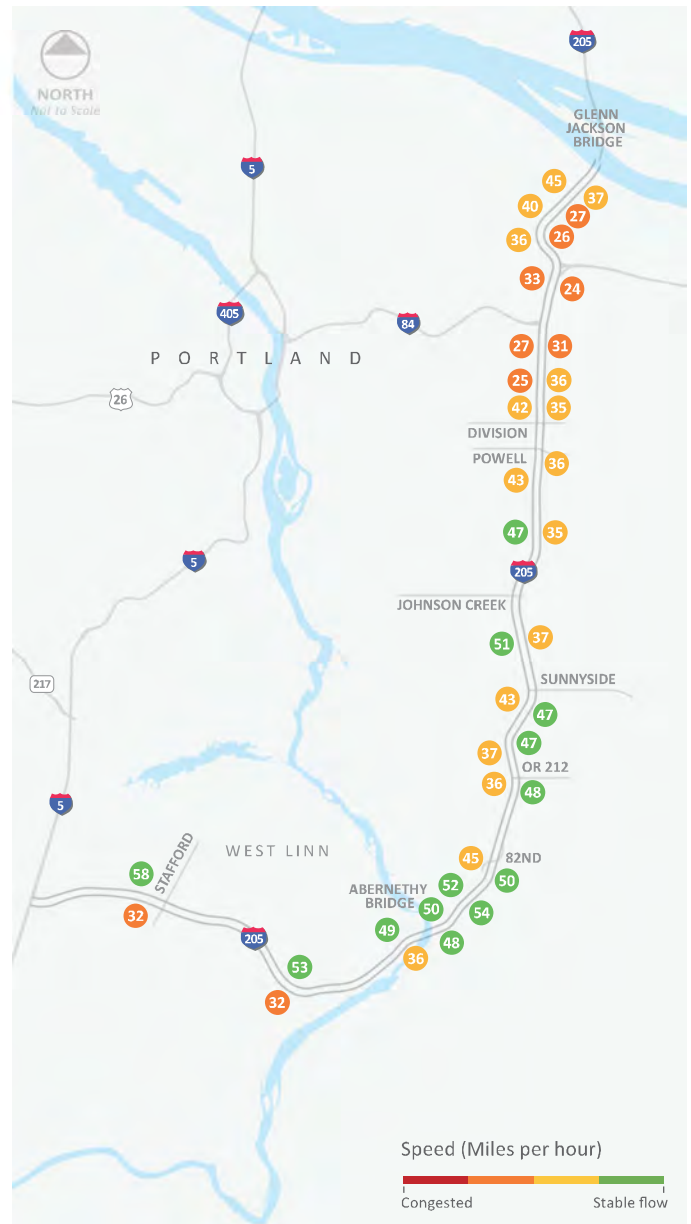
AM weekday
 5:00 a.m. to 10:00 a.m.
 Source: FHWA NPMRDS



AM WEEKDAY

SB direction slows from West Linn to 82nd Avenue.
NB direction slows from Division Street to Johnson Creek Boulevard.

PM weekday
 3:00 p.m. to 9:00 p.m.
 Source: FHWA NPMRDS



PM WEEKDAY

SB direction slows in two general areas: Powell Boulevard to Glenn Jackson Bridge and 82nd Avenue through Sunnyside Road.
NB direction slows in two general areas: Abernethy Bridge to I-5 and Glenn Jackson Bridge to Sunnyside.



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I-205 Corridor Dashboard

I-205 bottlenecks

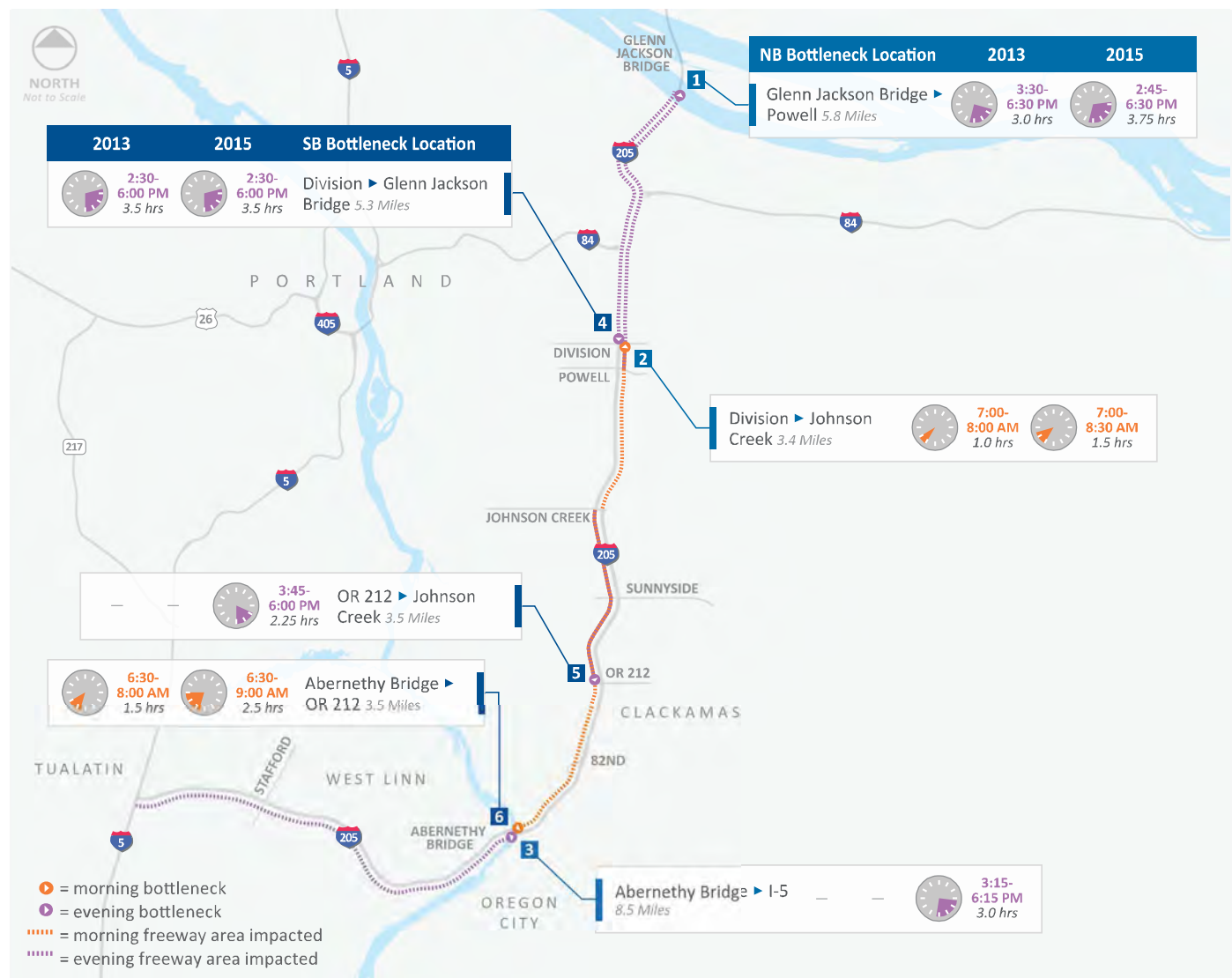
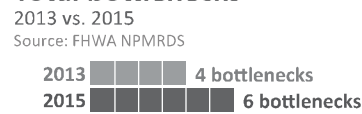
The I-205 corridor has six recurring bottlenecks. The number of bottlenecks has increased from four to six from 2013 to 2015. The two new bottlenecks are on I-205 NB in the PM from Abernethy Bridge to I-5 and on I-205 SB in the PM from OR 212 to Johnson Creek Boulevard. The duration of congestion has increased for all the bottlenecks from 2013 to 2015. In the NB direction, the most severe recurring bottleneck is at the Glenn Jackson Bridge. This bottleneck extends back to Powell Boulevard and exists from 2:45 p.m. to 6:30 p.m. The second most severe bottleneck northbound

is at the Abernethy Bridge. It has a queue that extends to I-5 and lasts from 3:15 p.m. to 6:15 p.m. In the SB direction, the most significant PM recurring bottleneck extends from Division Street to the Glenn Jackson Bridge. This bottleneck has a queue of 5.3 miles and lasts from 2:30 p.m. to 6:00 p.m. The auxiliary lane will improve the safety and operations at the bottleneck.

Duration of bottlenecks

2013 vs. 2015
Source: FHWA NPMRDS

Total bottlenecks



Crash frequency per 10th of a mile

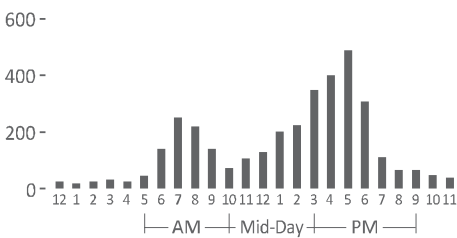
2011-2015
Source: ODOT

I-205 safety

I-205 had a total of 3,559 crashes in the five-year study period. The vast majority of crashes were rear-end and side-swipe/overtaking crashes, which mainly occur in the AM and PM peak commute period. These types of crashes are typically the result of congestion. There were 14 Top 10 percent SPIS sites along the corridor, most of which were located in areas of high congestion. The I-205 corridor crash rate was 0.74 crash per million vehicle miles traveled, which is slightly higher than the 2014 statewide average crash rate of 0.73 on interstate freeways in urban cities.

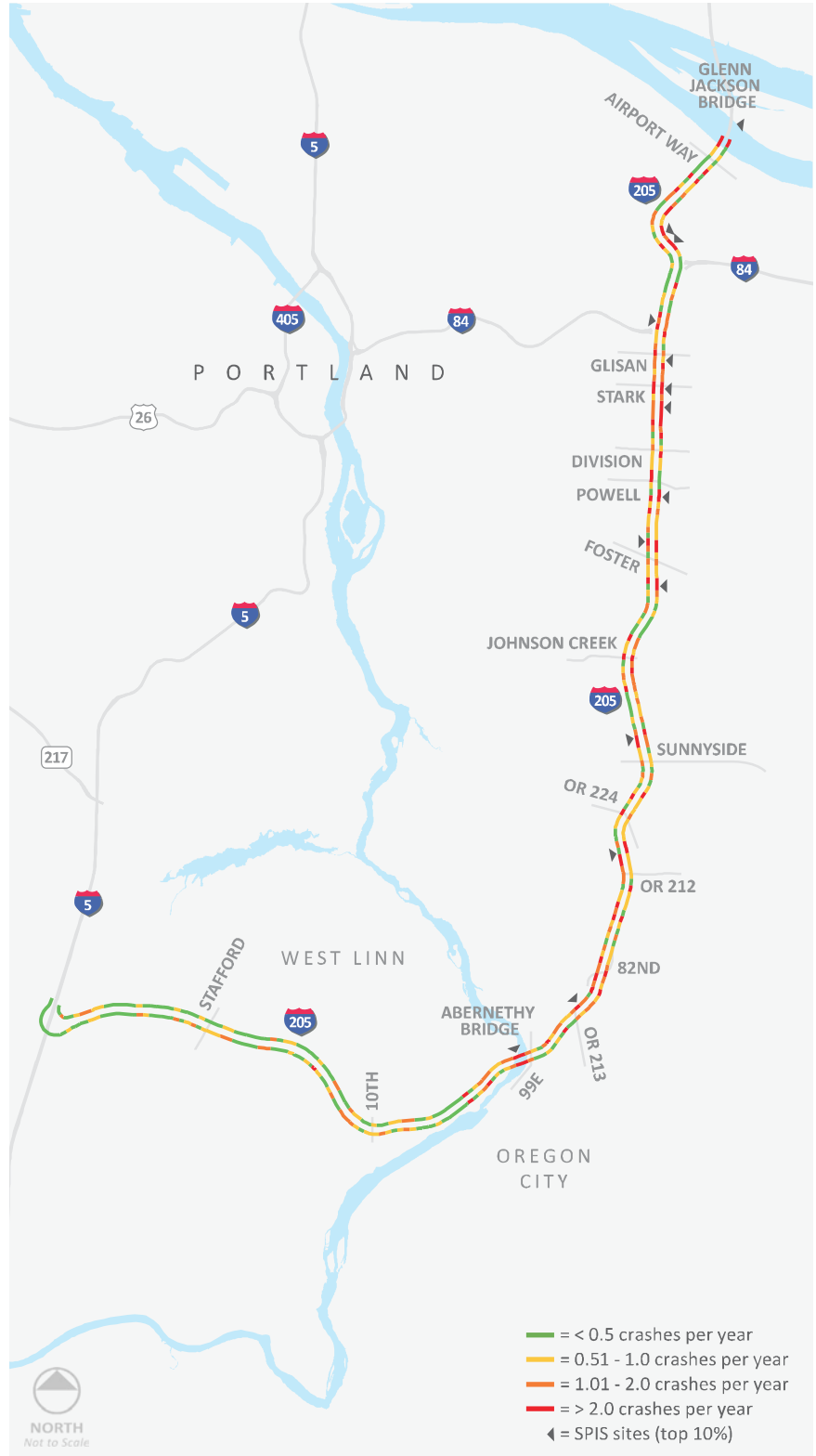
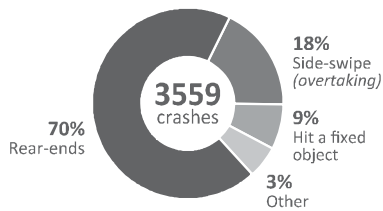
Total crashes by time of day

2011-2015
Source: ODOT



Type of crash

2011-2015
Source: ODOT



Portland Area Value Pricing Feasibility Analysis



Policy Advisory Committee Meeting #1

November 20, 2017

Welcome and agenda

8:30	Welcome!
8:40	Committee charge and purpose
8:55	Introductions
9:15	Review committee charter
9:30	Portland region conditions and trends
9:50	Value pricing overview
10:15	Feasibility analysis: timeline, scope, and policy considerations
10:45	Public comment
10:55	Next steps
11:00	Adjourn



PAC charge and purpose

§ Charge

- As laid out in Section 120 of HB 2017, value pricing is designed to relieve congestion on I-5 and I-205 in the Portland metropolitan region. The Commission intends to evaluate value pricing options that will address congestion.

§ Purpose

- The Value Pricing Policy Advisory Committee shall advise the Oregon Transportation Commission in implementing Section 120 of HB 2017.



Introductions



Review PAC charter



Portland region conditions and trends



Regional growth

Peak congestion periods are getting longer and encroaching into the middle of the day

Trips are taking longer, impacting passenger vehicles, public transportation and freight movement

From 2014 to 2015
Portland grew by:
30,761 people
35,800 jobs



Portland region system performance



Percent change
from 2013 to 2015

WHILE THE
POPULATION
HAS GROWN
BY **3.0%**,



HOURS OF
CONGESTION
HAVE
INCREASED **13.6%**,

AND DAILY VEHICLE
HOURS OF DELAY
HAVE
INCREASED **22.6%**.

Source: ODOT. June 2017. Portland Region 2016 Traffic Performance Report.



Corridor of national significance

- § West Coast's principal north-south corridor connecting Canada and Mexico
- § Primary truck freight corridor between major west coast ports in California, Oregon and Washington
- § Critical corridor for Oregon exports and moving goods and services throughout region and state



I-5 travel delays and unreliability



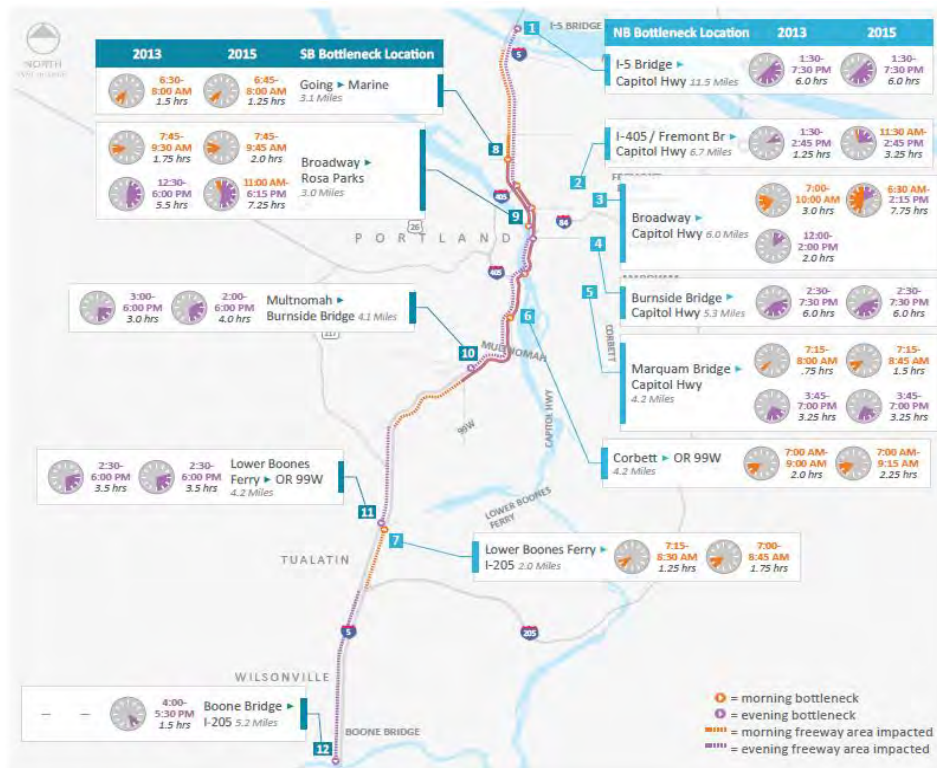
- § Peak period travel times on I-5 continue to increase along northbound and southbound lanes during both AM and PM periods
- § Travel speed has decreased by 13.5% (NB) and 9.7% (SB) during peak PM travel periods
- § Decreased reliability impacts freight movement for up to 17,800 heavy trucks which use the I-5 corridor every day



Source: ODOT. June 2017. Portland Region 2016 Traffic Performance Report.



I-5 corridor bottlenecks



Source: ODOT. June 2017. Portland Region 2016 Traffic Performance Report.

The I-5 corridor has 12 reoccurring bottlenecks:

- § Increased from 11 to 12 between 2013-2015
- § Congestion duration increased at 9 of 12 bottlenecks



I-5 corridor crashes






- § 5,144 reported crashes occurred during five year period
- § 72% of crashes are rear-end collisions, primarily during peak periods
- § At .92, the crash rate per million vehicle miles traveled is higher than state average

Crash frequency per 10th of a mile
2011-2015
Source: ODOT



I-5 corridor performance



I-5 Corridor		2015	2013 vs 2015 Change
 Hours of Congestion (Daily Hours)	NB	15.7	+9.0%
	SB	15.5	+0.6%
 Daily Vehicle Hours Delay (Daily Vehicle Hours)	NB	6,440	+18.1%
	SB	6,095	+23.6%
 Annual Crashes	NB	556	+12.0%
	SB	564	+17.0%

Source: ODOT, June 2017. Portland Region 2016 Traffic Performance Report.



Corridor of economic importance



- § Corridor of economic importance: connects East Portland metro area to Tualatin/Sherwood and Clackamas industrial areas, as well as Portland International Airport
- § Alternate north-south route to I-5
- § Second highest truck volumes in the region – 7,900 to 13,100, or 6-9% of total traffic



I-205 delays and unreliability



- § During both AM and PM periods, travel times increased and travel speeds decreased, indicating increasing congestion along the I-205 corridor
- § Decreased reliability along this important north-south interstate freight corridor translates into increased trucking costs



Source: ODOT. June 2017. Portland Region 2016 Traffic Performance Report.



I-205 corridor bottlenecks



The I-205 corridor has 6 reoccurring bottlenecks:

- § Increased from 4 to 6 between 2013-2015
- § Congestion duration increased for all I-205 bottlenecks
- § The Glenn Jackson Bridge and Abernethy Bridge are the two most severe reoccurring bottlenecks



Source: ODOT, June 2017, Portland Region 2016 Traffic Performance Report.



I-205 corridor crashes



- § 3,559 crashes occurred during five-year period
- § Crashes primarily occurred during peak periods along congested bottlenecks




Crash frequency per 10th of a mile

2011-2015
Source: ODOT



I-205 corridor performance



I-205 Corridor		2015	2013 vs 2015 Change
 Hours of Congestion (Daily Hours)	NB	9.8	+32.4%
	SB	10.0	+47.1%
 Daily Vehicle Hours Delay (Daily Vehicle Hours)	NB	5,468	+45.0%
	SB	4,462	+52.6%
 Annual Crashes	NB	476	+18.0%
	SB	430	+45.0%

Source: ODOT, June 2017, Portland Region 2016 Traffic Performance Report.



Additional tools needed

- § HB 2017 funds pedestrian, bicycle, and transit improvements and targeted bottleneck relief projects
- § Regional Transportation Plan includes operations, safety and capacity improvements for bicyclists, pedestrians, public transportation and drivers
- § The region could invest \$15 – 22 billion in transit, bike, pedestrian and road projects by 2040:
 - Peak congestion would still increase over 100% for passenger vehicles
 - Peak congestion would increase about 60% for freight vehicles

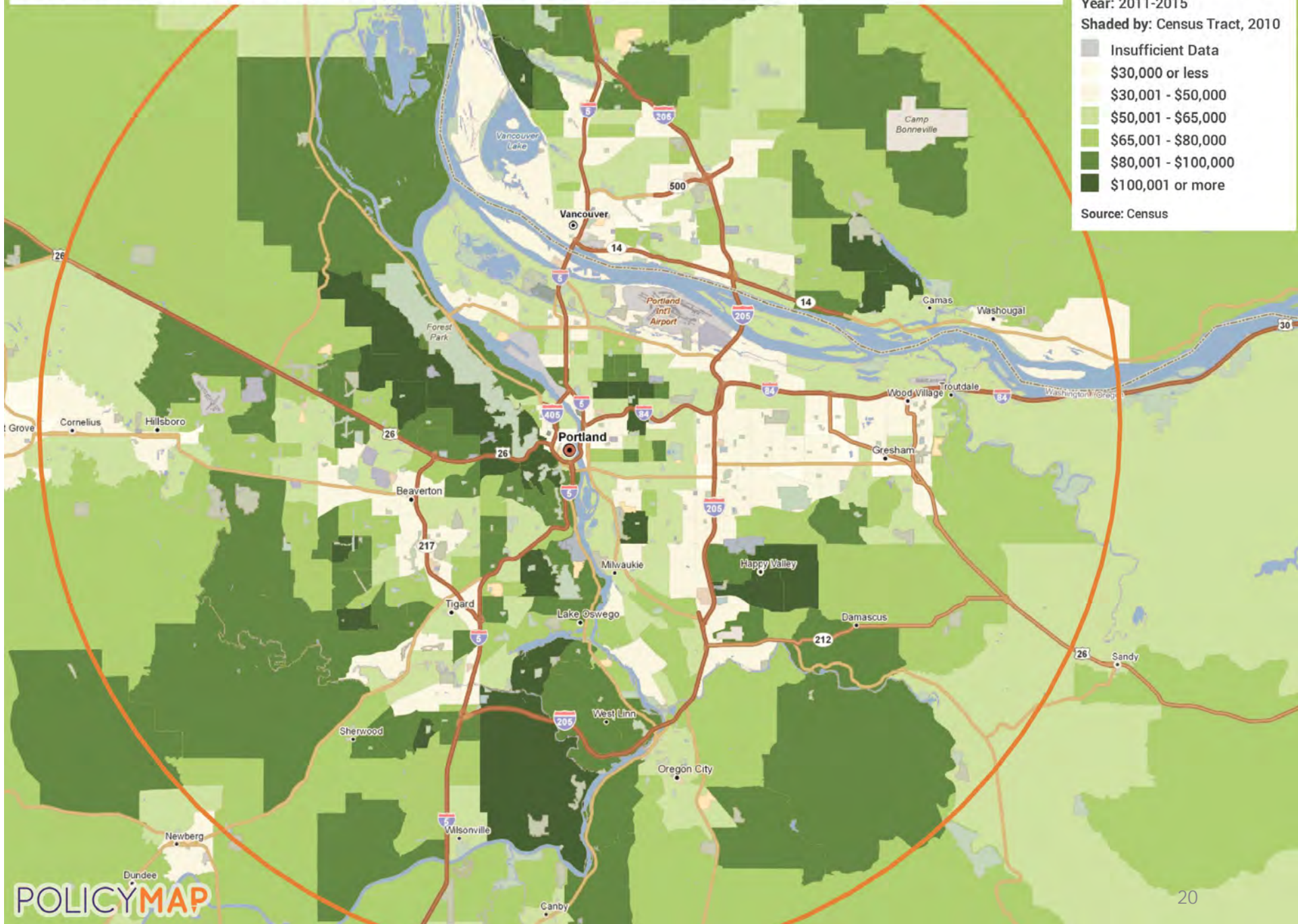


Estimated typical (median) income of a household between 2011-2015.

Median Household Income
Year: 2011-2015
Shaded by: Census Tract, 2010

- Insufficient Data
- \$30,000 or less
- \$30,001 - \$50,000
- \$50,001 - \$65,000
- \$65,001 - \$80,000
- \$80,001 - \$100,000
- \$100,001 or more

Source: Census

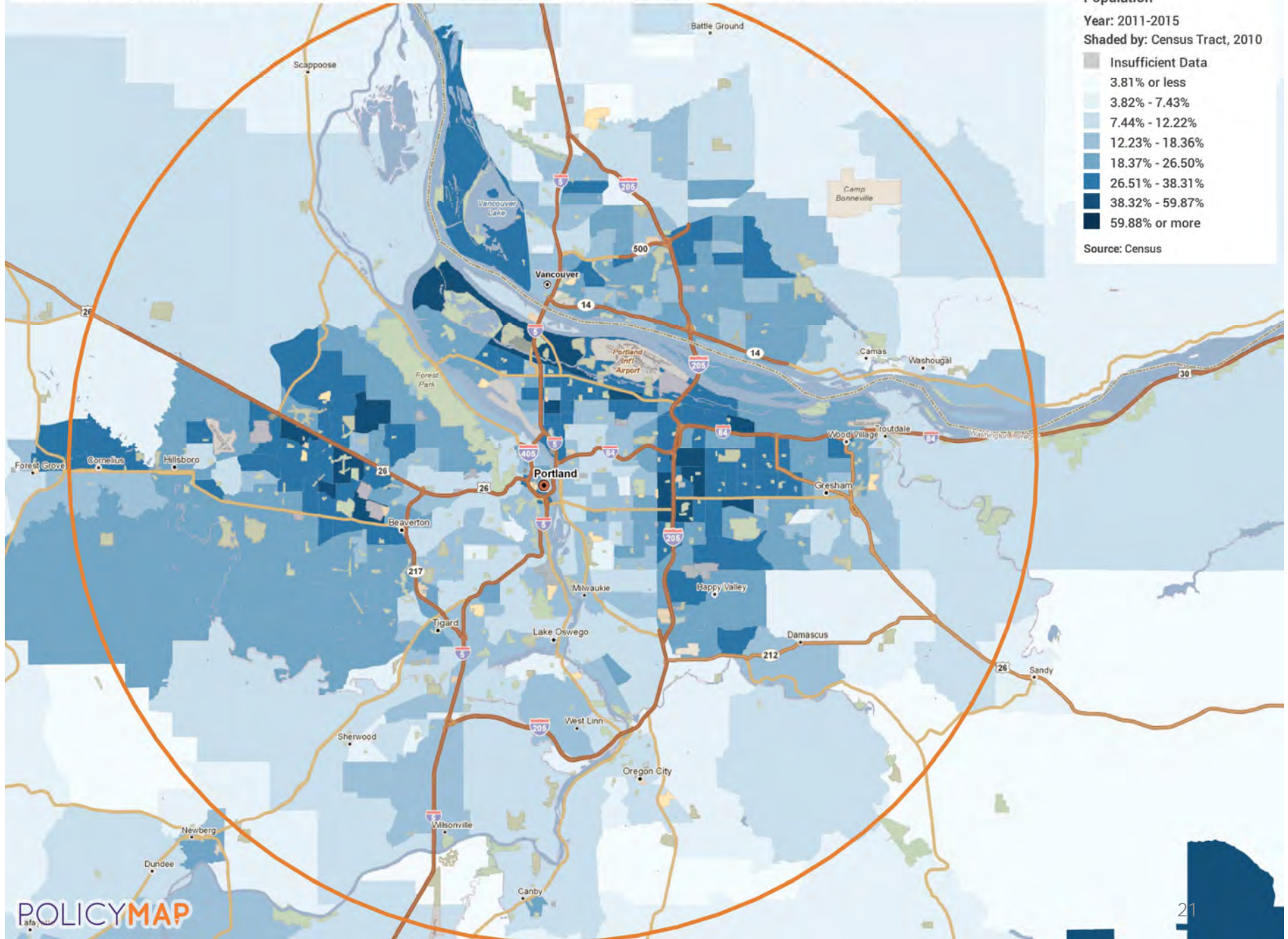


Estimated percent of all people who were of a race other than White between 2011-2015.

Percent Non-White Population
Year: 2011-2015
Shaded by: Census Tract, 2010

- Insufficient Data
- 3.81% or less
- 3.82% - 7.43%
- 7.44% - 12.22%
- 12.23% - 18.36%
- 18.37% - 26.50%
- 26.51% - 38.31%
- 38.32% - 59.87%
- 59.88% or more

Source: Census

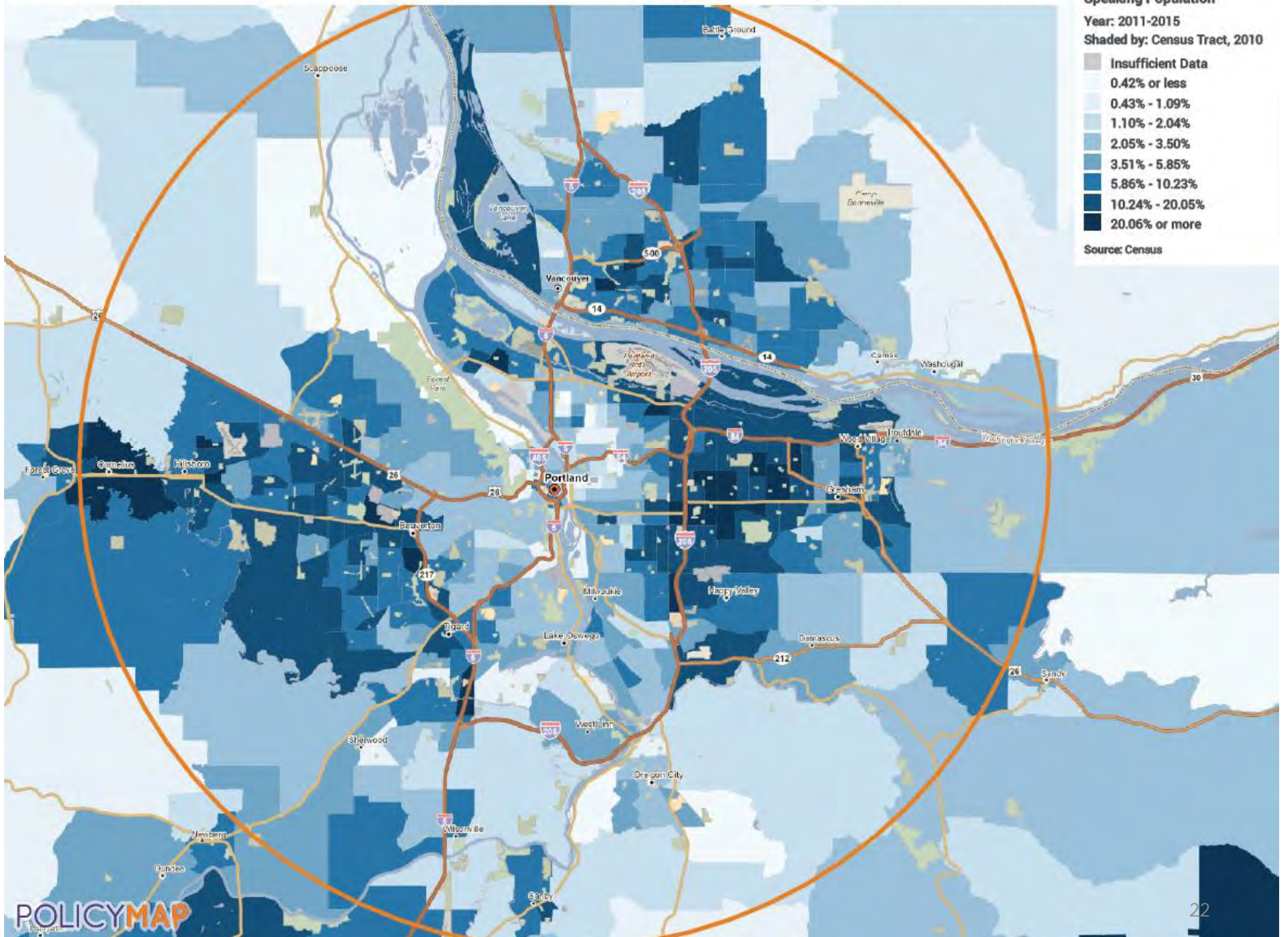


Estimated percent of all people age 5 and older who were non-English speaking between 2011-2015.

Percent Non-English Speaking Population
Year: 2011-2015
Shaded by: Census Tract, 2010

- Insufficient Data
- 0.42% or less
- 0.43% - 1.09%
- 1.10% - 2.04%
- 2.05% - 3.50%
- 3.51% - 5.85%
- 5.86% - 10.23%
- 10.24% - 20.05%
- 20.06% or more

Source: Census



Estimated percent of workers who drove to work in 2011-2015.

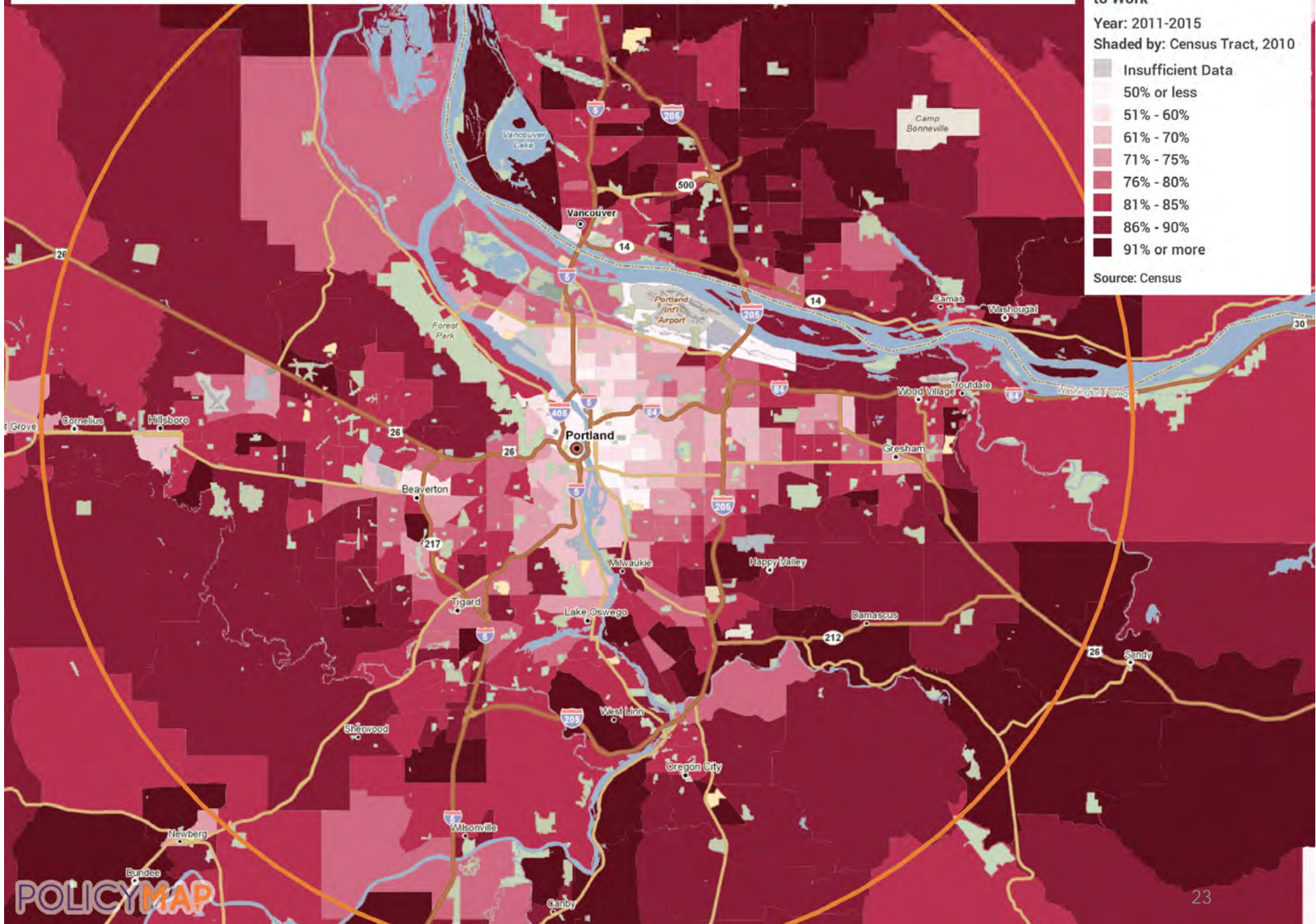
Percent of People Who Drove to Work

Year: 2011-2015

Shaded by: Census Tract, 2010

- Insufficient Data
- 50% or less
- 51% - 60%
- 61% - 70%
- 71% - 75%
- 76% - 80%
- 81% - 85%
- 86% - 90%
- 91% or more

Source: Census

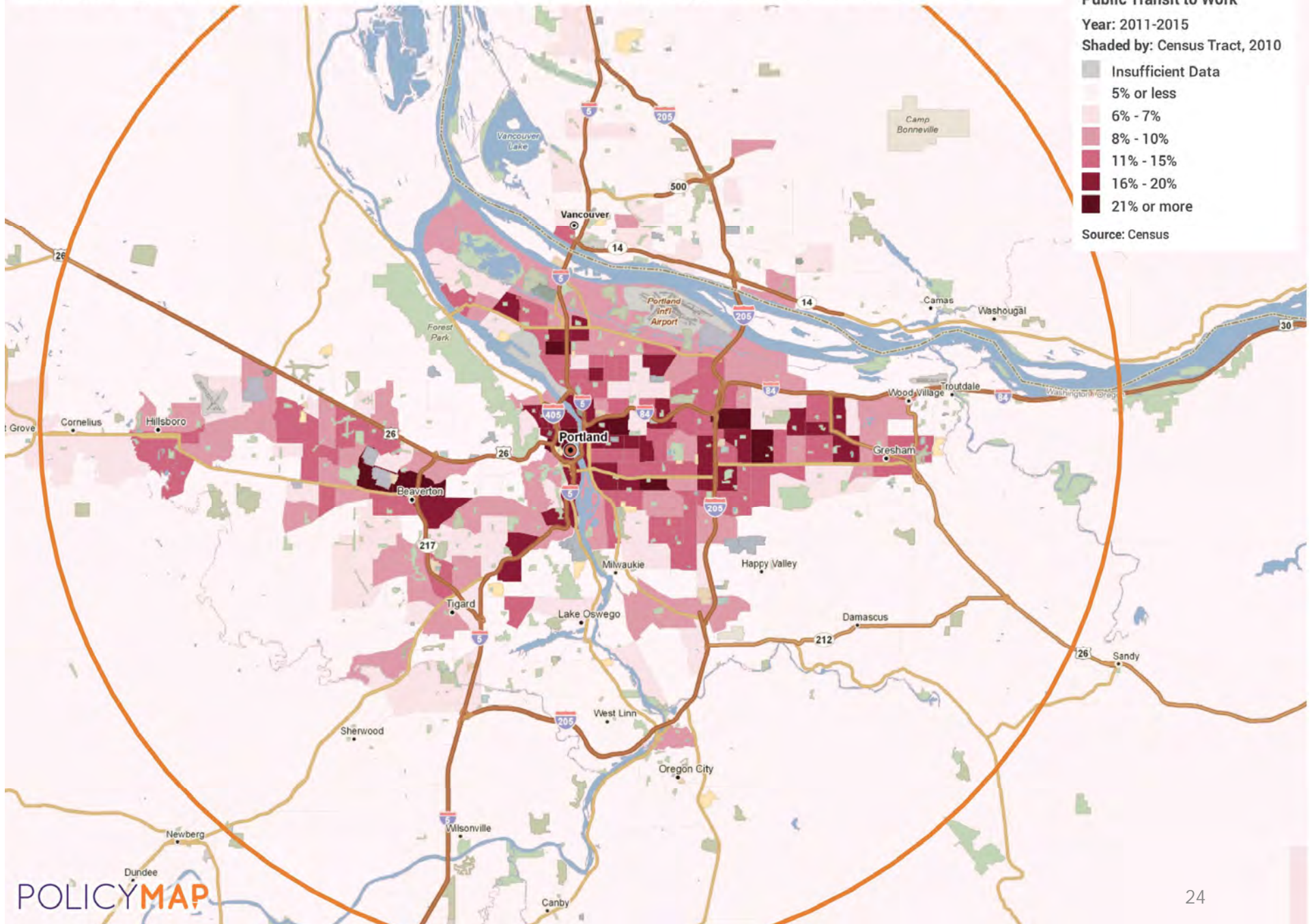


Estimated percent of workers who commuted to work using public transit in 2011-2015.

Pct. of People Who Took Public Transit to Work
Year: 2011-2015
Shaded by: Census Tract, 2010

- Insufficient Data
- 5% or less
- 6% - 7%
- 8% - 10%
- 11% - 15%
- 16% - 20%
- 21% or more

Source: Census



Questions?



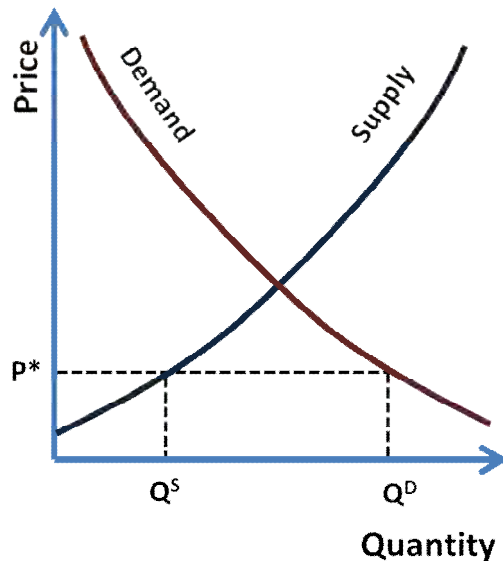
Value pricing overview

Value pricing, also known as congestion pricing, uses toll charges and incentives during peak traffic periods to encourage travel by other modes or time periods and more efficiently manage highway capacity



Why use value pricing?

Basic economics: balancing supply and demand



Exceptionally high regional demand is only limited by a relatively low "price" for access. The "supply" of roadway resources is insufficient to meet this demand. The result is congestion.

§ Manages Demand

- Pricing is more efficient than signalization or "rationing"
- Saves billions of dollars in time and monetary cost of congestion
- Achieve higher, more efficient travel speeds
- Complements numerous other congestion management strategies

§ Can Generate Revenue

- May fund operations and maintenance of tolled facilities
- May reinvest net revenue into tolled facilities
- May be revenue-neutral



Value pricing – Federal tolling programs

§ 23 USC Section 129 – Mainstream Tolling

- Allows for tolls on new highways or new lanes so long as the number of toll-free lanes is not reduced
- Allows for tolls on reconstructed bridges or tunnels

§ 23 USC Section 166 – HOV/HOT Lane Program

- Allows for tolls on existing HOV lanes

§ Interstate System Reconstruction and Rehabilitation Pilot Program (ISRRPP)

- Permits up to three existing Interstate facilities to be tolled to fund needed reconstruction or rehabilitation on Interstate corridors that could not otherwise be adequately maintained or improved without the collection of tolls

§ Value Pricing Pilot Program (VPPP)

- Experimental program designed to assess the potential of different value pricing approaches for reducing congestion
- Limited to 15: Oregon has a slot



Value pricing – state policy

OTC has authority to establish tollways and toll rates

Toll revenues are subject to Oregon Constitution – must be spent on roadways

Oregon does not prohibit local governments from imposing local tolls



Value pricing strategies

Freeway Pricing

Priced Roadways



Priced Lanes

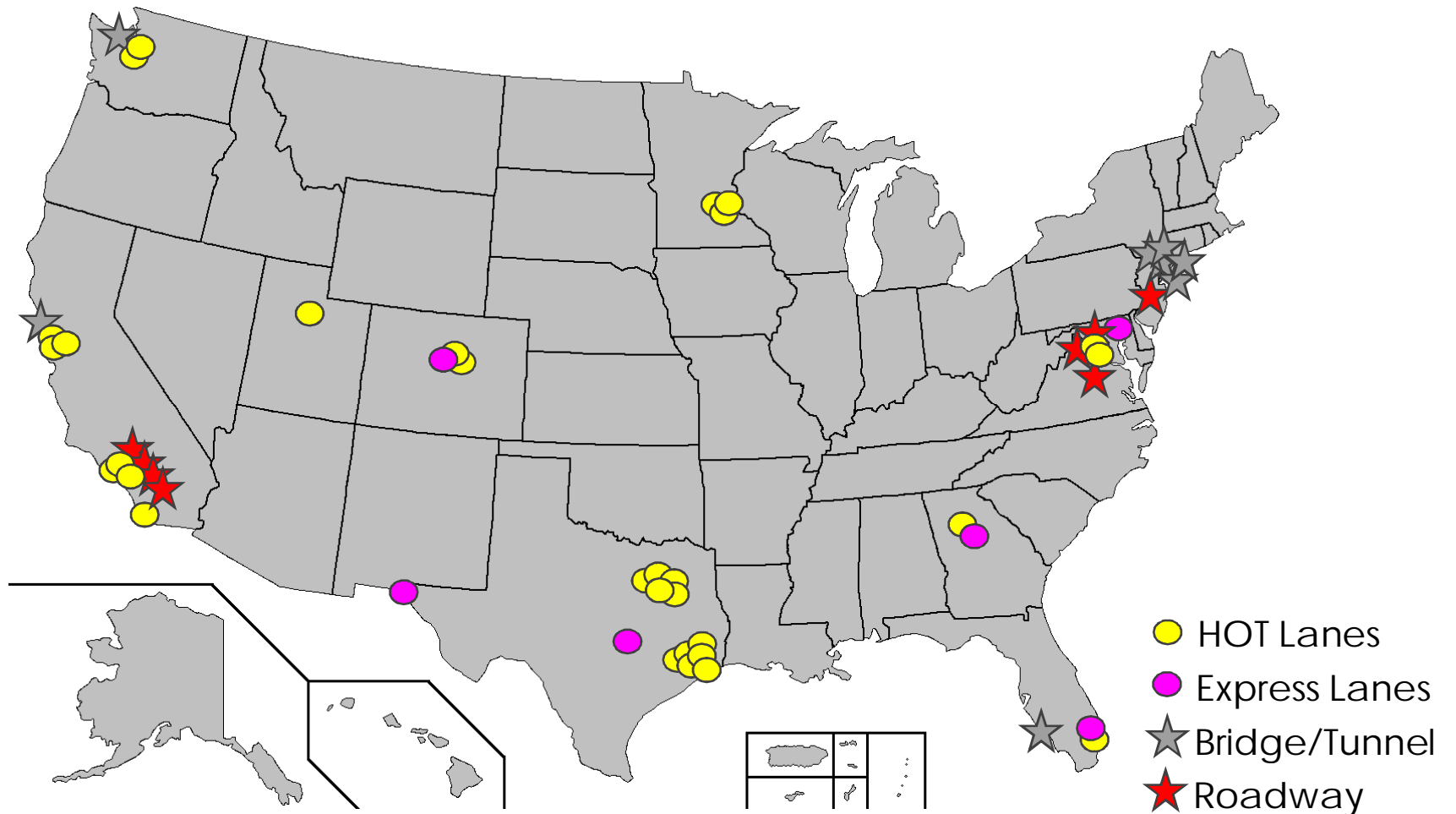


Other Strategies: Non-Freeway

- § Cordon pricing
- § Priced parking
- § Areawide charging



Variably priced lanes and roadways



Toll collection

- § Pricing does not utilize toll booths or cash
- § Open Road Tolling (ORT): in-vehicle transponders and/or License Plate Recognition (LPR)
- § Switchable transponders allow for carpool declaration



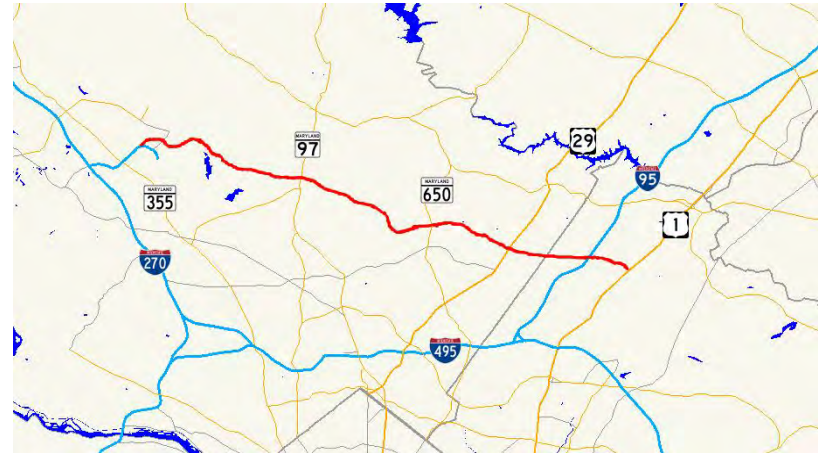
Value pricing strategies

Priced Roadways



- § Tolls implemented along all lanes of a roadway
- § Typically collected using open-road tolling that allows drivers to pass through gantries or checkpoints at highway speeds without stopping to pay a toll
- § Historically used to build or reconstruct highway infrastructure

Example: InterCounty Connector (Maryland)



18 mile east-west 6-lane corridor
north of Washington DC (2013)

All electronic tolling using both
transponder and license plate
billing

- 50% premium for video toll
users to help offset added
costs

Tolls vary by time of day

- \$0.25/mile morning and
evening peak periods
- \$0.20/mile off-peak and
mid-day periods
- \$0.10/mile overnight hours



Example: SR-520 Floating Bridge (Washington)



8 miles, from I-405 (Bellevue) to I-5 (Seattle)

All electronic tolling using both transponder and license plate billing

- Floating bridge fully constructed and open to traffic in 2016
- Toll collections started in 2012 – 4 years before
- Necessary for project finance

Tolls vary by time of day

- \$1.25 (lowest overnight)
- \$4.30 (highest, during AM / PM peak hours)
- \$2 surcharge for license plate billing



Value pricing strategies

Priced Lanes

- § “Managed” in terms of access and eligibility
- § High occupancy vehicle (HOV) lanes are the original managed lanes, but the term now includes:
 - High-occupancy toll (HOT) lanes (single occupancy vehicles pay)
 - Express lanes (all vehicles pay), and
 - Truck-only toll lanes.
- § Allow vehicles to pay a toll to bypass congested areas.
- § Different ways of variable pricing:
 - Time of day (fluctuate on a schedule)
 - Dynamic (fluctuate in response to real time traffic volumes)



Example: I-405 Express Toll Lanes (Washington)



17 mile north-south corridor in Seattle, WA with 1 to 2 managed lanes in each direction (2015)

Conversion of a preexisting HOV lane + new lane construction

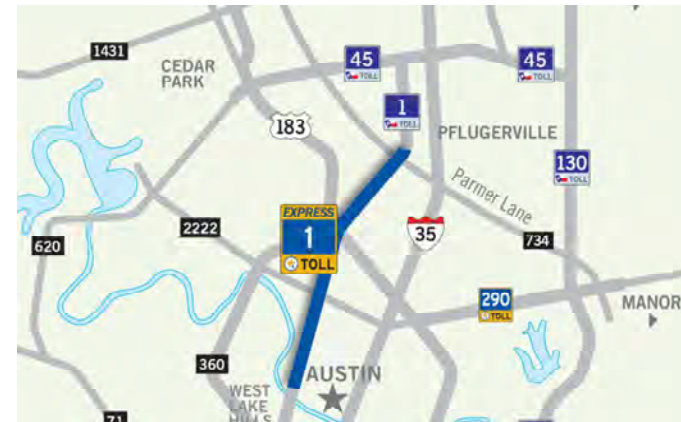
All electronic tolling using transponder

Tolls vary based on real time traffic conditions

- Range from \$0.75 to \$10 per trip
- HOV 3+ use the facility for free



Example: Mopac Express Lanes (Texas)



11 mile north-south corridor in Austin, TX
with 1 managed lane in each direction
(2016)

Addition of express lane to general
purpose facility

All electronic tolling using transponder

Tolls vary based on real time
traffic conditions

- Base rate of \$0.25 per trip
- Anticipated average toll during rush hour is \$2.50
- No HOV discounts



Mitigating concerns through program design

- § Pricing may be perceived as being regressive to low income travelers
- § Income equity concerns have been mitigated through several strategies:
 - Carpool incentives
 - Enhanced transit service
 - Targeted investment in transit
 - Low income incentive programs
 - Expanded options for electronic toll participation
- § Studies have shown that low income drivers use priced facilities and benefit significantly from improved travel time and travel time reliability



Questions?



Feasibility analysis

Timeline, scope, and policy considerations



Goal of analysis

The goal of the Value Pricing Feasibility Analysis is to develop a value pricing program that will reduce congestion on I-5 and I-205 and meet the Oregon legislature's schedule for submittal to FHWA by the end of 2018



Scope of feasibility analysis

Where

How

Mitigation



Scope of feasibility analysis

Where

§ I-5

§ I-205

Full corridor?

Segments?

How

Mitigation

Not being considered:

§ Pricing concepts on facilities other than I-5 and I-205, consistent with legislative direction



Scope of feasibility analysis

Where	How	Mitigation
<p>§ I-5</p> <p>§ I-205</p> <p>Full corridor?</p> <p>Segments?</p>	<p>§ Priced Lanes</p> <p>§ Priced Roadways</p> <p><i>Added capacity?</i></p> <p><i>Convert existing lane?</i></p>	

Not being considered:

- § Pricing concepts on facilities other than I-5 and I-205, consistent with legislative direction



Scope of feasibility analysis

Where	How	Mitigation
<ul style="list-style-type: none">§ I-5§ I-205 <p>Full corridor? Segments?</p>	<ul style="list-style-type: none">§ Priced Lanes§ Priced Roadways <p><i>Added capacity?</i> <i>Convert existing lane?</i></p>	<ul style="list-style-type: none">§ TBD - Based on feasibility analysis

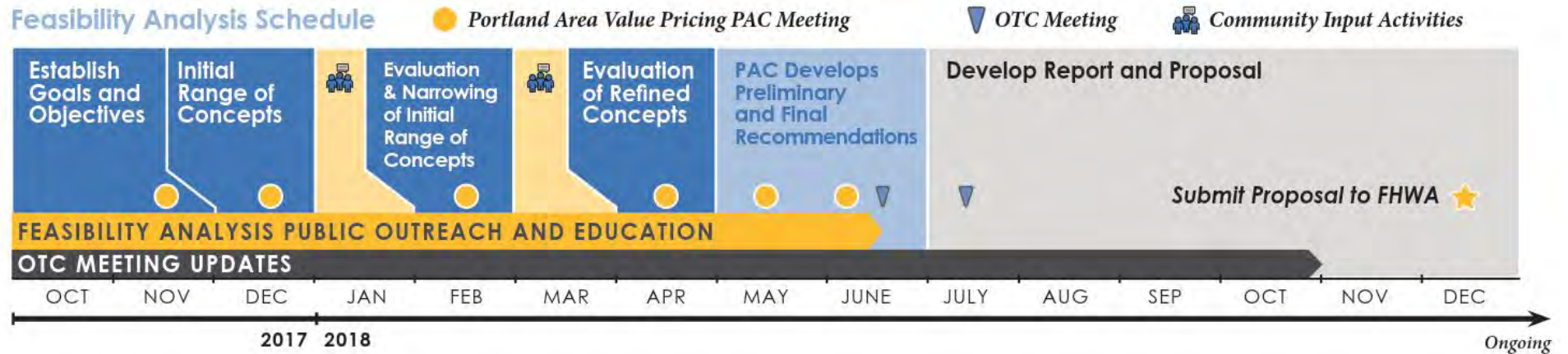
Not being considered:

- § Pricing concepts on facilities other than I-5 and I-205, consistent with legislative direction



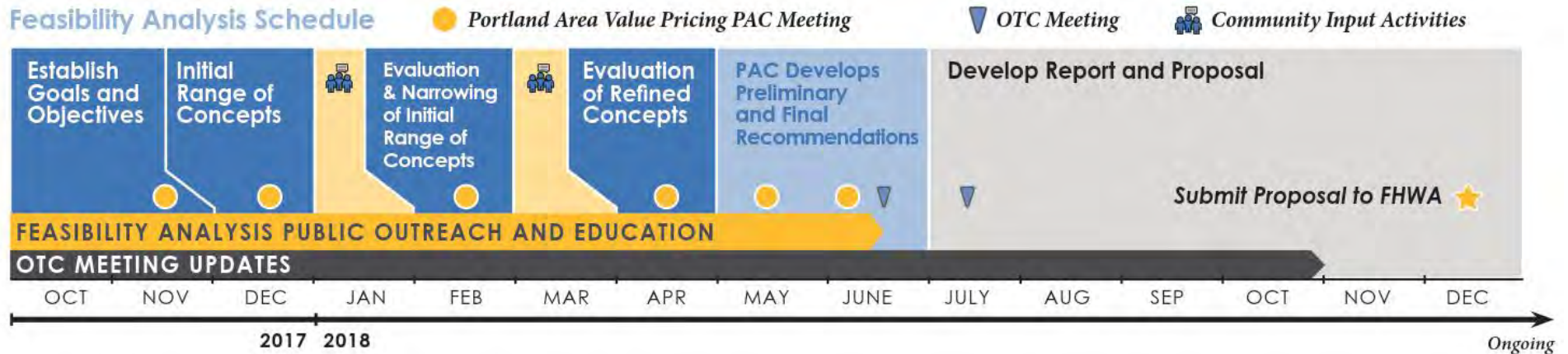
Timeline

Feasibility Analysis Schedule



Timeline

Feasibility Analysis Schedule



After December 2018:

- § Environmental analysis (NEPA) and public input
- § Technology implementation plan
- § Federal tolling agreement



Objectives and performance measures: why?

Guide concept development

Compare and contrast pros and cons of different concepts



Policy considerations for the PAC

- § Traffic operations improvements
- § Diversion of traffic
- § Adequacy of transit service
- § Equity impacts
- § Impacts on the community, economy, and environment



Policy considerations for the PAC

- § Public input
- § Consistency with state law and policy
- § Feasibility under federal law
- § Project delivery schedules
- § Revenue and cost



Potential performance measures

Consideration	Performance Measure	Evaluation
Traffic operations improvement on I-5 and I-205	§ Vehicle and person throughput on I-5 and I-205: peak hour and change in peak hour	Round 1 & 2
	§ Travel time on I-5 and I-205 (between major freeways): peak hour and change in peak hour	Round 1
	§ Assessment of change in duration of peak vehicle traffic conditions	Round 2
	§ Annual vehicle hours of delay (VHD) and change in annual VHD for priced facility	Round 2
Diversion of traffic	§ Level of diverted trips (%) onto adjacent facilities	Round 1
	§ Trip length distribution	Round 2
	§ Mode share (HOV, SOV, light rail, and bus) used for multiple objectives	Round 1
Transit service	§ Transit travel time and change in transit travel time	Round 2
	§ Mode share shift compared to the no-build scenario (HOV, SOV, light rail and bus)	Round 2

Potential performance measures

Consideration	Performance Measure	Evaluation
Equity impacts	§ Number of trips (and change in number of trips) taken by Environmental Justice/Title VI protected populations	Round 2
	§ Changes in travel times and costs from key origin/destination pairs	Round 1
	§ Access to jobs	Round 2
Impacts on the community, economy, and environment	§ Regional impact to state highways outside of Metro area	Round 1
	§ Regional travel time and change in travel time	Round 2
	§ Regional travel time savings and change in travel time savings	Round 2
	§ Diversion impacts on non-tolled facilities	Round 2
	§ Regional vehicle miles traveled (VMT) per capita and change in VMT per capita (including non-freeway)	Round 2
	§ Change in vehicle emissions	Round 2
	§ Value of travel time savings	Round 2

Potential performance measures

Consideration	Performance Measure	Evaluation
Public input	§ Public opinion research is conducted and results are shared with the PAC and made publicly available	Round 1
	§ Opportunities are provided for public input; the project team identifies how public input is incorporated into the project	Round 2
Revenue and cost	§ Estimated revenue from tolled facility	Round 2
	§ Capital expenditure on facility (order of magnitude)	Round 2
	§ Estimated operational and maintenance costs (order of magnitude)	Round 2



Questions and discussion



Public comments



Next steps



Planned PAC meetings

PAC Mtg	Date	Topic
1	Nov. 20, 2017	Introduction and review evaluation framework
2	Dec. 7 2017	Direction on performance measures and initial range of concepts
3	Feb 2018	Review evaluation and direction on narrowing of initial range of concepts
4	April 2018	Review evaluation of refined concepts and discuss mitigations
5	May 2018	Review refined concepts and mitigations
6	June 2018	Develop recommendations to OTC



Adjourn

Thank you for attending!





Portland Metro Area Value Pricing Feasibility Analysis AGENDA

Policy Advisory Committee: Meeting 2

DATE: December 7, 2017

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 8:00 a.m. – 10:30 a.m.

MEETING OBJECTIVES

- Finalize the PAC charter
- Finalize performance measures to be used for evaluation of value pricing concepts
- Agree on initial concepts for evaluation

AGENDA ITEMS

Time	Topic	Lead
8:00 – 8:10 <i>(10 mins)</i>	Welcome and agenda review <ul style="list-style-type: none">• Introductions• Agenda review• Approve Meeting 1 Summary <p>PAC Action: Approve Meeting 1 Summary for sharing and posting</p>	Penny Mabie, Facilitator
8:10 – 8:15 <i>(5 mins)</i>	Comments from PAC Co-Chairs	Alando Simpson and Sean O’Hollaren, Oregon Transportation Commission
8:15 – 8:35 <i>(20 mins)</i>	Public Comment: <i>Meeting observers are welcome to provide comment to members of the PAC. Comments or questions will not be responded to by PAC members. Individual comment time limits will be determined by number of people desiring to make comment.</i>	Penny Mabie, Facilitator
	PAC Action: Provide summary of any feedback received from constituents since last meeting	



Agenda

Time	Topic	Lead
8:35 – 8:50 <i>(15 mins)</i>	Charter review and finalization <ul style="list-style-type: none"> Review proposed revisions PAC Action: Approve revised charter <i>Objective: Review and approve charter</i>	Penny Mabie, Facilitator
8:50 – 9:05 <i>(15 mins)</i>	Public engagement process <ul style="list-style-type: none"> Public participation overview Upcoming outreach opportunities <i>Objective: Discuss effective public participation opportunities</i>	Anne Pressentin, EnviroIssues
9:05 – 9:40 <i>(10 mins presentation and 25 mins facilitated discussion)</i>	Concept evaluation and performance measures <ul style="list-style-type: none"> PAC process Overview of evaluation approach PAC input on performance measures PAC Action: Provide input <i>Objective: Finalize performance measures for concept evaluation</i>	Kirsten Pennington, WSP
9:40 – 10:20 <i>(15 mins presentation and 25 mins facilitated discussion)</i>	Initial concepts for evaluation <ul style="list-style-type: none"> Initial value pricing concepts under consideration Discussion and input PAC Action: Provide input <i>Objective: Review and seek input on the initial concepts for evaluation</i>	David Ungemah, WSP
10:20 – 10:30 <i>(10 mins)</i>	Next Steps <ul style="list-style-type: none"> Next meeting Action items 	Penny Mabie, Facilitator
10:30	Adjourn	

Upcoming dates:

Meeting #3: Feb. 28, Wednesday, 2:00 – 5:00 p.m.

Meeting #4: April 11, Wednesday, 1:30 -4:00 p.m.

Meeting #5: May 14, Monday, 10 a.m. – noon

Meeting #6: June 8, Friday, 10 a.m. – noon



Portland Metro Area Value Pricing Feasibility Analysis MEETING SUMMARY

Meeting Summary: Policy Advisory Committee Meeting 1 **DRAFT**

DATE: November 30, 2017

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 8:30 a.m. – 11:00 a.m.

MEETING OBJECTIVES

- Develop shared understanding of committee charge and purpose
- Seek conceptual agreement on committee charter
- Develop shared understanding of conditions on I-5 and I-205 and value pricing principles, terminology and potential applications in Oregon
- Review feasibility analysis schedule and scope and begin discussions on feasibility analysis key considerations

AGENDA ITEMS AND SUMMARY

Welcome and Agenda Review

Penny Mabie (Envirolssues, Facilitator) welcomed the Value Pricing Feasibility Analysis Policy Advisory Committee (PAC) and reviewed the meeting agenda. Key points included:

- This is the first of 6 PAC meetings. The PAC role is to develop a recommendation for Oregon Transportation Commission consideration about the type and location of value pricing on I-5 and I-205.
- PAC meetings are open to the public and will include a public comment period.
- This PAC meeting is being recorded and the video will be uploaded to YouTube after the meeting.
- The PAC 1 presentation slides and a video recording of the PAC 1 meeting can be downloaded at the ODOT website, located here:
<http://www.oregon.gov/ODOT/Get-Involved/Pages/Value-Pricing-Committee.aspx>



Committee Charge and Purpose

Alando Simpson and Sean O'Hollaren (Oregon Transportation Commission and PAC co-chairs) welcomed the PAC and reviewed the PAC purpose and charge. Key points included:

- House Bill (HB) 2017 outlined a range of important and significant multimodal investments for the region, aiming to minimize the amount of congestion.
 - A statewide visioning effort showed that congestion in the Portland area impacts economic competitiveness for the entire state. Voices from throughout the state identified fixing Portland's congestion problem as a top priority.
 - There is not a single answer or solution to the congestion problem. Congestion pricing is an option that needs to be considered along with other tools, such as enhancing transit service and viability as well as improving other multimodal transportation options like bicycle and pedestrian access improvements.
 - The priority of this value pricing feasibility analysis will be to identify how and if implementing value pricing on I-5 and I-205 will minimize congestion – this will be one tool that is part of a multimodal approach to address regional traffic growth.
 - It is important to hear from all PAC committee members as we go through this process and for all PAC members to bring the concerns of their constituents and stakeholders to these meetings.
 - As part of this effort, we're assuming that people in Vancouver/Clark County don't want to sit in longer traffic just as much as those in Oregon. Congestion pricing has been successfully deployed in Washington and around the country. There are lots of lessons to be learned that can inform this feasibility analysis.
 - PAC Co-chairs hope for a constructive dialogue to inform the OTC as it determines the value pricing option to submit to the FHWA.

Introductions: Name, role, goal for committee participation

Objective: Meet each other, hear goals for committee participation and identify mutually held goals

Penny asked the PAC members to introduce themselves and identify their goals for committee participation. Remarks and goals identified by the PAC members included the following:

- As a business owner, congestion adds costs to my business
- Look to set a model that other communities and states can look to
- 1/3 of infrastructure in Oregon is paid for by the trucking industry; trucking members across the state agree that we need to address the congestion problem in Oregon

- Cost of congestion is significant
- Meet requirements of HB2017
- Robust discussion of intersectional issues regarding community effects
- Ensure 75K commuters from Clark County are not overly impacted by the decisions made here
- Can't afford to build our way out of this. Alternative modes alone are not proving to solve the problem. Need to understand if value pricing is a solution we can employ in our region and where it would be most effective
- Integrate work here with other transportation discussions
- Keep in mind social equity, climate impacts, rely on good models but do it right for Oregon
- Took 1hr-20min to get here this morning
- Looking for the balance between reduced congestion and reasonable cost for people who are transportation disadvantaged
- Triple Bottom line will be important to detail how we articulate the effects of tolling
- Concern about comparing Seattle system to Portland's – Seattle is an area where you saw investment in an adequate sized system whereas Portland has an undersized system
- Wearing an infrastructure hat, being solutions-based, we need to look at what those infrastructure solutions are
- Huge opportunity to make a bold move
- Support this committee to come up with options to address congestion
- Want to make sure that what we come up with is an improvement for the overall mobility system and particularly the transit system
- There is a lot of impact we need to look at and will need to develop priorities to determine outcome we can support
- Curious about implementation process
- Want to be fair to business; Washington County and others are dependent on international trade
- The cost of this matters
- Congestion, access and equity – balance
- Need to determine how tolling can benefit low income and minority communities, not simply "no harm"
- Access to jobs and housing is difficult now – need to provide opportunities
- Any tolling that happens only at the state line would disproportionately impact Washington residents
- Need a process that leads to and prioritizes balance

Review Committee Charter (Discussion)

Objective: Identify areas of support, questions and concerns, and possible additions.



Penny presented the draft charter to the PAC. The draft charter was provided in the PAC materials packet uploaded to the project website. (<http://www.oregon.gov/ODOT/Get-Involved/Pages/Value-Pricing-Committee.aspx>).

The charter is intended to be a tool that describes how the PAC will work together and the goals the PAC is working toward. Penny and the PAC will refer to the charter to ensure meetings are productive. The scope of the committee is narrow; the facilitator is tasked to keep the conversation on point.

The PAC members offered questions and comment by section of the charter. Communication received in advance from PAC member Mayor Elect Anne McEnergy Ogle (sent in comments in her absence) was shared with the PAC.

Below is a summary of the discussion.

Committee Composition

- The PAC agreed to have the project team provide a roster to the PAC members with PAC member contact information.

Committee Responsibilities

- The bullet regarding financing bottleneck relief projects seems to limit investments to new freeway lanes. That's too limited. Revenue could be used for other investments.
 - Response: The charter can be revised to clarify the intent of the OTC as it relates to this objective.
- Can PAC meeting(s) be held in SW Washington? Will there be public outreach in SW Washington?
 - Response: All PAC meetings will be at ODOT Region 1 office, which is centrally located. There will be public engagement activities in SW Washington.
- Regarding the list of factors on page 3, equity should be expanded to include geographic equity.
- The listed factors for consideration include state law and policy. There should also be consideration of local plans.
- Ten minutes for public comment at the end of the meeting does not seem to be enough time for PAC to hear public comment.

Process and Protocols

- PAC is advisory – change title of “committee decision-making process” because it is misleading; the group is advising, not making decisions.
- Ex officio member should be allowed to contribute to the development of minority or majority statements but not actively vote

- Can you give an overview of who is making and directing the decisions? It needs to be clear in all materials and online platforms.
 - Response: OTC is directed to make the recommendation. ODOT is to implement.
- The discussion the PAC has may lead to other recommendations outside of the three questions we are charged to address.
 - Response: The purpose of the charter is to make clear the scope for the PAC. PAC members may have other interests but the priority for the PAC will be to develop a recommendation on the specific questions in the charter.

Meeting Protocols

- There is only one ex officio member – FHWA. The charter currently lists plural ex officio members.

Next Steps & Timeline

Before PAC meeting #2 (December 7, 2017), the charter will be revised to respond to comments heard from the PAC during meeting 1. The revised charter will be included in the PAC meeting #2 materials packet.

The PAC will be asked to approve the charter at PAC meeting #2.

Portland Region Conditions and Trends (Information)

Objective: Learn about and understand context and conditions of the analysis area

Mandy Putney, ODOT Region 1 Major Projects Manager, provided a presentation of traffic conditions and trends experienced in the Portland area. Much of the traffic data and trends presented were sourced from the **Portland Region 2016 Traffic Performance Report** (June 1, 2017), available for download here:

http://www.oregon.gov/ODOT/Regions/Documents/Region1/2016_TPR_FinalReport.pdf

Below is a summary of questions, comments, concerns and/or responses raised after the presentation.

- This isn't a Portland-area problem. This presentation focused on regional trends, however there is statewide concern about this topic. It is a statewide problem. Why are we looking at regional demographics when it's a state of Washington issue, California issue, eastern Oregon issue? Legislative intent wasn't to solve issues for commuters in Portland. Need understanding by OTC of legislative intent.
- Yes. Portland congestion is an issue for everyone. US 97 is used more and more frequently by freight, even though it is a longer route, to bypass Portland. Portland congestion is not just a municipal issue. Viability of economy in the region and state is contingent on this.
- Has ODOT collected more specific data about who is using these facilities?



- Response: We have broad origin-destination data and can look at demographic conditions from these OD pairs. We won't be able to do a detailed OD study at this stage, but there would be opportunity for more detailed demographic investigation at the environmental analysis phase.
- The data is critical to make the best policy decision.
- Nationally, about 72% of freight moves via trucks. In Oregon it's higher, at about 76%. Further, in Oregon, about 80% of the value of goods is moved by truck. Truck freight is a huge piece of Oregon's economy and the last mile is critical. The congestion in Portland is impacted significantly since most commodities need to get on a truck to reach their destination.
- Appreciate inclusion of demographic information. TriMet study that shows decline of ridership along with Portland Housing Bureau information provides a good picture of who is impacted; transit is not always a choice. Will there be a Title VI analysis completed?
 - Response: Title IV and EJ will be considered and shared with the PAC to inform their recommendation to the OTC.
- Why are we not looking at east-west corridors?
 - Response from OTC Co-chairs: The legislation directs the OTC to make a recommendation for value pricing on only I-5 and I-205. We may look at other corridors in the future as part of a subsequent study. Further, this process will inform our approach to other corridors if it is determined that value pricing is a feasible tool for consideration.

Value Pricing Overview (Information)

Objective: Learn about and understand value pricing

Trey Baker, WSP, Committee Chair of the Transportation Research Board's Standing Committee on Congestion Pricing, provided an overview of value pricing as it has been deployed throughout the United States.

Below is a summary of questions, comments, concerns and/or responses raised after the presentation.

- The PAC needs to understand the safety impacts and improvements of congestion pricing.
- What type of value pricing tool has had the best effect to mitigate congestion for all drivers?
 - Response: It depends. Converted HOT lanes perform very well. The purpose is to try to get as many people through that lane with HOV incentive. More recent express lane options provide an opportunity to bypass traffic.
- The demand for the trip won't go away, so they will be diverted to other facilities, correct?

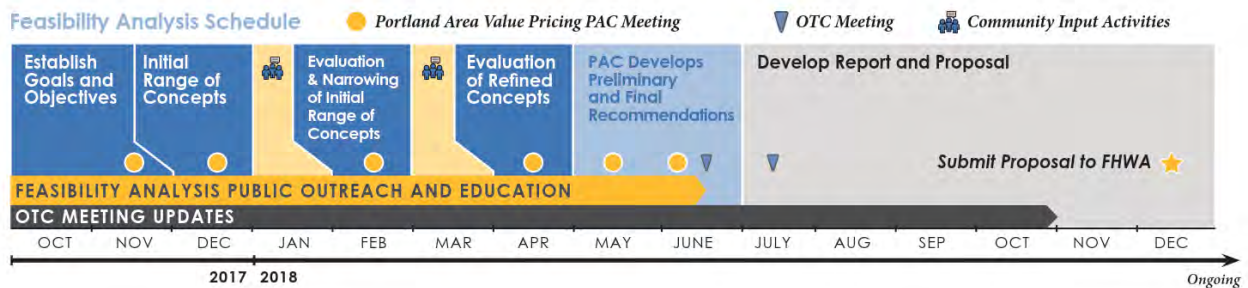
- Response: Some trips may choose to use an alternative mode of transportation or may choose to travel at a different time of day. Diversion to local arterials will be evaluated as part of the feasibility analysis.
- We'll need to consider if different congestion pricing options address diversion impacts differently.

Feasibility Analysis Timeline, Scope and Policy Considerations (Information and Discussion)

Objective: Understand feasibility analysis process and provide initial feedback on performance measures for the analysis

The consultant project manager, Kirsten Pennington, WSP, provided an overview of the feasibility analysis timeline, scope and policy considerations.

The PAC will meet six times over the next eight months. Over the course of the meetings, the PAC will be making recommendations about the concepts to be evaluated and refined to ultimately make their recommendation to the OTC by June of 2018. There will be public outreach and engagement throughout the feasibility analysis to reach out to specific communities and I-5/I-205 users. There will be focused engagement activities at major milestones during the feasibility analysis.



The purpose of the evaluation framework is to shape the development of value pricing concepts and assess the extent to which different concepts achieve different policy considerations, which represent community values. This will allow for consideration of pros and cons of different concepts when compared to each other.

Draft Tech Memo 1 included potential performance measures to assist the PAC evaluation of the policy considerations listed in the Charter. Below is a summary of PAC questions, comments, concerns and/or responses.

- Safety should have a higher presence in the factors or the measures.
- Population and employment growth isn't represented – need to understand how we'll accommodate it in the future.



- Value pricing is addressing congestion in a wide range of ways: managing demand and generating revenue to help fund bottleneck infrastructure – companion strategies to address congestion and capacity.
- The potential for racial profiling needs to be considered.
- Refine measure from just GHG to diesel and non-diesel emissions. Particulates and toxins are important as well.

Staff will review the comments and input with the project technical team and adjust the performance measures as possible. New or revised evaluation measures will be included in the revised Technical Memorandum #1: Objectives and Performance Measures and shared with the PAC at PAC meeting #2.

Public Comment

Meeting observers are welcome to provide comment to members of the PAC. Comments or questions will not be responded to by PAC members. Individual comment time limits will be determined by number of people desiring to make comment.

The following is a summary of comments received during the public comment period.

- Participation: Need to be clear about how to participate in the tolling system
- Can we bring in tablets to look at PAC materials?
- The Portland Comprehensive Plan looks to 2035 where single occupancy vehicles are < 30% of all trips. We need to consider how other transportation providers (public transit, city infrastructure) will contribute to mitigating factors of congestion and diversion.
- Encourage the PAC to consider equity: how do we treat drivers of different incomes as well as different modes.
- Performance measures: focus on people movement and goods movement, not vehicles.
- In the Seattle region, the I-405 project promised a new general purpose lane but it was implemented as a second priced lane. Where is the value – pricing is a tool to inflict enough pain to get drivers off the road. There is no place for trips to divert. Some have called this a “war on the poor.” Referencing the Columbia River Crossing, depending on the price of the tolls, 2/3 would have been paid by Washington drivers. We believe Washington drivers are already paying their fair-share – already paying \$240 million a year in Oregon income taxes. It’s been 35 years since new roadways were added to Oregon’s infrastructure.
- Encourage the PAC to consider opportunities to increase safe and convenient walking, biking and transit options so people can meet their transportation needs. We think congestion pricing holds promise of managing demand, but it is critical to address safety and convenience of other options.
- Adding infrastructure to mitigate bottlenecks will only push congestion down the corridor to the next bottleneck. Adding capacity isn’t always the answer. Transit will be very important.



- Congestion needs to be addressed. The Portland region has a problem and the alternatives to widen freeways are not available. The Regional Transportation Plan goal for 2% growth in transit is inadequate. We need at least 4%. We need a light rail route south. There are no buses on 205, yet we want to spend money to widen a bridge.

Next Steps

Penny summarized next steps. The co-chairs shared some closing remarks and thanked the PAC and others in the room for attending. Penny closed the meeting.

- Next meeting: December 7, 8:00 a.m. – 10:30 a.m., ODOT Region 1



DRAFT Committee Charter and Protocols

Preamble

Oregon House Bill 2017 from the 2017 Legislative session directs the Oregon Transportation Commission (OTC) to seek approval from the Federal Highway Administration (FHWA) by December 2018 to implement value pricing on the I-5 and I-205 corridors, from the Washington state line to their intersection in Oregon. Per the legislation, value pricing would be used to reduce traffic congestion in the Portland metropolitan region. If FHWA approves, the OTC is required to implement value pricing.

Value pricing, also known as congestion pricing or peak-period pricing, is a type of tolling in which a higher price is set for driving on a road when demand is greater, usually in the morning and evening rush hours. The goal is to reduce congestion by encouraging people to travel at less congested times or by other modes, and to provide a more reliable travel time for paying users. Value pricing can include converting a carpool lane (also known as a high occupancy vehicle or HOV lane) to a high occupancy toll (HOT) lane so non-carpoolers can choose to pay to use the lane to save time; putting a variable toll on a new highway lane; using tolls on bridges that vary by time of day; and other applications.

In order to develop a proposal to FHWA by December 2018, the Oregon Department of Transportation (ODOT) will conduct a feasibility analysis to determine where value pricing may be successfully applied on these corridors and what the impacts of each option will be. Throughout this process, ODOT will work with local government officials and stakeholders and seek public input so that the voice of all those who may be affected can be heard.

Purpose of Charter

This charter is intended to provide a clear and mutually agreeable statement of the roles and responsibilities of Policy Advisory Committee (Committee or PAC) members, ODOT staff and OTC. It also identifies the way in which the Committee will operate, including decision-making processes, meeting conduct and communication. Once agreed upon by the Committee, the charter will guide the work and conduct of the Committee in an open and transparent process.

Purpose of the Committee

The Value Pricing Policy Advisory Committee shall advise the OTC in implementing Section 120 of HB 2017 by:

- evaluating options to implement value pricing to reduce congestion on I-5 and I-205 in the Portland area based on factors provided below by the Commission
- considering public input for the various options
- determining effects and potential mitigation strategies for options



- providing input and recommendations on value pricing to the Commission to inform their proposal to ~~prior to applying to~~ the Federal Highway Administration

Committee Composition

As directed by the OTC, the Committee will be composed of approximately 20 voting members representing a variety of interests and perspectives, including:

- Oregon Transportation Commission
- Oregon Department of Transportation
- Washington State Department of Transportation
- City, county, and metropolitan planning organization officials from Oregon and Washington
- Highway users
- Advocates for equity, social justice, and environmental justice
- Public transportation
- Environmental advocacy groups
- Port of Portland
- Business community

The PAC will also include an ~~ex officio~~ members representing FHWA, ~~and Washington State Department of Transportation.~~

Should a member be deemed to no longer represent their constituents, agency or organization (through change in office, position or other circumstance) the OTC reserves the right to revisit the committee's standing membership to ensure the committee's representativeness.

As directed by the OTC, Committee members will be appointed by the ODOT Director.

The full Committee will meet about six times between fall 2017 and summer 2018. It will be facilitated by a neutral facilitator. Meeting observers are asked to silently observe the meeting. An opportunity for public comment to the Committee will be provided at each meeting. In addition, a dedicated email address enables the public to provide comment directly to the Committee.

Committee Responsibilities

Members will be responsible for representing stakeholder organizations, communicating routinely with their constituencies and providing recommendations to the Oregon Transportation Commission.

As described in Section 120 of HB 2017, value pricing is designed to relieve congestion on I-5 and I-205 in the Portland metropolitan region. The OTC intends to evaluate value pricing options that will address congestion through one or more of the following means.



- Managing congestion: Value pricing used to manage demand and encourage more efficient use of the transportation system by shifting trips to less congested times or designated lanes through pricing and/or maximizing the use of other modes to improve freeway reliability.
- Financing bottleneck relief projects: Value pricing used as a means to finance the construction of infrastructure, such as new freeway lanes or other roadway projects that will address identified bottlenecks that improve the efficient movement of goods and people.

When evaluating value pricing options, the Committee shall at a minimum consider the following factors, and others appropriate:

- Revenue and cost: To what extent the option will raise sufficient revenue to cover the cost of implementing value pricing as well as the ongoing operational expenses, including the costs of maintenance and repairs of the facility.
- Traffic operations improvements: To what extent the option will improve the traffic operations of the priced facility, including but not limited to increasing reliability and mitigating congestion.
- Diversion of traffic: To what extent the option will cause diversion to other routes and modes that will impact the performance and operations of other transportation facilities, including both roads and transit service.
- Adequacy of transit service: To what extent public transportation service is available to serve as an alternative, non-tolled mode of travel.
- Equity impacts: Whether the option will disproportionately impact environmental justice households or communities and to what extent mitigation strategies could reduce the impact.
- Impacts on the community, economy, and environment: Whether and how the option will impact the surrounding community, economy, and/or environment and the economy of the state in general.
- Public input: To what extent the public supports a particular pricing option as a way to address congestion.
- Consistency with state law and policy: Whether the option will comply with existing Oregon Transportation Commission policies, state laws and planning regulations and regional plans.
- Feasibility under federal law: Whether the option is allowable under federal tolling laws or will require a waiver under the Value Pricing Pilot Program or some other authority.
- Project delivery schedules: Whether a value pricing option has the potential to alter the expected delivery schedule for a project on the corridor.

The Committee will also serve as a communications link between the feasibility analysis and stakeholders. Members will convey project-related information to and from



respective communities and interest groups, and identify stakeholders and help facilitate contact with those groups and individuals.

Process and Protocols

The purpose of the Committee is to allow a diversity of perspectives to help shape the design of key elements of the project in the project area. While the Committee is advisory and does not have decision-making authority, the Committee will be called upon to provide insight, observations, feedback and recommendations to the OTC. All Committee feedback will be respectfully considered, in addition to technical findings and input received from the broader public. The OTC is the tolling authority in Oregon and will make the decision about what to submit to FHWA for approval.

Committee Recommendation Development Process ~~Decision-making Process~~

All members are encouraged to challenge themselves and each other to think creatively and to approach the feasibility analysis with an open mind. While it is important to identify problems, it is even more important to seek thoughtful solutions that advance the conversation.

The Committee's work will center on providing recommendations to the OTC by mid-2018. Recommendations will, at a minimum, address the following questions:

- Based on the considerations described under Committee Responsibilities, what location(s) on I-5 and/or I-205 are best suited to implement value pricing?
- For the recommended location(s), what type of value pricing should be applied?
- What mitigation strategies should be pursued based on their potential to reduce the impact of value pricing on environmental justice communities or adjacent communities?

At key milestones, votes may be taken. Majority and minority opinions may be included in the recommendation.

An ~~ex~~ officio members of the committee will not take part in any votes, but may be asked to provide their insight or expertise ~~or~~ in the development of minority or majority statements.

Meeting Protocols

- Meetings will be actively facilitated to ensure that discussions are consistent with the Committee charter and to ensure that feedback and recommendations are advanced from the group in a timely manner.
- Two Oregon Transportation Commissioners will serve as co-chairs for the Committee. In this role they will provide input to meeting agendas and act as active liaisons to the Oregon Transportation Commission.



- The facilitator will be a 'content neutral' party who ensures that all committee members have an equal opportunity to participate.
- Members agree to follow the meeting ground rules agreed to by the Committee as established with the group's facilitator, including:
 - Silence electronics.
 - Ask questions of each other to gain clarity and understanding.
 - Express yourself in terms of your preferences, interests, and outcomes you wish to achieve.
 - Listen respectfully, and try sincerely to understand the needs and interests of others.
 - Be curious and willing to learn and contribute.
 - Honor each other by being honest, authentic, and brave.
 - Respect timelines by being concise and brief with comments and questions.
 - Seek common ground.
- Members agree to give the facilitator permission to keep the group on track and table discussions as needed to keep the group moving.
- Meetings will be scheduled in advance and attendance is important given the limited number of meetings and the fast-paced schedule provided by HB 2017. Members will make their best effort to attend all meetings. Members will notify the facilitator or designated staff in advance if unable to attend and will provide written comments or vote prior to the meeting. Alternates are not allowed.
- Should members be absent for more than two consecutive meetings, the OTC reserves the right to reconsider their standing membership in the Committee, and may offer their membership to another party. An alternate member may not be nominated to participate in the meeting on behalf of a standing Committee member.
- Ex Officio members will actively participate in conversations, sharing their perspectives and expertise with the group. Ex Officio members will not participate in votes or sign onto of minority or majority statements.
- Public notification of Committee meetings will occur at least one week in advance and the agenda and meeting materials will be made available on ODOT's Value Pricing website.
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Communication

- Members will share information with their organizations and/or constituents, gather information from their constituents to help inform committee discussions and encourage their participation in the process.
- Members will not take actions or discuss issues in any way that undermines an open and transparent group process.
- Members will notify designated ODOT staff of all requests from the media. If members do speak with the media, they will clarify that they are speaking as an individual and not speak on behalf of the project or the Committee, nor characterize the points of view of other members.
- The facilitator and supporting staff will be available at and between meetings to address questions, concerns and ideas. The facilitator and staff will respond to all member inquiries in a timely manner.
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Committee Charter and Protocols

Preamble

Oregon House Bill 2017 from the 2017 Legislative session directs the Oregon Transportation Commission (OTC) to seek approval from the Federal Highway Administration (FHWA) by December 2018 to implement value pricing on the I-5 and I-205 corridors, from the Washington state line to their intersection in Oregon. Per the legislation, value pricing would be used to reduce traffic congestion in the Portland metropolitan region. If FHWA approves, the OTC is required to implement value pricing.

Value pricing, also known as congestion pricing or peak-period pricing, is a type of tolling in which a higher price is set for driving on a road when demand is greater, usually in the morning and evening rush hours. The goal is to reduce congestion by encouraging people to travel at less congested times or by other modes, and to provide a more reliable travel time for paying users. Value pricing can include converting a carpool lane (also known as a high occupancy vehicle or HOV lane) to a high occupancy toll (HOT) lane so non-carpoolers can choose to pay to use the lane to save time; putting a variable toll on a new highway lane; using tolls on bridges that vary by time of day; and other applications.

In order to develop a proposal to FHWA by December 2018, the Oregon Department of Transportation (ODOT) will conduct a feasibility analysis to determine where value pricing may be successfully applied on these corridors and what the impacts of each option will be. Throughout this process, ODOT will work with local government officials and stakeholders and seek public input so that the voice of all those who may be affected can be heard.

Purpose of Charter

This charter is intended to provide a clear and mutually agreeable statement of the roles and responsibilities of Policy Advisory Committee (Committee or PAC) members, ODOT staff and OTC. It also identifies the way in which the Committee will operate, including decision-making processes, meeting conduct and communication. Once agreed upon by the Committee, the charter will guide the work and conduct of the Committee in an open and transparent process.

Purpose of the Committee

The Value Pricing Policy Advisory Committee shall advise the OTC in implementing Section 120 of HB 2017 by:

- evaluating options to implement value pricing to reduce congestion on I-5 and I-205 in the Portland area based on factors provided below by the Commission
- considering public input for the various options



- determining effects and potential mitigation strategies for options
- providing input and recommendations on value pricing to the Commission to inform their proposal to the Federal Highway Administration

Committee Composition

As directed by the OTC, the Committee will be composed of approximately 20 voting members representing a variety of interests and perspectives, including:

- Oregon Transportation Commission
- Oregon Department of Transportation
- Washington State Department of Transportation
- City, county, and metropolitan planning organization officials from Oregon and Washington
- Highway users
- Advocates for equity, social justice, and environmental justice
- Public transportation
- Environmental advocacy groups
- Port of Portland
- Business community

The PAC will also include an ex officio member representing FHWA.

Should a member be deemed to no longer represent their constituents, agency or organization (through change in office, position or other circumstance) the OTC reserves the right to revisit the committee's standing membership to ensure the committee's representativeness.

As directed by the OTC, Committee members will be appointed by the ODOT Director.

The full Committee will meet about six times between fall 2017 and summer 2018. It will be facilitated by a neutral facilitator. Meeting observers are asked to silently observe the meeting. An opportunity for public comment to the Committee will be provided at each meeting. In addition, a dedicated email address enables the public to provide comment directly to the Committee.

Committee Responsibilities

Members will be responsible for representing stakeholder organizations, communicating routinely with their constituencies and providing recommendations to the Oregon Transportation Commission.

As described in Section 120 of HB 2017, value pricing is designed to relieve congestion on I-5 and I-205 in the Portland metropolitan region. The OTC intends to evaluate value pricing options that will address congestion through one or more of the following means.



- Managing congestion: Value pricing used to manage demand and encourage more efficient use of the transportation system by shifting trips to less congested times or designated lanes through pricing and/or maximizing the use of other modes to improve freeway reliability.
- Financing bottleneck relief projects: Value pricing used as a means to finance the construction of infrastructure, such as new freeway lanes or other roadway projects that will address identified bottlenecks that improve the efficient movement of goods and people.

When evaluating value pricing options, the Committee shall at a minimum consider the following factors, and others appropriate:

- Revenue and cost: To what extent the option will raise sufficient revenue to cover the cost of implementing value pricing as well as the ongoing operational expenses, including the costs of maintenance and repairs of the facility.
- Traffic operations improvements: To what extent the option will improve the traffic operations of the priced facility, including but not limited to increasing reliability and mitigating congestion.
- Diversion of traffic: To what extent the option will cause diversion to other routes and modes that will impact the performance and operations of other transportation facilities, including both roads and transit service.
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- Consistency with state law and policy: Whether the option will comply with existing Oregon Transportation Commission policies, state laws and planning regulations and regional plans.
- Feasibility under federal law: Whether the option is allowable under federal tolling laws or will require a waiver under the Value Pricing Pilot Program or some other authority.
- Project delivery schedules: Whether a value pricing option has the potential to alter the expected delivery schedule for a project on the corridor.

The Committee will also serve as a communications link between the feasibility analysis and stakeholders. Members will convey project-related information to and from



respective communities and interest groups, and identify stakeholders and help facilitate contact with those groups and individuals.

Process and Protocols

The purpose of the Committee is to allow a diversity of perspectives to help shape the design of key elements of the project in the project area. While the Committee is advisory and does not have decision-making authority, the Committee will be called upon to provide insight, observations, feedback and recommendations to the OTC. All Committee feedback will be respectfully considered, in addition to technical findings and input received from the broader public. The OTC is the tolling authority in Oregon and will make the decision about what to submit to FHWA for approval.

Committee Recommendation Development Process

All members are encouraged to challenge themselves and each other to think creatively and to approach the feasibility analysis with an open mind. While it is important to identify problems, it is even more important to seek thoughtful solutions that advance the conversation.

The Committee's work will center on providing recommendations to the OTC by mid-2018. Recommendations will, at a minimum, address the following questions:

- Based on the considerations described under Committee Responsibilities, what location(s) on I-5 and/or I-205 are best suited to implement value pricing?
- For the recommended location(s), what type of value pricing should be applied?
- What mitigation strategies should be pursued based on their potential to reduce the impact of value pricing on environmental justice communities or adjacent communities?

At key milestones, votes may be taken. Majority and minority opinions may be included in the recommendation.

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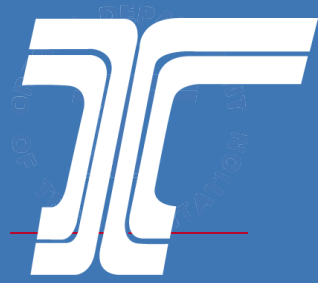
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Portland Metro Area Value Pricing Feasibility Analysis

Revised Draft

Technical Memorandum #1: Objectives and Proposed Performance Measures





Portland Metro Area Value Pricing Feasibility Analysis

Revised Technical Memorandum #1 Objectives and Proposed Performance Measures

Prepared for



Oregon Department of Transportation
123 NW Flanders Street
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November 13, 2017 November 29, 2017



Portland Metro Area Value Pricing Feasibility Analysis

Objectives and Proposed Performance Measures

1 BACKGROUND

Oregon House Bill 2017 from the 2017 Legislative session directs the Oregon Transportation Commission (OTC) to seek approval from the Federal Highway Administration (FHWA) by December 2018, to implement value pricing on the Interstate 5 (I-5) and Interstate 205 (I-205) corridors, from the state line to their intersection in Oregon. Per the legislation, value pricing would be used to reduce traffic congestion in the Portland metropolitan region. If FHWA approves, the OTC is required to implement value pricing.

The goal of the Value Pricing Feasibility Analysis is to develop a value pricing program that will reduce congestion on I-5 and I-205 and meet the Oregon legislature's schedule for submittal to FHWA by the end of 2018. Some tolling options that could be considered would be allowed under FHWA's Section 129 General Tolling or the Section 166 HOV/HOT Lanes program. These programs have no restrictions on the number of projects or states that may receive tolling authority through them. In addition, tolling agreements with FHWA are not required with these programs.

Another FHWA tolling program is the Value Pricing Pilot Program (VPPP). ODOT currently has an active slot in this program and will be applying to maintain this status. This provides the OTC with broad flexibility to implement a wide variety of congestion pricing applications beyond those allowed in the two programs mentioned above. To gain FHWA approval for pricing scenarios authorized through the VPPP, ODOT would need to demonstrate that the pricing application addresses a congestion issue and that it uses variably priced tolls.

Value pricing, also known as congestion pricing or peak-period pricing, is tolling in which a higher price is set for driving on a road when demand is greater, usually in the morning and evening rush hours. The purpose is to reduce congestion by encouraging people to travel at less congested times or to change travel mode, thereby providing more reliable travel time. The main types of value pricing tools that will be considered include:

- priced lanes, which give drivers a choice to pay to use the lane to save time or to use the "general purpose" (unpriced) lane; and
- priced roadways, a mainline concept under which all lanes would be priced.

Both types of value pricing tools could be applied to the entire facility or to discrete interstate segments, which could include bridges. Implementation of priced lanes requires a decision about whether to construct new lanes or convert general purpose lanes.

Additional variants of value pricing that would not be applicable to these two corridors include non-freeway pricing concepts, such as cordon pricing of defined areas, zonal pricing of segment screen lines, and parking pricing. Not all concepts are currently in operation; some remain theoretical. The Portland Area Value Pricing Feasibility Analysis will determine where value pricing could be successfully applied on the I-5 and I-205 corridors and what the impacts of each option would be. Throughout this feasibility analysis, ODOT will work with local government officials, community based organizations, business representatives and other stakeholders, and conduct extensive public engagement to gather community input about value pricing.

Purpose of Memorandum

The purpose of Technical Memorandum #1 is to establish a shared understanding of the project goals and the policy considerations for which the OTC specifically seeks input from the PAC. For these considerations, objectives and potential performance measures have been identified to inform future discussions and PAC input on the alternatives being considered.

This memorandum identifies objectives and potential performance measures to set the foundation for the evaluation framework. For context, here is a definition of objectives and performance measures within the context of this feasibility analysis:

- Objectives describe how project goals will be achieved; these are developed to specifically address the issues that the PAC is asked to consider in the Charter.
- Performance measures are the criteria that will provide quantitative or qualitative data to describe how and the extent to which each value pricing option addresses a specific objective; performance measures illustrate the pros and cons of differing concepts when compared with each other.

Clearly defining value pricing objectives and performance measures is essential to establishing a framework for all subsequent evaluation and analysis, and is the critical first step to evaluate the effectiveness of value pricing concepts based on community and stakeholder values.

The Portland Area Value Pricing Feasibility Analysis objectives draw largely from the OTC's charge for the PAC. The project team will review the objectives and proposed performance measures at the first PAC meeting. If there are modifications, the project team will revise and bring them back to the PAC at their second meeting for approval. If there are no changes, the PAC will be asked to approve this document at their first meeting.

2 Portland Area Value Pricing Considerations

The PAC Charter identifies the following 10 considerations for evaluating value pricing options. These considerations will serve as the basis for the evaluation framework for all examined concepts in the feasibility analysis. Other factors may also be considered during analysis.

- Traffic operations improvements: To what extent the option will improve the traffic operations of the priced facility, including but not limited to increasing reliability and mitigating congestion.
- Diversion of traffic: To what extent the option will cause diversion to other routes and modes that will impact the performance and operations of other transportation facilities, including both roads and transit service.
- Adequacy of transit service: To what extent public transportation service is available to serve as an alternative, non-tolled mode of travel.
- Equity impacts: Whether the option will disproportionately impact environmental justice households or communities and to what extent mitigation strategies could reduce the impact.
- Impacts on the community, economy, and environment: Whether and how the option will impact the surrounding community, economy, and/or environment and the economy of the state in general.
- Public input: To what extent the public supports a particular pricing option as a way to address congestion.
- Consistency with state and regional law and policy: Whether the option will comply with existing Oregon Transportation Commission policies, state laws, and regional planning regulations.
- Feasibility under federal law: Whether the option is allowable under federal tolling laws or will require a waiver under the Value Pricing Pilot Program or some other authority.

- Project delivery schedules: Whether a value pricing option has the potential to alter the expected delivery schedule for a project on the corridor.
- Revenue and cost: To what extent the option will raise sufficient revenue to cover the cost of implementing value pricing as well as the ongoing operational expenses, including the costs of maintenance and repairs of the facility.

3 VALUE PRICING OBJECTIVES AND PROPOSED PERFORMANCE MEASURES

The overall goal of the feasibility analysis is to develop a value pricing program that will manage traffic on I-5 and I-205 and will meet the Oregon legislature's schedule for submittal to FHWA by the end of 2018.

As stated in the OTC's charge for the Portland Area Value Pricing Policy Advisory Committee (PAC),¹ the Commission intends to evaluate value pricing options that will address congestion through one or more of the following means:

- Managing congestion: Value pricing used to manage demand and encourage more efficient use of the transportation system by shifting trips to less congested times or designated lanes through pricing and/or maximizing the use of other modes to improve freeway reliability.
- Financing bottleneck relief projects: Value pricing used as a means to finance the construction of infrastructure, such as new freeway lanes, that will address identified bottlenecks that improve the efficient movement of goods and people.

The REVISED DRAFT objectives and proposed performance measures listed in Table 3-1~~Table 3-1~~ address the considerations listed in the PAC Charter. The evaluation of value pricing concepts against the performance measures identified in the table will take place in two rounds. The first evaluation will be presented to the PAC at their third meeting and the second evaluation will be presented at their fourth meeting.

¹ ODOT. Portland Region Value Pricing. Portland Region Value Pricing Policy Advisory Committee. http://www.oregon.gov/ODOT/Documents/Value_Pricing_PAC_charge.pdf. Accessed October 14, 2017.

Table 3-1. REVISED DRAFT Value Pricing Objectives and Potential Performance Measures²

Factors for Consideration	Objectives	Performance Measures	First-Round Evaluation	Second-Round Evaluation
Traffic operations improvement on I-5 and I-205	<ul style="list-style-type: none"> Manage travel demand and traffic congestion for all users Evaluate travel time and improve travel time reliability for passenger vehicles; <u>and</u> public transportation; <u>and</u> <u>Evaluate travel time and improve travel time reliability for freight modes</u> Reduce delay at key bottlenecks to optimize efficiency <u>Consider value pricing's ability to contribute to safer travel conditions</u> Consider additional congestion mitigation measures 	<ul style="list-style-type: none"> Vehicle and person throughput on I-5 and I-205 <u>during the</u> peak hour <u>and change in peak hour</u> 	x (vehicles)	x (persons)
		<ul style="list-style-type: none"> Travel time on I-5 and I-205 (between major freeways); <u>during the</u> peak hour <u>and change in peak hour</u> 	x	
		<ul style="list-style-type: none"> Assessment of change in duration of peak vehicle traffic conditions 		x <u>(qualitative)</u>
		<ul style="list-style-type: none"> Annual vehicle hours of delay (VHD) <u>and change in annual VHD</u> for priced facility 		x
		<ul style="list-style-type: none"> <u>Safety impacts</u> 		x <u>(qualitative)</u>
		<ul style="list-style-type: none"> <u>Trip length distribution</u> 		x
		<ul style="list-style-type: none"> Evaluate traffic diversion onto other routes, modes, or time periods and the implications to overall system operations Include evaluation of traffic diversion through neighborhoods, business districts, and along key pedestrian and bicycle routes near priced facilities 	<ul style="list-style-type: none"> Level of diverted trips (%) onto adjacent facilities <u>Trip length distribution</u> 	x <u>(qualitative)</u>
Transit service	<ul style="list-style-type: none"> Evaluate benefits to transit service resulting from overall traffic operations improvements Evaluate transit service availability and user costs as a potential mode alternative to priced roadways 	<ul style="list-style-type: none"> Transit travel time <u>and change in transit travel time</u> 		x
		<ul style="list-style-type: none"> Mode share shift <u>compared to the no-build scenario</u> (HOV, SOV, light rail and bus) 	x <u>(qualitative)</u>	x

² All performance measures will be evaluated in future year 2027. Much of the performance measures evaluation will provide information as a comparison to the 2027 baseline concept. To the extent possible, information will be presented geographically.

Factors for Consideration	Objectives	Performance Measures	First-Round Evaluation	Second-Round Evaluation
Equity impacts	<ul style="list-style-type: none"> Evaluate the benefits and burdens to communities identified by federal Environmental Justice and Title VI regulations Include travel costs, travel time, and options between employment centers and residential neighborhoods 	<ul style="list-style-type: none"> Number of trips (and change in number of trips) taken by Environmental Justice/Title VI protected populations 		X
		<ul style="list-style-type: none"> Changes in travel times and costs from key origin/destination pairs 	X	
		<ul style="list-style-type: none"> Access to jobs 		X
Impacts on the community, economy, and environment	<ul style="list-style-type: none"> Evaluate impacts to freight movement and access to industrial areas and job centers <u>Evaluate physical impacts to existing development</u> Evaluate changes in social, time, monetary, and physical costs of travel, including: <ul style="list-style-type: none"> Economic attractiveness of the Portland area GHG <u>and particulate</u> emissions 	<ul style="list-style-type: none"> <u>Physical impacts to existing residences and businesses</u> 	X <u>(qualitative)</u>	X <u>(qualitative)</u>
		<ul style="list-style-type: none"> Regional impact to state highways outside of Metro area 	X	
		<ul style="list-style-type: none"> Regional travel time and change in travel time 		X
		<ul style="list-style-type: none"> Regional travel time savings <u>(VHT – vehicle hours of travel) and change in travel time savings</u> 		X
		<ul style="list-style-type: none"> Diversion impacts on non-tolled facilities 		X
		<ul style="list-style-type: none"> Regional vehicle miles traveled (VMT) per capita and change in VMT per capita (including non-freeway) 		X
		<ul style="list-style-type: none"> Change in vehicle emissions 		X <u>(qualitative)</u>
		<ul style="list-style-type: none"> Value of travel time savings 		X
Public input	<ul style="list-style-type: none"> Determine public understanding of value pricing as one of the tools to address vehicle traffic congestion 	<ul style="list-style-type: none"> Public opinion research is conducted and results are shared with the PAC and made publicly available 	X	
		<ul style="list-style-type: none"> Opportunities are provided for public input; the project team identifies how public input is incorporated into the project 		X



Factors for Consideration	Objectives	Performance Measures	First-Round Evaluation	Second-Round Evaluation
Consistency with state <u>and regional</u> law and policy	<ul style="list-style-type: none"> Identify and confirm compliance with existing OTC policies, state laws, and <u>regional</u> planning regulations for consideration by the PAC 	<ul style="list-style-type: none"> N/A 		
Feasibility under federal law	<ul style="list-style-type: none"> Verify option is allowable under federal tolling laws or if it will require a waiver under the Value Pricing Pilot Program or some other authority Seek input from FHWA for specific alternatives being considered 	<ul style="list-style-type: none"> N/A 		
Project delivery schedules	<ul style="list-style-type: none"> Confirm whether a project option has the potential to alter the expected delivery schedule for another project on the corridor 	<ul style="list-style-type: none"> N/A 		
Revenue and cost	<ul style="list-style-type: none"> Evaluate expected costs and revenue and the sufficiency to cover the cost of implementing value pricing and ongoing operational expenses 	<ul style="list-style-type: none"> Estimated revenue from tolled facility 		x
		<ul style="list-style-type: none"> Capital expenditure on facility (order of magnitude) 	x (<u>order of magnitude</u>)	x (<u>order of magnitude</u>)
		<ul style="list-style-type: none"> Estimated operational and maintenance costs (order of magnitude) 		x (<u>order of magnitude</u>)



Portland Metro Area Value Pricing Feasibility Analysis

DRAFT Initial Value Pricing Concepts

SUBJECT: Summary of Initial Value Pricing Concepts for Preliminary Analysis

DATE: December 6, 2017

FROM: WSP Project Team

The purpose of this brief memorandum is to provide a description of value pricing concepts along the I-5 and I-205 corridors in the Portland metro area that will be advanced for analysis to learn more information, including evaluation of traffic, constructability, and other factors. **These concepts do not represent proposals or recommendations – they are for testing and learning about potential effects of value pricing applications.**

The initial concepts are consistent with legislative direction and are “bookend” concepts. They are intended to demonstrate the full spectrum of benefits and impacts and serve as a launching point for technical analysis and public discussion. Though one of these concepts could end up as all or part of the Policy Advisory Committee (PAC) recommendation or in the Oregon Transportation Commission (OTC) report to the Federal Highway Administration (FHWA), project staff expects to refine the concepts (looking at segments, etc.) after reviewing the preliminary analysis with the PAC and the public.

1. BASELINE (YEAR 2027)

The baseline concept does not implement a pricing or tolling system on either I-5 or I-205. The baseline conditions reflect growth forecasts and projects identified in the Portland Metro's Regional Transportation Plan (RTP). The projects include those identified in the financially constrained project list through year 2027 for consistency with the regional plan.¹ The list includes over 700 regional multimodal transportation investments that were submitted by transportation agencies in the region and have been approved by Metro Council. It is a representative concept to present the effects of not tolling I-5 and I-205 and will be used for comparative purposes.

2. PRICED ROADWAY

This concept converts all general purpose lanes to congestion-priced lanes, usable by the payment of a variably priced fee (which changes to prevent congestion within the priced lanes). This strategy does not affect the overall corridor footprint, but some technology installations would be required to properly assess and collect toll payments.

¹ Oregon Metro. 2018 Regional Transportation Plan. <https://www.oregonmetro.gov/public-projects/2018-regional-transportation-plan/call-projects>



Potential benefits

- Reduces congestion for all travelers on the roadway
- Highest potential improvement in travel time reliability and efficiency for all users
- Higher person and vehicular throughput during peak periods
- Minimizes construction requirements

Potential implementation issues

- Public acceptance can be a challenge when converting un-tolled to priced freeways
- Requires federal (USDOT) concurrence to convert existing lanes
- Still constrained by geometric and other bottlenecks which reduce overall pricing effectiveness
- May create incentive for diversion to unpriced corridors

Relevant examples of priced roadways

- Many toll road facilities throughout the U.S. price all lanes; most are legacy toll roads in the Northeast, California, and/or Texas
- SR-520 in Seattle converted a previously toll-free freeway to a variably-priced roadway to reduce congestion and generate funds to construct a new bridge across Lake Washington



SR-520 in Seattle: Conversion of previous general purpose roadway to full-time priced roadway to fund newly constructed bridge and related infrastructure

3. PRICED LANE

The priced lane concept involves dedicating lanes for use by any combination of passenger vehicles (single or high occupancy), buses, trucks, or any other vehicle meeting eligibility requirements and willing to pay the prevailing fee. Priced lanes are adjacent to general purpose lanes, and offer a choice to travelers for either 1) paying a fee and using the priced lane for better travel times, or, 2) to avoid payment by using the general purpose lanes or another route.

Priced lanes may be created through reallocation of existing lanes or shoulders in either full- or part-time applications or through highway widening or restriping. Access control is often accomplished by physically separating a priced lane from other facilities via barrier, such as concrete barriers or plastic delineators, or using painted buffers to signal separation from other adjacent lanes.



Priced lanes: convert one existing general purpose lane

This priced lane concept describes where the existing leftmost general purpose lane (closest to the median barrier) is converted to a priced lane. Providing a recommended buffer often requires restriping and accommodation within existing shoulders. This concept does not provide any new capacity.

Potential benefits

- Highest potential improvement in travel time reliability and efficiency for express lane users
- Higher person and vehicular throughput during peak periods

Potential implementation issues

- Loss of vehicle carrying capacity may worsen the onset of peak conditions
- Public acceptance can be a challenge with conversion of existing lanes
- Only permissible with USDOT concurrence, like pricing all lanes
- Not feasible in segments with only 2 lanes of travel in each direction
- Oregon restrictions prohibit large trucks in the left lane

Priced lanes: construct a new priced lane

This priced lane concept describes an instance where a new priced lane is provided through construction or restriping, potentially using existing shoulder space to accommodate the new lane. The capacity is typically implemented on the leftmost side of each direction (closest to the median barrier).

Potential benefits

- Highest potential improvement in travel time reliability and efficiency for express lane users; potentially more limited improvement for general purpose lane users
- Higher person and vehicular throughput during peak periods
- New capacity can be priced under Federal law

Implementation issues

- Public acceptance of new capacity requires concurrence with long range transportation planning
- Segments with geometric constraints may require costly and impactful reconstruction efforts (may be cost prohibitive)
- Oregon restrictions prohibit large trucks in the left lane

Relevant examples of priced lanes

There are over 45 operational priced lanes in the U.S.

- Some were created from highway widening



- Some priced lanes were created using existing shoulder space (I-35W in Minneapolis, I-25 in Denver) or combination widening / shoulder (I-95 in Miami, I-10 in Los Angeles)
- Only one existing general purpose lane conversion to priced lanes (a 1 mile segment of I-35E near St. Paul, Minnesota).

4. INITIAL ANALYSIS

In addition to the concepts described above – Baseline, Priced Roadway, and two Priced Lane strategies – combination concepts will also be examined using the regional model to help inform understanding about the potential range of impacts and benefits.

These concepts do not represent proposals or recommendations – they are for testing and learning about potential effects of value pricing applications. The following concepts are depicted on Figure 1, and described as:

- Baseline: no tolls on any lanes or roadways
- Priced Roadway: toll all lanes on I-5 and I-205
- Priced Lane Convert: convert one existing general purpose lane on I-5 and I-205 to a priced lane each travel direction
- Priced Lane Construct: construct a new priced lane on I-5 and I-205 in each travel direction
- Combination: Baseline on I-5 with Priced Lane Construct on I-205
- Combination: Priced Roadway on I-5 with Baseline on I-205
- Combination: Priced Lane Convert on I-5 with Priced Roadway on I-205
- Combination: Priced Lane Convert on I-5 with Priced Lane Construct on I-205

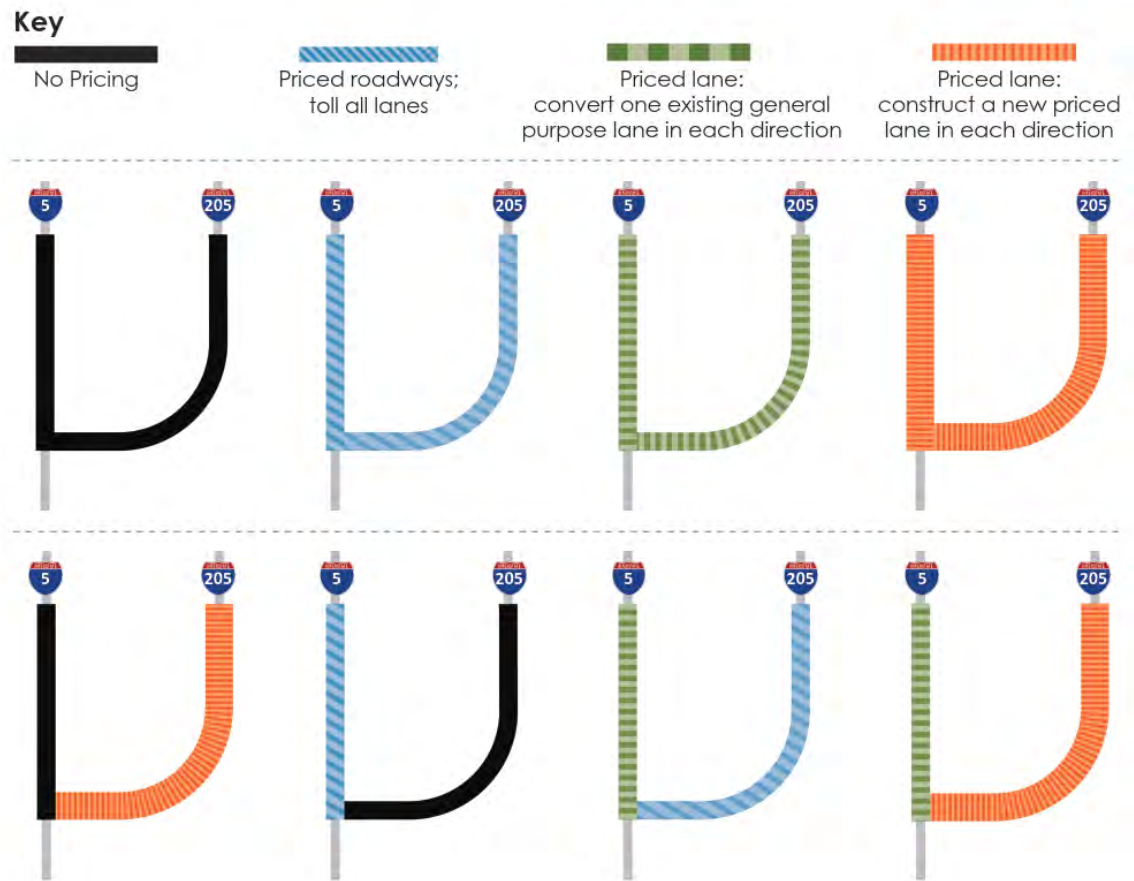
These concepts were developed to portray the broadest range of potential value pricing application in the Portland metro area to set a foundation for technical concept evaluation and conversation with the public. The concept evaluation stage will provide additional information that will help determine what pricing applications work best and where. At the next PAC meeting in February, the PAC will use findings from the evaluation and public input on these concepts to identify a set of concepts for further consideration. These future concepts may include some of the initial concepts or new combinations, but will also consider pricing treatments on specific segments of the freeways. A second round of technical evaluation and public engagement will be conducted using this refined set of concepts.

After the evaluation stage, the PAC will develop a recommendation to the OTC regarding value pricing type, location, and potential mitigation opportunities to consider further. The OTC will then develop a report for submittal to FHWA by December 2018. After the FHWA submittal, next steps will be determined with FHWA and depend on the type of value pricing concept(s) selected to move forward. After 2018 we expect that ODOT would conduct additional public outreach and environmental analysis under the National Environmental Policy Act and prepare documentation required as part of the FHWA systems engineering process for developing traffic management and toll systems. Some proposals also require approval by the U.S.



Secretary of Transportation before Oregon would have permission to deploy value pricing on I-5 and I-205. This post-feasibility analysis process could take from 1-5 years or more.

Figure 1. Initial Value Pricing Concepts for Preliminary Analysis





Portland Metro Area Value Pricing Feasibility Analysis



Policy Advisory Committee Meeting #2

December 7, 2017

Welcome and agenda

8:00	Welcome!
8:10	Comments from PAC Co-chairs
8:15	Public comment
8:35	Charter review and finalization
8:50	Public engagement process
9:05	Concept evaluation and performance measures
9:40	Initial concepts for evaluation
10:20	Next steps
10:30	Adjourn



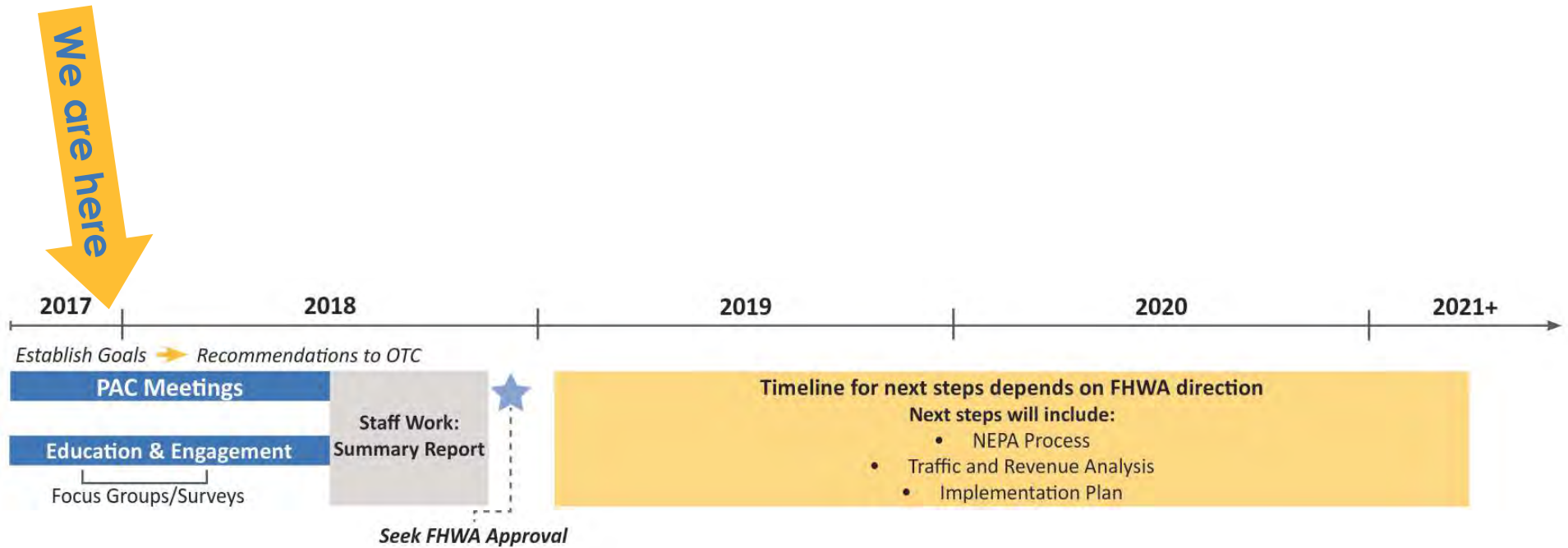
Public comment



Charter review and finalization



Value pricing timeline



Public engagement process



Goal: transparent and inclusive process

- **Goal:** ODOT will work with a wide diversity of stakeholders to seek and consider feedback on concepts so that the **benefits and impacts** from value pricing can be well understood, with **ample opportunity for input**. At the end of the process, stakeholders can say the process was **open, transparent and inclusive**.



Variety of tactics to reach diverse audiences

SHARE INFO & GATHER INPUT

- Informational materials to support education
- Web, social media
- Online open house and survey
- Project email and comment forms

TWO-WAY DIALOG

- PAC
- Stakeholder interviews
- Community meetings and briefings
- Discussion groups
- Open houses
- Listening sessions



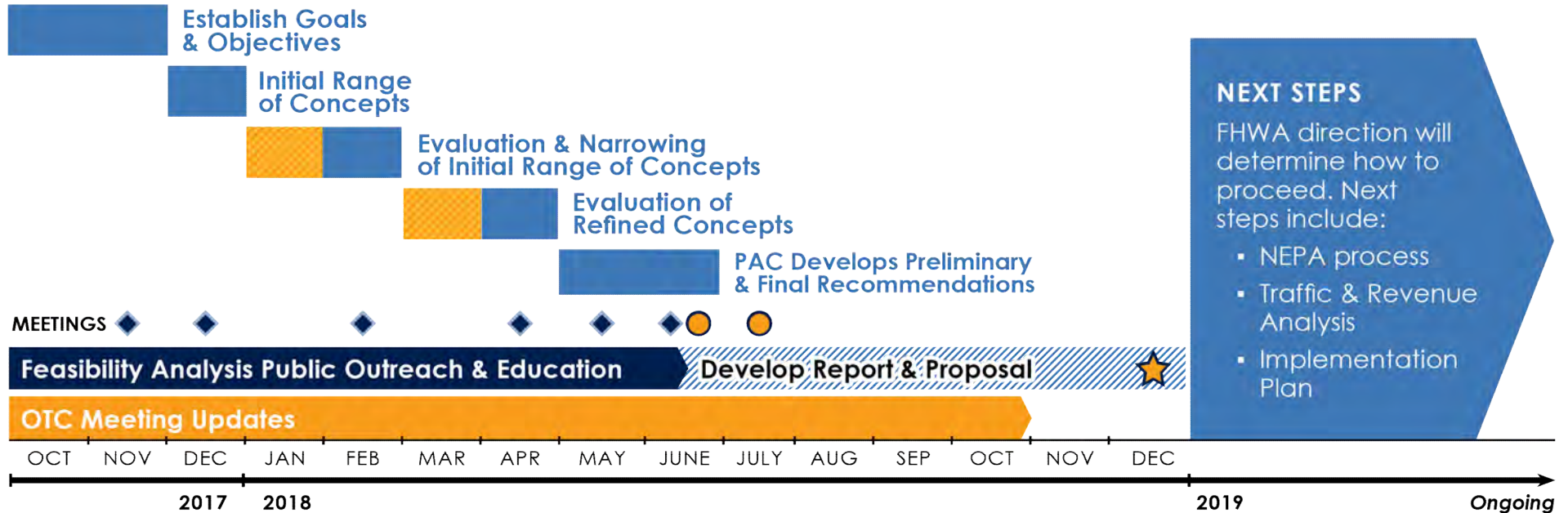
Intentional focus on Title VI and Environmental Justice populations

Communities of Concern	Primary Methods				
	Stakeholder Interviews	Community Briefings	Discussion Groups	Open Houses & Listening Sessions	Online Engagement
Low income	X	X	X		X
Communities of color	X	X	X	X	X
Immigrants and refugees	X	X	X		
People with disabilities	X	X		X	X



Schedule

◆ Portland Metro Area Value Pricing PAC Meeting ● OTC Meeting ■ Community Input Events ★ Submit Proposal to FHWA



Foundation		Evaluation			Recommendation
OCT-NOV	DEC-JAN	JAN-FEB	MAR-APR	MAY-JUN	
<ul style="list-style-type: none"> • Research • Planning 	<ul style="list-style-type: none"> • Briefings • Discussion groups 	<ul style="list-style-type: none"> • Open houses • Online survey • Outreach report 	<ul style="list-style-type: none"> • Briefings • Discussion groups • Open houses • Listening sessions • Online survey • Outreach report 	<ul style="list-style-type: none"> • Briefings, • Final outreach report to OTC 	

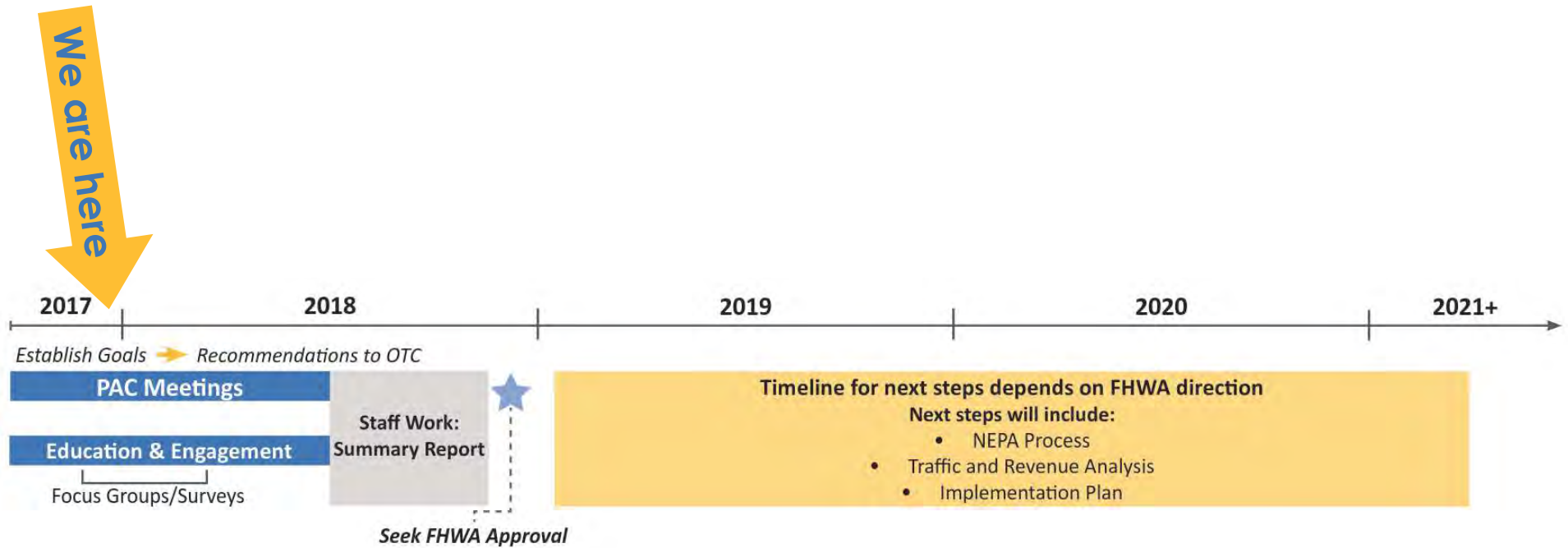


THROUGHOUT: Verbal and written comment at PAC meetings and by email at any time

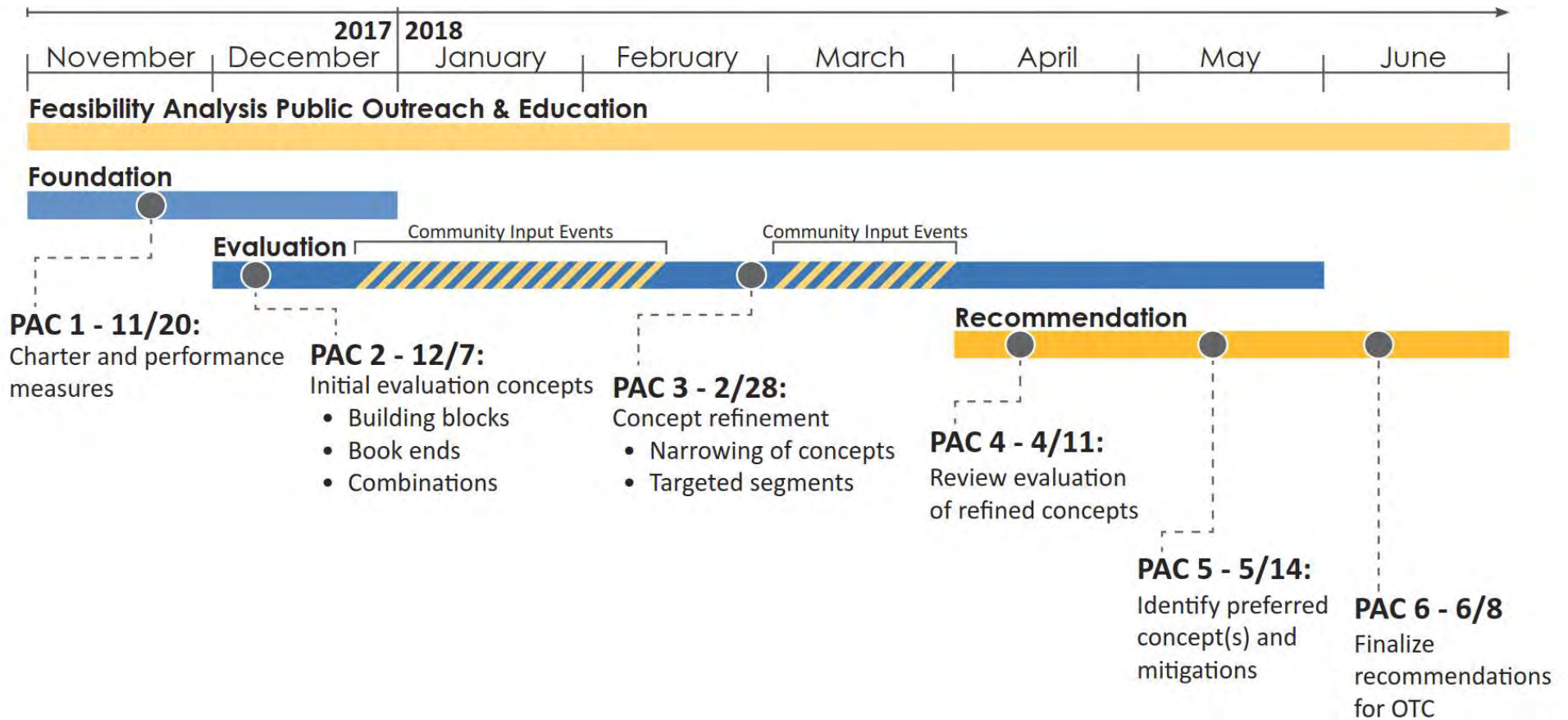
Concept evaluation and performance measures



Value pricing timeline



PAC process: getting to a recommendation



Purpose of objectives and performance measures

Represent community and stakeholder values

Guide concept development

Compare and contrast pros and cons of different concepts

A tool to guide analysis and compare concepts



PAC Comments

PAC Comments	Proposed Response
Safety should have a higher profile in the measures	Added a qualitative measure
Need to understand how we'll accommodate population and employment in the future	Forecast modeling year is 2027
The potential for racial profiling during implementation needs to be considered	PAC can advise on mitigations as part of the recommendation
Consider diesel and non-diesel emissions; particulates and toxins are important as well	Revised vehicle emissions measure to include particulates
Consider geographic impacts	Performance measures will be provided and/or displayed sub-regionally, where possible

Potential performance measures

Consideration	Performance Measure	Evaluation Round	
		1	2
Traffic operations improvement on I-5 and I-205	<ul style="list-style-type: none"> Vehicle and person throughput on I-5 and I-205 during the peak hour 	x	x
	<ul style="list-style-type: none"> Travel time on I-5 and I-205 (between major freeways) during the peak hour 	x	
	<ul style="list-style-type: none"> Assessment of change in duration of peak vehicle traffic conditions 		x
	<ul style="list-style-type: none"> Annual vehicle hours of delay (VHD) for priced facility 		x
	<ul style="list-style-type: none"> Safety impacts 		x
	<ul style="list-style-type: none"> Trip length distribution 		x
Diversion of traffic	<ul style="list-style-type: none"> Level of diverted trips onto adjacent facilities 	x	
	<ul style="list-style-type: none"> Mode share (HOV, SOV, light rail, and bus), used for multiple objectives 	x	
Transit service	<ul style="list-style-type: none"> Transit travel time 		x
	<ul style="list-style-type: none"> Mode share shift (HOV, SOV, light rail and bus) 		x

Potential performance measures

Consideration	Performance Measure	Evaluation Round	
		1	2
Equity impacts	<ul style="list-style-type: none"> Number of trips taken by Environmental Justice/Title VI protected populations 		X
	<ul style="list-style-type: none"> Changes in travel times and costs from key origin/destination pairs 	X	
	<ul style="list-style-type: none"> Access to jobs 		X
Impacts on the community, economy, and environment	<ul style="list-style-type: none"> Physical impacts to existing residences and businesses 	X	X
	<ul style="list-style-type: none"> Regional impact to state highways outside of Metro area 	X	
	<ul style="list-style-type: none"> Regional travel time and change in travel time 		X
	<ul style="list-style-type: none"> Regional travel time savings (VHT – vehicle hours of travel) 		X
	<ul style="list-style-type: none"> Diversion impacts on non-tolled facilities 		X
	<ul style="list-style-type: none"> Regional vehicle miles traveled (VMT) per capita (including non-freeway) 		X
	<ul style="list-style-type: none"> Change in vehicle emissions 		X
	<ul style="list-style-type: none"> Value of travel time savings 		X

Potential performance measures

Consideration	Performance Measure	Evaluation Round	
		1	2
Public input	<ul style="list-style-type: none"> Public opinion research is conducted and results are shared with the PAC and made publicly available 	x	
	<ul style="list-style-type: none"> Opportunities are provided for public input; the project team identifies how public input is incorporated into the project 		x
Revenue and cost	<ul style="list-style-type: none"> Estimated revenue from tolled facility 		x
	<ul style="list-style-type: none"> Capital expenditure on facility (order of magnitude) 	x	x
	<ul style="list-style-type: none"> Estimated operational and maintenance costs (order of magnitude) 	x	



Concept evaluation approach

Building blocks: 3 pricing treatments

Priced roadway:
toll all lanes

Priced lane:
convert one existing general purpose lane each travel direction

Priced lane:
construct a new priced lane each travel direction



Concept evaluation approach

- **PAC 2: initial concepts to increase understanding**
 - **Bookends:** Apply each building block treatment to all of I-5 and I-205
 - **Combinations:** Use combinations of bookends
 - Follow with **technical evaluation** and **public outreach**
- **PAC 3: concept refinement**
 - Narrow concepts and/or identify new combinations
 - Add targeted segments
 - Follow with **technical evaluation** and **public outreach**



Initial concepts for evaluation



Building blocks

Building blocks: 3 pricing treatments

Priced roadway:
toll all lanes

Priced lane:
convert one existing general purpose lane each travel direction

Priced lane:
construct a new priced lane each travel direction



Baseline



- For reference
- No tolls or pricing applied to either I-5 or I-205
- Includes growth in population and employment through 2027
- Includes all transit, bicycle, pedestrian, and roadway projects identified in the Regional Transportation Plan
 - Funded to be constructed by 2027

Building block: priced roadways

Priced roadway: toll all lanes



- Tolls implemented along all lanes of a roadway
- Over 50 toll road facilities throughout the U.S. that price all lanes
- SR-520 in Seattle converted a previously existing freeway

Building block: priced roadways

Potential benefits

- Improvement in travel time reliability and efficiency for all users
- Higher person and vehicular throughput during peak periods
- Minimizes construction requirements



Building block: priced roadways

Potential implementation issues

- Public acceptance for conversion
- Requires federal (USDOT) concurrence
- Geometric and other bottlenecks reduce overall effectiveness of pricing
- May have a diversion impact



Building block: priced lanes

Priced lane:
convert one existing general purpose lane each travel direction

Priced lane:
construct a new priced lane each travel direction

- “Managed” or “Express” Lanes
- Bypass congestion
- Variable pricing
 - Time of day
 - Dynamic with traffic



Building block: priced lanes

Potential benefits

- Improvement in travel time reliability and efficiency for priced lane users
- Higher person and vehicular throughput during peak periods



Building block: priced lanes

Potential implementation issues

Priced lane:

convert one existing general purpose lane each travel direction

- May worsen peak conditions in remaining general purpose lanes
- Public acceptance for conversion
- Requires USDOT concurrence
- Not feasible in segments with only 2 lanes of travel
- Oregon law prohibits use of leftmost lane by trucks

Priced lane:

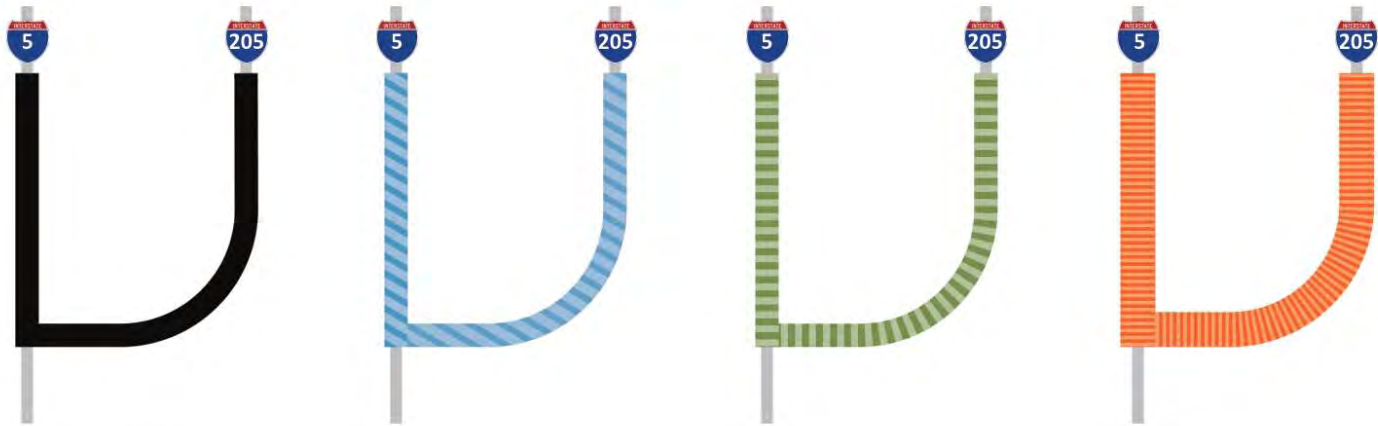
construct a new priced lane each travel direction

- Segments with geometric constraints may require costly and impactful reconstruction efforts (may be cost prohibitive)



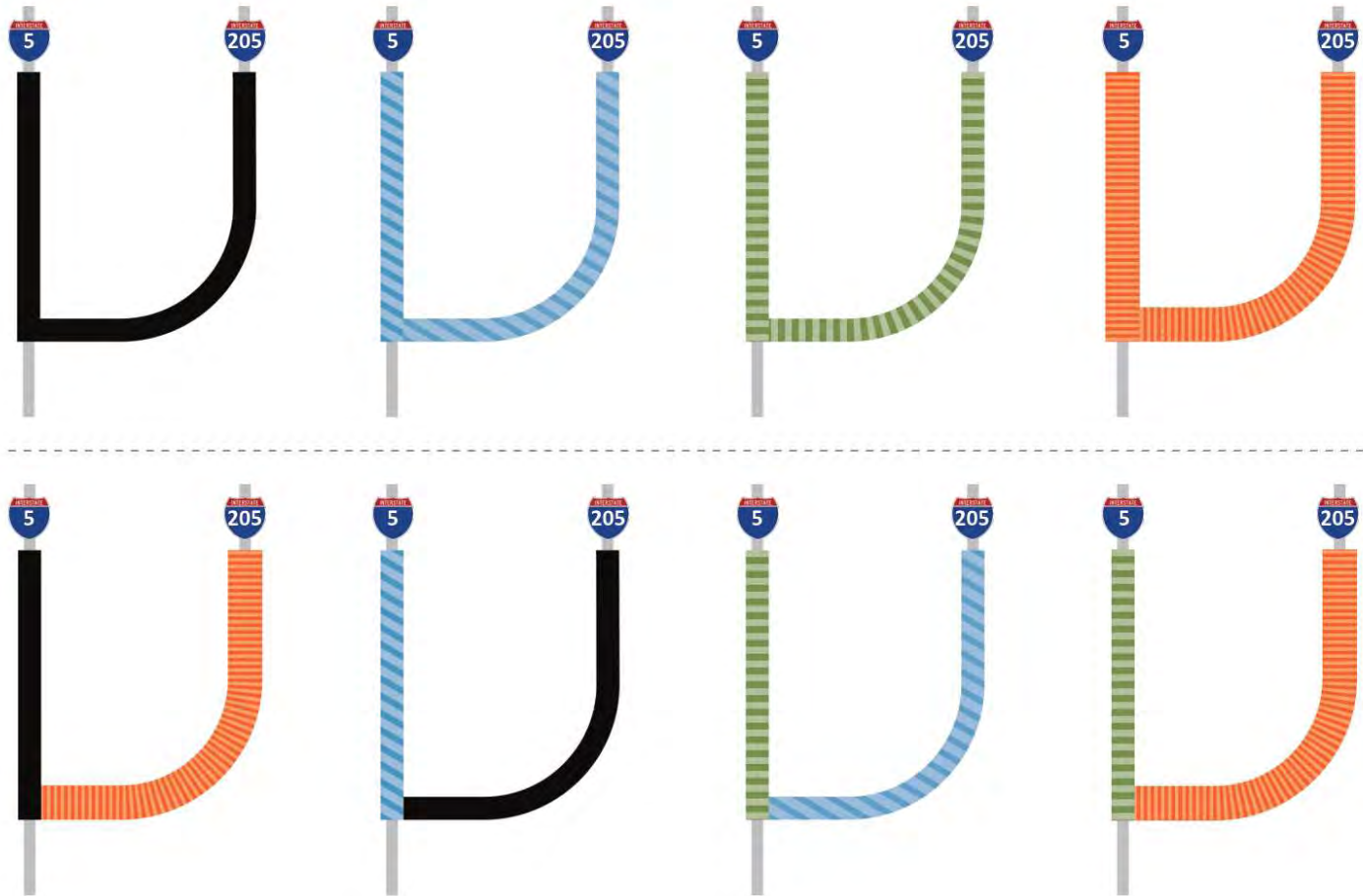
Initial concepts: bookends

- Key**
- No Pricing
 - Priced roadways; toll all lanes
 - Priced lane: convert one existing general purpose lane in each direction
 - Priced lane: construct a new priced lane in each direction



Initial concepts: adding combinations

- Key**
- No Pricing
 - Priced roadways; toll all lanes
 - Priced lane: convert one existing general purpose lane in each direction
 - Priced lane: construct a new priced lane in each direction



Questions and discussion



Next steps

PAC #3

Feb 28, 2018

2:00 – 5:00 PM



Adjourn

Thank you for attending!





Portland Metro Area Value Pricing Feasibility Analysis AGENDA

Policy Advisory Committee: Meeting 3

DATE: February 28, 2018

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 2:00 p.m. – 5:00 p.m.

MEETING OBJECTIVES

- Learn about community and constituent input to date to inform PAC deliberations and next stage of public outreach
- Review findings from analysis of initial pricing concepts
- Advance a set of congestion pricing concepts that warrant additional technical analysis and public input
- Introduce potential mitigation opportunities for future PAC consideration

AGENDA ITEMS

Time	Topic	Lead
2:00 – 2:10 <i>(10 mins)</i>	Welcome and agenda review <ul style="list-style-type: none">• PAC self-introductions• Agenda review• Project milestones review• Approve Meeting 2 Summary	Penny Mabie, Facilitator
2:10 – 2:15 <i>(5 mins)</i>	Comments from PAC Co-Chairs	Alando Simpson Sean O'Hollaren, Oregon Transportation Commission
2:15 – 2:30 <i>(15 mins)</i>	Public comment <i>Meeting observers are welcome to provide comment to members of the PAC. Comments or questions will not be responded to by PAC members. Individual comment time limits will be determined by number of people desiring to make comment.</i>	Penny Mabie, Facilitator



Agenda

Time	Topic	Lead
2:30 – 2:50 <i>(10 mins presentation 10 mins facilitated discussion)</i>	<p>Public outreach efforts: what we've heard</p> <ul style="list-style-type: none"> • Overview of public outreach effort to date • Key findings and what we've heard • Future outreach <p>PAC Action: Receive update; discussion</p> <p><i>Objective: Understand diverse range of public perspectives; help to guide effective engagement</i></p>	Anne Pressentin, Envirolssues
2:50 – 3:40 <i>(30 mins presentation 20 mins questions)</i>	<p>Initial concept evaluation</p> <ul style="list-style-type: none"> • Present key findings from initial concept evaluation • Present Round 1 evaluation findings • Discussion and input <p>PAC Action: Receive information; discussion</p> <p><i>Objective: Share concept evaluation findings</i></p>	Chris Swenson, WSP
3:40 – 4:30 <i>(20 mins presentation 30 mins facilitated discussion)</i>	<p>Recommended concepts for further evaluation and public input</p> <ul style="list-style-type: none"> • Present concept recommendations • Discussion and input <p>PAC Action: Provide recommendation on a set of congestion pricing concepts that warrant additional consideration</p> <p><i>Objective: Provide recommendation for moving forward</i></p>	David Ungemah Chris Swenson, WSP
4:30 – 4:50 <i>(10 mins presentation 10 mins questions)</i>	<p>Introduce potential mitigation strategies</p> <ul style="list-style-type: none"> • Definition of mitigation • Types and examples: equity, traffic diversion <p>PAC Action: Receive information; discussion</p> <p><i>Objective: Begin to develop an understanding of the types of mitigation strategies that could be considered</i></p>	David Ungemah, WSP
4:50 – 5:00 <i>(10 mins)</i>	<p>Next steps</p> <ul style="list-style-type: none"> • Next PAC meeting – April 11, 2018 • Note changes to June PAC meeting date • Action items 	Penny Mabie, Facilitator
5:00	Adjourn	

PAC Meeting #4: April 11, Wednesday, 1:30 – 4:30 p.m.

PAC Meeting #5: May 14, Monday, 9:00 a.m. – noon

PAC Meeting #6: June 25, Monday, 9:00 a.m. - noon



Meeting Summary: Policy Advisory Committee Meeting 2

DATE: December 7, 2017

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 8:30 a.m. – 11:00 a.m.

MEETING OBJECTIVES

- Finalize the PAC charter
- Finalize performance measures to be used for evaluation of value pricing concepts
- Agree on initial concepts for evaluation

ATTENDANCE

Twenty PAC members attended the meeting:

Tony DeFalco, Verde; Craig Dirksen, Metro; Phil Ditzler, Federal Highway Administration; Marie Dodds, AAA Oregon Idaho; Brendan Finn, City of Portland; Chris Hagerbaumer, Oregon Environmental Council; Marion Haynes, Portland Business Alliance; Jana Jarvis, Oregon Trucking Associations; Gerik Kransky, The Street Trust; Anne McEnerney-Ogle, City of Vancouver; Sean O'Hollaren (co-chair), Oregon Transportation Commission; Eileen Quiring, Clark County; Curtis Robinhold, Port of Portland; Paul Savas, Clackamas County; Alando Simpson (co-chair), Oregon Transportation Commission; Kris Strickler, Washington Department of Transportation; Pam Treece, Westside Economic Alliance; Jessica Vega Pederson, Multnomah County; Rian Windsheimer, Oregon Department of Transportation; Park Woodworth, Ride Connection

AGENDA ITEMS AND SUMMARY

Time	Topic
8:00 – 8:10 AM	Welcome and agenda review

Facilitator Penny Mabie led introductions around the table. She reviewed the meeting agenda and asked PAC members if they approved the Meeting #1 summary.

PAC Action: Meeting #1 summary was approved without change.



Time	Topic
8:10 – 8:15 AM	Comments from PAC co-chairs

Alando Simpson and Sean O'Hollaren (Oregon Transportation Commissioners and PAC co-chairs) welcomed PAC members to the second of six meetings scheduled through June 2018. Key points made by the co-chairs included:

- It's an honor to be part of this process and it's exciting to be engaged in a conversation about options related to congestion issues in the Portland metro region
- This is a process that welcomes the public to the table
- Congestion pricing can't be done in isolation. A key question: is value pricing feasible?
- It's important that we look at the entirety of the system, including transit, cycling and other modes of transportation, and getting as much information as we can to make a decision
- The Oregon Transportation Commission (OTC) will make the decision on a tolling plan. The PAC process and project outreach will inform the OTC's decision

Time	Topic
8:15 – 8:35 AM	Public comment

Penny welcomed meeting observers who wanted to provide comment to PAC members. Individual comment time limits were determined by the number of people signed up to make a comment.

The following is a summary of comments heard during the public comment period:

- The process needs to answer the question: what is the value for the average citizen? House Bill 2017 does not call for adding capacity except on Interstate 205. So how many cars need to be removed from the roads to eliminate congestion? Once we have answers to those questions, then we need to look at the financial pain or incentives to get drivers off the roads. Finally, the process needs to tell citizens where cars are likely to go if they leave the freeways.
- We are at an inflection point in transportation. Big changes are under way with ride sharing, autonomous vehicles and more. Value pricing is our opportunity to put in place a fundamental change and make Portland a leader. The only solution to congestion is pricing. Otherwise, demand will overwhelm the freeway. Congestion pricing would save Oregon billions of dollars because highway widening wouldn't be needed. The people who are using the transportation system are not paying their way right now. I urge you to think about the overall equity of Oregon's financial funding system for transportation because it doesn't reflect reality right now.
- Tollways have only worked in a few places. I am here to stop tollways. Traffic will go off freeways to the city streets and put wear and tear on those streets if you



toll for congestion. I want to drive from Vancouver, BC, to Mexico without paying a toll. The only time to toll is to pay off the cost of a new bridge.

- This is a critical conversation. The need to find alternative means of transportation financing is clear. What you do here may set the stage for future projects. I represent the west-side, including Hillsboro. It's a congested area and people are frustrated. Freight and people need to get out to I-5 before they go anywhere else. That's not a good solution. Denver has a new toll road that has a high toll. It's successful. The legislature has spoken: we need your input on this issue.

Penny asked PAC members if they had any comments to share from their constituents. She noted that Anne McEnery-Ogle, Neil McFarlane and Craig Dirksen had sent comments via letters. These letters have been added to the project file.

Other PAC member comments:

- We should have a mutual understanding of terms used. For example, I've heard "solve congestion." That's not possible. Maybe it's better to say, "manage congestion." I've also heard "equity." Elected commissioners in Clark County and Multnomah County have different constituents and I think some terms can be misunderstood or misused if there's not a shared definition. For me it is about throughput. It comes down to economics and a thriving community.
- The Portland City Council unanimously expressed support for the PAC's work through a resolution on value pricing.

Time	Topic
8:35 – 8:50 AM	Charter review and finalization

Penny facilitated a discussion about edits to the Charter. PAC members reviewed an updated Charter with track changes. PAC comments included:

- The Charter should be updated to reflect project objectives regarding consistency with state and regional laws
- Under the Charter's section on "Purpose of the Committee," the first word is "determining." This is an advisory group so this word should be changed to "considering"
- The section that refers to "Financing bottleneck relief projects" should remove the reference to "new freeway lanes or other roadway projects" because it predefines a solution. Other PAC members said that this reference should remain in the Charter because solutions will be focused on the roadway. Penny suggested – and the PAC supported – taking out the entire "such as ..." section referring to potential projects and instead edit the sentence to read: "Value pricing used as a means to finance roadway infrastructure that will address



identified bottlenecks that improve the efficient movement of goods and people.”

PAC Action: Approved revised charter with the edits outlined in the bullets above. Penny said the project team will discuss the best way to gather signatures on the Charter.

Time	Topic
8:50 – 9:05 AM	Public engagement process

Anne Pressentin of Envirolssues updated the PAC on communications efforts for this value pricing feasibility analysis. She began with a review of the communications goal: to be an open, transparent and inclusive process. She detailed the tactics to be used to reach diverse audiences, with an intentional focus on Title VI and environmental justice populations. Lastly, Anne reviewed the timeline for outreach activities, briefings and other communications.

PAC members provided comments on the public engagement plan, including:

- The communications team should investigate Metro's community-based organizations analysis
- Translate materials into other languages. The Transportation Justice Alliance would be a good group to contact
- It would be good to get updates prior to the next PAC meeting about stakeholders that the team is talking to and upcoming planned events. Other PAC members supported this idea and the project team agreed that a mid-January update would be provided

Time	Topic
9:05 – 9:40 AM	Concept evaluation and performance measures

Kirsten Pennington of WSP began her overview of the concept evaluation and performance measures by reviewing the project timeline. Kirsten noted that after the OTC seeks FHWA approval for a value pricing concept, and dependent on associated FHWA direction, there will be additional periods of analysis and input under a National Environmental Policy Act (NEPA) process. Input and concept refinement does not stop with the PAC's recommendation to the OTC; rather this is the foundational step in a longer process to fully vet and implement a value pricing concept. For the PAC, Kirsten said that there are three phases to the current PAC process: foundation, evaluation and recommendation.

Kirsten led the PAC through a discussion of several prior PAC comments on the performance measures, including how project staff proposed to incorporate them into the measures.

PAC members then provided additional input and questions for the technical team to consider regarding the performance measures, including:



- Regarding emissions, the performance measure's text should be changed to refer to "toxics," not "toxins, or revised to read "air pollution"
- Consider connected and autonomous vehicles in the analysis
- Racial profiling should be analyzed
- Add a measure to look at the safety impacts of diversion
- Does the geographic analysis apply to all areas? Analysis of impacts on sub-regions should be more prominent and definitive
- It looks like you are analyzing the "peak hour." Why not the shoulder hours to the peak, too?
- Will carpooling/vanpooling be looked at in the HOV category?
- Improving freight movement is an objective, but it's not captured in the performance measures
- Diversion to other facilities from tolling scenarios is important to learn about. The nature of diversion – local trips or longer trips – should be investigated
- Benefits to communities should be an objective for the project, not just an evaluation measure
- Show what the status quo is compared to the tolling alternatives. How many lanes would it take to solve congestion? This would be valuable information to determine
- Transit mitigation measures will be important to identify. It is important to establish committee and public expectations up-front for what can be accomplished during this process for analyzing impacts to transit operations as a result of tolling
- Can non-transit system improvements to bike/pedestrian infrastructure be funded by tolling revenue? It's important to consider impacts to bike/pedestrian infrastructure as part of the analysis
- Evaluate the impact on low-income neighborhoods of tolling prices
- Look at the adequacy of transit service, though the PAC won't get to the level of how to spend toll revenue

Kirsten ended her discussion of the performance measures with an overview of the team's approach to evaluating I-5 and I-205 concepts. Three pricing treatments form the building blocks for all analysis: Priced Roadways (tolling all lanes); Priced Lane (converting one general purpose lane in each travel direction); and Priced Lane (constructing a new priced lane in each travel direction).

Penny noted that PAC members have suggested several edits to the performance measures table. The technical team will consider all proposed edits or additions from PAC members to determine if they are feasible to produce.

Time	Topic
9:40 – 10:20 AM	Initial concepts for evaluation

David Ungemah of WSP began his discussion of the initial concepts for evaluation by emphasizing that this marks the beginning of a longer process to get to a tolling project.



We are not talking about projects or policies today, he said. Rather, we are establishing a baseline to work with and evaluate options. The baseline builds from the 2027 Metro regional traffic model. It includes population and traffic growth through 2027, in addition to all identified projects for funding through this baseline year.

David then provided descriptions, including potential benefits and implementation issues, of the three basic concepts (price all lanes, price one existing lane or price one new lane). Five other modified concepts were described. These modified concepts are combinations of each of the three basic concepts plus a no-build or 2027 baseline option.

PAC member comments and questions included:

- These are great scenarios to start with. We should tell ODOT to move forward with these for the evaluation. But we should also allow them to be creative if needs arise. But I fully support these.
- Under these scenarios, the entire section of I5/I205 would be tolled. Does the analysis of smaller sections come later? David responded that narrowed concepts would be discussed as early as PAC meeting #3 in February.
- It would be good to learn more about other tolling projects around the country. David said he would compile research on other projects for distribution to PAC members.
- Will you look at pricing all lanes and adding capacity? That's not one of the options, but because part of the freeway system is constrained some system improvements might need to be made. David responded that the technical team would consider this option.
- The Portland metro area ranks high on the list of U.S. regions with congestion. Some people might think the baseline (no tolling) is good. But doing nothing is not an option. Clackamas County is seeing more residents move in than jobs. These people have to go further to work. The system is under-sized.

Penny thanked PAC members for their input on the performance measures. Comments and direction will be incorporated – as possible – into the performance measures analysis by the project team. She then offered the audience an opportunity for additional public comment. No audience members chose to provide public comment at that time.

Time	Topic
10:20 – 10:30 AM	Next steps

Penny outlined next steps in the value pricing process:

- Dates for the next PAC meetings have been established with invitations to come
- The Charter would be finalized based on edits provided today by PAC members
- Status reports on engagement activities would begin by mid-January



- Project staff will continue to forward comments issued via ODOT's project website to PAC members
- Performance measures will be updated as possible per technical review

The PAC co-chairs provided closing comments, including:

- We appreciate the feedback today. This is very important to the Commission. I want to make sure that we stay concise with the charge and charter. I highly encourage folks to consider what is taking place in Seattle. Learn lessons from their tolling experience. We talked a lot about 2027 today. But there is a bigger picture here. I am excited to keep moving forward.
- Thanks for the input and the engagement. Our population is growing and it is unlikely to stop. Congestion is not going away. We can't buy our way out of it. We must take a holistic approach to it. We must look at the benefits to all modes. Is value pricing feasible here? Can we make a model that makes that work? That's our job to figure out. The legislature gave us a \$5.3 billion bill. Users of the system don't care whose system it is. They just want to efficiently get from here to there.

Time	Topic
10:30 AM	Adjourn

The meeting was adjourned at 10:30 a.m.



Portland Metro Area Value Pricing Feasibility Analysis

Final

Round 1 Concept Evaluation and Recommendations

Technical Memorandum #3





Portland Metro Area Value Pricing Feasibility Analysis

Final
Round 1 Concept Evaluation and
Recommendations
Technical Memorandum #3

Prepared for



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February 20, 2018



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APPENDIX A: METHODOLOGY AND SCREENING DATA DEVELOPMENT

APPENDIX B: PERFORMANCE MEASURES SUMMARY DETAILS

APPENDIX C: INITIAL CONCEPT SCORING SHEETS



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1 INTRODUCTION

This memorandum presents the round 1 evaluation of seven initial pricing concepts and the baseline (no tolls) concept applied to I-5 and I-205 from the state line south to where the interstates intersect north of Wilsonville, Oregon, and project team recommendations for a set of congestion pricing concepts that warrant additional technical analysis and public review. The subsequent sections provide information about what value (or congestion) pricing is, information about how these initial pricing concepts perform, and recommended refined pricing concepts to move into round 2 evaluation. The round 2 evaluation process will include both additional technical analysis and public outreach. The round 1 evaluation of the initial pricing concepts and the development of round 2 evaluation pricing concepts is informed by:

1. Key findings from transportation modeling on relative performance;
2. Public outreach and input;
3. Application of professional judgment based on geometrics and traffic operations as well as knowledge of other pricing projects around the country; and
4. Ensuring that refined pricing concepts can be implemented as standalone congestion management systems.

The memorandum includes:

- § Section 1 – Introduction
- § Section 2 – Equity and Mitigation
- § Section 3 – Round 1 Evaluation Results – Initial Pricing Concepts
- § Section 4 – Round 1 Evaluation Results – Project Team Recommendations

1.1 Value Pricing Feasibility Analysis Context

Oregon House Bill 2017 from the 2017 Legislative session directs the Oregon Transportation Commission (OTC) to seek federal approval from the Federal Highway Administration (FHWA) by December 31, 2018, to implement value pricing on the I-5 and I-205 corridors to address traffic congestion. The OTC convened a Policy Advisory Committee (PAC) to guide the pricing concepts and develop a recommendation for OTC consideration.

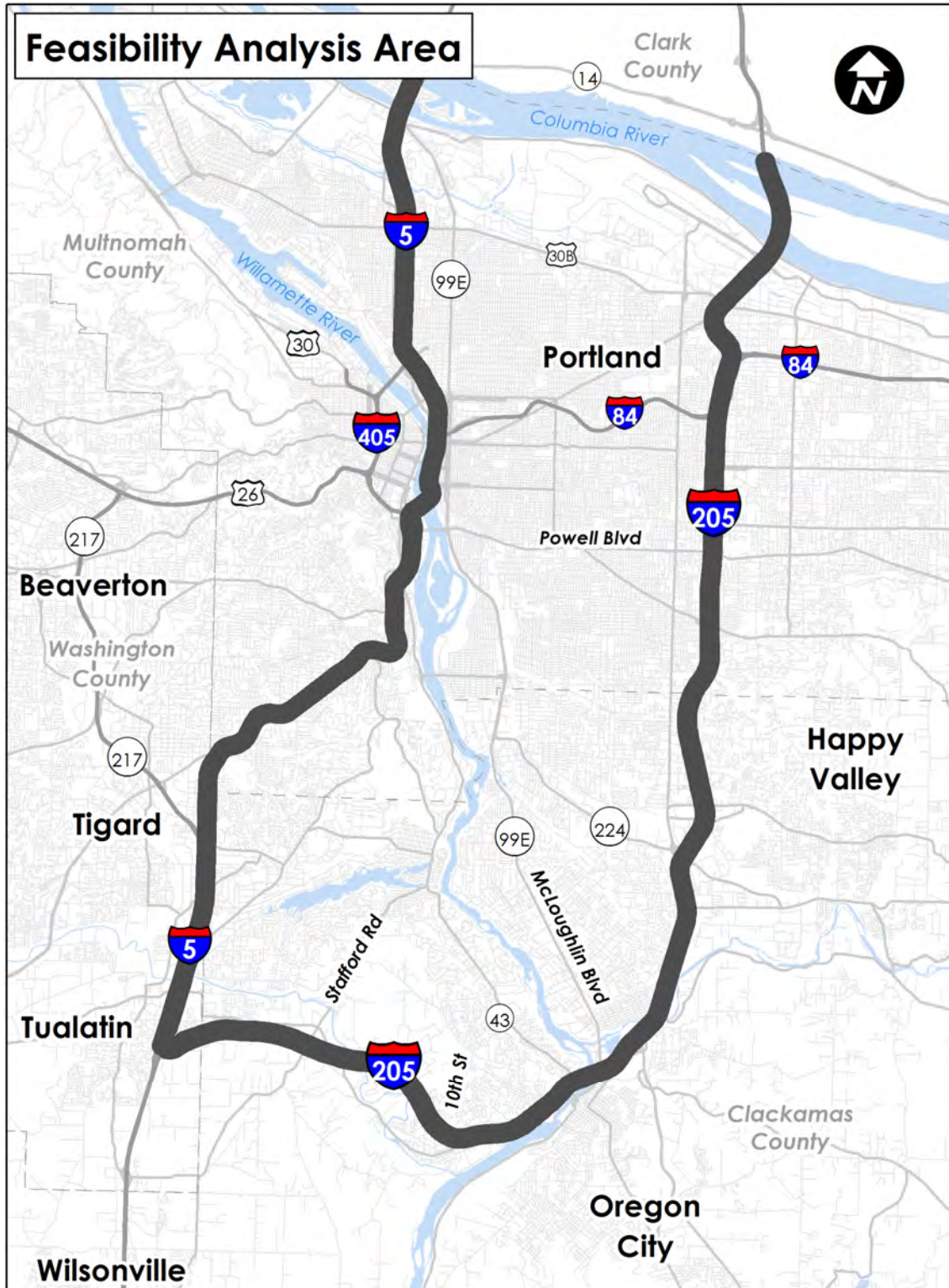
FHWA requirements for congestion pricing depend on the type(s) of pricing concept being pursued. After the OTC identifies the congestion pricing project(s) that it determines best fit the requirement of HB 2017, it will be able to engage with the FHWA to identify the federal policy that will guide project development. At that time, it will be necessary to identify more specific analysis that will be needed for detailed evaluation of traffic impacts, costs and revenue, environmental impacts, and mitigation strategies, along with the public and stakeholder engagement needed to inform the process.

Value pricing, also known as congestion pricing, sets a higher price for driving when demand is higher, which is typically during the morning and evening peak commuting periods. This creates an incentive for some drivers to not travel at all, shift travel to less congested periods of the day, or take alternate modes such as transit (some motorists will choose to take alternate routes). Those choosing to pay the toll have higher travel speeds and improved travel time reliability. As shown on Figure 1, the study corridors



include I-5 and I-205 from the state line south to where the interstates intersect north of Wilsonville, Oregon.

Figure 1. Study Corridors: I-5 and I-205

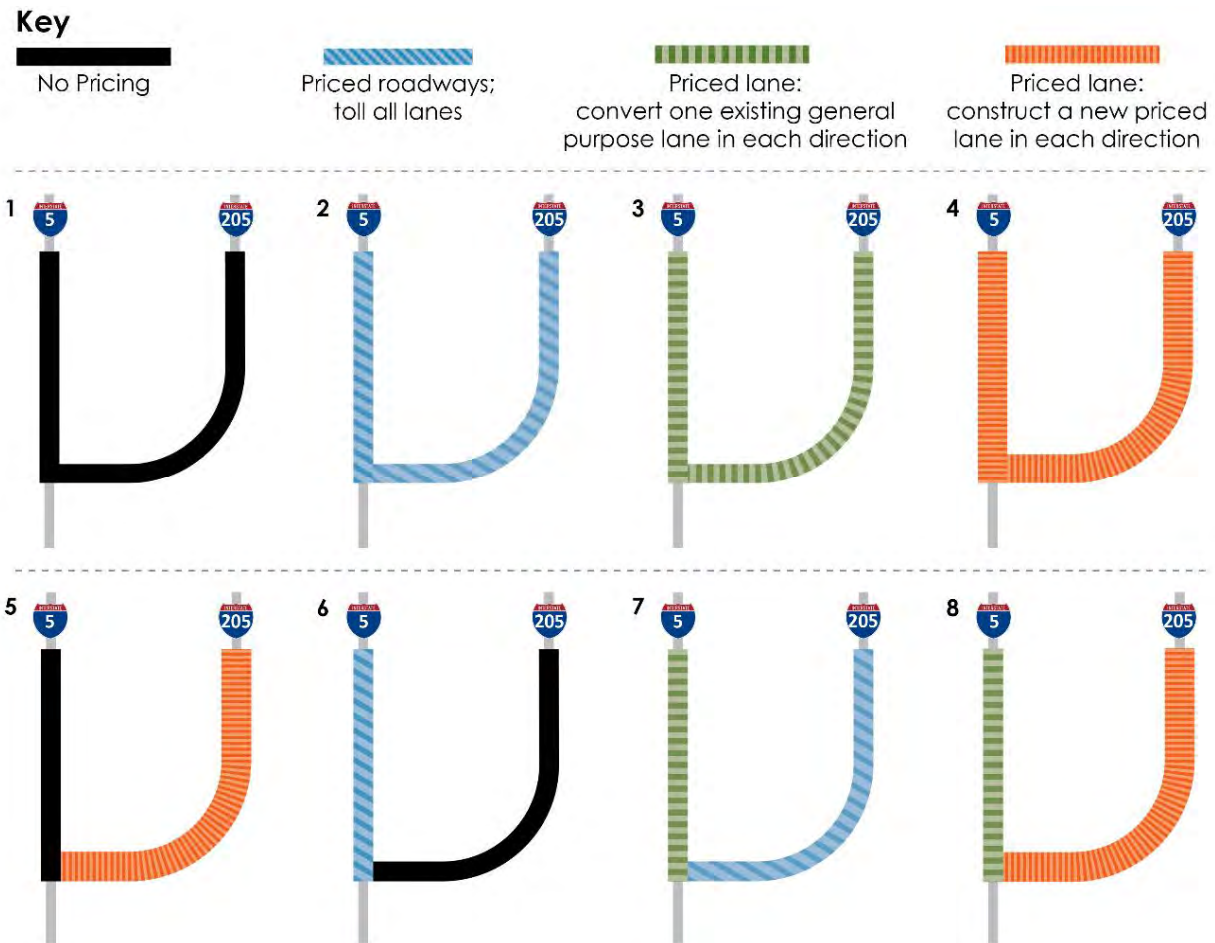




For the round 1 evaluation, eight initial pricing concepts were studied. These concepts are described in Technical Memo 2 – *Summary of Value Pricing Concepts*.¹ The initial pricing concepts are shown on Figure 2 and include:

- § Concept 1 – Baseline: no tolls on any lanes or roadways
- § Concept 2 – Priced Roadway: Toll All Lanes on I-5 and I-205
- § Concept 3 – Priced Lane Conversion: convert one existing general purpose lane in each travel direction on I-5 and I-205 to a priced lane in each travel direction
- § Concept 4 – Priced Lane Construction: construct a new priced lane on I-5 and I-205 in each travel direction
- § Concept 5 – Baseline (no pricing) on I-5 with Priced Lane Construction on I-205
- § Concept 6 – Priced Roadway on I-5 with Baseline (no pricing) on I-205
- § Concept 7 – Priced Lane Conversion on I-5 with Priced Roadway on I-205
- § Concept 8 – Priced Lane Conversion on I-5 with Priced Lane Construction on I-205

Figure 2: Initial Value Pricing Concepts for Preliminary Analysis



¹ ODOT. Value (Congestions) Pricing. January 23, 2018. *Technical Memo 2: Initial Concepts*. Accessed February 6, 2018. <http://www.oregon.gov/ODOT/KOM/VP-TM2-InitialConcepts.PDF>



1.2 Purpose of this Technical Approach

This technical memorandum presents findings from the round 1 evaluation of the initial pricing concepts. The round 1 evaluation was informed by transportation modeling, public outreach and expert application of professional judgement based on geometrics and traffic operations and knowledge of other pricing projects around the country. The performance measures the team sought to address are presented in Technical Memorandum 1 – *Objectives and Proposed Performance Measures*.²

The purpose of the round 1 evaluation of the eight initial pricing concepts is to:

- § Understand the range of benefits and impacts from applying congestion pricing to the study corridors,
- § Determine the relative performance of the initial concepts in order to differentiate those that have the most potential to achieve the project objectives, and
- § Identify a set of recommended pricing concepts to move into round 2 evaluation and future public outreach.

As with the initial pricing concepts, the round 2 pricing concepts will be evaluated using a similar approach of transportation modeling, public outreach, and professional judgement based on knowledge of other pricing projects around the country. To accompany the round 2 evaluation, the team will work with the public and the Policy Advisory Committee (PAC) to identify a range of potential mitigation strategies to pursue further to address impacts of congestion pricing.

The results of the round 2 evaluation will result in a recommendation by the PAC to the OTC for the pricing option(s) it believes most feasible for the Portland metropolitan area. The OTC will consider the PAC recommendation and develop a request to the FHWA to be submitted by the end of 2018. Upon discussion or approval from FHWA (depending on the type of pricing application), the Oregon Department of Transportation (ODOT) would then conduct further study, likely to include environmental and additional traffic analysis, and additional public outreach.

2 EQUITY CONCERNS AND MITIGATION

Regardless of the specific pricing application, the concept of equity centers on how the benefits and impacts of public policy are distributed among members of society. From a pricing perspective, this means evaluating the potential impact (both positive and negative) of new tolls on drivers, adjacent communities, and transportation system stakeholders, and finding ways to mitigate negative impacts and better distribute positive impacts to underserved and vulnerable populations.

Title VI of the Federal Civil Rights Act of 1964 prohibits discrimination on the basis of race, color and national origin in programs and activities receiving Federal assistance. Executive Order #12898 (Environmental Justice) directs federal agencies to develop strategies to address disproportionately high and adverse human health or

² ODOT. Value (Congestion) Pricing. December 15, 2017. *Technical Memo 1: Objectives and Performance Measures*. Accessed February 6, 2018. <http://www.oregon.gov/ODOT/KOM/VP-Objectives-Performance-Measures.pdf>



environmental effects of their programs on minority populations and low-income populations. Executive Order #13166 (Limited-English-Proficiency) directs federal agencies to evaluate services provided and implement a system that ensures that limited English proficiency persons are able to meaningfully access the services provided consistent with and without unduly burdening the fundamental mission of each federal agency.

The most commonly encountered equity concerns with pricing include:

- **Income** – Pricing imposes additional direct, out-of-pocket costs on travelers using the priced lane. As such, a central concern is the impact of those costs on lower income drivers, for whom tolls would comprise a greater share of their total income. Furthermore, the concept of modal equity is tied with income equity, as lower income populations may not have access to the same modal options (access to transit or vehicles) as higher income populations and may therefore not be perceived as benefiting equally from tolling systems that improve travel performance for system users. Further, lower income individuals may not live in locations with adequate or frequent transit service options. Income and modal-related equity issues may be addressed through pricing policies and operational policies, as will be discussed later in this section. However, lower income drivers also value reduced travel times and improved travel time reliability due to the availability of a less congested highway alternative. As such, equity considerations should include opportunities for all segments of society to share in the benefits as well as mitigating negative impacts.
- **Geography-specific** – The implementation of tolling may have a disproportionate impact based on where drivers live and travel, depending on the availability of viable travel options, including non-tolled routes. Those residing or working near a tolled facility are more likely to be impacted through increased costs or traffic diversion to nearby alternative routes. However, they are also more likely to benefit from reduced travel times and improved travel time reliability due to the availability of a less congested highway alternative. Further, improved traffic flow would be expected to reduce emissions from congested traffic, which can be an important improvement for residents and businesses in close proximity to a freeway. Geographic concerns are often addressed through pricing policies and design considerations such as the placement of tolling, ingress and egress zones, as well as distribution of revenues to improvements within nearby communities from which the tolls are generated. In Oregon, toll revenues are constitutionally restricted to roadway improvements.

Robust and comprehensive equity assessments are generally conducted during the development phase of a project when details on the overall pricing configuration and geometric layout are well established. These detailed assessments will be required as part of a National Environmental Policy Act (NEPA) process. In the case of the current Portland Metro Area Value Pricing Feasibility Analysis, a NEPA process would be conducted after a pricing configuration for I-5 and/or I-205 has been proposed by the



OTC to the FHWA in December 2018. The requirements of that process will depend on FHWA's response.

2.1 Examples of Mitigation Strategies Used in Other States

There are numerous ways in which equity issues have been addressed in congestion pricing implementation. These strategies are independent of the pricing concepts discussed in this memorandum and may be applied to any configuration of priced lanes and priced roadways along I-5 and/or I-205. Examples of equity mitigation strategies employed with priced facilities in the United States include the following:

- Toll discount and subsidy programs
- Enhanced options for those lacking access to banks and/or credit cards, known as "unbanked"
- HOV incentives
- Enhanced multi-modal service and investment
- Transit-linked incentives and toll credit programs

Toll discount and subsidy programs

One method of addressing income equity concerns is to subsidize tolls for qualifying travelers. For example, the LA Metropolitan Transportation Authority's Low-Income Assistance Plan (LIAP) offers participants a one-time \$25 toll credit and automatically waives the \$1 monthly maintenance fee on toll accounts. LIAP account holders must be residents of Los Angeles County with an annual household income of less than twice the federal poverty level. In 2014, the North Central Texas Council of Governments (NCTCOG) proposed an alignment for the Chisholm Trail Parkway toll road in Fort Worth. The proposed alignment would cut off a major throughway for residents of a nearby retirement community with a large number of low income households, leaving them with only one available un-tolled option that would nearly double travel times. Changing the alignment of the road would be too costly, so NCTCOG implemented a program whereby the agency purchased prepaid toll tags for area residents. This mitigation measure reduced the cost to area residents accessing the new toll road.

Options for those lacking access to banks and/or credit cards, known as "unbanked"

In Oregon, any state highway tolling system is required to accommodate cash-based motorists.³ Modern pricing applications rely on electronic toll collection (ETC) systems and do not accommodate cash payment at toll booths. Facility users are required to use tags or transponders in their vehicle that are linked to pre-established accounts. These accounts are generally linked to debit or credit card accounts for electronic payment when invoices become due. As such, ETC-based pricing systems may be more difficult to activate and access for populations that do not have a bank account or credit cards. Such concerns for these "unbanked" populations may be addressed by providing toll-related customer options at retail locations that allow users to obtain and

³ Oregon State Legislature. Oregon Constitution 2017 Edition. Article IX, Section 3.
https://www.oregonlegislature.gov/bills_laws/Pages/OrConst.aspx



replenish toll accounts with cash. For example, the Harris County Toll Road Authority (HCTRA) in Houston, Texas recently partnered with BancPass to provide a cash-based option for obtaining and managing EZ Tag transponders and accounts. BancPass EZ Tag customers can purchase a starter kit at certain area grocery stores and activate the tag via text message. Accounts can be replenished with cash at any number of convenient retail locations in the Houston area.

High Occupancy Vehicle Incentives

Implementing agencies may choose to allow High Occupancy Vehicles (HOV), such as carpools with two or three more occupants, to access priced facilities for free or at a discounted rate. This provides all travelers, including lower income individuals, the opportunity to benefit from pricing through the formation and maintenance of carpools or vanpools which increase person throughput and provide an important operational benefit.

Enhanced multi-modal service and investment

Pricing systems are often viewed as benefiting only those who own a vehicle and can afford to pay the toll. Lower income and vulnerable populations are less likely to own their own personal vehicles and tend to have a lower ability to pay. As such, a common strategy to ensure that benefits accrue to all travelers is to provide improved transit service within priced facilities. Transit vehicles are typically allowed to use these facilities for free, meaning that riders benefit from the reduced travel times and increased travel time reliability provided by pricing without having to pay the toll. Agencies may choose to implement express transit services featuring fewer stops than typical fixed route bus service. Such express routes often serve longer distance commuting trips and can provide enhanced travel time over traditional transit routes. For example, the Denver Regional Transportation District (RTD) operates the Flatiron Flyer, a bus rapid transit service running along the US 36 Managed Lanes Corridor. The service offers a limited number of stops and serves a large commuter population travelling between Boulder and downtown Denver. Stops along the US 36 managed lanes facility feature park-and-ride lots and direct access ramps to the managed lanes for transit vehicles. The success of enhanced transit service is dependent on the availability of transit routes within the corridor and access by underserved populations to those routes.

As previously noted, enhanced transit services on priced facilities can be successful in addressing equity concerns only to the extent that viable transit and bicycle and pedestrian infrastructure (multi-modal) options are present. As such, agencies may choose to invest in transit expansion and enhanced transit facilities within priced corridors. The Los Angeles County Metropolitan Transportation Authority (Metro), for example, used a significant portion of its \$210 million federal Congestion Reduction Demonstration (CRD) program funding to implement numerous transit improvements as part of its conversion of the I-10 and I-110 High Occupancy Vehicle (HOV) lanes to tolling. The new High Occupancy Toll (HOT) lanes allow transit vehicles, motorcycles, and multiple-occupant private vehicles free access to the lanes. Transit and multi-modal enhancements to the HOT facility included acquiring new clean fuel expansion



buses, increasing service routes, completing security upgrades, constructing improvements along stations, and adding capacity at park-and-ride lots. Additionally, investments may be made in sidewalk and bicycle infrastructure along highly traveled regional routes and roadways. This is particularly important along arterials and other roadways where traffic diversion may occur.

Transit-linked incentives and toll credits

In addition to enhanced transit service and multi-modal service, pricing agencies are now exploring ways to foster incentives for transit use by offering toll credits. Such programs may be beneficial for lower income and underserved populations that frequently use transit within priced corridors but might also benefit from periodic use of the facility in a personal vehicle. For example, the Georgia State Road and Tollway Authority's (SRTA) "Ride Transit – Earn Toll Credits" is a transit incentive program that provides participants with a \$2 toll credit for each trip taken on express transit routes within the I-85 Express Lanes corridor during peak hours in the Atlanta region. Participants can earn up to \$10 in credits per month, with a maximum of \$60 over a 6-month period. Credits can be used for trips on the priced I-85 Express Lanes in a personal vehicle. Similarly, the Los Angeles County Metropolitan Transportation Authority has the Transit Reward Program that allows frequent transit riders to earn toll credits for using transit within I-10 and I-110 ExpressLanes corridors. Program participants can earn a \$5 toll credit by making 32 one-way trips during peak hours on select routes within the corridors.

3 ROUND 1 EVALUATION RESULTS: INITIAL PRICING CONCEPTS

The sections that follow present the results of the round 1 evaluation for the initial pricing concepts. Technical Memo 2 – *Summary of Value Pricing Concepts*,⁴ describes how and why these initial pricing concepts were identified and moved into the round 1 evaluation. In summary, these concepts were developed for the purpose of learning about the relative performance of the congestion pricing tools in order to inform the selection of concepts that warrant round 2 evaluation as part of this feasibility analysis, as described in Section 4.

Some of the key findings about the individual pricing applications (the "building blocks" described in *Technical Memo 2*) are summarized below:

2027 Baseline Conditions

- § At optimum vehicle throughput, just prior to congested conditions setting in, a freeway carries about 1,900 to 2,200 vehicles per hour per lane. Existing traffic data reveal that on I-5 between Portland and the Columbia River, the average vehicle throughput per lane during peak periods is about 960 vehicles per lane per hour – approximately 50 percent of what would be expected if the freeway were functioning efficiently. This condition is called "hyper-congestion". Similar

⁴ ODOT. Value (Congestion) Pricing. December 15, 2017. *Technical Memo 1: Objectives and Performance Measures*. Accessed February 6, 2018. <http://www.oregon.gov/ODOT/KOM/VP-Objectives-Performance-Measures.pdf>



hyper-congested conditions exist on many of the I-5 and I-205 study segments under current conditions and in the 2027 baseline. It is likely that this will continue and worsen into the future.

Price Roadway – Toll All Lanes

In general, the priced roadway concept is the most effective and easiest to implement. Transitioning from an unpriced freeway to pricing all of the lanes may be challenging from the perspectives of public acceptance and federal policy; however, it can provide the most opportunity to improve traffic operations for all users, maintain a relatively lower toll price, and distribute benefits broadly.

- § This concept is expected to provide the highest level of congestion relief of the initial pricing concepts examined.
- § Application of a toll to all lanes can keep the individual toll amount lower, or could provide opportunities for more low-toll or unpriced hours. This can make the benefits more affordable on an individual basis than some other options.
- § This concept recovers functional capacity during peak periods that is lost due to hyper-congestion, providing greater carrying volume with pricing than without. This means that diversion impacts may be minimal, but still warrants consideration and study.⁵
- § The concept is significantly less expensive than concepts that include substantial physical improvements to the existing highway and bridge infrastructure.
- § While there are numerous geometric constraints on both I-5 and I-205 identified in Concept 1 - Baseline, these constraints are unlikely to interfere with this concept.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would benefit most from priced roadway concepts as compared to other concepts since all lanes would be tolled as opposed to a single left-most lane (convention for tolling a single general purpose lane is typically the left-most lane of a freeway to avoid ramp entrances and exits).⁶

Priced Lane – Conversion

The priced lane conversion concept has the benefits of maintaining unpriced lane options and relatively low capital cost and construction impacts. That said, because it does not add capacity, its effectiveness can be limited unless there is capacity within the system to absorb diverted demand (to unpriced lanes, other roadways, other times of day, or other travel modes). Also, priced lane concepts on facilities with only two lanes in each direction are not operationally feasible – at least two general purpose lanes must be maintained.

Further, most states (including Oregon) restrict heavy vehicles from using the left lanes of freeways. For these reasons, the best applications for priced lane conversion will be

⁵ Definition of hyper-congestion: congested traffic conditions that significantly reduce vehicle throughput.

⁶ Oregon Revised Statute 2017 Edition. Chapter 811.325: Failure to keep camper, trailer or truck in right lane. Applies to any vehicle with a trailer and any vehicle with a registration weight of 10,000 pounds or more; this includes transit vehicles. https://www.oregonlegislature.gov/bills_laws/ors/ors811.html. Accessed February 9, 2018.



in segments that meet specific conditions to ensure overall operational benefits can be achieved.

- § Vehicle travel speeds do not increase as significantly in the priced lane as they do in a priced roadway concept as only one lane is managed. As the managed lane will carry more vehicles per lane than the unmanaged lane during peak conditions, converting the lane to a managed lane will likely remove some traffic from the unmanaged lane; however, vehicle demand that is currently unsatisfied on the overall network may move to the freeway and might remove any general purpose lane improvement.
- § This concept will have similar operating costs to a priced roadway concept but will produce less revenue to compensate for costs or to provide for mitigations.
- § There are significant geometric and physical constraints to converting a general purpose (non-tolled) lane to an express (tolled) lane on I-5 under existing conditions throughout the downtown segment between the I-5 and I-405 interchanges. The current configuration of the I-405 / I-5 interchanges are misaligned for continuous express (tolled) lane travel.
- § Converting a lane to an express (tolled) lane on a facility with only two lanes in each direction is not operationally feasible. This configuration currently exists in the baseline on locations along I-5.
- § Non-tolled general purpose lanes will be available for drivers to use instead of paying a toll, therefore the need for mitigation is not as significant as it is for a fully priced roadway concept.
- § Vehicles 10,000 pounds and more (such as many freight and trucks transit vehicles) are currently prohibited from operating in the left-most travel lane. Because the tolled lane would be implemented in the left-most travel lane, many freight trucks and transit vehicles would not benefit from the traffic operations improvements associated with the priced lane options without ORS changes.⁶

Price Lane – Construction

The priced lane construction concept shows good results in traffic operations when compared to other concepts, in part due to the pricing but also due to the added lane capacity and the reduced travel demand per lane.

- § Concepts with an added, constructed tolled lane are the most expensive and impactful options evaluated.
- § Overall, vehicle speeds do not rise as significantly as they do in priced roadway concepts as there is nothing to prevent the general purpose lanes from becoming congested.
- § This concept will have similar operating costs to a priced roadway concept but will produce less revenue to compensate for costs.
- § Non-tolled general purpose lanes will be available; therefore, the need for mitigation is not as significant as it is for a priced roadway concept. Further, constructing a new tolled lane, as opposed to converting a general purpose lane to tolled, will provide more capacity which could potentially reduce the need to mitigate for traffic diversion. However, building a new lane would have sizable construction and private property impacts.



- § Traffic operations for concepts where a new tolled lane would be constructed perform very well due to managing the added roadway capacity.
- § The travel benefits of widening the roadway on the study corridors would be limited by downstream bottlenecks.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) are prohibited from operating in the left-most travel lane. Because the tolled lane would be implemented in the left-most travel lane, many freight trucks and transit vehicles would not benefit from the traffic operations improvements associated with the priced lane options without ORS changes.⁶

3.1 Overview of Analysis Methods

The intent of the round 1 evaluation is to gain a broad understanding of the range of impacts from applying congestion pricing on the study corridors relative to the baseline concept, and to inform recommendations for moving a set of pricing concepts forward to round 2 evaluation. As such, several methods briefly described here established a basis for initial pricing concepts. Appendix A – Evaluation Methodology, provides a description of the assumptions included and methods used to evaluate the relative performance of these initial concepts.

Analysis Year and Completed Projects

The initial pricing concepts, including Concept 1 – Baseline, were evaluated for the year 2027. The baseline conditions reflect projects in the adopted Regional Transportation Plan, including roadway, transit, and bicycle and pedestrian projects, that are identified for construction by 2027.⁷ The year 2027 was selected due to the availability of modeling data, including anticipated population and employment growth with corresponding land use and travel demand, for that time horizon from Metro planners and modelers. This list also includes three high-priority projects that the Oregon Legislature identified in House Bill 2017 for project development and construction: OR 217 northbound and southbound widening, Interstate 205 Stafford Road to OR 213 widening and the Interstate 5 Rose Quarter Improvement Project. In total, the project list includes over 700 regional multimodal transportation investments that were submitted by transportation agencies in the region and have been approved by Metro Council.⁸ The major capacity-related projects are listed in Table 1 below.

Table 1. Major Regional Projects Assumed to be Constructed by 2027

Project
I-5S: Lower Boones Ferry Exit to Lower Boones Ferry Entrance (Auxiliary Lane)
I-5S: Lower Boones Ferry to I-205 (Auxiliary Lane)
I-5 Rose Quarter (both directions)
I-205N: I-84 E entrance to Killingsworth Exit (Auxiliary Lane)

⁷ Oregon Metro. 2018 Regional Transportation Plan. <https://www.oregonmetro.gov/public-projects/2018-regional-transportation-plan/call-projects>

⁸ The March 2018 RTP update will include an adjustment moving the construction timeline for a project to expand I-205 and Abernethy Bridge between I-5 and Oregon City to the 2018-2027 period. The concepts were all analyzed with the assumption this project would be constructed by 2027.



Project
I-205S: I-84E entrance to Washington/Stark (Auxiliary Lane)
I-205N: Powell to I-84E Exit (Auxiliary Lane)
I-205N: Sunrise to Sunnybrook (Auxiliary Lane)
I-205 Abernethy Bridge Widening: OR43 to OR213 (both directions)
I-205 widening: Stafford to OR43 (both directions)
OR217N: OR99W to Scholls Ferry (Auxiliary Lane)
OR217S: Beaverton-Hillsdale to OR99W (Auxiliary Lane)
US26: Widen to 6 lanes from Cornelius Pass to 185 th (both directions)
OR224 Milwaukie Expressway Improvements
Southwest Corridor Light-Rail Transit
Transit, bicycle and pedestrian projects

Corridor Segmentation

Traffic and roadway conditions vary significantly in different sections of the corridors. Segments were defined on I-5 and I-205 to differentiate the evaluation and analysis. The segments were defined by: (a) geographical boundaries, such as the Columbia River, (b) changes in the roadway geometry, for instance changing from a three-lane facility in each direction to a two-lane facility in each direction; or (c) locations of major interchanges on the freeways. While these segments are well defined, the beginning or end of a given segment might shift somewhat to allow analysis of conditions that exist near the segment boundaries. The corridor segmentation for the round 1 evaluation is presented in Figure 3.

Screening Assessment and Scoring

The assessment examined the following categories of information for the initial pricing concept screening, which was finalized with input from the Policy Advisory Committee. These are described in more detail in Appendix B: Performance Measures Summary Details.

- § Current Day and Forecasted Traffic Operations – This included information reviewed and prepared to understand current and future traffic, including travel time and throughput for vehicles and freight trucks; mode share; adequacy of transit, bicycle and pedestrian infrastructure; and diversion and trip length distribution.
- § Capital and Operating Costs – This analysis was an order of magnitude effort for the initial pricing concept evaluation. Considerations were given to the type of infrastructure investments need for each concept as well as costs to operate the tolling system.
- § Geometric and Physical Constraints – The existing conditions of the roadway were reviewed for the geometric (such as lane width, on/off ramp travel lane lengths) and physical (such as bridge girder locations, shoulder widths, and adjacent infrastructure) conditions. Consideration was given to projects



anticipated to be constructed that would eliminate some of the geometric and physical constraints experienced today.

In addition, consideration was given to equity concerns that would likely arise with the initial concepts and the extent that mitigation may be required. Therefore, the assessment also identifies initial equity and mitigation considerations.

Figure 3. Round 1 Evaluation Segments





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3.2 Concept 1 – Baseline: No Tolls on Any Lanes or Roadways Along I-5 or I-205

Overview

Under Concept 1 – Baseline, significant congestion will exist in 2027 on the I-5 and I-205 study corridors, even with all the improvements listed in the Regional Transportation Plan. This congestion impacts not only speed, but also the number of vehicles that the facility can accommodate (throughput), with consequential impacts upon quality of life, economic vitality, and vehicle emissions in the region.

Traffic Operations

- § Hyper-congestion in the Concept 1 – Baseline is currently occurring on widespread areas of I-5, and on a significant number of areas on I-205 in the morning peak, the afternoon peak, or both depending on the location. This means that, especially on I-5, many highway segments on the study corridors do not operate near their optimum throughput today or in forecast year 2027. It is likely that this will continue and worsen into the future.
- § At optimum throughput, just prior to congested conditions setting in, a freeway carries about 1,900 to 2,200 vehicles per hour per lane. For example, existing traffic data reveals that on I-5 between Portland and the Columbia River, the average vehicle throughput per lane during peak periods is about 960 vehicles per lane per hour – approximately 50 percent of what would be expected if the freeway were functioning efficiently.
- § Hyper-congestion also impacts speeds, which are averaging approximately 60 mph during off peak periods and drops to approximately 10 mph during peak periods.
- § In the PM peak about 21% of trips on I-5 and 25% of trips on I-205 are 3 miles or less in length. Short trips on I-5 and I-205 in the study corridors that have viable alternative travel routes contribute to congestion experienced within the study corridors.

Capital and Operating Costs

- § The capital and operational costs associated with Concept 1 – Baseline are already accounted for in the Regional Transportation Plan.

Geometric and Physical Constraints

- § Because Concept 1 – Baseline would not implement any pricing strategy, there are no new geometric or physical constraints. Geometric and physical constraints and challenges of implementation will be identified for the remaining concepts.

Equity and Mitigation

- § Equity and mitigation are not considered for Concept 1 – Baseline. However, they will be considered for the remaining concepts for comparative purposes.



3.3 Concept 2 – Priced Roadway: Toll All Lanes on I-5 and I-205.

Figure 4. Concept 2 – Priced Roadway: Traffic Operations





Overview

Overall, Concept 2 – Priced Roadway, will reduce congestion for all travelers on the priced facility. This will produce overall improvement in travel time reliability and efficiency for all users of I-5 and I-205. The primary challenge, though, pertains to mandatory payment of the fee for all users of the facilities. That said, due to the high level of effectiveness, it may be possible to maintain lower toll rates and more non-tolled hours.

Traffic Operations

- § Likely to provide the highest level of congestion relief of the initial pricing concepts examined.⁹
- § Controls demand on all lanes and, therefore, allows the highest level of traffic management to maintain both relatively high speeds and relatively high throughput on both I-5 and I-205.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would benefit from travel time improvements on the managed facilities.
- § Pricing recovers lost functional capacity due to hyper-congestion, providing greater carrying volume with pricing than without. This means that diversion impacts may be minimal, but still warrant consideration and study.

Capital and Operating Costs

- § This concept is relatively inexpensive to implement, and significantly less expensive than concepts that include substantial physical improvements to the pavement and bridge infrastructure. Capital cost would include the development of a back-office system to collect tolls as well as toll gantries along the tolled facilities.
- § There will be additional ongoing operating costs necessary for collecting the tolls under this concept.
- § Although this concept does not affect the overall corridor infrastructure footprint, some technology installations are required to properly assess and collect toll payments. Additionally, this concept is well suited to future infrastructure improvements, which would improve overall mobility.

Geometric and Physical Constraints

- § Can be implemented without geometric and physical constraints being a factor.
- § Will accommodate planned capital projects.

⁹ Because of modeling limitations that became apparent during the round 1 evaluation, it is highly likely, based on experience in other areas of the country and existing counts on I-5 and I-205, that the significant congestion that exists today has significantly lowered vehicle throughput on significant portions of these facilities. This has resulted in a likely modeling overstatement of both diversion and reduction of vehicle throughput in the priced concepts. This has been considered in round 1 evaluation decisions, and will be modified in round 2. A further explanation of this phenomenon is given in the introduction to the Appendices.



Equity and Mitigation

- § There may be more opportunities for lower tolls or fewer tolled hours, thereby extending the benefits of congestion pricing more broadly.
- § Because it does not include an unpriced lane option, priced roadways typically require significant mitigation efforts to mitigate impacts of increased out of pocket costs for low income populations.
- § Although diversion may be minimal in aggregate, due to the recapture of lost functional capacity of the freeway system, localized level impacts could be significant.
- § Would likely incur more revenues than other concepts; therefore, could potentially provide more funds to support mitigation strategies.

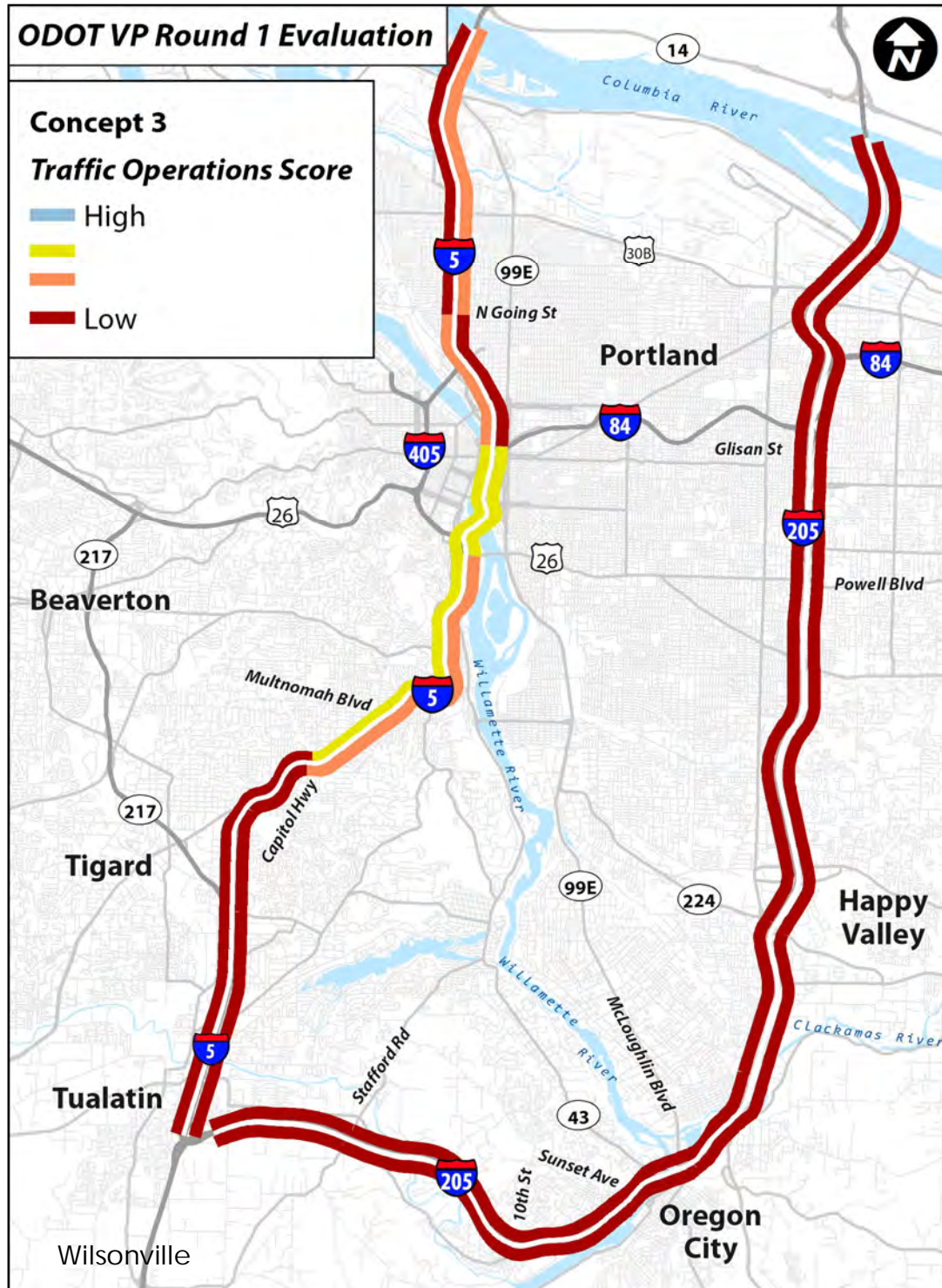


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3.4 Concept 3 – Priced Lane Conversion: Convert One Existing General Purpose Lane on I-5 and I-205 to a Priced Lane in Each Travel Direction

Figure 5. Concept 3 – Priced Lane Conversion: Traffic Operations





Overview

Concept 3 – Priced Lane Conversion cannot be implemented in areas with fewer than three lanes. Access to only a single lane of a given type, priced or general purpose, would reduce capacity significantly as vehicles cannot freely maneuver between lanes. For a priced lane, this is offset by the ability to manage demand to maintain flow, which can usually be maintained between 1,400 to 1,500 vehicles per hour. This is higher than general purpose lanes under hyper-congested conditions and is, therefore, an improvement to the vehicle throughput of the overall facility. This is not true on the general purpose lanes where unmanaged demand, coupled with the reduced capacity of a single lane, can combine to produce extremely low flows even compared to existing hyper-congestion.

Traffic Operations

- § Vehicle volumes on I-5 and I-205 decreased somewhat under this concept. Vehicle speeds increase in the converted priced lane.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would not benefit from the mobility improvements because they are prohibited from operating in the left-most priced lane.⁶
- § Person throughput may rise compared to the Baseline concept as the presence of a priced lane may attract carpools and increased transit use, depending upon pricing policies and use of revenue.
- § Converting only one lane to a priced lane requires a lower overall throughput performance target, as the single lane is more sensitive to variations in traffic demand and must be able to absorb any shock from higher traffic volumes.

Capital and Operating Costs

- § A single toll lane will have similar implementation costs to Concept 2 – Priced Roadway but will produce less revenue to compensate for costs. Capital cost would include the development of a back-office system to collect tolls, toll gantries along the tolled facilities, as well as lane restriping and signage improvements to delineate the tolled facilities.
- § Capital expenditure compared to adding physical lanes will be relatively low.
- § The capital expenditure may be somewhat less than the Priced Roadway concept as the gantries supporting the toll readers and their antennas for toll collection may not need to be as robust as when all lanes are tolled.
- § Toll receipts from single lane express lanes tend to be significantly lower than those from facilities where two lanes are tolled.

Geometric and Physical Constraints

- § The current configuration of the I-405 / I-5 interchanges are misaligned for continuous express (tolled) lane travel; therefore, this concept cannot be implemented in this segment without constructed changes to the roadway.
- § Opportunities exist on I-205 for a single lane conversion in both directions without significant complication.



Equity and Mitigation

- § As free general purpose lanes will be available the need for mitigation is not as significant as it is for the Priced Roadway concept. However, the need for mitigation still exists.
- § Toll revenues available to supplement mitigation strategies would be considerably less than what may be available under Concept 2 – Priced Roadway.



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3.5 Concept 4 – Priced Lane Construction: Construct a New Priced Lane on I-5 and I-205 in Each Travel Direction

Figure 6. Concept 4 – Priced Lane Construction: Traffic Operations





Overview

Concept 4 – Priced Lane Construct performs well from a traffic operations perspective because of the added third or fourth lane in each direction; however, it would be by far the most expensive to implement and in some cases the addition of a third or fourth lane would require considerable additional freeway and interchange construction, which could have a range of environmental or social impacts in some areas.

Traffic Operations

- § From a traffic operations perspective, this option performs very well because the additional capacity provided by a new lane significantly improves both vehicle throughput and travel speed. In addition, the ability to optimize traffic flow on the new lane due to pricing protects this capacity of the new lane from degrading over time.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would not benefit from using the priced lane because they are prohibited from operating in the left-most priced lane.⁶ However, all drivers would benefit from the added capacity overall, which would reduce demand for the general purpose lanes.
- § While adding an additional lane could improve conditions on the study corridors, care must be taken that the facilities outside of the study corridors would not become significant bottlenecks due to the added lane being dropped at the study corridor boundaries. This is of particular concern for the Columbia River bridges, the I-84 interchanges with I-5 and I-205, and the junction of I-5 / I-205 south of Tigard.

Capital and Operating Costs

- § Concept 4 – Priced Lane Construction is, by far, the most expensive. The capital expenditures to construct a new lane on I-5 and I-205 would be significant and would include the development of a back-office system to collect tolls, toll gantries along the tolled facilities, and lane restriping and signage improvements to delineate the tolled facilities.
- § Experience from other areas of the country show that revenues from a single managed lane are traditionally low and would not be expected to repay the costs of all new construction required to build an additional lane.¹⁰

Geometric and Physical Constraints

- § The physical constraints of adding a new lane are significant, particularly on I-5. Constraints primarily exist at interchanges, both with I-84 and I-405 as well as with arterial roadways where widening on a structure (overpass), or widening under the structure (underpass) becomes more difficult due to the physical constraints of existing infrastructure. While interchanges may have issues relating to exiting

¹⁰ Note: Oregon Highway Plan Policy 6A states that “the use of tolling for financing the construction, operations and maintenance of new roads, bridges or dedicated lanes only if expected toll receipts will pay for an acceptable portion of the project costs.” <http://www.oregon.gov/ODOT/Planning/Documents/OHP.pdf>



and entering traffic that can make the issue more complex, any overpass or underpass may present a physical constraint. This has implications for social and environmental impacts, and increases the cost of construction to a large degree.

Equity and Mitigation

- § Widening the freeways the entire length could have impacts on property and buildings in the urban areas, as well as potential impacts on community cohesion in particular areas. More detailed analysis of environmental and social impacts would occur in a future NEPA process (after December 2018).
- § As all existing free general purpose lanes will remain available under this concept, the need for toll-related mitigation is substantially reduced. However, additional mitigation would be expected to address environmental and/or community impacts.

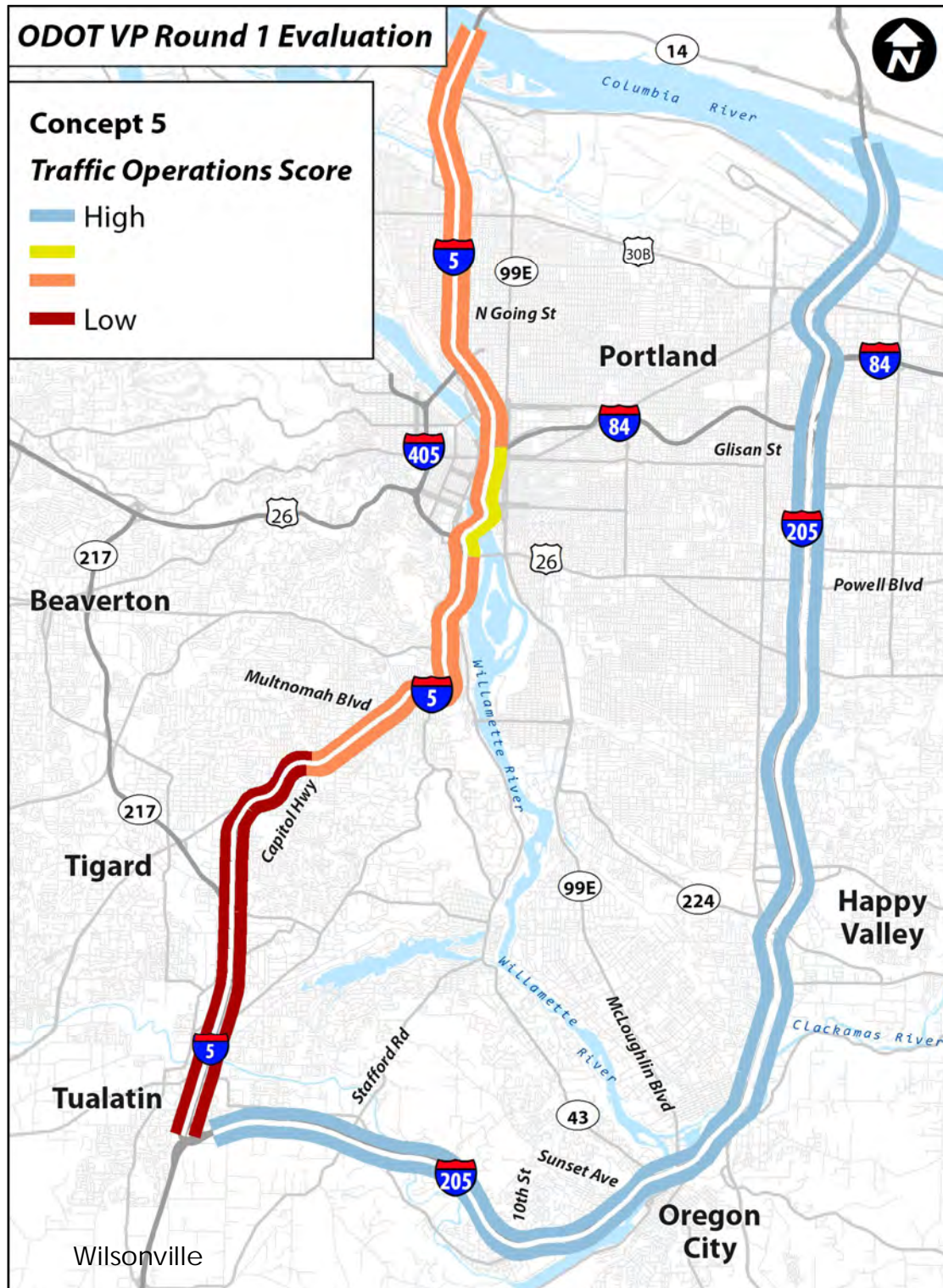


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3.6 Concept 5 – Baseline (no pricing) on I-5 with Priced Lane Construction on I-205

Figure 7. Concept 5 – Traffic Operations





Overview

- Round 1 analysis shows significant improvements in both person/vehicle throughput and travel time on I-205. The additional throughput on I-205 does not appear to reduce traffic on I-5. Therefore, travel time savings on I-5 are minor.
- § Traffic conditions on I-205 significantly improve due to the added capacity; however, the Round 1 analysis does not indicate a significant impact on I-5.
- § Naturally, costs are significantly less compared with constructing lanes on both I-5 and I-205 but lane construction cost along all of I-205 would be very high.

Traffic Operations

- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would not benefit from using the priced lane on I-205 because they are prohibited from operating in the left-most priced lane.⁶ However, all drivers would benefit from the added capacity overall, which would reduce demand for the general purpose lanes.
- § While adding an additional lane could improve conditions on I-205 within the study corridors, care must be taken that the facilities outside of the study corridors would not become significant bottlenecks due to the added lane being dropped at the study corridor boundaries.

Capital and Operations Costs

- § While this concept is not as expensive to implement as Concept 4, it would have substantial costs. Capital costs include the development of a back-office system to collect tolls, toll gantries along the tolled facilities, and lane restriping and signage improvements to delineate the tolled facilities as well as capital expenditures to construct a new lane on I-205.¹⁰
- § Revenue collection would be significantly less than would be experienced on the other concepts discussed previously.

Geometric and Physical constraints

- § Physical constraints are less on I-205 than on I-5; however, they do exist. Constraints primarily exist at interchanges, both with I-84 as well as with arterial roadways where widening on a structure (overpass), or widening under the structure (underpass) becomes more difficult due to the physical constraints of existing infrastructure. While interchanges may have issues relating to exiting and entering traffic that can make the issue more complex, any overpass or underpass may present a physical constraint.

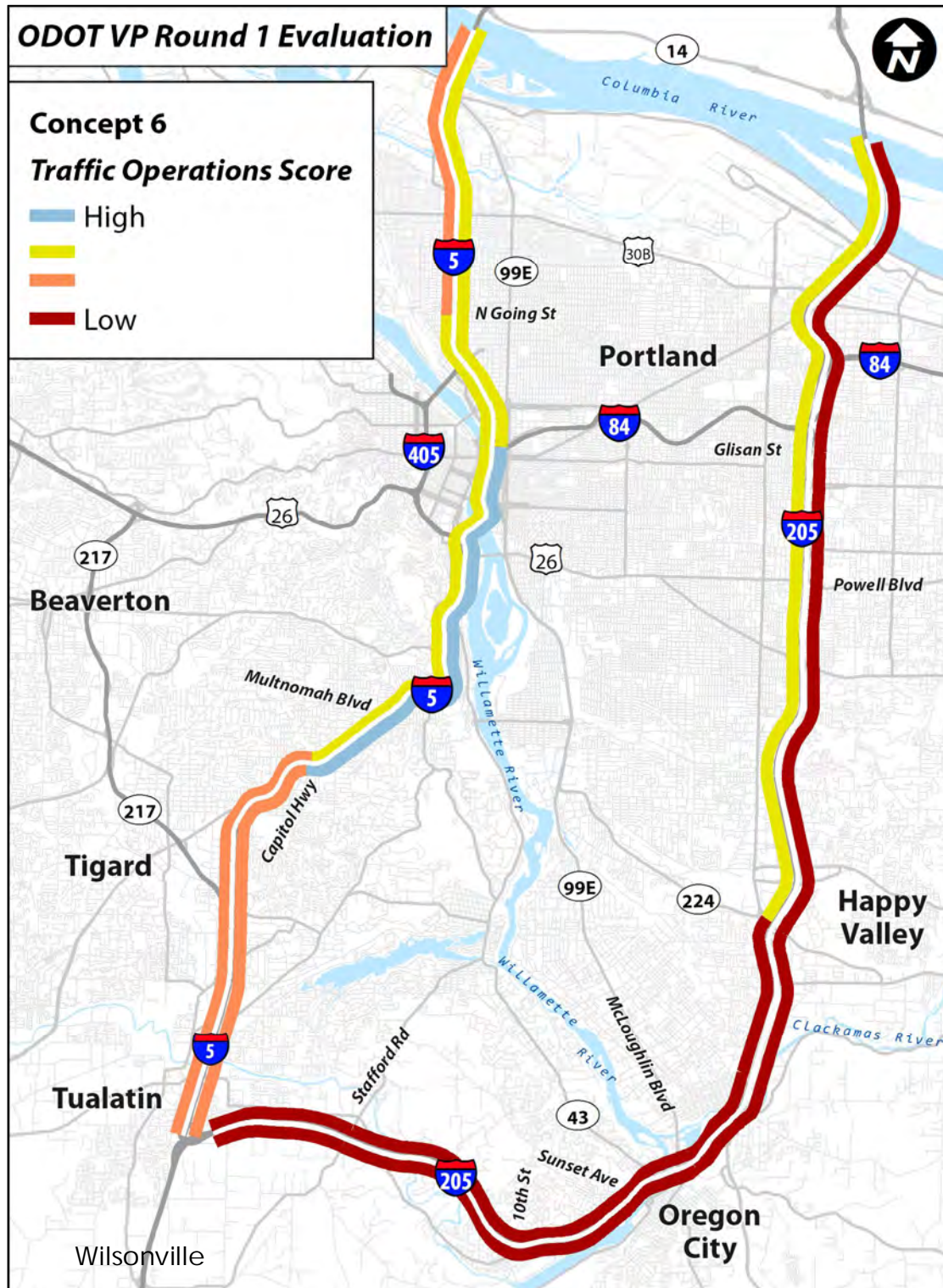
Equity and Mitigation

- § As all free general purpose lanes currently available on I-5 will remain, and only I-205 is impacted, the need for mitigation is reduced compared to options with tolling on two corridors. However, the need for mitigation still exists, and the mitigation is practically identical to that described under Concept 3 and Concept 4 on both I-5 and I-205.



3.7 Concept 6 – Priced Roadway on I-5 with Baseline (no pricing) on I-205

Figure 8. Concept 6 – Traffic Operations





Overview

- § This likely is the lowest-cost concept considered and could effectively manage the most congested segments in the study corridor: I-5 through most of Portland.
- § This is the only likely viable improvement through the downtown Portland area. Because of its effectiveness it is likely to bring significant congestion improvement to this area.
- § The ability to manage traffic outside of the immediate downtown Portland area assists in overall improvement to the transportation system.
- § Benefits would accrue to all users of I-5 including freight and transit.
- § Mitigation will be needed because all lanes of I-5 will be tolled. That said, priced roadway concepts tend to generate significantly more revenue than priced lanes, providing more opportunity for other types of improvements or mitigations.

Traffic Operations

- § The Round 1 analysis shows reduced throughput on I-5 during the peak period. The project team believes based on experience with tolled facilities around the country that I-5 would see traffic congestion relief. Overall, impacts and benefits on I-205 are expected to be relatively minor.
- § Peak period travel time improves significantly on I-5. This is one of the indicators driving the relatively high performance of this concept on I-5.
- § Benefits would accrue to all users of I-5 including freight and transit.

Capital and Operations Costs

- § Implementing this concept is the least costly. Capital cost would include the development of a back-office system to collect tolls as well as toll gantries.

Geometric and Physical Constraints

- § The same conditions apply as that for Concept 2 - Priced Roadway. However, since I-205 would not be tolled under this concept, the already minor constraints to implementing the concept are less.

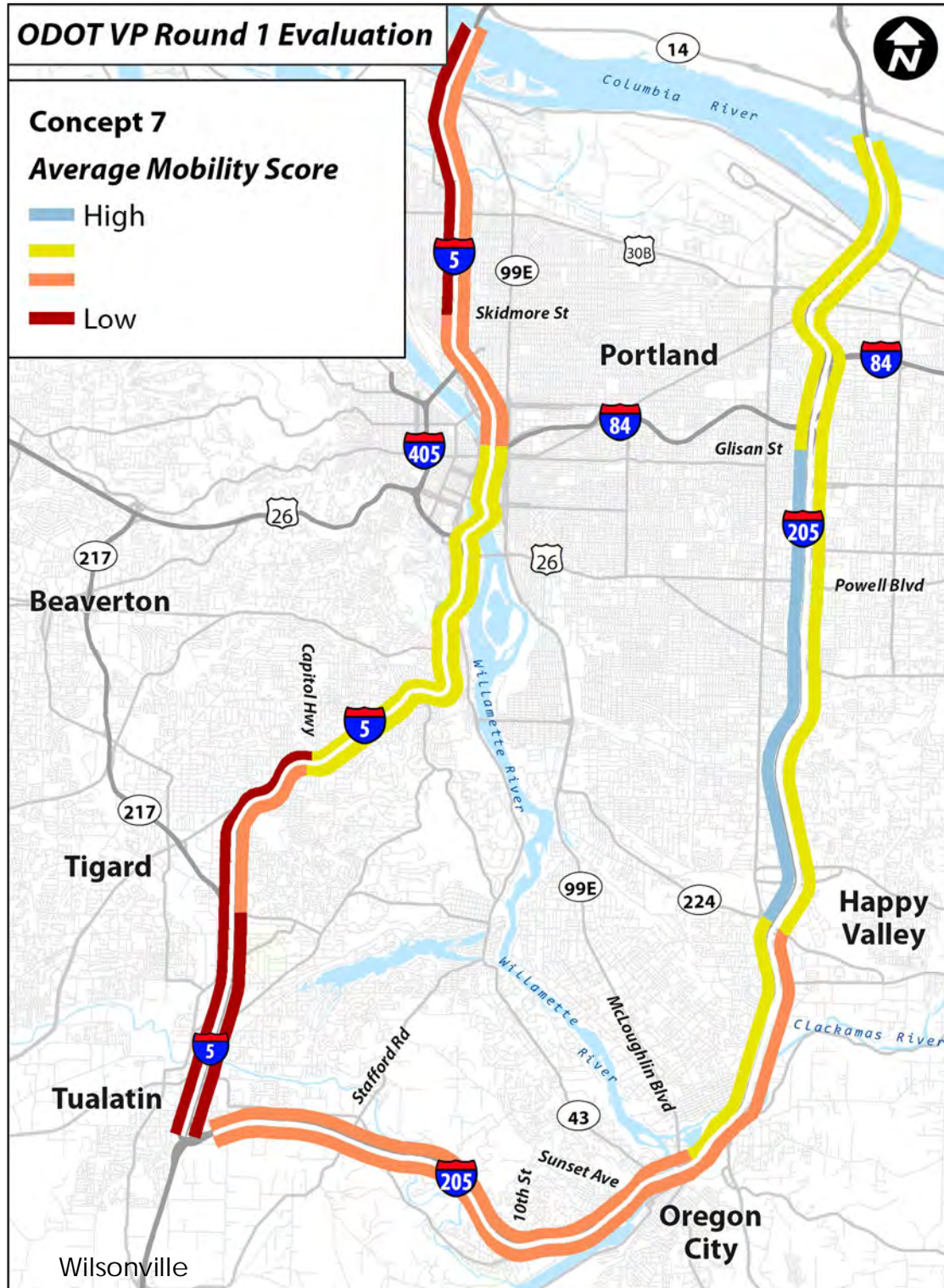
Equity and Mitigation

- § While not all lanes on both I-5 and I-205 are tolled, tolling all lanes on I-5 will still require a significant level of mitigation as all drivers accessing I-5 in the Portland metropolitan area must pay a toll.
- § As all lanes are tolled so all traffic on I-5 can be managed, the toll rates required to prevent congestion breakdown are less than they would be for vehicles paying a toll in a converted or single added lane concept.



3.8 Concept 7 – Priced Lane Conversion on I-5 with Priced Roadway on I-205

Figure 9. Concept 7 – Traffic Operations





Overview

- § Converting a general purpose lane on some segments of I-5 is problematic due to geometrics and interactions with other area freeways.
- § Round 1 analysis results show diversion from I-205 to multiple alternative routes.
- § Capital expenditures would be relatively low under this initial pricing concept.

Traffic Operations

- § As has been the pattern in a toll all lanes concept, during peak periods vehicle throughput on I-205 is reduced, but vehicle speeds increase.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would not benefit from using the priced lane on I-5 because they are prohibited from operating in the left-most priced lane.⁶ However, drivers of all vehicle types would benefit from the all lanes tolled concept element and travel speed increases on I-205.

Capital and Operations Costs

- § For reasons previously discussed for the convert a lane and toll all lanes concepts, capital expenditures for this concept are relatively low. Capital cost would include the development of a back-office system to collect tolls, toll gantries along the tolled facilities, as well as lane restriping and signage improvements to delineate the tolled facilities.
- § This concept would not collect as much revenue as an option that tolls both I-5 and I-205. The reduced toll collection would not offset the slight reduction of capital cost to implement the concept.

Geometric and Physical Constraints

- § Converting a general purpose lane on some segments of I-5 is problematic due to geometrics and interactions with other area freeways.
- § Physical constraints do not have a significant effect on a toll all lanes concept on I-205.

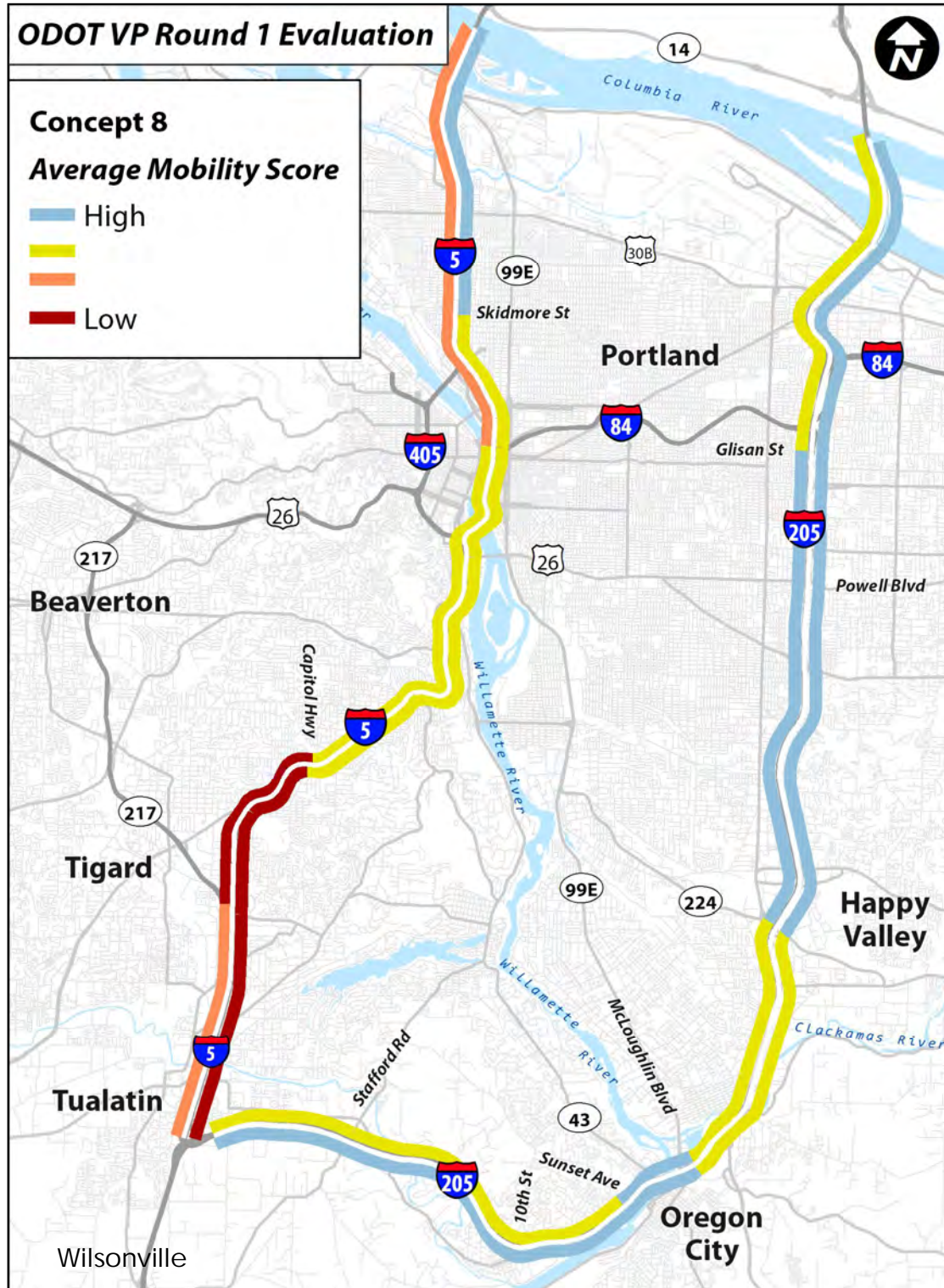
Equity and Mitigation

- While not all lanes on I-5 and I-205 are tolled, tolling all lanes on I-205 will still require a significant level of mitigation as all drivers accessing I-205 in the Portland metropolitan area must pay a toll.



3.9 Concept 8 – Priced Lane Conversion on I-5 with Priced Lane Construction on I-205

Figure 10. Concept 8 – Traffic Operations





Overview

- § Traffic conditions on I-205 significantly improve under this initial pricing concept.
- § Converting a general purpose lane on some segments of I-5 is problematic due to geometrics and interactions with other area freeways.
- § Costs are significantly less compared with constructing lanes on both I-5 and I-205.

Traffic Operations

- § The improved performance on I-205 does not appear to reduce vehicle traffic on I-5. For this reason, travel time savings on I-5 are minor.
- § While adding an additional lane could improve conditions on I-205 within the study corridor, care must be taken that the facilities outside of the study corridor would not become significant bottlenecks due to the added lane being dropped at the study corridor boundaries.
- § Vehicles 10,000 pounds and more (such as many freight trucks and transit vehicles) would not benefit from using the priced lane on I-5 because they are prohibited from operating in the left-most priced lane.⁶ However, all drivers would benefit from the added capacity on I-205, which would reduce demand for the general purpose lanes.

Capital and Operations Costs

- § As a lane is only being added to I-205 under this initial pricing concept, the capital cost is less than if lanes were constructed on both I-5 and I-205. However, this will still result in a significant capital expense.
- § Capital cost would include the construction of a lane, development of a back-office system to collect tolls, toll gantries along the tolled facilities, as well as lane restriping and signage improvements to delineate the tolled facilities.
- § Revenue collection would be significantly less than would be experienced on the other concepts.

Geometric and Physical Constraints

- § Physical constraints are less on I-205 than on I-5, though they exist near interchanges, overpasses, and in urban areas or where topography is steep.

Equity and Mitigation

- § All toll-free general purpose lanes available currently on I-205 will remain available under this initial pricing concept. There is a general purpose lane converted to tolling on I-5, so the need for mitigation is again less than some concepts, but still exists. Mitigation findings are similar to Concept 4.
- § Widening I-205 the entire length could have impacts on property and buildings in the urban areas, as well as potential impacts on community cohesion in particular areas. More detailed analysis of environmental and social impacts would occur in a future NEPA process (after December 2018).



4 ROUND 1 EVALUATION RESULTS: PROJECT TEAM RECOMMENDATIONS

Informed by the evaluation and public input on the initial concepts, as well as project team experience with congestion pricing systems throughout the US, the project team identified five pricing concepts to move forward into the round 2 technical evaluation and future public outreach. The concepts define the pricing strategy and the location. The project team chose these concepts for their ability to address congestion issues on I-5 and I-205 and their ability to examine differing types of strategies in addressing different congestion related issues. It is possible that other strategies may be implemented in the Portland metropolitan area in the future. The five concepts identified here provide the best look at the potential for tolling options to be developed in the Portland metropolitan area. The concepts below are not presented in any rank or order.

4.1 Round 2 Concept A: Northern I-5 Priced Lanes

Round 2 Concept A would place tolls on the existing HOV lane from south of the Martin Luther King Jr. Boulevard/Marine Drive/Delta Park interchange to the Going Street/Alberta Street interchange in north Portland to allow single-occupancy vehicles to access the HOV lane. It would also convert the leftmost southbound general purpose lane to a priced lane along the same segment. This project would allow this widely used strategy in the US to be examined in the Portland metropolitan area.

For evaluation purposes, this round 2 evaluation concept assumes that both the northbound and southbound priced lane projects would be completed. However, if this concept is recommended for implementation, future analysis may determine a two-phased project implementation approach.

Key reasons this concept was chosen:

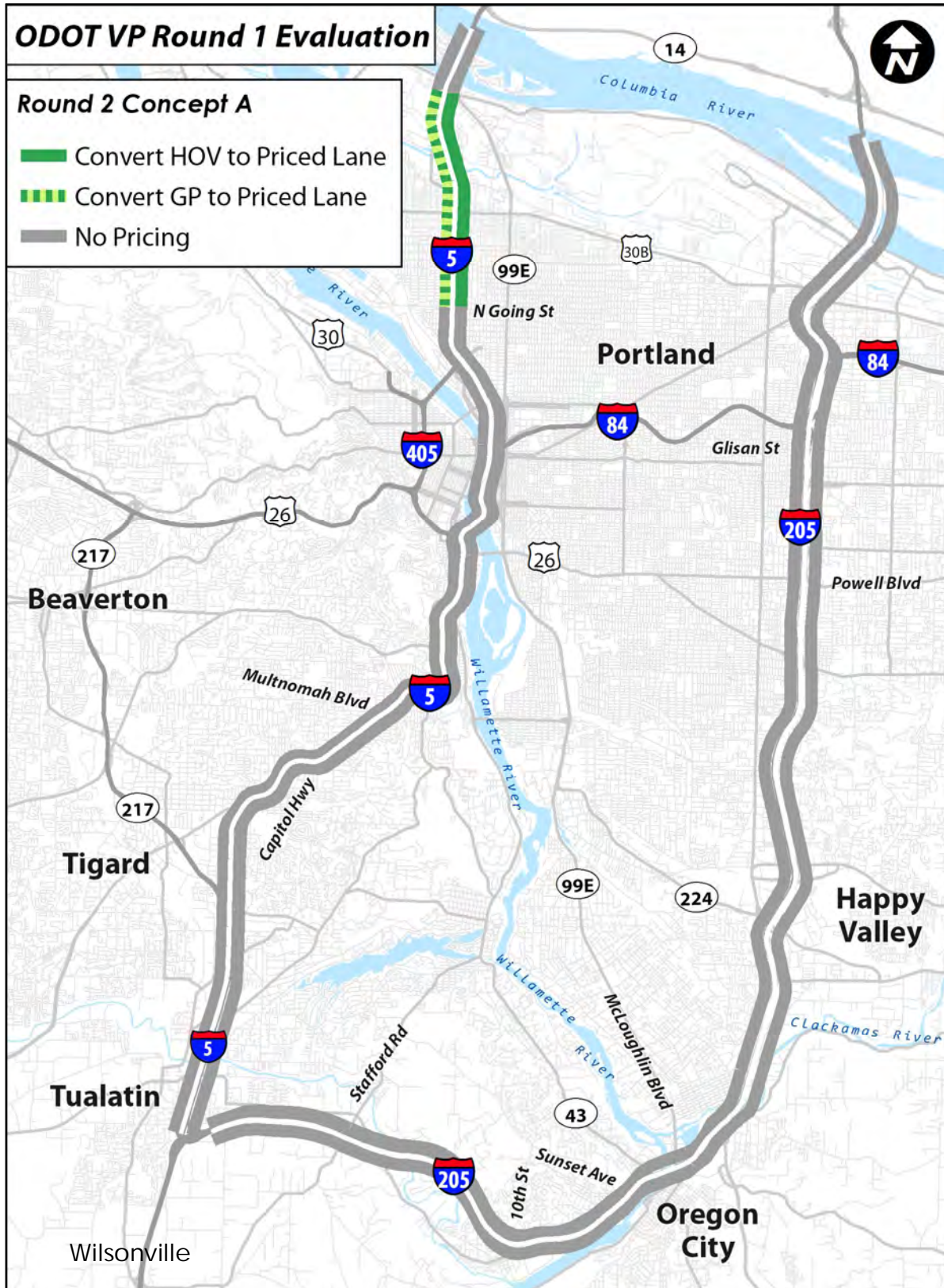
- § The conversion of the northbound HOV lane can be implemented more quickly than any of the other round 2 evaluation concepts because it requires minimal federal approval (northbound HOV lane conversion only).
- § Congestion on the segment of I-5 is significant.
- § This would be the least expensive Round 2 concepts to implement.

Key topics to consider during the round 2 evaluation or later:

- § Current HOV performance.
- § Number of occupants to be allowed in the priced lane for free or reduced toll.
- § Diversion to OR99E and other roadways adjacent to the tolled facility.
- § Requirements of federal regulations and NEPA.



Figure 11. Round 2 Concept A: Northern I-5 Priced Lanes





4.2 Round 2 Concept B: I-5 Toll All Lanes between Going St./Alberta St. and Multnomah Blvd.

Round 2 Concept B would toll all lanes on I-5 in and near downtown Portland between the Going Street/Alberta Street interchange to the north and the Multnomah Boulevard interchange to the south. Traffic flow in this area is perhaps the most problematic of the corridors. Other priced lane options that were considered have significant viability and operational limitations, including cost prohibitive construction and limitations for freight benefits. This is also a relatively low cost type of project to implement. For these reasons, the roadway toll in this segment should be examined to address this major congested corridor.

Key reasons this concept was chosen:

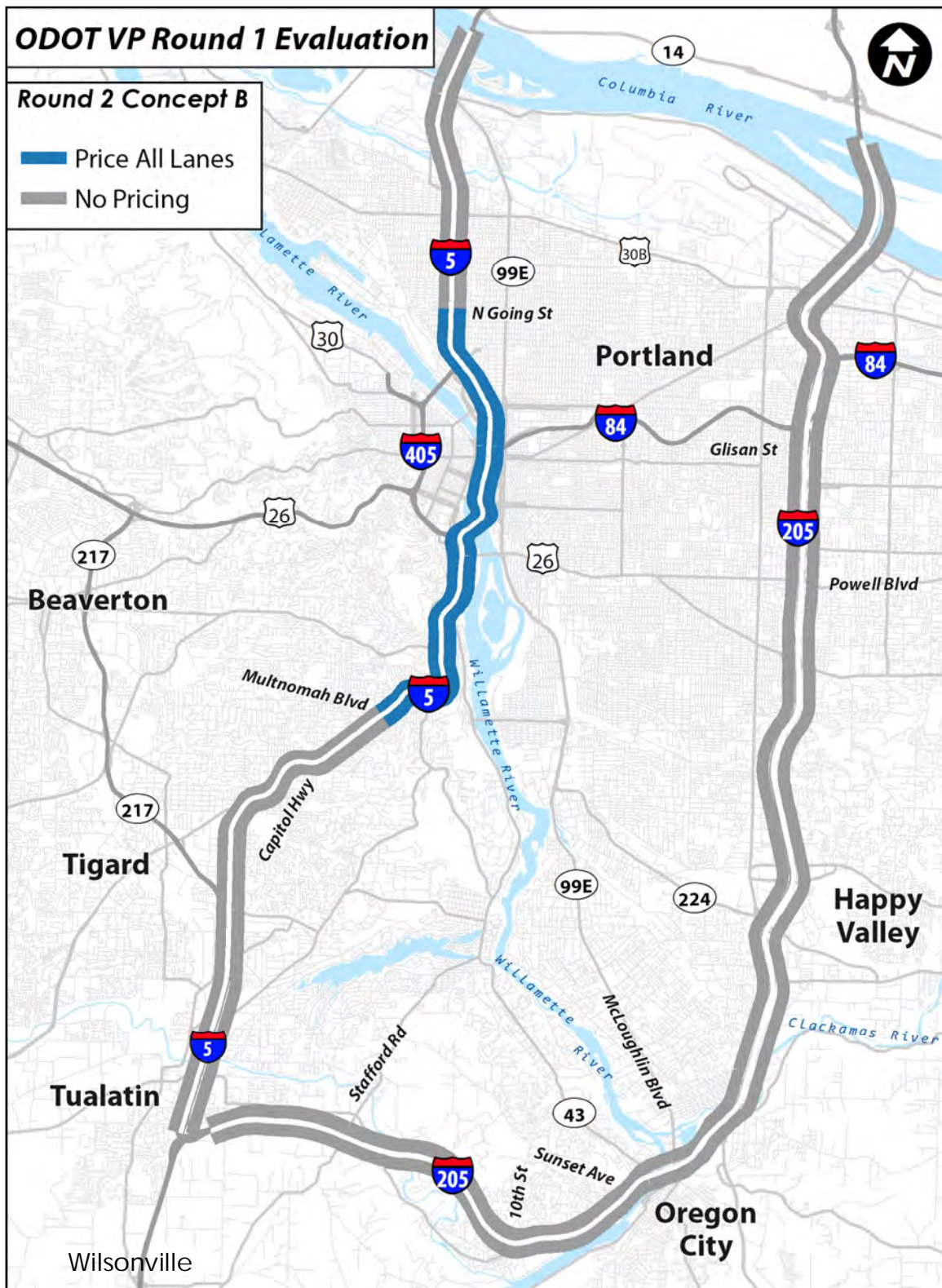
- This is a key area of traffic concern, but it has a very limited number of potential solutions to improve traffic flow without significant and impactful capital construction.
- This round 2 concept provides the possibility of developing a revenue source for improvements in this section of freeway.
- Congestion in this area of I-5 is among the most severe in the Portland metropolitan area.

Key topics to consider during the round 2 evaluation or later:

- Diversion to the Lloyd District, I-405 and Grand Ave/Martin Luther King, Jr. Blvd.
- Mode shift to transit.
- Equity impacts and potential mitigation measures.
- Requirements of federal regulations and NEPA.



Figure 12. Round 2 Concept B: I-5 Toll All Lanes between Going St./Alberta St. and Multnomah Blvd.





4.3 Round 2 Concept C: Priced Roadway – Toll All Lanes

Round 2 Concept C would toll all lanes of I-5 and I-205 within the study corridors from the state line to the merge of I-5 and I-205.

Key reasons this concept was chosen:

This alternative provides significant congestion relief as it maximizes the ability to manage traffic efficiency on north-south freeways the length of the entire region.

- § This alternative is likely to raise the most revenue that could be used to improve geometric conditions on area roadways, and could provide capital revenue for transit projects on the roadways, or other mitigation measures.
- § Compared to the expense of adding new roadway lanes, this alternative is relatively inexpensive to implement.
- § As described in the evaluation, the Priced Roadway – Toll All Lanes initial concept was the most effective at reducing congestion. It also would likely result in the highest net revenue. As such this concept may have the most opportunity for tolling during congested times of the day while providing the most funding toward mitigation strategies.

Key topics to consider during the round 2 evaluation or later:

- § Diversion to roadways adjacent to the tolled facilities.
- § Impacts on I-84, I-405 and the Boone Bridge over the Willamette River in Wilsonville, Oregon.
- § The option to only impose tolls during congested periods (allowing for un-tolled times).
- § Requirements of federal regulations and NEPA.
- § Equity impacts and potential mitigation measures.



Figure 13. Refined Concept C: Priced Roadway – Toll All Lanes





4.4 Round 2 Concept D: I-205 Priced Lane – OR99E to Stafford Rd.

Round 2 Concept D proposes that a third general purpose lane in each direction on I-205 between the OR99E interchange and the Stafford Road interchange be converted to a priced lane and that the new lane planned to be constructed by 2027 in both directions between Stafford Road through the Abernethy Bridge be constructed as this priced lane. This concept will examine the feasibility of accelerating planned project schedules by using toll revenue.

Key reasons this concept was chosen:

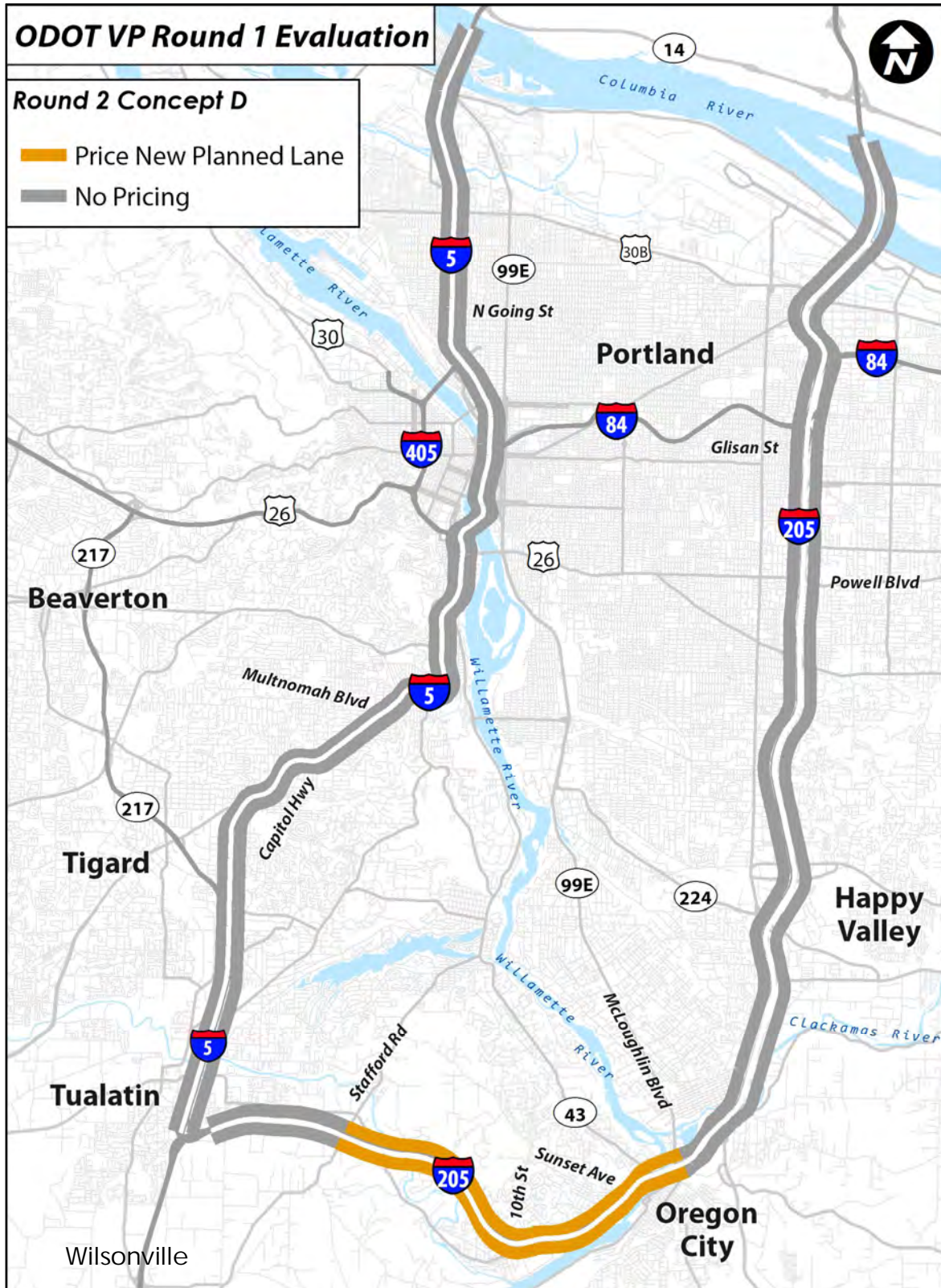
- § It removes a two-lane bottleneck that has three-lane cross sections on both ends of the concept.
- § It may provide additional revenue that may allow a needed infrastructure project to be significantly accelerated.
- § It has the potential to resolve congestion issues that exist in the southern corridor.

Key topics to consider during the round 2 evaluation or later:

- § Diversion to roadways adjacent to the tolled facilities.
- § Requirements of federal regulations and NEPA.
- § Operational effects on I-5.



Figure 14. Round 2 Concept D: I-205 Priced Lane – OR99E to Stafford Rd.





4.5 Round 2 Concept E: Abernethy Bridge Priced Roadway

This concept was identified to address a funding need for a planned congestion-relief project – a third lane on I-205 between Stafford Road and the Abernethy Bridge, including the Abernethy Bridge widening itself. The evaluation of the priced lane conversion concept in this location (Initial Concept 3) showed that the planned third lane is expected to achieve improved traffic operations. For this reason, a priced lane in this vicinity (Round 2 Concept D) is included for Round 2 analysis.

However, experience with other congestion pricing projects in the US has shown that a single priced lane of this length would not be expected to generate sufficient revenue to pay for the Stafford Road to Abernethy Bridge Widening project. Concept E was identified as a strategy to address this bottleneck by generating net revenues to fund construction. While the emphasis of the Value Pricing Feasibility Analysis has been congestion pricing, the inclusion of Concept E as a revenue strategy is consistent with the PAC Charter because it considers how to fund a congestion-relief project through pricing. It also is consistent with the direction of House Bill 2017, Section 120.

Round 2 Concept E was identified as a strategy to address the two-lane bottleneck on I-205 by tolling all lanes of I-205 on the Abernethy Bridge. This concept will examine the feasibility of providing funding for the Abernethy Bridge reconstruction project by using toll revenue.

Key reasons this concept was chosen:

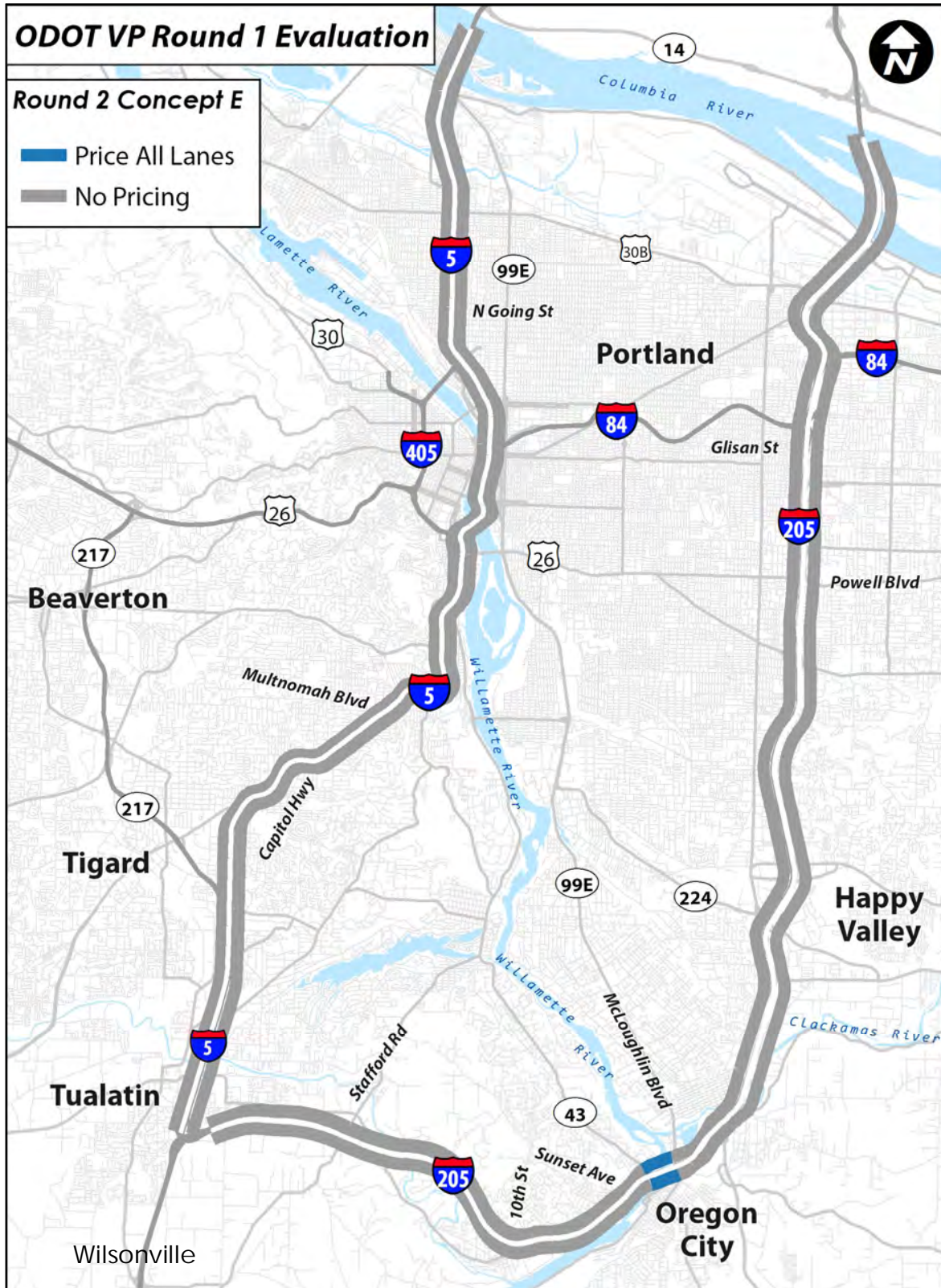
- § Without net funding from tolling, this known bottleneck and regional priority project could not be built. This concept will examine the viability of tolling as a funding source at this location for a planned project.
- § This bridge toll project would enable the removal of a two-lane bottleneck at the Abernethy Bridge to improve traffic operations and reduce vehicle crashes.
- § It could accelerate implementation of seismic upgrades to the Abernethy Bridge.
- § It provides additional revenue that may allow a needed infrastructure project to be significantly accelerated.
- § It has the potential to resolve congestion issues that exist in the southern corridor.

Key topics to consider in Round 2 evaluation or later:

- § Diversion to roadways adjacent to the tolled facilities.
- § Requirements of federal regulations and NEPA.
- § Anticipated revenue potential to support the construction of the I-205 widening project.
- § Operational effects on I-205.



Figure 15. Refined Concept E: Abernethy Bridge Priced Roadway





5 POTENTIAL REFINEMENT OF ROUND 2 CONCEPTS

As presented, the Round 2 evaluation concepts A through E are standalone congestion management strategies. However, the Policy Advisory Committee may wish to consider a recommendation to implement two or more of the concepts together as a larger strategy to address multiple congestion issues on I-5 and I-205. For instance, Concept A – Northern I-5 Priced Lanes could be implemented with Concept D – I-205 Priced Lane on I-205 between OR99E and Stafford Road. All the Round 2 concepts or any combination of them, aside from Concept C – Priced Roadway (I-5 and I-205), could be implemented as a regional approach to congestion management. If two or more concepts were implemented, the operational benefits and impacts would be different than if only one concept is implemented. Additional analysis would be required to determine whether the effect of combining multiple Round 2 concepts would be positive or negative.



INTRODUCTION TO THE APPENDICES:

Purpose of Round 1 Evaluation and the Use of Results

The purpose of analysis performed in Round 1 is to identify concepts that warrant additional evaluation and to screen out the concepts that are not viable or not advised. Methodologies chosen for use in Round 1 facilitated the analysis of many concepts such that project resources were used efficiently and subsequent phases of the project could focus on those concepts more likely to bring about the goals of the PAC in its charge. Round 1 analysis is not designed to be a final determination of the preferred method.

The technical analysis is used to inform an assessment of the relative performance of the value pricing building blocks when applied broadly. While these results provide a good indicator of relative performance, the final analysis and recommendation is informed by professional judgment and best practices. Concepts that move forward will need to reconsider the analysis assumptions and methods.

Existing Congestion

Congestion on urban freeways is of two types. As traffic demand increases, speeds on the freeway begin to drop. Speeds, which may be 65 mph or more under totally uncongested conditions, can drop into the 40 mph range. While this is not ideal, traffic flow remains continuous, and the facility's ability to move traffic volumes is not impacted. However, as demand increases even further, the facility becomes hyper-congested. Under hyper-

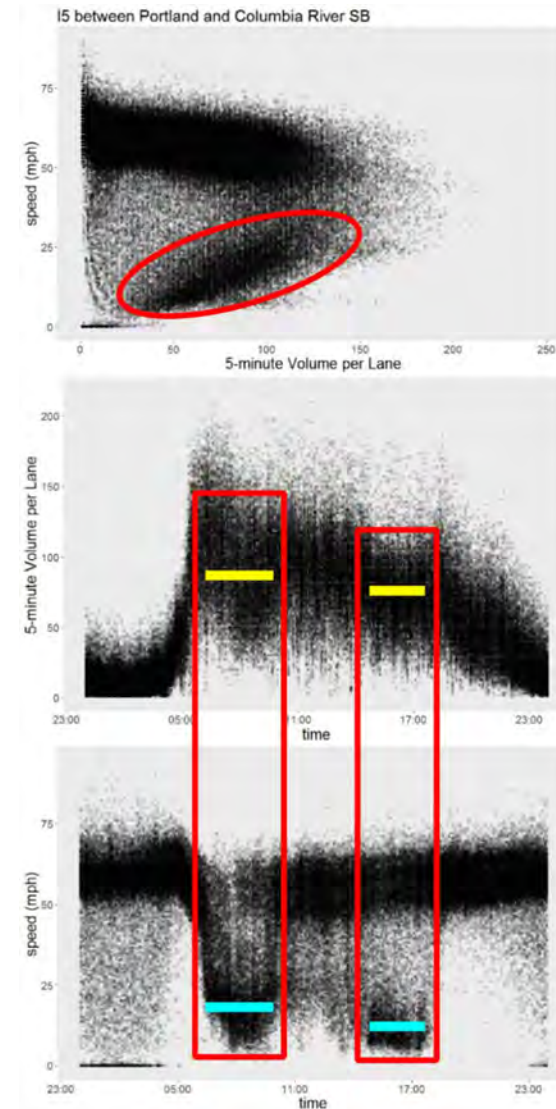


Figure A – Hyper Congestion



congested conditions, traffic speeds are not only significantly slowed (below 45 mph), but vehicle throughput is also reduced by the congestion itself. An example of existing hyper-congested conditions on I-5 south of the Columbia River is shown in Figure A above.

The three graphics shown in Figure A are simple scatter plots of actual volume and speed data from an existing automatic traffic count station on I-5. Each of these graphics are formed from a dot placed on the graph based on the speed versus the volume observed (top), or the traffic volume versus the time observed (middle), or the traffic speed versus the time observed over a large number of observations (bottom). While no attempt was made to form a pattern, the areas within the red shapes are showing the presence of hyper-congestion, the yellow bars show the approximate average throughput volumes, and the light blue bars show the approximate average speed during hyper-congestion. As such, I-5 in this area is not currently operating close to its optimum throughput during peak travel periods. Similar patterns are observed on other areas of I-5 and I-205.

The Impact of Hyper-Congestion

At optimum throughput, just prior to congested conditions setting in, this section of I-5 carries the equivalent of 1,900 – 2,200 vehicles per hour per lane. However, as shown in Figure A, average vehicle throughput per lane is approximately 80 vehicles per lane for a five-minute interval during peak periods. This equates to 960 vehicles per lane per hour - approximately 50% of what would be expected if the freeway were functioning efficiently.

Hyper-congestion also impacts speeds, which are averaging approximately 60 mph during off-peak periods and drop to approximately 10 mph during peak periods.

Impact on Diversion and Throughput Results

The traffic performance reported in Round 1 was based, in part, on Metro's latest Trip-Based Travel Demand Model. Metro's Models are identified with names as they are updated, with Metro's "KATE" version used in this analysis. It was chosen to maintain consistency with other planning tools used in the region.

Models such as KATE are excellent planning tools and can produce a wide variety of information. Taking into account and reporting out changes under hyper-congested conditions is not, however, the model's strongest point. In fact, it is likely that the model is over-reporting both diversion and throughput reduction compared to what would be expected under hyper-congested operating conditions. This happens because this type of model is based on total demand rather than total volume and therefore cannot predict likely roadway function under hyper-congested conditions. Modeling results were certainly not ignored in Round 1, and the results helped to inform many decisions. The team did, however, take into account the ways in which KATE might be over-reporting diversion and reduced throughput in its results.

Moving into Round 2, the modeling team is investigating ways that the KATE model can better address hyper-congested conditions.



APPENDIX A: ROUND 1 METHODOLOGY AND SCREENING DATA DEVELOPMENT

Appendix A presents the evaluation type and tools used to perform the analysis for each performance measure in Round 1. A description of the need for the performance measure and the scoring criteria also is provided. Scores range from 0 to 5. The higher the number, the better the strategy and roadway section performance ranked under that criterion. A brief discussion of likely differences between Round 1 and Round 2 analysis can be found at the end of Appendix A.

Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Transit service and active transportation	§ Adequacy of transit service	Qualitative	Transit System Maps, Aerial Review	<p>The ability of a pricing concept to increase the use of transit is dependent on the adequacy of transit services within the area. Drivers with little to no access to viable transit services will not be able to use transit as an alternative to travel in a personal vehicle. This metric assesses the availability of transit services, or planned transit service along segments of I-5 and I-205. Segments with frequent transit services running along the direct route with short headways (15-minute arrivals or better), segments with many transit stations and/or park-and-ride facilities will be scored higher.</p>	<p>0 – Low to Non-existent: Segments with no existing transit service, or only one route with long headways.</p> <p>2.5 – Medium: Segments with one transit route with relatively short headways, or multiple routes with longer headways. Additionally, one park-and-ride lot or major transit station within a one mile radius.</p> <p>5 – High: Segments with multiple routes with short headways running along its length and served by more than one park-and-ride lot or major transit station.</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Transit service and active transportation	<p>§ Options for bicycle and pedestrian travel on routes with diverted traffic</p>	Qualitative	<p>RTP Existing Regional Bicycle Network and RTP Existing Regional Pedestrian Network</p>	<p>This metric assesses the availability and adequacy of bicycle and pedestrian infrastructure that might serve as a non-vehicular alternative mode to travel in a personal vehicle. Concepts with available bicycle and pedestrian options will be scored higher.</p>	<p>0 –Non-existent bicycle and pedestrian options.</p> <p>2.5 – Medium: Segments with minimal bicycle and pedestrian options.</p> <p>5 – High: Segments with multiple bicycle and pedestrian options.</p>
Traffic operations improvement on I-5 and I-205	<p>§ Vehicle and person throughput on I-5 and I-205 during the PM peak 2-hour period</p>	Quantitative (vehicles and persons)	TOM	<p>This metric describes the number of vehicles and the number of people moved in those vehicles along segments of I-5 and I-205. Pricing concepts that increase the number of vehicles and people moving along a segment of I-5 or I-205 during the PM peak 2-hour period will score higher than those pricing concepts that do not move as many vehicles and people or reduce overall throughput.</p>	<p>0 – Does not improve (or reduces) vehicular or person throughput</p> <p>1- Results in marginal improvements in throughput (up to 5 percent improvement over the baseline))</p> <p>3 – Results in noticeable improvements to throughput (between 5 to 10 percent improvement over the baseline)</p> <p>5 – Results in significant improvements to throughput (over 10 percent improvement over the baseline)</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Traffic operations improvement on I-5 and I-205	§ Freight truck throughput on I-5 and I-205 during the PM peak 2-hour period	Quantitative	TOM	This metric describes the number of commercial and other heavy freight vehicles that move along segments of I-5 and I-205. Pricing concepts that increase the number of commercial vehicles moving along a segment of I-5 or I-205 during the PM peak 2 hour period will score higher than those pricing concepts that do not move as many vehicles or reduce overall throughput.	<p>0 – Does not improve vehicular or person throughput</p> <p>1- Results in marginal improvements in throughput (up to 5 percent improvement over the baseline))</p> <p>3 – Results in noticeable improvements to throughput (between 5 to 10 percent improvement over the baseline)</p> <p>5 – Results in significant improvements to throughput (over 10 percent improvement over the baseline)</p>
Traffic operations improvement on I-5 and I-205	§ Travel time on I-5 and I-205 (both priced managed lanes and general purpose lanes (if any in the strategy) during the PM peak 2-hour period	Quantitative (priced managed lanes and general purpose lanes (if any in the strategy) evaluated separately)	TOM	Pricing frees available freeway capacity and provides tools to better manage that capacity. As such, pricing should reduce the amount of time it takes to travel along a freeway on priced managed lanes, or (evaluated as a separate criterion) general purpose lanes, if there are any in the strategy. This metric describes the time it takes a passenger vehicle to travel along a segment of I-5 and I-205 during the PM peak 2-hour period. Pricing concepts that reduce travel time will receive a higher score than pricing concepts that do not improve travel time or increase travel times.	<p>0 – Does not reduce travel times or results in increased travel times.</p> <p>1- Results in marginal improvements to travel time (up to 5 percent reduction relative to the baseline))</p> <p>3 – Results in noticeable improvements to travel time (between 5 to 10 percent decrease relative to the baseline)</p> <p>5 – Results in significant improvements to travel times (over 10 percent reduction relative to the baseline)</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Traffic operations improvement on I-5 and I-205	§ Travel time on Managed Lanes during the PM peak 2-hour period	Quantitative (on strategies without both managed and general purpose lanes, this is not ranked)	TOM	Managing congestion on a designated lane on a freeway maintains its free-flow travel conditions resulting in a reduced travel time compared with the general purpose lanes.	<p>0 – Does not reduce travel times or results in increased travel times.</p> <p>1- Results in marginal improvements to travel time (up to 20 percent reduction relative to the baseline))</p> <p>3 – Results in noticeable improvements to travel time (between 20 to 40 percent decrease relative to the baseline)</p> <p>5 – Results in significant improvements to travel times (over 40 percent reduction relative to the baseline)</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Traffic operations improvement on I-5 and I-205	§ Freight truck travel time on I-5 and I-205 during the PM peak 2-hour period	Quantitative	TOM	Pricing frees available freeway capacity and provides tools to better manage that capacity. As such, pricing should reduce the amount of time it takes to travel along a freeway if traveling in a priced lane. Travel in general purpose lanes may or may not improve in strategies with both priced and general purpose lanes. In strategies with all lanes priced, all vehicles, including freight vehicles travel in price managed lanes. In strategies with both priced and general purpose lanes, freight vehicles were assumed to travel only in the general purpose lanes. This metric describes the time it takes a commercial or heavy freight vehicle to travel along a segment of I-5 and I-205 during the PM peak 2-hour period. Pricing concepts that reduce travel time for freight vehicles, regardless of whether they travel in priced lanes or general purpose lanes will receive a higher score than pricing concepts that do not improve travel time or increase travel times.	<p>0 – Does not reduce travel times or results in increased travel times.</p> <p>1- Results in marginal improvements to travel time (up to 5 percent reduction relative to the baseline))</p> <p>3 – Results in noticeable improvements to travel time (between 5 to 10 percent decrease relative to the baseline)</p> <p>5 – Results in significant improvements to travel times (over 10 percent reduction relative to the baseline)</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Traffic operations improvement on I-5 and I-205	§ Trip length distribution	Quantitative, but moved to Round 2 as policy decisions related to strategies have a significant impact on results	SWIM (long trips)	Pricing may serve to discourage drivers from making short distance trips on the freeway or may provide an incentive to use alternate, toll free routes or other modes for short trips. This results on more freeway capacity for drivers making longer distance trips. This metric describes the change in the distribution of trip lengths along segments of I-5 and I-205. Pricing concepts will be scored higher if they result in trip distributions on the freeway with a higher mean/median trip length; indicating that fewer drivers are making short distance trips on the facility.	<p>0 – Does not result in any change to trip length distribution or reduces the mean/median trip length along segments of I-5 or I-205.</p> <p>1- Results in marginal increases in mean/median trip length (up to 10 percent increase relative to the baseline)</p> <p>3 – Results in noticeable increases in mean/median trip length (between 10 and 25 percent increase relative to the baseline)</p> <p>5 – Results in significant increases in mean/median trip length (over 25 percent increase relative to the baseline)</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Diversion of traffic	§ Level of diverted trips onto adjacent facilities	Qualitative	Graphics Developed from KATE Output	Pricing concepts may result in some level of vehicular diversion from the priced roadway onto adjacent arterials. While this may improve operations on the freeway it can place additional strain on nearby arterials and major surface street routes. This metric qualitatively assesses the amount of vehicular traffic that might divert to nearby arterials from I-5 and I-205 as a result of pricing. This will include both the impact of the strategy as well as the availability of reasonable diversion options. Pricing concepts that are not expected to result in high levels of diversion will be scored higher. The level of diversion will include trip length with longer trips assumed to have more impact.	<p>0 – High: Pricing concept is expected to result in diversion such that operating conditions on adjacent facilities will be degraded significantly</p> <p>2.5 – Medium: Pricing concept is expected to result in diversion but operational performance on those arterials should not be degraded significantly</p> <p>5 – Low: Pricing concept is expected to have minimal diversion and operations on adjacent facilities will not be impacted.</p>
Diversion of traffic	§ Regional impact to state highways outside of Metro area	Qualitative	SWIM	Pricing may incentivize drivers to not travel on I-5 and I-205 and travel instead on other regional highways. Furthermore, pricing of these two roads could lead to changes in what roadways drivers use traveling into and out of the Portland metro region. This metric provides an assessment of the impact of pricing concepts on state highways outside of the Metro area. Concepts that are not expected to negatively impact other regional highways outside of the Portland metro area will be scored higher. This metric is linked to the metric “Level of diverted trips onto adjacent facilities.”	The SWIM model indicated that the impacts of all strategies would have a negligible effect on state highways outside of the Metro Area. As this criterion will not have an impact on the selection of strategies to move into Round 2, diversion impacts in the analysis are based solely on impacts to adjacent facilities. As described above.



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Diversion of traffic	§ Mode share (HOV, SOV, light rail, and bus) used for multiple objectives	Qualitative	Based on the type of strategy developed and the availability of Transit, Bicycle, and Pedestrian facilities	Pricing may result in changes to modal use. Drivers may choose to carpool and share the cost of tolls or they may choose to use non-toll alternatives such as transit. Modal shift and, in particular, mode shifts that increase vehicular occupancy are beneficial in that it reduces congestion and can improve operations. This metric assesses the potential for pricing concepts to lead to changes in mode share. Concepts that result in a higher proportion of alternate mode use will be scored higher.	0 – Low: Pricing concept is not expected to change modal share or will increase the share of SOVs on segments of I-5 and I-205. 2.5 – Medium: Pricing concept may reduce SOV utilization by 5 percent or less along segments of I-5 and I-205. 5 – High: Pricing concept may reduce SOV utilization by 10 percent or more as a share of all modes on segments of I-5 and I-205
Diversion of traffic	§ Safety impacts to all modes of transportation on routes with diversion	Qualitative	Based on the level of trip diversion and the availability of bicycle and pedestrian facilities	The diversion of trips from a priced facility to adjacent arterials and other roadways may degrade operational performance on those facilities and could increase safety risks. This metric qualitatively assesses the potential of pricing concepts to increase safety risks on adjacent facilities due to diversion and is therefore linked to the metric "Level of diverted trips onto adjacent facilities." Concepts that do not result in high levels of diversion to adjacent facilities will therefore be scored higher.	0 – High: Pricing concept is expected to result in increased safety risks on adjacent facilities due to diversion of trips 2.5 – Medium: Pricing concept is expected to result in diversion to adjacent facilities but safety risks on those facilities will be minimal 5 – Low: Pricing concept is expected to have minimal diversion and will not result in any new safety risks for adjacent facilities



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Equity impacts	<p>§ Changes in travel times comparing the lowest travel speeds from any given strategy (i.e. general purpose lanes instead of priced lanes on convert a lane strategies) to the baseline speed on the I-5 and I-205 facilities</p>	Quantitative	KATE	<p>Pricing is being considered on two key area highways: I-5 and I-205. These facilities are likely used disproportionately by Portland metro region drivers based on where they live and travel. Similarly, the pricing of these facilities may have disproportionate impacts to Portland metro region drivers again based on where they live and drive. This metric assesses the change in travel times and travel costs for drivers in key origin/destination points within the I-5 and I-205 corridors. Pricing concepts that decrease travel times and/or do not result in significant increased cost for drivers in the origin/destination points will receive higher scores.</p>	<p>0 – Pricing concept will increase travel times and will result in higher travel costs for drivers.</p> <p>1 – Pricing concept will improve travel times but will impose significant additional travel costs</p> <p>3 – Pricing concept will significantly improve travel times but with additional travel costs.</p> <p>5 – Pricing concept will significantly improve travel times and with only marginal increases in overall travel costs.</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Impacts on the community, economy, and environment	§ Physical impacts to existing residences and businesses	Qualitative	Based on review of aerials with an understanding of the location of EJ communities	The implementation of pricing may require new construction or changes to existing operations that could potentially impact nearby residences and businesses. This metric assesses each concepts potential to require significant construction or changes to the current roadway footprint for segments of I-5 and I-205. Concepts that do not require new construction or would not require significant changes to the operation of nearby roadways will receive higher scores. This metric is linked to the metric "Capital expenditure on facility."	<p>0 – High: Concept will require new construction or significant changes to current roadway footprint such that nearby residences and businesses can be expected to see significant impacts. Significant impacts to EJ communities will also result in a score of "High"</p> <p>2.5 – Medium: Concept will require new construction, reconstruction, or changes to existing roadway footprints within the segment that will likely impact some nearby residences and businesses. EJ communities are impacted.</p> <p>5 – Low to Non-existent: Concept will not require new construction or changes to existing roadway footprints within the segment</p>



Factor	Performance Measures	Evaluation Type	Tool	Description	Scoring
Cost	\$ Capital expenditure on facility	Qualitative	Based on the likely need for ROW, structures, or other elements that significantly impact price.	Different pricing concepts are likely to require differing levels of capital expenditures for implementation. Furthermore, many segments of the I-5 and I-205 corridors are physically constrained in terms of available right-of-way or the presence of other infrastructure such as bridges. This metric provides an assessment of potential capital expenditures based on the requirements of the concept itself and the presence of limiting factors (such as a lack of ROW) along key corridor segments. Concepts that will require minimal capital expenditures will be scored higher. This metric is linked to the performance metric "Physical impacts to existing residences and businesses."	<p>0 – The concept can be accommodated within the segment but major construction and/or right of way procurement will be required</p> <p>2.5 – The concept can be accommodated within the segment with moderate capital expenditure.</p> <p>5 – The concept can be accommodated within the existing ROW of the segment with minimal capital expenditure.</p>

Round 2 analysis will include all the Round 1 factors except for impacts to facilities outside of the Metro area, as these were found to be negligible. There will, however, be refinements and additions to the analysis. These include:

- Refined evaluation of throughput and local diversion
- Refined roadway costs with quantitative evaluation
- Order of magnitude revenue projections
- Refined Impacts to surrounding roadways
- Qualitative Air Quality Impacts
- Trip Length Distribution
- Refined analysis of Transit, Bicycle, and pedestrian effects



APPENDIX B: ROUND 1 PERFORMANCE MEASURES SUMMARY DETAILS

As there are many more criteria that can be developed for Traffic Operations than for Alternative Modes or Capital Expenditures, Traffic Operations would have dominated the analysis scoring in a non-weighted evaluation, even though these other metrics are of great importance. For that reason, much of the evaluation is based on “Roll Ups” of these three overarching criteria. In this way, they can receive equal importance in the analysis scoring. The purpose of Appendix B is to present these rolled up scores.

Scores range in each criterion from 0 to 5. The higher the number, the better the strategy and roadway section ranked under that criterion. This also applies to the rolled-up score. The criteria included in each rolled-up score in Appendix B are described below.

The Traffic Operations Score is based on 11 separate criteria. These include:

- § Peak-Period Vehicle Throughput
- § Peak-Period Person Throughput
- § Peak-Period Freight Truck Throughput
- § Peak-Period General Purpose Lane Travel Time
- § Peak-Period Managed (priced) Lane Travel Time
- § Peak-Period Freight Truck Travel Time
- § Trip Diversion (Adjacent Facilities)
- § Single Occupant Vehicle (SOV) Mode Shift
- § Safety Impacts on Routes Carrying Diverted Traffic
- § Key Destination Travel Time (placeholder only in Round 1)
- § Key Destination User Cost (placeholder only in Round 1)

The Alternatives Mode Score is based on two separate criteria. These include:

- § Adequacy of Transit Service
- § Bicycle & Pedestrian Options

The Capital Expenditure Score is also based on two separate criteria. These include:

- § Capital Cost (High-Level)
- § Physical Impacts (with special attention to EJ Populations)

Scores for each individual criterion are given in Appendix C.



Concept 2 - Priced Roadway: toll all lanes on I-5 and I-205

Table B. Concept 2 - Summary Round 1 Evaluation Scores

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations Score	Alternative Mode Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	2.50	0.00	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.50	0.00	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	3.00	1.25	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	3.00	5.00	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	3.00	5.00	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	1.25	3.75	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	2.55	3.75	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	2.80	5.00	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	3.00	5.00	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	3.00	1.25	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	2.50	0.00	5.00
I-5	13	SB	OR-217	I-205	3.7	2.50	0.00	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	2.00	0.00	5.00
I-205	16	NB	Stafford Rd	10th St	3.3	2.00	0.00	5.00
I-205	17	NB	10th St	Sunset Ave	1.9	2.00	0.00	5.00
I-205	18	NB	Sunset Ave	Main St	1.2	2.25	1.25	5.00
I-205	19	NB	Main St	SR-224	4.1	2.00	0.00	5.00
I-205	20	NB	SR-224	NE Glisan St	7.7	2.75	3.75	5.00
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	2.50	1.25	5.00
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	2.00	1.25	5.00
I-205	23	SB	NE Glisan St	SR-224	7.4	2.85	3.75	5.00
I-205	24	SB	SR-224	Main St	4.0	2.50	0.00	5.00
I-205	25	SB	Main St	Sunset Ave	1.3	2.25	1.25	5.00
I-205	26	SB	Sunset Ave	10th St	1.9	2.00	0.00	5.00
I-205	27	SB	10th St	Stafford Rd	3.3	2.00	0.00	5.00
I-205	28	SB	Stafford Rd	I-5	2.3	2.00	0.00	5.00

Scores range from 0 to 5 with higher scores representing higher performance.

Results Review

Traffic operations scores are lower than would be expected. This is likely due to the issues the KATE Model has in predicting diversion and throughput. It is likely that the traffic operations will perform significantly better than the model is predicting.

Alternative modes scores are low due to lack of options on some segments. Where alternative mode opportunities are available, the strategy performs well. Results may help inform future updates of transit, bicycle, and pedestrian plans.

This concept has among



Concept 3 - Priced Lane Conversion: convert one existing general-purpose lane on I-5 and I-205 to a priced lane in each travel direction

Table C. Concept 3 - Summary Round 1 Evaluation Scores

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations Score	Alternative Mode Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	1.45	0.00	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	1.55	0.00	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	2.09	1.25	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	2.36	5.00	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	1.91	5.00	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	2.05	3.75	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	1.50	3.75	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	2.09	5.00	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	2.36	5.00	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.36	1.25	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	1.45	0.00	5.00
I-5	13	SB	OR-217	I-205	3.7	1.91	0.00	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	1.64	0.00	5.00
I-205	16	NB	Stafford Rd	10th St	3.3	1.64	0.00	5.00
I-205	17	NB	10th St	Sunset Ave	1.9	1.45	0.00	5.00
I-205	18	NB	Sunset Ave	Main St	1.2	1.68	1.25	5.00
I-205	19	NB	Main St	SR-224	4.1	1.23	0.00	5.00
I-205	20	NB	SR-224	NE Glisan St	7.7	1.68	3.75	5.00
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	1.45	1.25	5.00
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	1.45	1.25	5.00
I-205	23	SB	NE Glisan St	SR-224	7.4	1.77	3.75	5.00
I-205	24	SB	SR-224	Main St	4.0	1.27	0.00	5.00
I-205	25	SB	Main St	Sunset Ave	1.3	1.50	1.25	5.00
I-205	26	SB	Sunset Ave	10th St	1.9	1.36	0.00	5.00
I-205	27	SB	10th St	Stafford Rd	3.3	1.09	0.00	5.00
I-205	28	SB	Stafford Rd	I-5	2.3	1.27	0.00	5.00

Scores range from 0 to 5 with higher scores representing higher performance.

Results Review

Traffic operations scores are to some extent influenced by the model's treatment of diversion and throughput. However, the ability of this concept to reduce congestion is significantly less than Concept 1, so the lower scores are understandable.

Alternative modes scores are low due to lack of options on some segments. Where alternative mode opportunities are available, the strategy performs well. Results may help inform future updates of transit, bicycle, and pedestrian plans.

This concept has the lowest capital costs of the concepts studied for both I-5 and I-205.



Concept 4 - Priced Lane Construction: construct a new priced lane on I-5 and I-205 in each travel direction

Table D. Concept 4 - Summary Round 1 Evaluation Scores

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations Score	Alternative Mode Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	3.91	0.00	3.75
I-5	3	NB	OR-217	Capitol Hwy	2.7	3.18	0.00	2.50
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	3.82	1.25	1.25
I-5	5	NB	Ross Island Bridge	I-84	1.9	4.05	5.00	1.25
I-5	6	NB	I-84	N Skidmore St.	2.2	4.41	5.00	0.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	4.77	3.75	0.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	4.41	3.75	0.00
I-5	9	SB	N Skidmore St.	I-84	2.2	3.50	5.00	0.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	3.68	5.00	1.25
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	3.27	1.25	1.25
I-5	12	SB	Capitol Hwy	OR-217	3.0	3.36	0.00	2.50
I-5	13	SB	OR-217	I-205	3.7	3.36	0.00	3.75
I-205	15	NB	I-5	Stafford Rd	2.0	3.36	0.00	3.75
I-205	16	NB	Stafford Rd	10th St	3.3	3.55	0.00	3.75
I-205	17	NB	10th St	Sunset Ave	1.9	3.91	0.00	2.50
I-205	18	NB	Sunset Ave	Main St	1.2	3.77	1.25	2.50
I-205	19	NB	Main St	SR-224	4.1	3.91	0.00	2.50
I-205	20	NB	SR-224	NE Glisan St	7.7	3.86	3.75	3.75
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	4.00	1.25	3.75
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	3.00	1.25	3.75
I-205	23	SB	NE Glisan St	SR-224	7.4	4.05	3.75	3.75
I-205	24	SB	SR-224	Main St	4.0	3.91	0.00	2.50
I-205	25	SB	Main St	Sunset Ave	1.3	3.77	1.25	2.50
I-205	26	SB	Sunset Ave	10th St	1.9	3.55	0.00	3.75
I-205	27	SB	10th St	Stafford Rd	3.3	3.55	0.00	3.75
I-205	28	SB	Stafford Rd	I-5	2.3	3.36	0.00	3.75

Scores range from 0 to 5 with higher scores representing higher performance.

Results Review

Traffic operations scores are the highest of all concepts studied. This is due to the additional of new physical capacity on both I-5 and I-205, which reduces congestion and improves performance on both facilities. Also, the KATE model handles this type of analysis very well, so the results in terms of actual conditions are likely among the best.

Alternative modes scores are low for reasons previously discussed.

This concept has the highest capital costs of the concepts studied for both I-5 and I-205. There are some sections of I-205 where capital costs are lower. This is in areas where shoulders might be converted or new lanes could be added without significant impact to surrounding features. Regardless, this concept is significantly more costly than lane conversions.



Concept 5 -- Baseline (no pricing) on I-5 with Priced Lane Construction on I-205

Table E. Concept 5 - Summary Round 1 Evaluation Scores

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations Score	Alternative Mode Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	1.40	0.00	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	1.30	0.00	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	2.00	1.25	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	2.35	5.00	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	2.05	5.00	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	2.15	3.75	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	2.25	3.75	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	2.25	5.00	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	2.25	5.00	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.00	1.25	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	1.50	0.00	5.00
I-5	13	SB	OR-217	I-205	3.7	1.50	0.00	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	3.55	0.00	3.75
I-205	16	NB	Stafford Rd	10th St	3.3	3.73	0.00	3.75
I-205	17	NB	10th St	Sunset Ave	1.9	3.91	0.00	2.50
I-205	18	NB	Sunset Ave	Main St	1.2	3.95	1.25	2.50
I-205	19	NB	Main St	SR-224	4.1	3.36	0.00	2.50
I-205	20	NB	SR-224	NE Glisan St	7.7	3.32	3.75	3.75
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	4.18	1.25	3.75
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	3.09	1.25	3.75
I-205	23	SB	NE Glisan St	SR-224	7.4	3.50	3.75	3.75
I-205	24	SB	SR-224	Main St	4.0	3.36	0.00	2.50
I-205	25	SB	Main St	Sunset Ave	1.3	3.41	1.25	2.50
I-205	26	SB	Sunset Ave	10th St	1.9	3.73	0.00	3.75
I-205	27	SB	10th St	Stafford Rd	3.3	3.18	0.00	3.75
I-205	28	SB	Stafford Rd	I-5	2.3	3.18	0.00	3.75

Scores range from 0 to 5 with higher scores representing higher performance.

Results Review

As would be expected, the Traffic Operations scores are high on I-205 where a new lane would be constructed, but lower on I-5 with no new construction.

Alternative modes scores are low for reasons previously discussed.

This concept has the highest capital costs of the concepts studied for I-205. As previously discussed, there are some sections of I-205 where capital costs are lower.

This concept is still significantly more costly than lane conversions. The cost scores for I-5 reflect that there is no construction, and therefore no cost.



Concept 6 -- Priced Roadway on I-5 with Baseline (no pricing) on I-205

Table F. Concept 6 - Summary Round 1 Evaluation Scores

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations Score	Alternative Mode Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	2.10	0.00	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.00	0.00	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	3.00	1.25	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	3.00	5.00	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	2.80	5.00	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	2.75	3.75	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	2.25	3.75	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	2.50	5.00	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	2.80	5.00	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.60	1.25	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	2.00	0.00	5.00
I-5	13	SB	OR-217	I-205	3.7	2.10	0.00	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	1.60	0.00	5.00
I-205	16	NB	Stafford Rd	10th St	3.3	1.40	0.00	5.00
I-205	17	NB	10th St	Sunset Ave	1.9	1.20	0.00	5.00
I-205	18	NB	Sunset Ave	Main St	1.2	1.45	1.25	5.00
I-205	19	NB	Main St	SR-224	4.1	1.10	0.00	5.00
I-205	20	NB	SR-224	NE Glisan St	7.7	1.95	3.75	5.00
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	1.70	1.25	5.00
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	2.40	1.25	5.00
I-205	23	SB	NE Glisan St	SR-224	7.4	2.35	3.75	5.00
I-205	24	SB	SR-224	Main St	4.0	1.50	0.00	5.00
I-205	25	SB	Main St	Sunset Ave	1.3	1.85	1.25	5.00
I-205	26	SB	Sunset Ave	10th St	1.9	1.50	0.00	5.00
I-205	27	SB	10th St	Stafford Rd	3.3	1.80	0.00	5.00
I-205	28	SB	Stafford Rd	I-5	2.3	1.80	0.00	5.00

Scores range from 0 to 5 with higher scores representing higher performance.

Results Review

Traffic operations scores are lower than would be expected on I-5. This again is likely due to issues with the KATE Model. I-205 scores reflect diversion from I-5 that may or may not occur in actual practice.

Alternative modes scores are low for reasons previously discussed.

As only lane conversions are in this concept, it has a low capital cost with the resulting high score.



Concept 7 -- Priced Lane Conversion on I-5 with Priced Roadway on I-205

Table G. Concept 7 - Summary Round 1 Evaluation Scores

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations Score	Alternative Mode Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	1.91	0.00	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.00	0.00	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	2.36	1.25	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	2.45	5.00	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	2.18	5.00	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	2.14	3.75	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	1.68	3.75	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	2.09	5.00	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	2.36	5.00	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.36	1.25	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	1.73	0.00	5.00
I-5	13	SB	OR-217	I-205	3.7	1.82	0.00	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	2.00	0.00	5.00
I-205	16	NB	Stafford Rd	10th St	3.3	2.00	0.00	5.00
I-205	17	NB	10th St	Sunset Ave	1.9	2.00	0.00	5.00
I-205	18	NB	Sunset Ave	Main St	1.2	2.25	1.25	5.00
I-205	19	NB	Main St	SR-224	4.1	2.00	0.00	5.00
I-205	20	NB	SR-224	NE Glisan St	7.7	2.75	3.75	5.00
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	2.50	1.25	5.00
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	2.60	1.25	5.00
I-205	23	SB	NE Glisan St	SR-224	7.4	3.05	3.75	5.00
I-205	24	SB	SR-224	Main St	4.0	2.50	0.00	5.00
I-205	25	SB	Main St	Sunset Ave	1.3	2.25	1.25	5.00
I-205	26	SB	Sunset Ave	10th St	1.9	2.00	0.00	5.00
I-205	27	SB	10th St	Stafford Rd	3.3	2.00	0.00	5.00
I-205	28	SB	Stafford Rd	I-5	2.3	2.00	0.00	5.00

Scores range from 0 to 5 with higher scores representing higher performance

Results Review

Traffic operations scores are lower than would be expected on I-5. This again is likely due to issues with the KATE Model.

The operations scores are lower than for Concept 1, and from a relative standpoint, this is likely correct as this concept is not able to manage as much traffic as Concept 1

Alternative modes scores are low for reasons previously discussed.

As only lane conversions are in this concept, it has a low capital cost with the resulting high Capital Cost score.



Concept 8 -- Priced Lane Conversion on I-5 with Priced Lane Construction on I-205

Table H. Concept 8 - Summary Round 1 Evaluation Scores

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations Score	Alternative Mode Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	1.91	0.00	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	1.82	0.00	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	2.55	1.25	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	2.82	5.00	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	2.36	5.00	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	3.59	3.75	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	2.05	3.75	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	2.09	5.00	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	2.36	5.00	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.36	1.25	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	1.64	0.00	5.00
I-5	13	SB	OR-217	I-205	3.7	2.00	0.00	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	3.27	0.00	3.75
I-205	16	NB	Stafford Rd	10th St	3.3	3.27	0.00	3.75
I-205	17	NB	10th St	Sunset Ave	1.9	3.45	0.00	2.50
I-205	18	NB	Sunset Ave	Main St	1.2	2.95	1.25	2.50
I-205	19	NB	Main St	SR-224	4.1	2.91	0.00	2.50
I-205	20	NB	SR-224	NE Glisan St	7.7	3.05	3.75	3.75
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	3.36	1.25	3.75
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	2.64	1.25	3.75
I-205	23	SB	NE Glisan St	SR-224	7.4	3.05	3.75	3.75
I-205	24	SB	SR-224	Main St	4.0	2.64	0.00	2.50
I-205	25	SB	Main St	Sunset Ave	1.3	2.95	1.25	2.50
I-205	26	SB	Sunset Ave	10th St	1.9	2.73	0.00	3.75
I-205	27	SB	10th St	Stafford Rd	3.3	2.73	0.00	3.75
I-205	28	SB	Stafford Rd	I-5	2.3	2.73	0.00	3.75

Scores range from 0 to 5 with higher scores representing higher performance.

Results Review

Traffic Operations scores are not as high on either facility as they are in Concept 5, where no changes are made on I-5. Some of this change likely is due to model issues previously discussed.

Alternative modes scores are low for reasons previously discussed.

This concept has relatively high capital costs of the concept studied for I-205, and is significantly more costly than lane conversions. The cost scores for I-5 reflect that there is conversion of lanes only.



APPENDIX C: ROUND 1 INITIAL CONCEPT SCORING SHEETS

Appendix C shows the results of all criteria used in the analysis for each strategy on each roadway segment. Appendix C is designed for use when detailed results are sought.

Note on Concept 1

Concept 1 is the baseline condition in 2027, and not all criterion apply. As an example, there no construction costs, and impacts to surrounding land use does not change. Some other criteria are similar in nature, and are not included below. Also, as Concept 1 is a baseline condition, there are no rankings.

ODOT Value Pricing - Round 1 Analysis (I-5 & I-205)

Concept 1 - Baseline

Corridor	Segment ID	Direction	From	To	Length (Miles)	Traffic Operations					Alternative Modes	
						Peak-Period Vehicle Throughput (vehicles per hour)	Peak-Period Person Throughput (persons per hour)	Peak-Period Freight Truck Throughput (freight trucks per hour)	Peak-Period GP Travel Time (minutes)	Peak-Period Freight Truck Travel Time (minutes)	Adequacy of Transit Service (available options)	Bicycle & Ped Options (available options)
I-5	2	NB	I-205	OR-217	3.6	5,199	5,880	234	6.80	6.80	10	13
I-5	3	NB	OR-217	Capitol Hwy	2.7	4,281	4,763	230	3.94	3.94	9	15
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	4,238	4,837	198	8.99	8.99	18	22
I-5	5	NB	Ross Island Bridge	I-84	1.9	3,166	3,708	133	4.75	4.75	28	96
I-5	6	NB	I-84	N Skidmore St.	2.2	3,963	4,902	176	3.54	3.54	16	112
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	4,410	5,361	163	13.35	13.35	14	43
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	4,079	4,484	341	8.21	8.21	14	43
I-5	9	SB	N Skidmore St.	I-84	2.2	4,171	4,635	318	3.70	3.70	16	112
I-5	10	SB	I-84	Ross Island Bridge	1.9	3,059	3,396	236	5.05	5.05	28	96
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	4,379	4,845	326	9.23	9.23	18	22
I-5	12	SB	Capitol Hwy	OR-217	3.0	4,135	4,525	334	4.24	4.24	9	15
I-5	13	SB	OR-217	I-205	3.7	4,990	5,536	319	7.14	7.14	10	13
I-205	15	NB	I-5	Stafford Rd	2.0	4,527	5,001	299	2.32	2.32	0	16
I-205	16	NB	Stafford Rd	10th St	3.3	4,639	5,159	291	4.86	4.86	1	8
I-205	17	NB	10th St	Sunset Ave	1.9	4,675	5,221	289	4.29	4.29	1	23
I-205	18	NB	Sunset Ave	Main St	1.2	5,040	5,690	302	1.23	1.23	8	40
I-205	19	NB	Main St	SR-224	4.1	4,679	5,355	295	6.77	6.77	3	21
I-205	20	NB	SR-224	NE Glisan St	7.7	4,694	5,335	341	13.61	13.61	24	28
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	5,394	5,852	323	9.11	9.11	10	18
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	4,509	5,279	198	6.72	6.72	10	18
I-205	23	SB	NE Glisan St	SR-224	7.4	4,637	5,499	192	13.70	13.70	24	28
I-205	24	SB	SR-224	Main St	4.0	4,695	5,573	156	7.56	7.56	3	21
I-205	25	SB	Main St	Sunset Ave	1.3	4,804	5,610	177	1.12	1.12	8	40
I-205	26	SB	Sunset Ave	10th St	1.9	4,750	5,526	182	3.81	3.81	1	23
I-205	27	SB	10th St	Stafford Rd	3.3	4,476	5,174	186	4.05	4.05	1	8
I-205	28	SB	Stafford Rd	I-5	2.3	4,017	4,591	184	2.22	2.22	0	16



Notes on Concepts presented in Appendix C

Concepts 2, 6, and 7 illustrate the likely over-reporting of throughput reduction and diversion from the KATE model as discussed in the introduction to these appendices. Due to the known presence of hyper-congestion based on traffic data on I-5 and I-205, it is highly likely that throughput will be greater, and diversion less, than shown for these concepts.

The lower alternative modes scores for all concepts reflect the lack of alternative mode options in some segments rather than issues with the strategy. On segments where options are available, these scores tend to be higher (often significantly so).

Concept 2 - Tolling on all lanes (I-5 & I-205)

Corridor	Segment ID	Direction	From	To	Length (Miles)	Combined Score	Traffic Operations															Traffic Operations Score	Alternative Modes				Capital Expenditure				Capital Cost Score							
							Peak-Period Vehicle Throughput	Peak-Period Vehicle Throughput Score	Peak-Period Person Throughput	Peak-Period Person Throughput Score	Peak-Period Freight Truck Throughput	Peak-Period Freight Truck Throughput Score	Peak-Period GP Travel Time	Peak-Period GP Travel Time Score	Peak-Period ML Travel Time	Peak-Period ML Travel Time Score	Peak-Period Freight Truck Travel Time	Peak-Period Freight Truck Travel Time Score	Trip Diversion (Adjacent Facilities)	Trip Diversion Score	SOV Mode Shift		SOV Mode Shift Score	Safety Impact (Routes w/ Diversion)	Safety Impact Score (Routes w/ Diversion)	Key Destination Travel Time	Key Destination Travel Time Score	Key Destination User Cost	Key Destination User Cost Score	Adequacy of Transit Service		Adequacy of Transit Service Score	Bicycle & Ped Options	Bicycle & Ped Option Score	Alternative Mode Score	Capital Cost (High-Level)	Capital Cost (High-Level) Score	Physical Impacts (EJ Population)
I-5	2	NB	I-205	OR-217	3.6	2.50	-1.082	0.0	-1.376	0.0	93	5.0	-2.22	5.0	NA	-2.22	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-2.22	5.0	Moderate	2.5	2.50	10	0.0	13	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.50	-1.129	0.0	-1.387	0.0	84	5.0	-0.80	5.0	Major	-0.80	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.80	5.0	Moderate	2.5	2.50	9	0.0	15	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	3.08	-592	0.0	-795	0.0	118	5.0	-2.52	5.0	NA	-2.52	5.0	Moderate	2.5	Moderate	2.5	Moderate	2.5	-2.52	5.0	Moderate	2.5	3.00	18	2.5	22	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	4.33	-163	0.0	-233	0.0	93	5.0	-1.19	5.0	NA	-1.19	5.0	Moderate	2.5	Major	0.0	Major	0.0	-1.19	5.0	Moderate	2.5	3.00	28	5.0	96	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	4.33	-411	0.0	-506	0.0	89	5.0	-0.48	5.0	NA	-0.48	5.0	Major	0.0	Major	0.0	Major	0.0	-0.48	5.0	Moderate	2.5	3.00	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	3.33	-1.361	0.0	-1.666	0.0	25	5.0	1.56	0.0	NA	1.56	0.0	Major	0.0	Major	0.0	Major	0.0	1.56	0.0	Moderate	2.5	1.25	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	3.77	-290	0.0	-333	0.0	22	3.0	-1.14	5.0	NA	-1.14	5.0	Major	0.0	Major	0.0	Major	0.0	-1.14	5.0	Moderate	2.5	2.55	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	4.27	-412	0.0	-497	0.0	31	3.0	-0.61	5.0	NA	-0.61	5.0	Major	0.0	Major	0.0	Major	0.0	-0.61	5.0	Moderate	2.5	2.80	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	4.33	-25	0.0	-44	0.0	46	5.0	-0.96	5.0	NA	-0.96	5.0	Major	0.0	Major	0.0	Major	0.0	-0.96	5.0	Moderate	2.5	3.00	28	5.0	96	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	3.08	-355	0.0	-506	0.0	72	5.0	-2.36	5.0	Moderate	-2.36	5.0	Moderate	2.5	Moderate	2.5	Moderate	2.5	-2.36	5.0	Moderate	2.5	3.00	18	2.5	22	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	2.50	-627	0.0	-814	0.0	54	5.0	-0.84	5.0	NA	-0.84	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.84	5.0	Moderate	2.5	2.50	9	0.0	15	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	13	SB	OR-217	I-205	3.7	2.50	-446	0.0	-630	0.0	73	5.0	-2.05	5.0	NA	-2.05	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-2.05	5.0	Moderate	2.5	2.50	10	0.0	13	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	2.33	-857	0.0	-1,016	0.0	-30	0.0	-0.52	5.0	NA	-0.52	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.52	5.0	Moderate	2.5	2.00	0	0.0	16	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	16	NB	Stafford Rd	10th St	3.3	2.33	-569	0.0	-670	0.0	-39	0.0	-1.12	5.0	NA	-1.12	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.12	5.0	Moderate	2.5	2.00	1	0.0	8	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	17	NB	10th St	Sunset Ave	1.9	2.33	-485	0.0	-562	0.0	-36	0.0	-1.02	5.0	NA	-1.02	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.02	5.0	Moderate	2.5	2.00	1	0.0	23	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	18	NB	Sunset Ave	Main St	1.2	2.83	-504	0.0	-552	0.0	-54	0.0	-0.22	5.0	NA	-0.22	5.0	Moderate	2.5	Minor	0.0	Moderate	2.5	-0.22	5.0	Moderate	2.5	2.25	8	0.0	40	2.5	1.25	Minor	5.0	Minor	5.0	5.00
I-205	19	NB	Main St	SR-224	4.1	2.33	-395	0.0	-458	0.0	-33	0.0	-1.37	5.0	NA	-1.37	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.37	5.0	Moderate	2.5	2.00	3	0.0	21	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	20	NB	SR-224	NE Gilsan St	7.7	3.83	-368	0.0	-401	0.0	-50	0.0	-1.95	5.0	NA	-1.95	5.0	Moderate	2.5	Major	5.0	Moderate	2.5	-1.95	5.0	Moderate	2.5	2.75	24	5.0	28	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-205	21	NB	NE Gilsan St	Jackson Bridge	3.6	2.92	-325	0.0	-369	0.0	-61	0.0	-1.02	5.0	NA	-1.02	5.0	Moderate	2.5	Moderate	2.5	Moderate	2.5	-1.02	5.0	Moderate	2.5	2.50	10	2.5	18	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-205	22	SB	Jackson Bridge	NE Gilsan St	3.9	2.75	-506	0.0	-584	0.0	0	1.0	-0.49	3.0	NA	-0.49	3.0	Moderate	2.5	Moderate	2.5	Moderate	2.5	-0.49	3.0	Moderate	2.5	2.00	10	2.5	18	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-205	23	SB	NE Gilsan St	SR-224	7.4	3.87	-456	0.0	-530	0.0	4	1.0	-2.27	5.0	NA	-2.27	5.0	Moderate	2.5	Major	5.0	Moderate	2.5	-2.27	5.0	Moderate	2.5	2.85	24	5.0	28	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-205	24	SB	SR-224	Main St	4.0	2.50	-295	0.0	-348	0.0	16	5.0	-1.80	5.0	NA	-1.80	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.80	5.0	Moderate	2.5	2.50	3	0.0	21	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	25	SB	Main St	Sunset Ave	1.3	2.83	-774	0.0	-901	0.0	-12	0.0	-0.19	5.0	NA	-0.19	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.19	5.0	Moderate	2.5	2.25	8	0.0	40	2.5	1.25	Minor	5.0	Minor	5.0	5.00
I-205	26	SB	Sunset Ave	10th St	1.9	2.33	-997	0.0	-1,188	0.0	-13	0.0	-0.83	5.0	NA	-0.83	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.83	5.0	Moderate	2.5	2.00	1	0.0	23	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	27	SB	10th St	Stafford Rd	3.3	2.33	-1,173	0.0	-1,406	0.0	-19	0.0	-0.74	5.0	NA	-0.74	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.74	5.0	Moderate	2.5	2.00	1	0.0	8	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	28	SB	Stafford Rd	I-5	2.3	2.33	-1,080	0.0	-1,302	0.0	-18	0.0	-0.37	5.0	NA	-0.37	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.37	5.0	Moderate	2.5	2.00	0	0.0	16	0.0	0.00	Minor	5.0	Minor	5.0	5.00

Scores range from 0 to 5 with higher scores representing higher performance.

Concept 3 - Convert existing GP lane (I-5 & I-205)

Corridor	Segment ID	Direction	From	To	Length (Miles)	Combined Score	Traffic Operations															Traffic Operations Score	Alternative Modes				Capital Expenditure				Capital Cost Score								
							Peak-Period Vehicle Throughput	Peak-Period Vehicle Throughput Score	Peak-Period Person Throughput	Peak-Period Person Throughput Score	Peak-Period Freight Truck Throughput	Peak-Period Freight Truck Throughput Score	Peak-Period GP Travel Time	Peak-Period GP Travel Time Score	Peak-Period ML Travel Time	Peak-Period ML Travel Time Score	Peak-Period Freight Truck Travel Time	Peak-Period Freight Truck Travel Time Score	Trip Diversion (Adjacent Facilities)	Trip Diversion Score	SOV Mode Shift		SOV Mode Shift Score	Safety Impact (Routes w/ Diversion)	Safety Impact Score (Routes w/ Diversion)	Key Destination Travel Time	Key Destination Travel Time Score	Key Destination User Cost	Key Destination User Cost Score	Adequacy of Transit Service		Adequacy of Transit Service Score	Bicycle & Ped Options	Bicycle & Ped Option Score	Alternative Mode Score	Capital Cost (High-Level)	Capital Cost (High-Level) Score	Physical Impacts (EJ Population)	Physical Impacts (EJ Population) Score
I-5	2	NB	I-205	OR-217	3.6	2.15	-2	0.0	508	3.0	-5	0.0	0.79	0.0	-0.40	3.0	0.79	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.79	0.0	Moderate	2.5	1.45	10	0.0	13	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.18	-92	0.0	240	3.0	3	1.0	0.15	0.0	-0.22	3.0	0.15	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.15	0.0	Moderate	2.5	1.55	9	0.0	15	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	2.78	-6	0.0	530	5.0	-3	0.0	0.83	0.0	-0.39	3.0	0.83	0.0	Minor	5.0	Moderate	2.5	Minor	5.0	0.83	0.0	Moderate	2.5	2.09	18	2.5	22	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	4.12	50	1.0	759	5.0	-13	0.0	0.67	0.0	-0.52	5.0	0.67	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.67	0.0	Moderate	2.5	2.36	28	5.0	96	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	3.97	-77	0.0	291	3.0	-15	0.0	0.39	0.0	-0.32	3.0	0.39	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.39	0.0	Moderate	2.5	1.91	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	3.60	7	1.0	118	1.0	15	3.0	0.05	0.0	-0.55	5.0	0.05	0.0	Moderate	2.5	Major	5.0	Moderate	2.5	0.05	0.0	Moderate	2.5	2.05	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	3.42	-104	0.0	177	1.0	-1	0.0	0.34	0.0	-0.30	3.0	0.34	0.0	Moderate	2.5	Major	5.0	Moderate	2.5	0.34	0.0	Moderate	2.5	1.58	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	4.03	-60	0.0	602	5.0	-84	0.0	0.16	0.0	-0.32	3.0	0.16	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.16	0.0	Moderate	2.5	2.09	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	4.12	74	1.0	785	5.0	-75	0.0	0.54	0.0	-0.52	5.0	0.54	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.54	0.0													



Concept 4 - Construct new priced lane (I-5 & I-205)

Table with 35 columns: Corridor, Segment ID, Direction, From, To, Length (Miles), Combined Score, Traffic Operations (15 sub-columns), Alternative Modes (5 sub-columns), and Capital Expenditure (5 sub-columns). Rows list various corridor segments and their performance metrics.

Scores range from 0 to 5 with higher scores representing higher performance.

Concept 5 - Construct new priced lane on I-205 (No pricing on I-5)

Table with 35 columns: Corridor, Segment ID, Direction, From, To, Length (Miles), Combined Score, Traffic Operations (15 sub-columns), Alternative Modes (5 sub-columns), and Capital Expenditure (5 sub-columns). Rows list various corridor segments and their performance metrics.

Scores range from 0 to 5 with higher scores representing higher performance.



Concept 6 - Toll all lanes on I-5 (No pricing on I-205)

Corridor	Segment ID	Direction	From	To	Length (Miles)	Combined Score	Traffic Operations																	Alternative Modes				Capital Expenditure											
							Peak-Period Vehicle Throughput	Peak-Period Vehicle Throughput Score	Peak-Period Person Throughput	Peak-Period Person Throughput Score	Peak-Period Freight Truck Throughput	Peak-Period Freight Truck Throughput Score	Peak-Period GP Travel Time	Peak-Period GP Travel Time Score	Peak-Period ML Travel Time	Peak-Period ML Travel Time Score	Peak-Period Freight Truck Travel Time	Peak-Period Freight Truck Travel Time Score	Trip Diversion (Adjacent Facilities)	Trip Diversion Score	SOV Mode Shift	SOV Mode Shift Score	Safety Impact (Routes w/ Diversion)	Safety Impact Score (Routes w/ Diversion)	Key Destination Travel Time	Key Destination Travel Time Score	Key Destination User Cost	Key Destination User Cost Score	Traffic Operations Score	Adequacy of Transit Service	Adequacy of Transit Service Score	Bicycle & Ped Options	Bicycle & Ped Option Score	Alternative Mode Score	Capital Cost (High-Level)	Capital Cost (High-Level) Score	Physical Impacts (EJ Population)	Physical Impacts (EJ Population) Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	2.37	-1,098	0.0	-1,282	0.0	10	1.0	-2.21	5.0	NA		-2.21	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-2.21	5.0	Moderate	2.5	2.10	10	0.0	13	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.33	-1,447	0.0	-1,651	0.0	-5	0.0	-0.91	5.0	NA		-0.91	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.91	5.0	Moderate	2.5	2.00	9	0.0	15	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	3.08	-815	0.0	-959	0.0	41	5.0	-2.81	5.0	NA		-2.81	5.0	Moderate	2.5	Moderate	2.5	Moderate	2.5	-2.81	5.0	Moderate	2.5	3.00	18	2.5	22	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	4.33	-218	0.0	-225	0.0	30	5.0	-1.38	5.0	NA		-1.38	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.38	5.0	Moderate	2.5	3.00	28	5.0	96	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	4.27	-541	0.0	-612	0.0	15	3.0	-0.58	5.0	NA		-0.58	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.58	5.0	Moderate	2.5	2.80	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	3.83	-277	0.0	-236	0.0	30	5.0	-4.72	5.0	NA		-4.72	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-4.72	5.0	Moderate	2.5	2.75	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	3.67	-452	0.0	-422	0.0	-29	0.0	-1.56	5.0	NA		-1.56	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.56	5.0	Moderate	2.5	2.25	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	4.27	-450	0.0	-454	0.0	-22	0.0	-0.71	5.0	NA		-0.71	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-0.71	5.0	Moderate	2.5	2.50	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	4.27	4	1.0	78	1.0	1	1.0	-1.18	5.0	NA		-1.18	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.18	5.0	Moderate	2.5	2.80	28	5.0	96	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.95	-617	0.0	-698	0.0	11	1.0	-2.82	5.0	NA		-2.82	5.0	Moderate	2.5	Moderate	2.5	Moderate	2.5	-2.82	5.0	Moderate	2.5	2.60	18	2.5	22	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	2.33	-978	0.0	-1,110	0.0	-13	0.0	-1.05	5.0	NA		-1.05	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-1.05	5.0	Moderate	2.5	2.00	9	0.0	15	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	13	SB	OR-217	I-205	3.7	2.37	-534	0.0	-609	0.0	2	1.0	-2.18	5.0	NA		-2.18	5.0	Moderate	2.5	Minor	0.0	Major	0.0	-2.18	5.0	Moderate	2.5	2.10	10	0.0	13	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	2.20	-26	0.0	-129	0.0	24	3.0	-0.04	1.0	NA		-0.04	1.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.04	1.0	Moderate	2.5	1.60	0	0.0	16	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	16	NB	Stafford Rd	10th St	3.3	2.13	-13	0.0	-89	0.0	13	1.0	-0.04	1.0	NA		-0.04	1.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.04	1.0	Moderate	2.5	1.40	1	0.0	8	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	17	NB	10th St	Sunset Ave	1.9	2.07	2	1.0	-51	0.0	6	1.0	0.10	0.0	NA		0.10	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.10	0.0	Moderate	2.5	1.20	1	0.0	23	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	18	NB	Sunset Ave	Main St	1.2	2.57	42	1.0	-1	0.0	4	1.0	0.07	0.0	NA		0.07	0.0	Minor	5.0	Minor	0.0	Minor	5.0	0.07	0.0	Moderate	2.5	1.45	8	0.0	40	2.5	1.25	Minor	5.0	Minor	5.0	5.00
I-205	19	NB	Main St	SR-224	4.1	2.03	24	1.0	-22	0.0	-3	0.0	0.30	0.0	NA		0.30	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.30	0.0	Moderate	2.5	1.10	3	0.0	21	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	20	NB	SR-224	NE Glisan St	7.7	3.57	70	1.0	27	1.0	-3	0.0	0.62	0.0	NA		0.62	0.0	Minor	5.0	Minor	0.0	Minor	5.0	0.62	0.0	Moderate	2.5	1.95	24	5.0	28	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	2.65	39	1.0	6	1.0	-10	0.0	0.84	0.0	NA		0.84	0.0	Minor	5.0	Moderate	2.5	Minor	5.0	0.84	0.0	Moderate	2.5	1.70	10	2.5	18	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	2.88	228	3.0	160	1.0	58	5.0	0.29	0.0	NA		0.29	0.0	Minor	5.0	Moderate	2.5	Minor	5.0	0.29	0.0	Moderate	2.5	2.40	10	2.5	18	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-205	23	SB	NE Glisan St	SR-224	7.4	3.70	22	1.0	-90	0.0	48	5.0	0.53	0.0	NA		0.53	0.0	Minor	5.0	Major	5.0	Minor	5.0	0.53	0.0	Moderate	2.5	2.35	24	5.0	28	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-205	24	SB	SR-224	Main St	4.0	2.17	-40	0.0	-145	0.0	41	5.0	0.23	0.0	NA		0.23	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.23	0.0	Moderate	2.5	1.50	3	0.0	21	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	25	SB	Main St	Sunset Ave	1.3	2.70	8	1.0	-98	0.0	53	5.0	0.01	0.0	NA		0.01	0.0	Minor	5.0	Minor	0.0	Minor	5.0	0.01	0.0	Moderate	2.5	1.85	8	0.0	40	2.5	1.25	Minor	5.0	Minor	5.0	5.00
I-205	26	SB	Sunset Ave	10th St	1.9	2.17	-27	0.0	-146	0.0	55	5.0	0.05	0.0	NA		0.05	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.05	0.0	Moderate	2.5	1.50	1	0.0	23	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	27	SB	10th St	Stafford Rd	3.3	2.27	-63	0.0	-197	0.0	58	5.0	-0.01	1.0	NA		-0.01	1.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.01	1.0	Moderate	2.5	1.80	1	0.0	8	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	28	SB	Stafford Rd	I-5	2.3	2.27	-109	0.0	-259	0.0	57	5.0	-0.03	1.0	NA		-0.03	1.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.03	1.0	Moderate	2.5	1.80	0	0.0	16	0.0	0.00	Minor	5.0	Minor	5.0	5.00

Scores range from 0 to 5 with higher scores representing higher performance.

Concept 7 - Toll all lanes on I-205 (Convert GP lane I-5)

Corridor	Segment ID	Direction	From	To	Length (Miles)	Combined Score	Traffic Operations																	Alternative Modes				Capital Expenditure											
							Peak-Period Vehicle Throughput	Peak-Period Vehicle Throughput Score	Peak-Period Person Throughput	Peak-Period Person Throughput Score	Peak-Period Freight Truck Throughput	Peak-Period Freight Truck Throughput Score	Peak-Period GP Travel Time	Peak-Period GP Travel Time Score	Peak-Period ML Travel Time	Peak-Period ML Travel Time Score	Peak-Period Freight Truck Travel Time	Peak-Period Freight Truck Travel Time Score	Trip Diversion (Adjacent Facilities)	Trip Diversion Score	SOV Mode Shift	SOV Mode Shift Score	Safety Impact (Routes w/ Diversion)	Safety Impact Score (Routes w/ Diversion)	Key Destination Travel Time	Key Destination Travel Time Score	Key Destination User Cost	Key Destination User Cost Score	Traffic Operations Score	Adequacy of Transit Service	Adequacy of Transit Service Score	Bicycle & Ped Options	Bicycle & Ped Option Score	Alternative Mode Score	Capital Cost (High-Level)	Capital Cost (High-Level) Score	Physical Impacts (EJ Population)	Physical Impacts (EJ Population) Score	Capital Cost Score
I-5	2	NB	I-205	OR-217	3.6	2.30	-12	0.0	428	3.0	30	5.0	0.58	0.0	-0.38	3.0	0.58	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.58	0.0	Moderate	2.5	1.91	10	0.0	13	0.0	0.00	Minimal	5.0	Minor	5.0	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.33	15	1.0	437	3.0	25	5.0	0.36	0.0	-0.25	3.0	0.36	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.36	0.0	Moderate	2.5	2.00	9	0.0	15	0.0	0.00	Minimal	5.0	Minor	5.0	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	2.87	-11	0.0	579	5.0	9	1.0	1.30	0.0	-0.42	5.0	1.30	0.0	Minor	5.0	Moderate	2.5	Minor	5.0	1.30	0.0	Moderate	2.5	2.36	18	2.5	22	0.0	1.25	Minimal	5.0	Minor	5.0	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	4.15	36	1.0	764	5.0	6	1.0	1.00	0.0	-0.54	5.0	1.00	0.0	Moderate	2.5	Major	5.0	Minor	5.0	1.00	0.0	Moderate	2.5	2.45	28	5.0	96	5.0	5.00	Minimal	5.0	Minor	5.0	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	4.06	-41	0.0	407	3.0	10	3.0	0.60	0.0	-0.35	3.0	0.60	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.60	0.0	Moderate	2.5	2.14	16	5.0	112	5.0	5.00	Minimal	5.0	Minor	5.0	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	3.63	-4	0.0	190	1.0	31	5.0	0.87	0.0	-0.57	5.0	0.87	0.0	Moderate	2.5	Major	5.0	Moderate	2.5	0.87	0.0	Moderate	2.5	2.14	14	5.0	43	2.5	3.75	Minimal	5.0	Minor	5.0	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	3.48	-71	0.0	244	3.0	-2	0.0	0.57	0.0	-0.32	3.0	0.57	0.0	Moderate	2.5	Major	5.0	Moderate	2.5	0.57	0.0	Moderate	2.5	1.68	14	5.0	43	2.5	3.75	Minimal	5.0	Minor	5.0	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	4.03	-55	0.0	646	5.0	-89	0.0	0.22	0.0	-0.33	3.0	0.22	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.22	0.0	Moderate	2.5	2.09	16	5.0	112	5.0	5.00	Minimal	5.0	Minor	5.0	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	4.12	71	1.0	811	5.0	-81	0.0	0.70	0.0	-0.53	5.0	0.70	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.70	0.0	Moderate	2.5	2.36	28	5.0	96	5.0	5.00	Minimal	5.0	Minor	5.0	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.87	13	1.0</																															



Concept 8 - Construct new priced lane on I-205 (Convert GP lane I-5)

Corridor	Segment ID	Direction	From	To	Length (Miles)	Combined Score	Traffic Operations																	Traffic Operations Score	Alternative Modes				Capital Expenditure										
							Peak-Period Vehicle Throughput	Peak-Period Person Throughput	Peak-Period Freight Truck Throughput	Peak-Period GP Travel Time	Peak-Period ML Travel Time	Peak-Period Freight Truck Travel Time	Trip Diversion (Adjacent Facilities)	Trip Diversion Score	SOV Mode Shift	SOV Mode Shift Score	Safety Impact (Routes w/ Diversion)	Safety Impact Score (Routes w/ Diversion)	Key Destination Travel Time	Key Destination Travel Time Score	Key Destination User Cost	Key Destination User Cost Score	Adequacy of Transit Service		Adequacy of Transit Service Score	Bicycle & Ped Options	Bicycle & Ped Option Score	Alternative Mode Score	Capital Cost (High-Level)	Capital Cost (High-Level) Score	Physical Impacts (EJ Population)	Physical Impacts (EJ Population) Score	Capital Cost Score						
I-5	2	NB	I-205	OR-217	3.6	2.30	-43	0.0	465	3.0	113	5.0	0.53	0.0	-0.38	3.0	0.53	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.53	0.0	Moderate	2.5	1.91	10	0.0	13	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	3	NB	OR-217	Capitol Hwy	2.7	2.27	-243	0.0	103	1.0	101	5.0	-0.07	1.0	-0.18	1.0	-0.07	1.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.07	1.0	Moderate	2.5	1.82	9	0.0	15	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	2.93	-5	0.0	546	5.0	52	5.0	0.47	0.0	-0.37	3.0	0.47	0.0	Minor	5.0	Moderate	2.5	Minor	5.0	0.47	0.0	Moderate	2.5	2.55	18	2.5	22	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-5	5	NB	Ross Island Bridge	I-84	1.9	4.27	43	1.0	748	5.0	51	5.0	0.50	0.0	-0.50	5.0	0.50	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.50	0.0	Moderate	2.5	2.82	28	5.0	96	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	6	NB	I-84	N Skidmore St.	2.2	4.12	-108	0.0	279	3.0	64	5.0	0.27	0.0	-0.30	3.0	0.27	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.27	0.0	Moderate	2.5	2.36	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	4.11	10	1.0	156	1.0	72	5.0	-1.44	5.0	-0.50	5.0	-1.44	5.0	Moderate	2.5	Major	5.0	Moderate	2.5	-1.44	5.0	Moderate	2.5	3.59	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	3.60	-84	0.0	339	3.0	3	1.0	-0.06	1.0	-0.27	3.0	-0.06	1.0	Moderate	2.5	Major	5.0	Moderate	2.5	-0.06	1.0	Moderate	2.5	2.05	14	5.0	43	2.5	3.75	Minor	5.0	Minor	5.0	5.00
I-5	9	SB	N Skidmore St.	I-84	2.2	4.03	-35	0.0	687	5.0	-89	0.0	0.07	0.0	-0.31	3.0	0.07	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.07	0.0	Moderate	2.5	2.09	16	5.0	112	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	10	SB	I-84	Ross Island Bridge	1.9	4.12	100	1.0	866	5.0	-81	0.0	0.41	0.0	-0.51	5.0	0.41	0.0	Moderate	2.5	Major	5.0	Minor	5.0	0.41	0.0	Moderate	2.5	2.36	28	5.0	96	5.0	5.00	Minor	5.0	Minor	5.0	5.00
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	2.87	53	1.0	825	5.0	-51	0.0	0.71	0.0	-0.41	5.0	0.71	0.0	Minor	5.0	Moderate	2.5	Minor	5.0	0.71	0.0	Moderate	2.5	2.36	18	2.5	22	0.0	1.25	Minor	5.0	Minor	5.0	5.00
I-5	12	SB	Capitol Hwy	OR-217	3.0	2.21	-35	0.0	572	5.0	-18	0.0	0.01	0.0	-0.25	3.0	0.01	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.01	0.0	Moderate	2.5	1.64	9	0.0	15	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-5	13	SB	OR-217	I-205	3.7	2.33	56	1.0	711	5.0	6	1.0	0.54	0.0	-0.41	5.0	0.54	0.0	Minor	5.0	Minor	0.0	Moderate	2.5	0.54	0.0	Moderate	2.5	2.00	10	0.0	13	0.0	0.00	Minor	5.0	Minor	5.0	5.00
I-205	15	NB	I-5	Stafford Rd	2.0	2.34	1,025	5.0	1,502	5.0	-162	0.0	-0.25	5.0	-0.13	1.0	-0.25	5.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.25	5.0	Moderate	2.5	3.27	0	0.0	16	0.0	0.00	Moderate	2.5	Minor	5.0	3.75
I-205	16	NB	Stafford Rd	10th St	3.3	2.34	1,203	5.0	1,662	5.0	-147	0.0	-0.53	5.0	-0.17	1.0	-0.53	5.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.53	5.0	Moderate	2.5	3.27	1	0.0	8	0.0	0.00	Moderate	2.5	Minor	5.0	3.75
I-205	17	NB	10th St	Sunset Ave	1.9	1.98	1,253	5.0	1,654	5.0	-143	0.0	-0.43	5.0	-0.24	3.0	-0.43	5.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.43	5.0	Moderate	2.5	3.45	1	0.0	23	0.0	0.00	Major	0.0	Minor	5.0	2.50
I-205	18	NB	Sunset Ave	Main St	1.2	2.23	1,066	5.0	1,412	5.0	-159	0.0	-0.12	3.0	-0.19	1.0	-0.12	3.0	Minor	5.0	Minor	0.0	Minor	5.0	-0.12	3.0	Moderate	2.5	2.95	8	0.0	40	2.5	1.25	Major	0.0	Minor	5.0	2.50
I-205	19	NB	Main St	SR-224	4.1	1.86	1,243	5.0	1,628	5.0	-138	0.0	-0.45	3.0	-0.24	3.0	-0.45	3.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.45	3.0	Moderate	2.5	2.91	3	0.0	21	0.0	0.00	Moderate	2.5	Moderate	2.5	2.50
I-205	20	NB	SR-224	NE Gilsan St	7.7	3.52	1,180	5.0	1,545	5.0	-155	0.0	-0.55	1.0	-0.22	3.0	-0.55	1.0	Minor	5.0	Major	5.0	Minor	5.0	-0.55	1.0	Moderate	2.5	3.05	24	5.0	28	2.5	3.75	Moderate	2.5	Minor	5.0	3.75
I-205	21	NB	NE Gilsan St	Jackson Bridge	3.6	2.79	1,189	5.0	1,417	5.0	-124	0.0	-0.91	3.0	-0.20	3.0	-0.91	3.0	Minor	5.0	Moderate	2.5	Minor	5.0	-0.91	3.0	Moderate	2.5	3.36	10	2.5	18	0.0	1.25	Moderate	2.5	Minor	5.0	3.75
I-205	22	SB	Jackson Bridge	NE Gilsan St	3.9	2.55	838	5.0	864	5.0	-4	0.0	-0.10	1.0	-0.09	1.0	-0.10	1.0	Minor	5.0	Moderate	2.5	Minor	5.0	-0.10	1.0	Moderate	2.5	2.64	10	2.5	18	0.0	1.25	Moderate	2.5	Minor	5.0	3.75
I-205	23	SB	NE Gilsan St	SR-224	7.4	3.52	1,166	5.0	1,340	5.0	-10	0.0	-0.28	1.0	-0.24	3.0	-0.28	1.0	Minor	5.0	Major	5.0	Minor	5.0	-0.28	1.0	Moderate	2.5	3.05	24	5.0	28	2.5	3.75	Moderate	2.5	Minor	5.0	3.75
I-205	24	SB	SR-224	Main St	4.0	1.71	1,325	5.0	1,576	5.0	8	3.0	-0.30	1.0	-0.33	3.0	-0.30	1.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.30	1.0	Moderate	2.5	2.64	3	0.0	21	0.0	0.00	Moderate	2.5	Moderate	2.5	2.50
I-205	25	SB	Main St	Sunset Ave	1.3	2.23	935	5.0	1,049	5.0	-27	0.0	-0.07	3.0	-0.16	1.0	-0.07	3.0	Minor	5.0	Minor	0.0	Minor	5.0	-0.07	3.0	Moderate	2.5	2.95	8	0.0	40	2.5	1.25	Major	0.0	Minor	5.0	2.50
I-205	26	SB	Sunset Ave	10th St	1.9	1.16	918	5.0	1,007	5.0	-28	0.0	-0.34	3.0	-0.16	1.0	-0.34	3.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.34	3.0	Moderate	2.5	2.73	1	0.0	23	0.0	0.00	Moderate	2.5	Minor	5.0	3.75
I-205	27	SB	10th St	Stafford Rd	3.3	2.16	806	5.0	932	5.0	-35	0.0	-0.28	3.0	-0.10	1.0	-0.28	3.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.28	3.0	Moderate	2.5	2.73	1	0.0	8	0.0	0.00	Moderate	2.5	Minor	5.0	3.75
I-205	28	SB	Stafford Rd	I-5	2.3	2.16	767	5.0	898	5.0	-34	0.0	-0.14	3.0	-0.09	1.0	-0.14	3.0	Minor	5.0	Minor	0.0	Moderate	2.5	-0.14	3.0	Moderate	2.5	2.73	0	0.0	16	0.0	0.00	Moderate	2.5	Minor	5.0	3.75

Scores range from 0 to 5 with higher scores representing higher performance.



Portland Metro Area Value Pricing Feasibility Analysis



Policy Advisory Committee Meeting #3

February 28, 2018

Welcome and agenda

2:00	Welcome and agenda review
2:10	Comments from PAC Co-Chairs
2:15	Public comment
2:30	Public outreach efforts: what we've heard
2:50	Initial concept evaluation
3:40	Recommended concepts for further evaluation and public input
4:30	Introduce potential mitigation strategies
4:50	Next steps
5:00	Adjourn



Comments from PAC Co-Chairs



Value pricing timeline



Public comment



Public outreach efforts: What we've heard



Oregon DOT @OregonDOT · 🌐
Sick of sitting in traffic on I-5 and I-205? Click here to have your say >> <https://goo.gl/k7JT5v> #pdxtraffic

SICK OF SITTING IN TRAFFIC ON I-5 AND I-205?
CLICK HERE TO HAVE YOUR SAY >>

416 shares 647 likes

Promoted



Getting the word out

- News release
- Media coverage
- Toolkit emailed to stakeholder groups
- Email to Value Pricing mailing list
- ODOT social media posts (Facebook and Twitter)
- Digital advertising campaign



Oregon DOT [@OregonDOT](#) · Jan 23

#PDXtraffic: Join us at our first informal open house on the potential use of #congestionpricing to improve travel reliability on I- 5 & I-205. Drop by @ClackamasTC between 4:30-7:30PM tonight for a one-on-one conversation w/staff & to provide feedback: ow.ly/Ow0X30hXhcj



6

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5

7

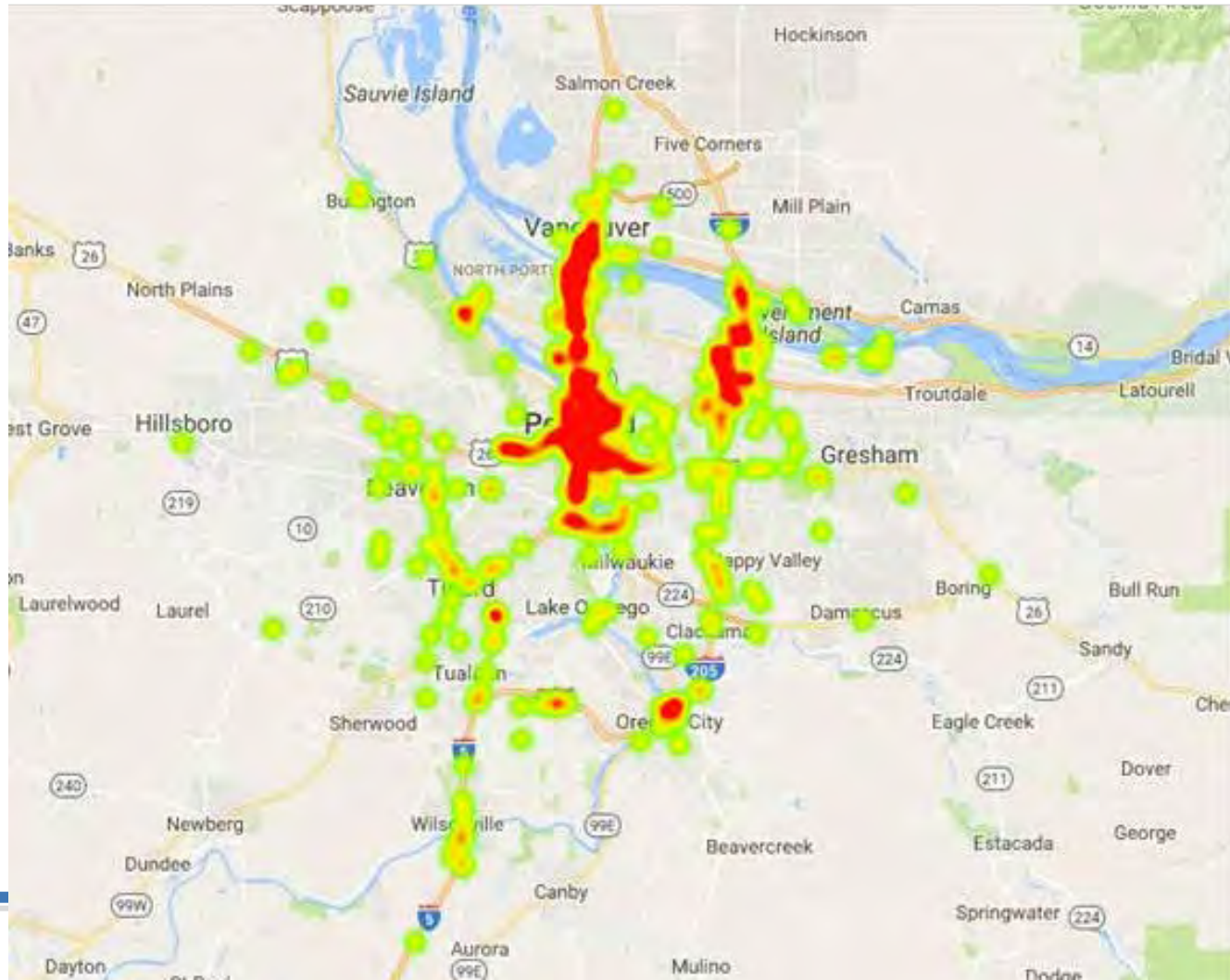


High regional interest

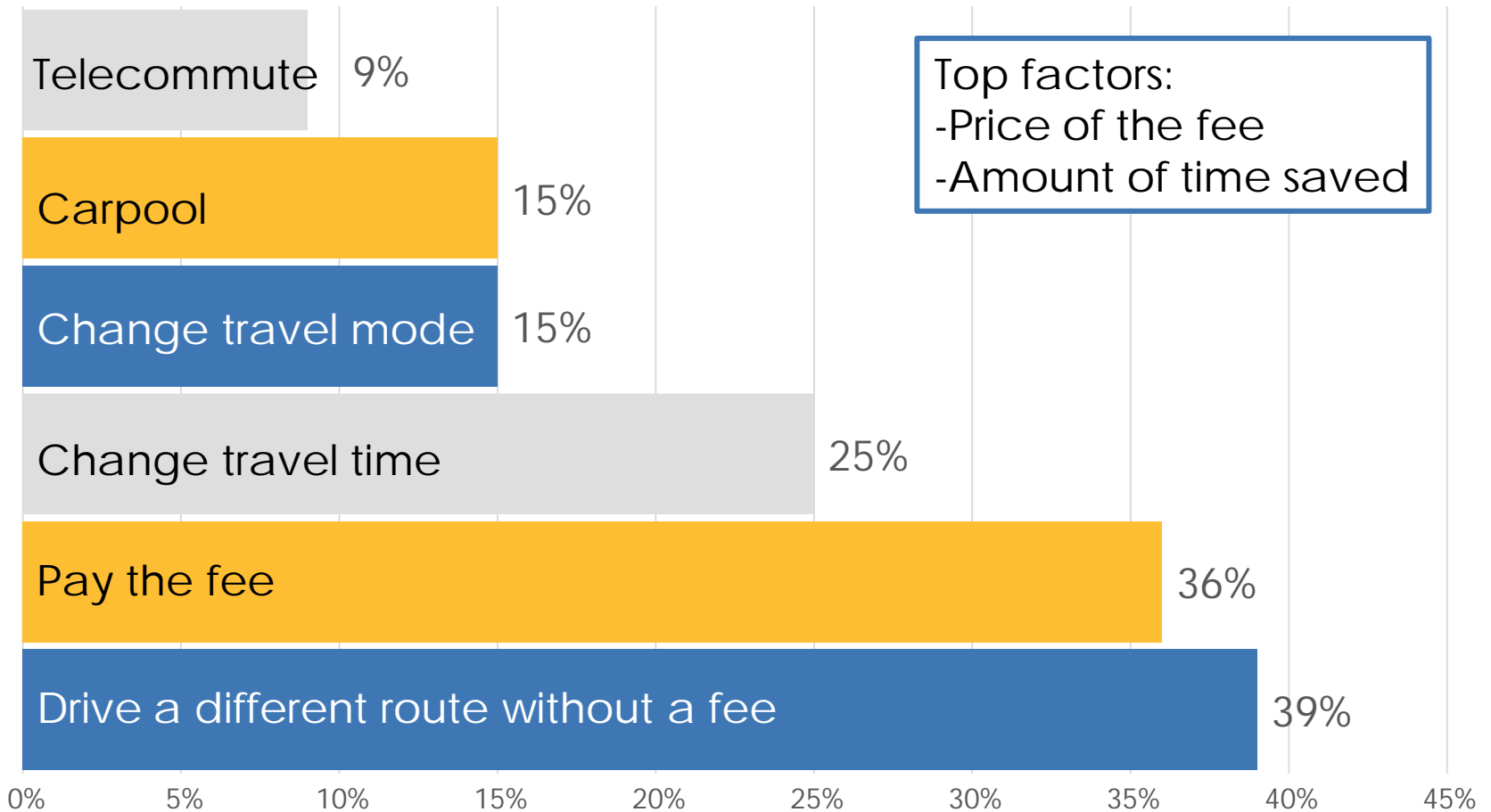
- 6,722 visitors to online open house
- 3,357 views of overview video
- 260 people at 3 events
- 1,810 completed questionnaires
- 754+30 email/voicemail



What we heard: Congestion is a problem



What we heard: Tolling would affect travel decisions



What we heard: Many topics



Next steps: Spring engagement

- 6 equity focused discussion groups
- 4 open houses (3 in-person and 1 online)
 - Present results of round 2 analysis, discuss potential mitigation strategies
- Updated tool kit for community groups
- Presentations, briefings, website, email/vm



Initial concept evaluation



Round 1 evaluation: Overview

Screening assessment

- Traffic operations
- Active transportation
- Capital expenditure
- Physical constraints
- Equity and mitigation

Corridor segmentation



Round 1 evaluation: Overview

Matrix example

- Average score for each concept / segment pair
 - Traffic operations
 - Alternative mode (active transportation) availability
 - Capital expenditure
 - Equity impact



Round 1 evaluation: Initial concepts

Key



No Pricing



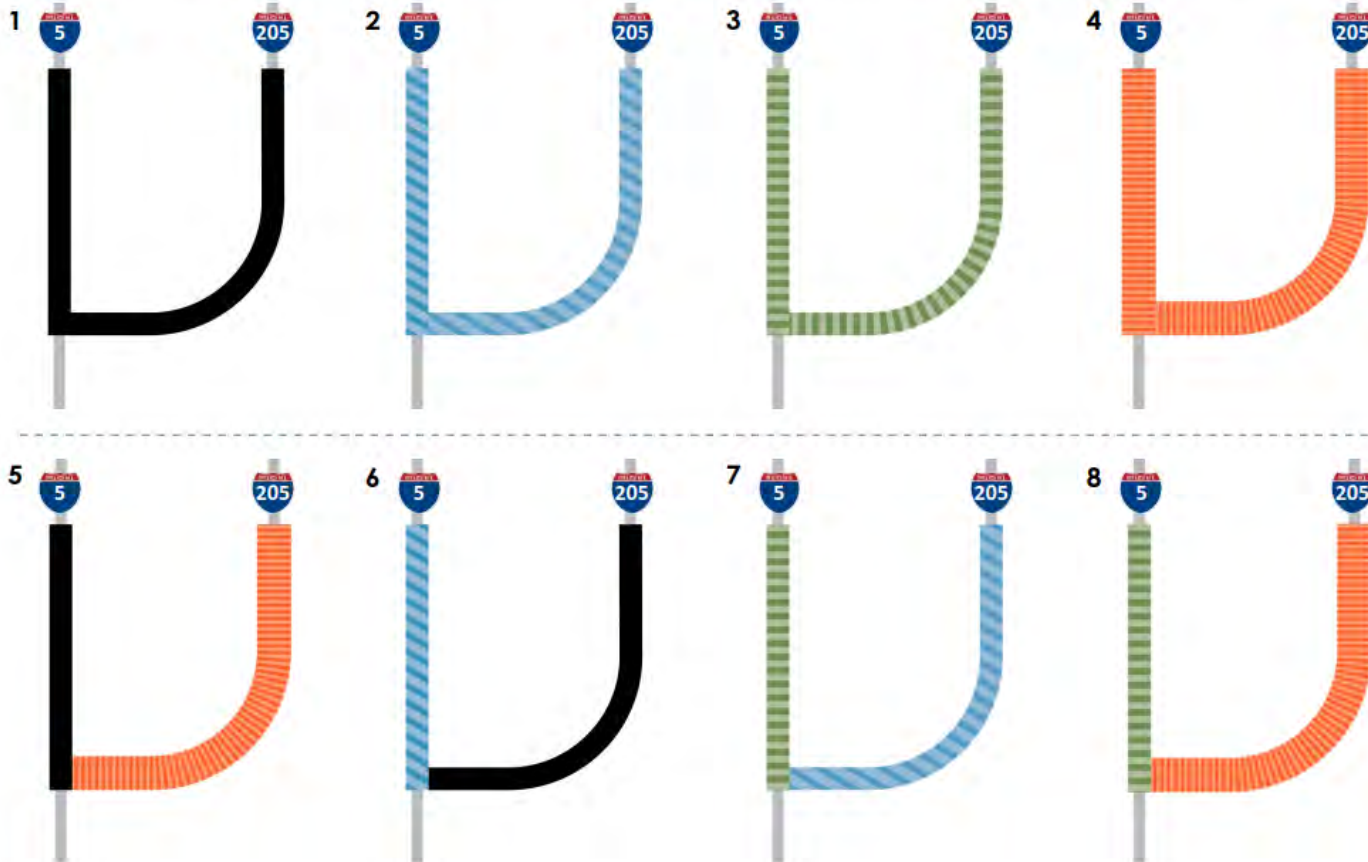
Priced roadways;
toll all lanes



Priced lane:
convert one existing general
purpose lane in each direction



Priced lane:
construct a new priced lane in each direction



Concept 1: 2027 Baseline

No tolls on any lanes or roadways along I-5 or I-205

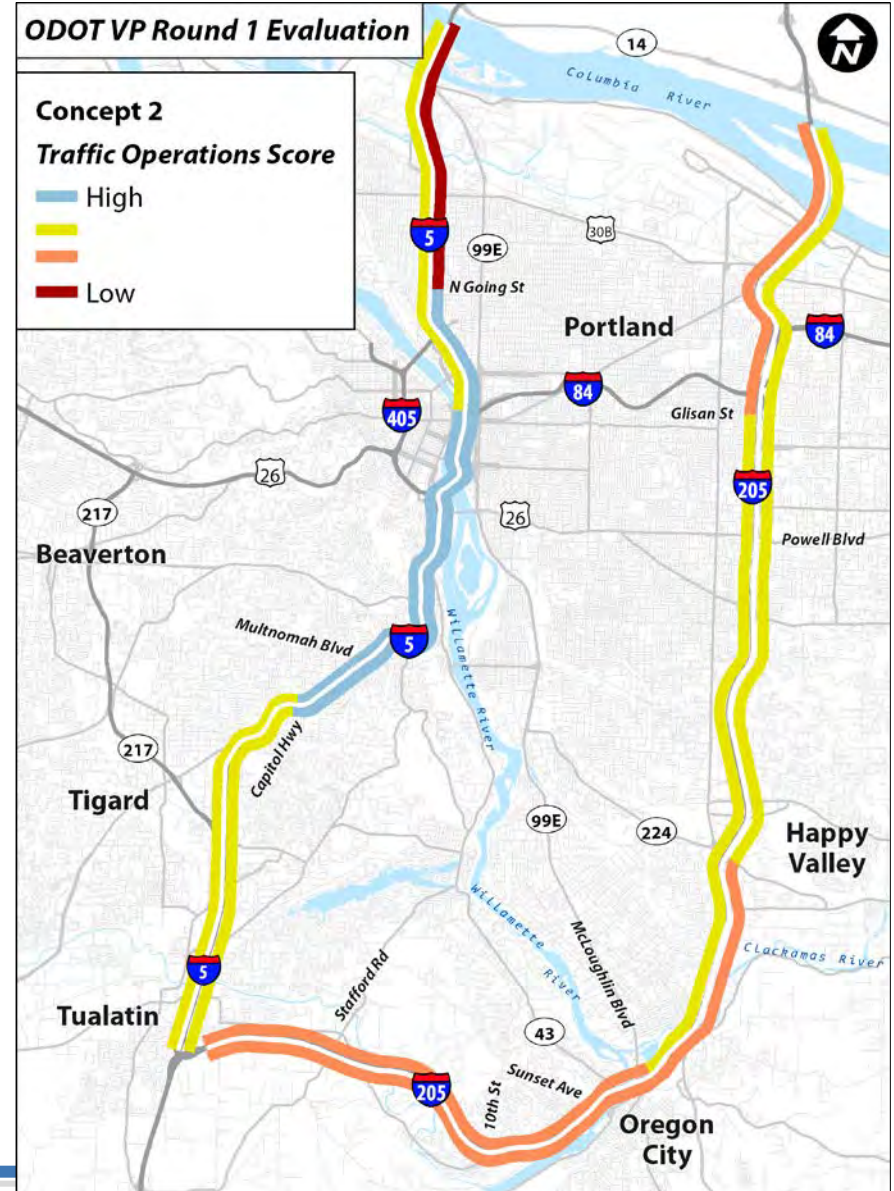
- Traffic operations
 - Widespread hyper-congestion
 - 10 MPH peak period average speed
- Capital and operating costs
 - 2027 planned investment
- Geometric and physical constraints
 - 2027 planned investment
- Equity and mitigation
 - 2027 planned investment



Concept 2: Priced Roadway

Toll all lanes on I-5 and I-205

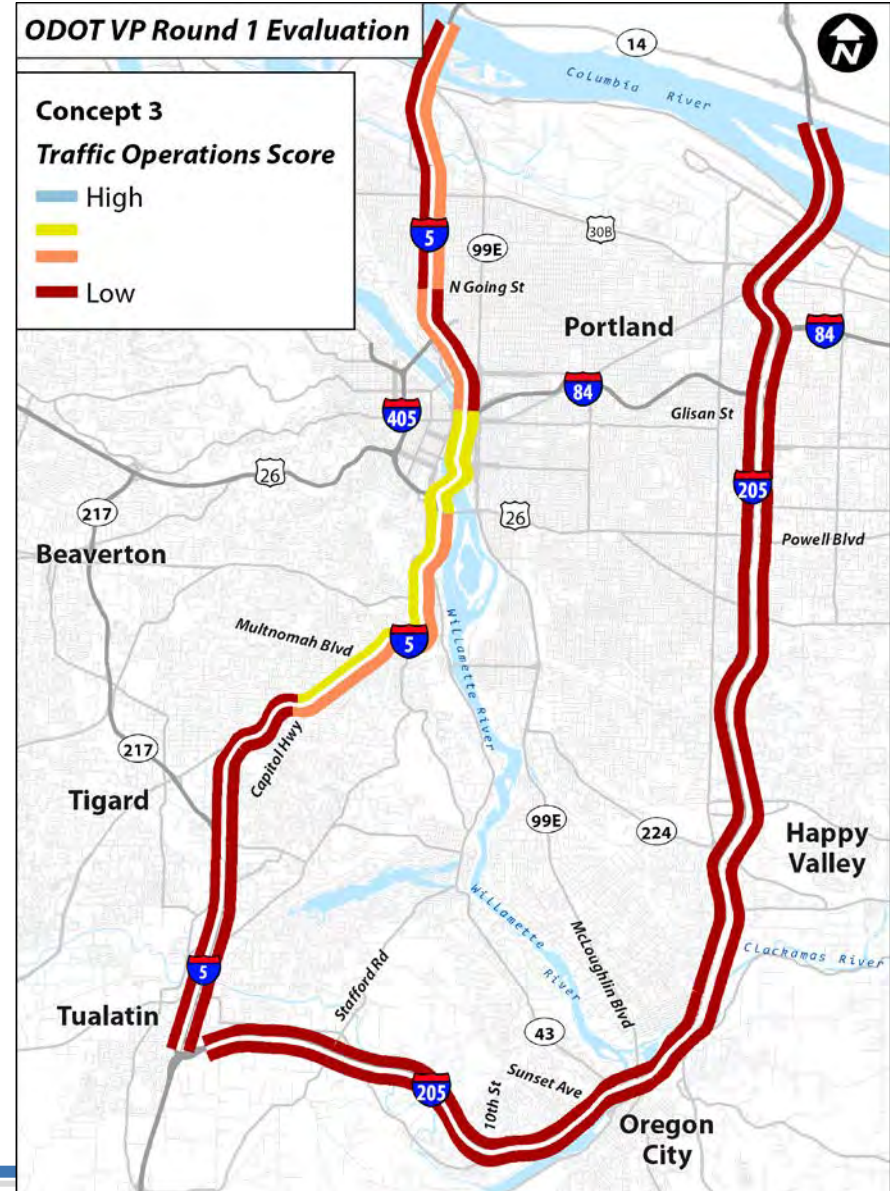
- Traffic operations
 - High congestion relief
 - Improved speeds and travel time
 - Freight and transit benefits
- Capital and operating costs
 - Moderate capital costs
 - High operations costs
 - Revenue can exceed operating costs
- Geometric and physical constraints
 - Limited constraints
- Equity and mitigation
 - Mitigation for low-income drivers and local level traffic diversion



Concept 3: Priced Lane Conversion

Convert one GP lane to priced lane on I-5 and I-205

- Traffic operations
 - Lower throughput
 - Lower speeds
 - Greater travel time
- Capital and operating costs
 - Relatively low capital costs
 - Moderate operations costs
 - Moderate revenue potential
- Geometric and physical constraints
 - Moderate constraints on I-5
 - Limited constraints on I-205
 - Freight restriction for left lane
- Equity and mitigation
 - Some mitigation needed



Concept 4: Priced Lane Construction

Construct a new priced lane on I-5 and I-205

- Traffic operations
 - Greatest traffic benefit
 - Higher throughput and speeds
 - Shorter travel times
- Capital and operating costs
 - Highest capital costs
 - Moderate operations costs
 - Low to Moderate revenue potential
- Geometric and physical constraints
 - Significant constraints, particularly on I-5
 - Freight restriction for left lane
- Equity and mitigation
 - Some mitigation needed



Concept 5: Priced Lane Construction on I-205

Construct a new priced lane on I-205 (no pricing on I-5)

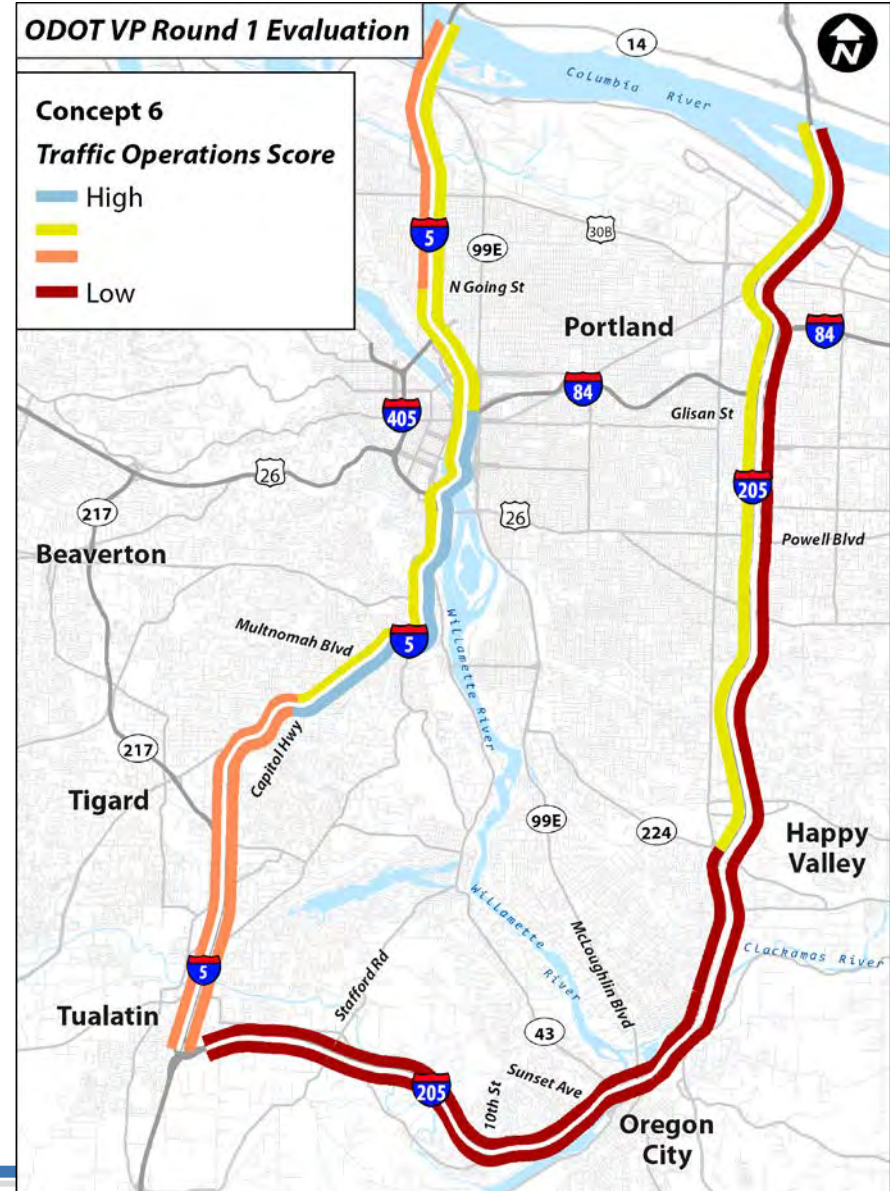
- Traffic operations
 - Significant improvement on I-205
 - Limited impact on I-5
- Capital and operating costs
 - High capital costs
 - Moderate operations costs
- Geometric and physical constraints
 - Moderate constraints
 - Freight restriction for left lane
- Equity and mitigation
 - Some mitigation needed
 - Less revenue potential (compared to Concept 4)



Concept 6: Priced Roadway on I-5

Toll all lanes on I-5 (no pricing on I-205)

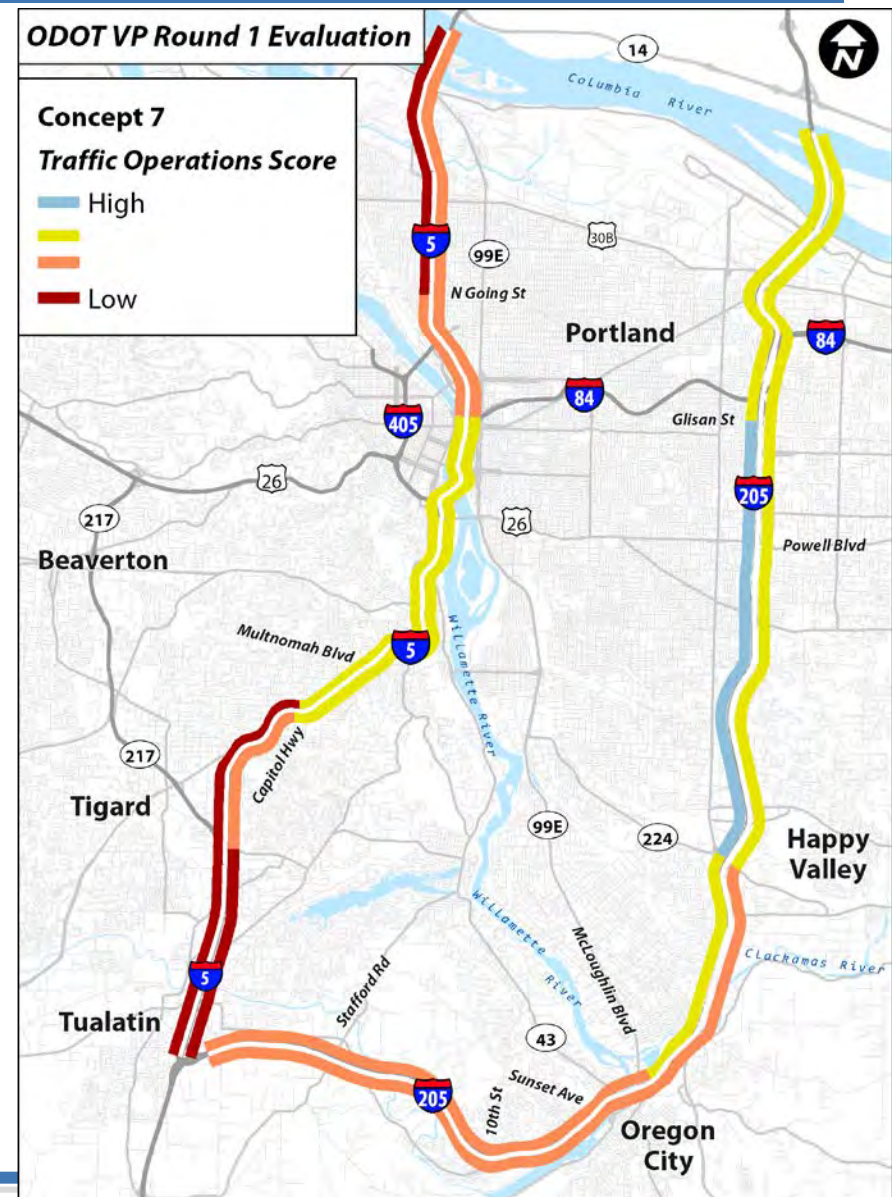
- Traffic operations
 - Significant travel time improvement on I-5
 - Lower throughput
 - Limited impact on I-205
- Capital and operating costs
 - Lowest cost option
 - Moderate operations costs
 - High revenue potential
- Geometric and physical constraints
 - Fewest constraints
- Equity and mitigation
 - Significant mitigation efforts needed



Concept 7: Priced Roadway and Lane Conversion

Convert one GP lane to priced lane on I-5 and toll all lanes on I-205

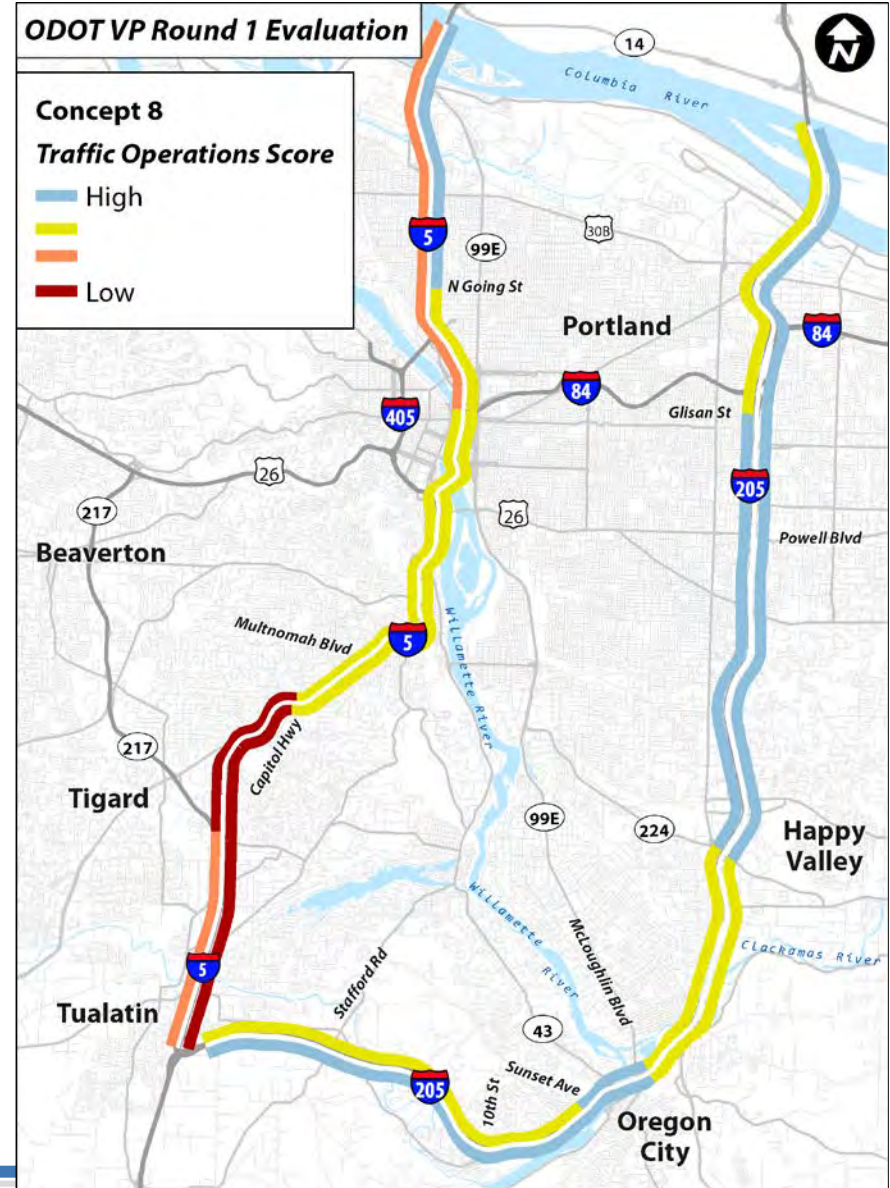
- Traffic operations
 - Improved speeds and travel time on I-205
 - Slower speeds and slower travel time on I-5
- Capital and operating costs
 - Relatively low capital costs
 - Moderate operations costs
- Geometric and physical constraints
 - Significant constraints in existing I-5 configuration
 - Freight restriction for left lane
- Equity and mitigation
 - Significant mitigation efforts needed



Concept 8: Priced Lane Construction and Conversion

Convert one GP lane to priced lane on I-5 and construct new priced lane on I-205

- Traffic operations
 - Improved speeds and travel time on I-205
 - Slower speeds and slower travel time on I-5
- Capital and operating costs
 - High capital costs on I-205
 - Moderate operations costs
- Geometric and physical constraints
 - Significant constraints in existing I-5 configuration
 - Few on I-205
 - Freight restriction for left lane
- Equity and mitigation
 - Some mitigation needed



Recommended Round 2 Concepts



Project team recommendation

Round 2 Concepts for further evaluation

Based on:

- Technical evaluation
- Public and stakeholder outreach
- Professional experience around the country and internationally



Round 2 Concept A: Priced Lane Conversion

Northern I-5 priced lanes

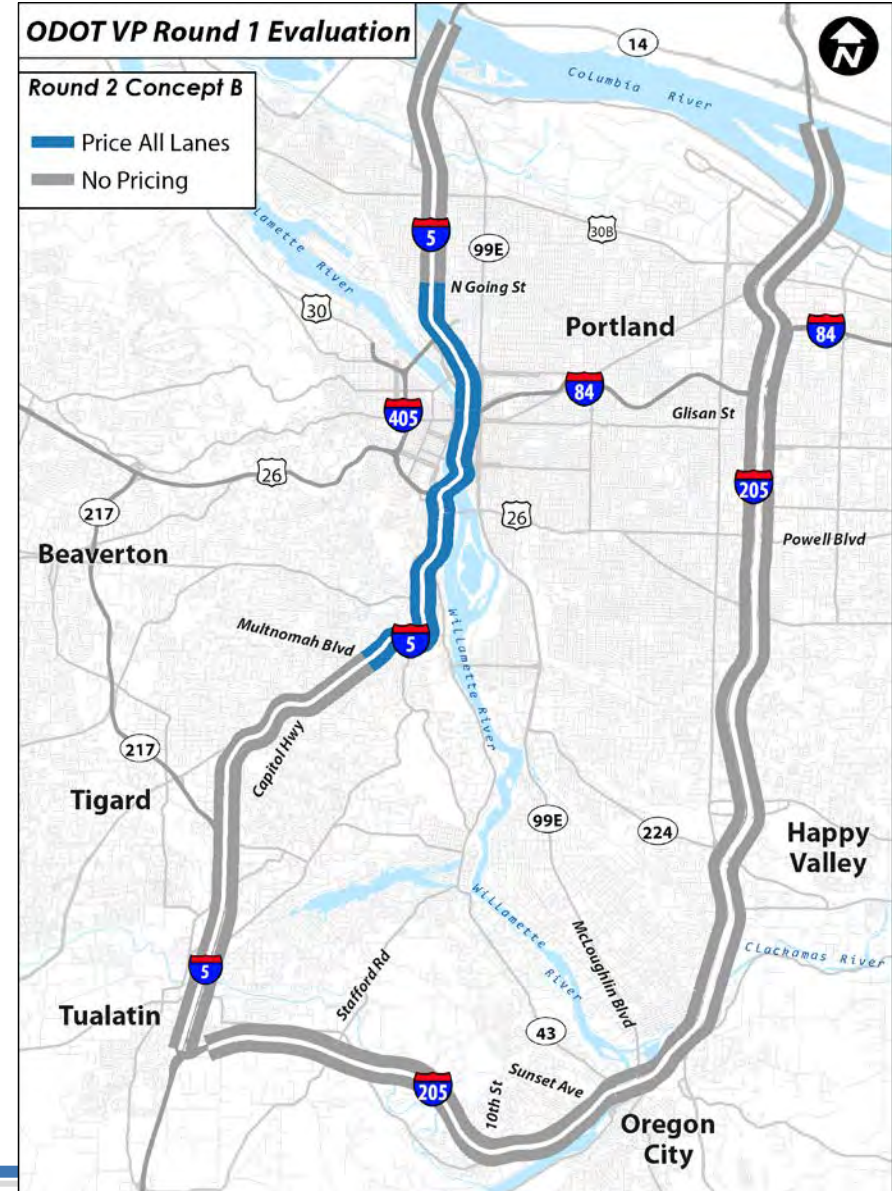
- Convert existing northbound HOV to priced lane
- Convert existing southbound GP to priced lane
- Key rationale
 - Relatively simple HOV lane conversion
 - Significant existing congestion
 - Least expensive Round 2 Concept
- Key topics
 - HOV requirements
 - Diversion
 - Federal and NEPA requirements



Round 2 Concept B: Priced Roadway

Toll all lanes on I-5

- Near downtown Portland
 - Multnomah Blvd to Going St
 - Both directions
- Key rationale
 - Few possible solutions without significant investment
 - Provides new revenue source
 - Most severe congestion in Portland metro area
- Key topics
 - Diversion
 - Tradeoffs for equity
 - Federal and NEPA requirements



Round 2 Concept C: Priced Roadway

Toll all lanes on I-5 and I-205

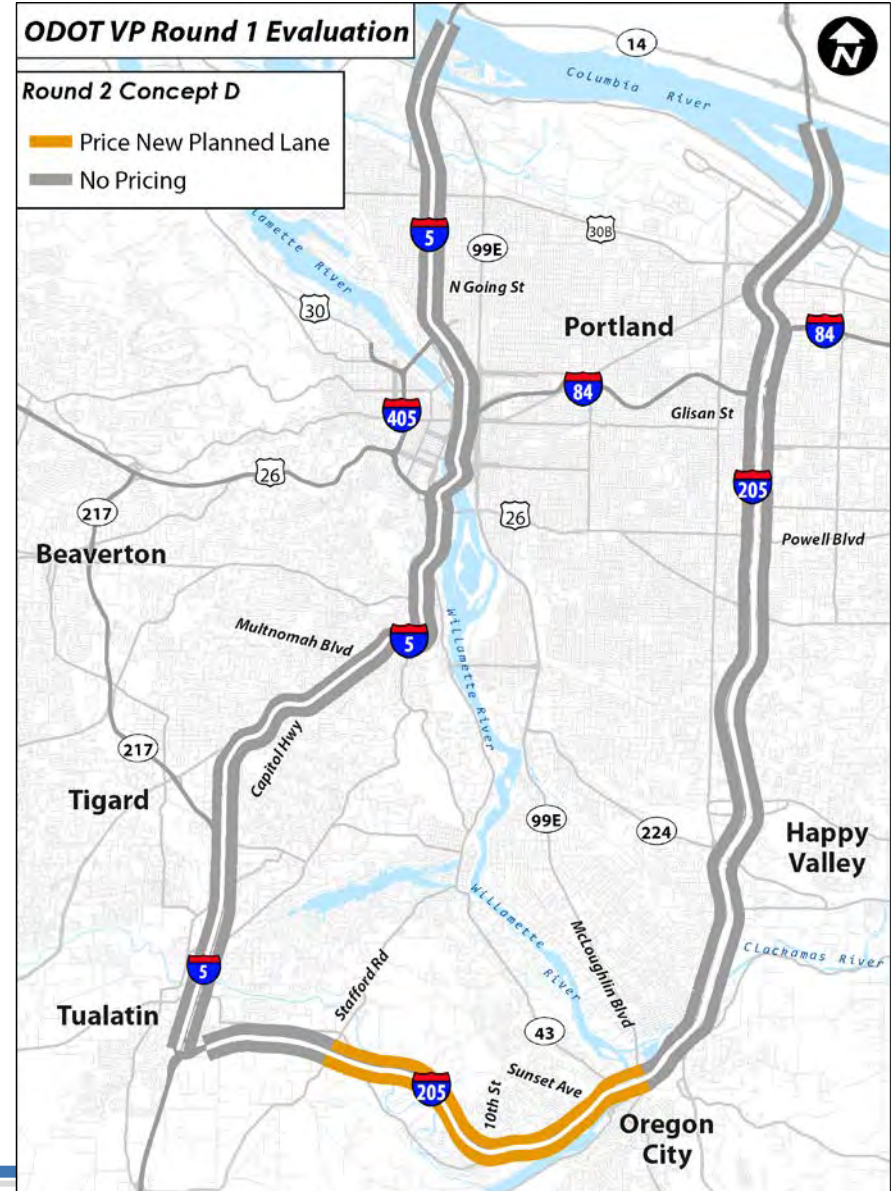
- Key rationale
 - Greatest congestion relief
 - Greatest revenue potential
 - Mitigation strategies
 - Relatively inexpensive
 - Opportunity for part-time operations
- Key topics
 - Diversion
 - Impacts on I-84, I-405 and Boone Bridge (Wilsonville, OR)
 - Equity impacts and mitigations
 - Federal and NEPA requirements



Round 2 Concept D: New Priced Lane

New priced lane on I-205

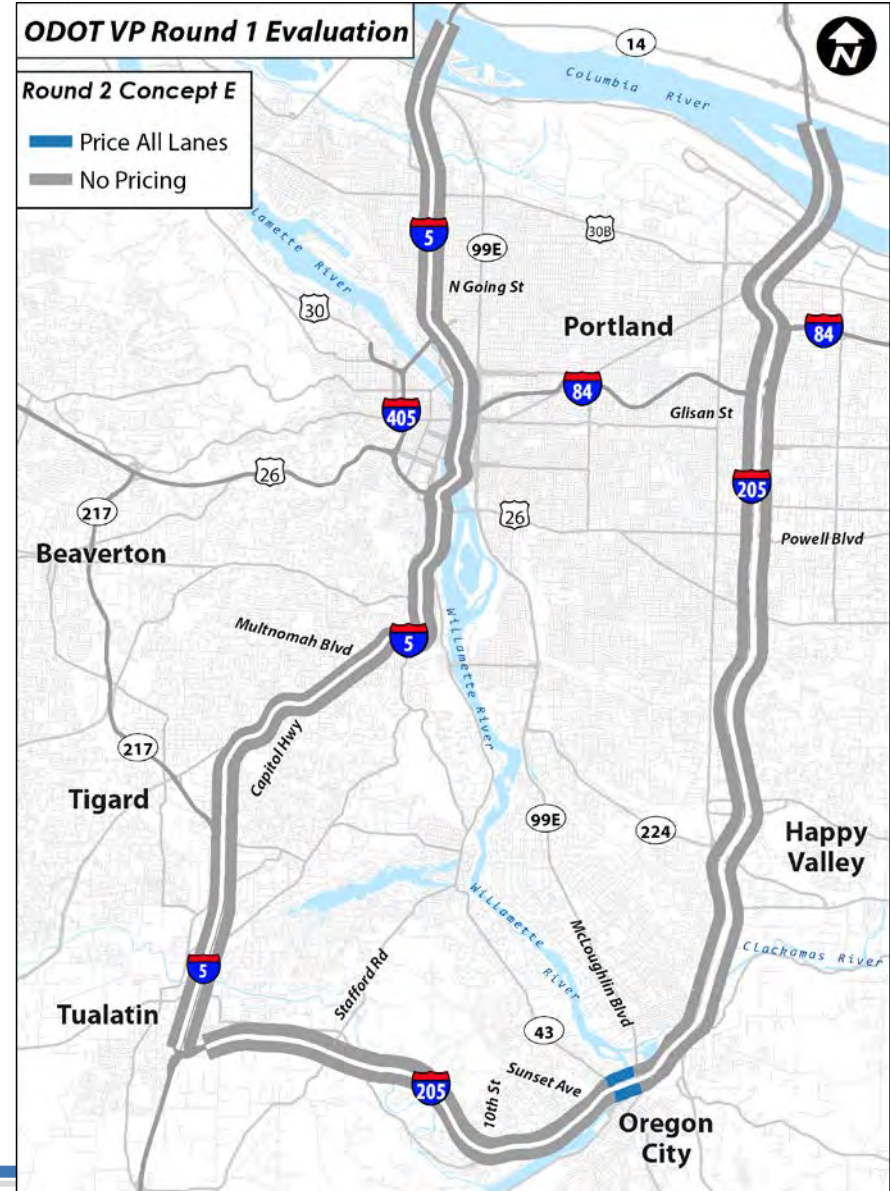
- In southern Portland metro area
 - Stafford Rd to OR 99E
 - Includes Abernethy Bridge
- Key rationale
 - Removes existing 2 lane bottleneck
 - Provides new revenue source
 - Potential to relieve congestion in southern I-205 corridor
- Key topics
 - Diversion
 - Operational effects on I-5
 - Federal and NEPA requirements



Round 2 Concept E: Price Abernethy Bridge

Toll both directions on Abernethy Bridge

- Single toll location at bridge center
- Key rationale
 - Reduces impact on existing 2 lane bottleneck on bridge
 - New revenue source for seismic upgrades
 - Potential to relieve congestion within bridge vicinity
- Key topics
 - Diversion
 - Revenue potential
 - Operational effects on I-205
 - Federal and NEPA requirements



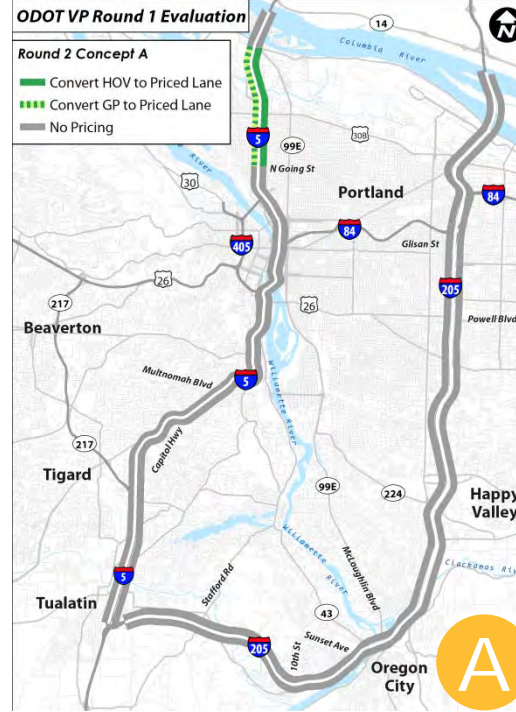
Round 2 Concepts

- 5 concepts: A through E

ODOT VP Round 1 Evaluation

Round 2 Concept A

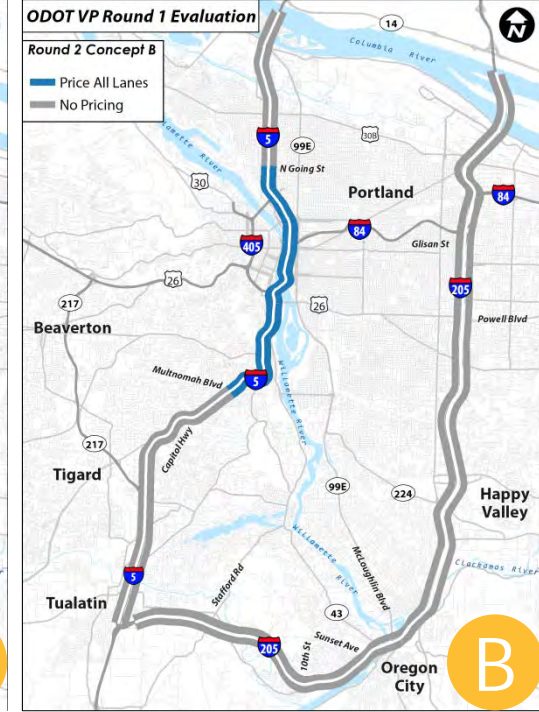
- Convert HOV to Priced Lane
- Convert GP to Priced Lane
- No Pricing



ODOT VP Round 1 Evaluation

Round 2 Concept B

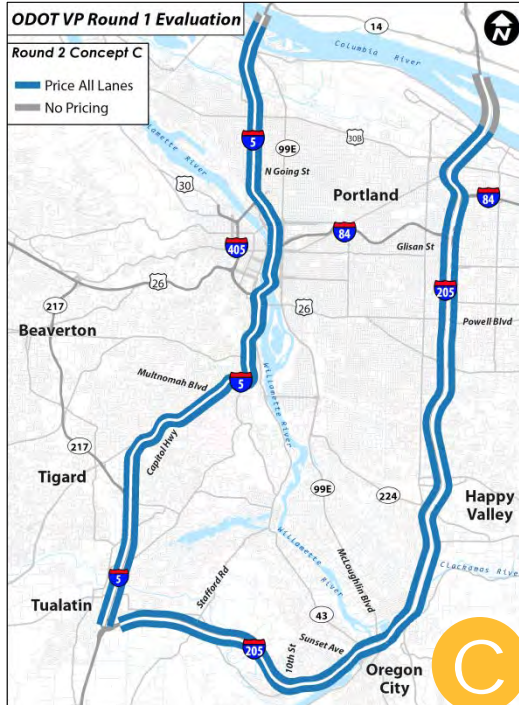
- Price All Lanes
- No Pricing



ODOT VP Round 1 Evaluation

Round 2 Concept C

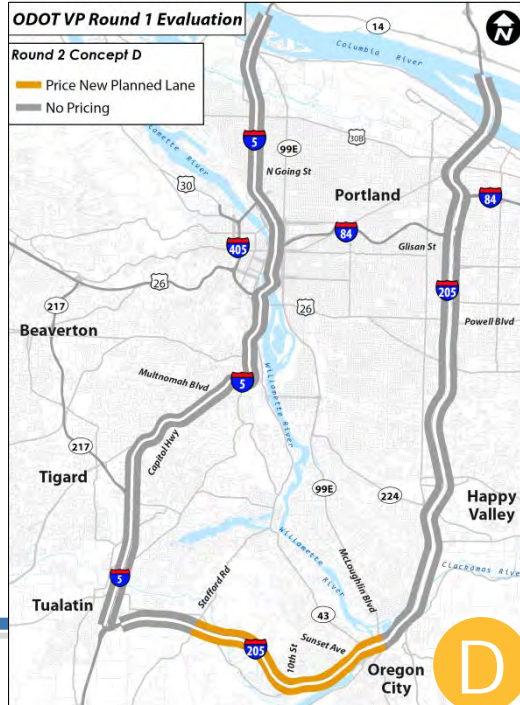
- Price All Lanes
- No Pricing



ODOT VP Round 1 Evaluation

Round 2 Concept D

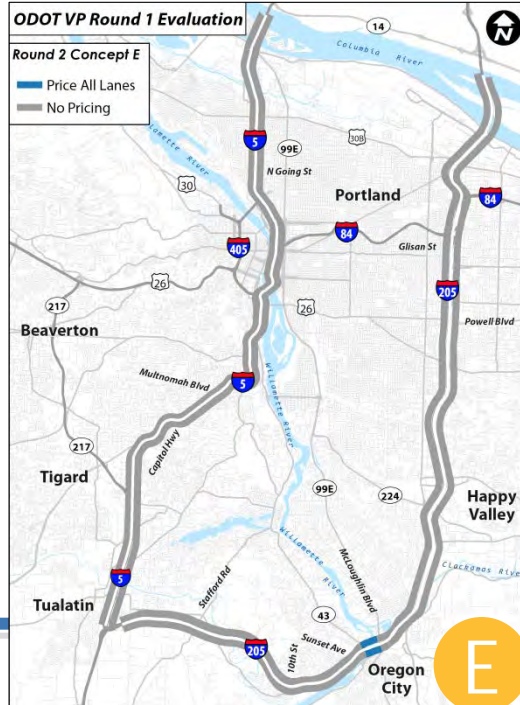
- Price New Planned Lane
- No Pricing



ODOT VP Round 1 Evaluation

Round 2 Concept E

- Price All Lanes
- No Pricing



Possible policies to optimize equity



Key examinations

Income equity

- Out of pocket costs far greater than value of time
- Ability to access priced facility
- Prioritization of projects

Geographic equity

- Selection process for priced facilities
- Use of funding
- Local burden fueled by regional demand

Actions other states have taken

Incentives and discounts



HOV Toll-Free Use Signage, I-10 Express, Los Angeles, California

- HOV use for free / discounted rates
 - Most express lanes
 - Some toll roads
- Subsidized toll rates
 - Los Angeles Low Income Assistance Plan for I-10 / I-110
- Toll credits for use of modal alternatives
 - Atlanta I-85 Express Lanes
 - Los Angeles I-10 / I-110 Express
- Toll credits by location
 - Ft. Worth Chisholm Trail Tollway

Actions other states have taken

Special access programs



License Plate Tolling Signage, North Tarrant Express, Ft Worth, Texas

- Cash accounts for unbanked populations
 - California
 - Washington
 - Texas
- License-plate tolling
 - Colorado
 - Washington
 - Texas
 - Florida

Actions other states have taken

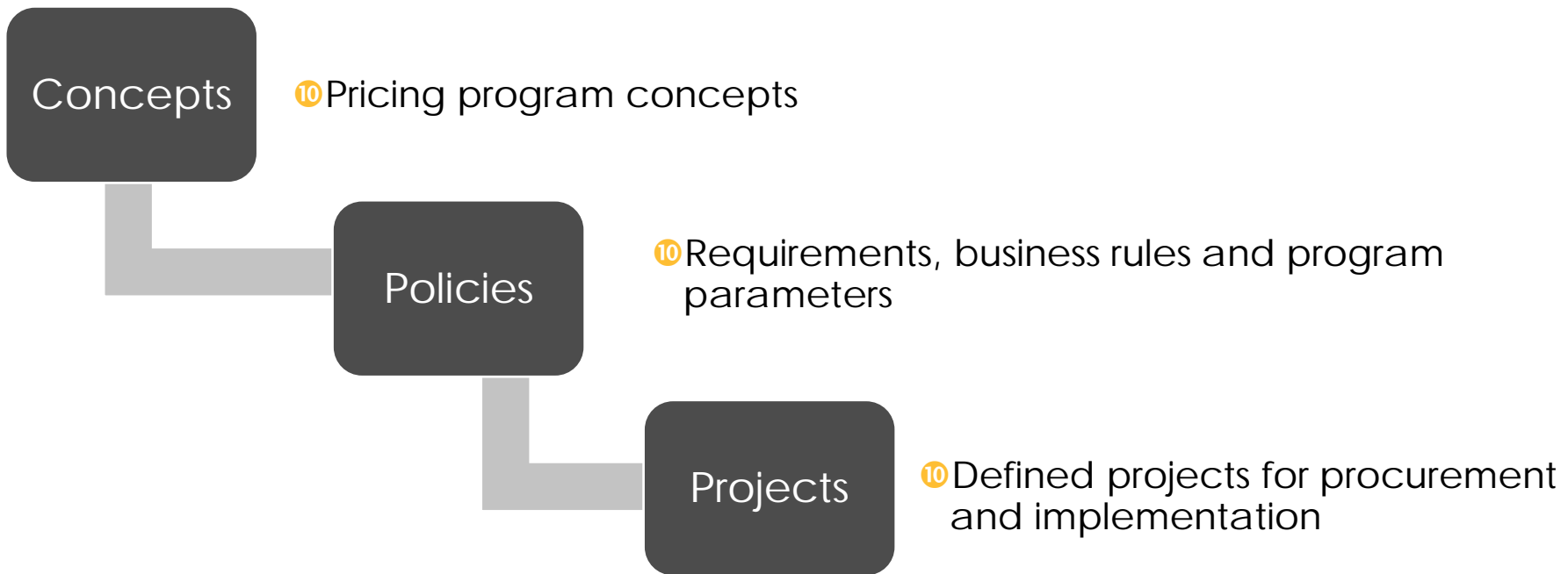
Enhanced multi-modal investments



In-line bus station on I-35W Express Lane, Minneapolis, Minnesota

- Provide improved and expanded transit facilities and services to address accessibility
 - Many states

How they will be considered



Next steps

PAC Meeting #4: April 11, 2018



Adjourn





Portland Metro Area Value Pricing Feasibility Analysis AGENDA

Policy Advisory Committee: Meeting 4

DATE: April 11, 2018

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 1:30 p.m. – 4:30 p.m.

MEETING OBJECTIVE

- Begin transition from learning stage to developing PAC recommendation(s) for OTC consideration, starting with a focus on benefits and strategies to address potential impacts

AGENDA ITEMS

Time	Topic	Lead
1:30-1:40 p.m. <i>(10 mins)</i>	Welcome and agenda review <ul style="list-style-type: none">• PAC self-introductions• Agenda review and meeting structure• Approve meeting 3 summary	Penny Mabie, Facilitator
1:40-1:45 p.m. <i>(5 mins)</i>	Comments from PAC Co-Chairs	Alando Simpson, Sean O'Hollaren, Oregon Transportation Commission
1:45-2:05 p.m. <i>(20 mins)</i>	Public comment <i>Meeting observers are welcome to provide comment to members of the PAC. Comments or questions will not be responded to by PAC members. Individual comment time limits will be determined by number of people desiring to make comment.</i>	Penny Mabie, Facilitator
2:05-2:20 p.m. <i>(15 mins)</i>	Public participation update <i>(Informational)</i> <ul style="list-style-type: none">• Process and participation• Environmental Justice and Title VI findings• Ongoing participation and next steps• Clarifying questions	April deLeon- Galloway, ODOT Alex Cousins, Envirolssues

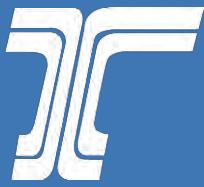


Agenda

Time	Topic	Lead
2:20-4:15 p.m. <i>(1 hr 55 mins)</i>	PAC work session: benefits and strategies to address potential impacts <i>(PAC discussion)</i> <ul style="list-style-type: none"> • Overview of work session structure • Primer: benefits and strategies to address potential impacts for environmental justice communities and adjacent communities • Small group discussions • Reports out from small groups • Large group synthesis 	Penny Mabie, Facilitator David Ungemah, WSP
4:15-4:30 p.m. <i>(15 mins)</i>	Next steps <ul style="list-style-type: none"> • Report of findings from Round 2 concept evaluation • Continued development of PAC recommendation(s) to OTC • Spring public outreach • Action items 	Penny Mabie, Facilitator
4:30 p.m.	Adjourn	

PAC Meeting #5: May 14, Monday, 9:00 a.m. – noon

PAC Meeting #6: June 25, Monday, 9:00 a.m. – noon



Portland Area Value Pricing Feasibility Analysis MEETING SUMMARY

DRAFT Meeting Summary: Policy Advisory Committee Meeting 3

DATE: February 28, 2018

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 2:00 p.m. – 5:00 p.m.

MEETING OBJECTIVES

- Learn about community and constituent input to date to inform PAC deliberations and next stage of public outreach
- Review findings from analysis of initial pricing concepts
- Advance a set of congestion pricing concepts that warrant additional technical analysis and public input
- Introduce potential mitigation opportunities for future PAC consideration.

ATTENDANCE

20 PAC members attended the meeting:

Craig Dirksen (Metro), Phil Ditzler (Federal Highway Administration), Brendan Finn (City of Portland), Chris Hagerbaumer (Oregon Environmental Council), Matt Hoffmann (Kroger Co.), Jana Jarvis (Oregon Trucking Associations), Gerik Kransky (The Street Trust), Anne McEnery-Ogle (City of Vancouver), Sean O'Hollaren (Oregon Transportation Commission), Eileen Quiring (Clark County), Curtis Robinhold (Port of Portland), Vivian Satterfield (OPAL Environmental Justice Oregon), Paul Savas (Clackamas County), Alando Simpson (Oregon Transportation Commission), Kris Stickler (WSDOT), Pam Treece (Westside Economic Alliance), Jessica Vega Pederson (Multnomah County), Rian Windsheimer (ODOT), Park Woodworth (Ride Connection)

AGENDA ITEMS AND SUMMARY

TOPIC: WELCOME AND AGENDA REVIEW

Facilitator Penny Mabie led introductions, reviewed the agenda and asked PAC members if they approved the Meeting #2 summary.

PAC Action: Meeting #2 summary was approved without change.



TOPIC: COMMENTS FROM PAC CO-CHAIRS

Alando Simpson and Sean O'Hollaren (Oregon Transportation Commissioners and PAC co-chairs) provided opening comments. Key points included:

- It's exciting to dive deeper into the public involvement process. We are adamant about hearing the diverse perspectives at the table. It is prudent to voice opinions, and disagreement is encouraged. Be clear and explicit. As we get this back to the commission, we want to make sure everyone's opinion has been brought to the table so we can put a well thought-out proposal to Phil and FHWA. At the end of the day, we're all here to put forward the best proposal for our public taxpayers and users of the transportation system.
- What we're doing now is understanding if this is feasible. What does it look like and how could we implement? How does it keep a focus on those people who are benefiting and using the system, making sure they are also investing in it?
- We need to look at encouraging options to acknowledge the fact that our population has vastly increased. We need to look at alternatives, such as transit, cycling, carpooling; and take care of our freight needs.
- The input and conversation for the process is critical to formulate a vision and turn it into a plan.

Penny thanked the commissioners and highlighted the value pricing timeline.

TOPIC: PUBLIC COMMENT

Penny welcomed public comments and asked individuals to hold their comments to one minute. Commissioner O'Hollaren emphasized the importance of providing time for public comment. He would like to add more space for public comment as the PAC moves forward. Commissioner Simpson would like a small window for additional comments at the end of the meeting if it is ahead of schedule and encouraged people to submit letters.

The following is a summary of comments heard during the public comment period:

- The project area should be considered further south to Canby to include projects in Clackamas County that will be affected by congestion pricing. My neighborhood straddles Highway 43. I suspect we will be severely impacted because of diversion.
- The Western Arterial Highway would create a shortcut and help public transport. Clark County to Washington County has become a major commuter route and this highway would shorten the route by 6 miles. Basically, it would solve the issues we're facing. We could have two tolls: one to create a new I-5 bridge and another on I-5. This solves it with much less trouble.
- Work towards two goals: Fairness and efficient use of the existing system without new lanes. I recommend pricing the entire Portland freeway system. Price all lanes, which will be efficient and equitable. Implement a more aggressive ramp metering system.



- You will be digesting a lot of detail. In my experience, it's challenging for stakeholders to advance some of the decisions and you'll want to ask if there are other things we can look at. Our traffic congestion has gone from bad to worse, despite investments on both sides of the river, including bus service, auxiliary lanes and active transportation. We should look at the technical findings and realize we've tried everything but pricing. My second point is to consider equity and what we do with the revenue, which is essential to success.
- I'm very proud that our legislators took a risk in HB 2017 and am excited this diverse group will take it seriously. This is a great opportunity for the region to make our transportation system more efficient. The commercial real estate sector will use this system and I encourage you to reach out to them. I also support tolling all lanes.
- We already have a toll and it is congestion delay. Visit steelinterstate.org, under projects, land ferry.
- I'd like to encourage a comprehensive approach: create a tolling system for the entire metro area, not just I-5 and I-205. I hope you consider adding lanes to I-5 and I-205. Simply relying on value pricing alone is the same mistake (as relying on adding lanes) in reverse. Use all the tools.
- My concern is that we'll see much more congestion in West Linn as people try to avoid paying the tolls. If you could meet and talk with the cities down in that area where we are impacted, that would be very helpful. In addition, I don't see tolling reducing the number of vehicles. I'd rather see more HOV lanes and discouraging single riders so there are fewer cars on the roads.
- The report lacks in comprehensive equity: it's about people, where they live, how they live and the opportunities they have to prosper in this city. Your approach falls short on many equity aspects: including schools, transit, housing, gentrification, health. Equity is about how 45% of Portland is going to live in the future. Depending on price, 45% of the people will be pushed out. Consultants might say these will be handled during NEPA, but those efforts matter now. I ask you to think about equity – can your approach meet our shared measures of success? I don't know what the shared measures of success are for this project.
- I want to comment on the process: the public should be able to comment at the beginning of the session and at the end, after making key decision points.

Penny closed the public comment period.

TOPIC: PUBLIC OUTREACH EFFORTS: WHAT WE'VE HEARD

Anne Pressentin of EnviroIssues updated the PAC on public outreach. She outlined three primary communications goals: listen to community input on congestion and understand concerns and opportunities with value pricing; promote awareness about the process we're engaging in; educate folks about the congestion problem, value pricing and why ODOT is considering this tool. The overall goal was to invite people who don't typically have transportation on the front of their minds.

Anne provided statistics on regional interests, shared the online map, provided a summary of the online survey and made note of open ended communications. Anne concluded by outlining next steps for the engagement process.



PAC members provided comments and questions on the public involvement process:

**Project team responses are indented and italicized*

- Was zip code part of the questionnaire?
 - Yes
- Is there an opportunity for events in Vancouver (I see they're all in Portland)?
 - *The schedule shows facilitated meetings by the community engagement liaisons who pre-identify participants. The purpose of the discussion groups is related to communities of color and Title VI. The discussion groups will include participants from Clark County.*
- We need opportunities after work hours north of the river.
- I'm impressed by the turnout of responses from Clark County. But, where you live in the region seems to impact your response. It would be valuable to understand what those responses are in different territories.
- Regarding the focus groups - will they be done bilingually? I am bilingual myself, and suggest we create a glossary for technical terms.
 - *Yes, they will be done bilingually. I would like to talk with you about creating a glossary.*

TOPIC: INITIAL CONCEPT EVALUATION

Chris Swenson from WSP provided a presentation on the initial concept evaluation. He described the process by outlining the project area, showing how the corridor was split into segments and describing how the evaluation was based on the key policy considerations in the PAC charter. Chris reminded the PAC of the eight initial concepts and provided an overview of baseline conditions.

Chris then explained the modeling results of each concept. He emphasized the limitations and strengths of the models for each concept.

Member discussion included:

**Project team responses are indented and italicized. OTC Commissioner responses are identified by speaker and also indented and italicized.*

- Our charter says we are to consider an analysis from the Washington state line. The state line is in the middle of the river, and Oregon owns and operates the I-5 Bridge. With that, was there any consideration to include the bridge in the analysis?
 - *Yes, we did look at that. Having it tolled halfway across the bridge will act as a throttle. We didn't see a benefit to placing a toll on the middle of the bridge.*

[STAFF NOTE: the round one modeling work on the 8 initial concepts did assume a toll applied across the bridge. Round 2 Concept C will be



evaluated with tolls starting just south of the I-5 Interstate Bridge and the I-205 Glenn Jackson Bridge.]

- The legislation directs the commission to look at I-205 and I-5, up to the river; it does not preclude us from looking at other areas. At some point, there will be a conversation about a bridge. That is being left out of this discussion to keep it a congestion pricing discussion.
- Because the presentation is based on traffic operations, whether we'd begin tolling in the middle of the bridge or on one side of the bridge, makes no difference to traffic operations. If tolling was based per mile – tolling on the bridge would make a difference.
- I want to note: the conversation on the I-5 bridge came down to this: we can fix the bridge, but there will still be congestion at the Rose Quarter. One purpose of value pricing is to address congestion, so when get around to the bridge conversation, that problem is dealt with.
- Concept #2: is this operation scenario based on the assumption that I-205 gets the third lane?
 - Yes.
- I'm confused about adding capacity through the I-5 Rose Quarter. Going from three lanes to two lanes is what we have already. It seems to me that at some point, and the Oregon Trucking Association's support depends on this, we should consider improvements to I-5 through the Rose Quarter.
 - *The cost of new lanes/capacity in the Rose Quarter is significant. There is a Rose Quarter project in the regional traffic model (that adds an auxiliary lane between the I-84 and I-405 ramps). However, the best option is to get traffic running much better in every lane.*
- A lot of people in the audience might not realize that there is no certainty how or if I-205 will see that presumed added lane. These models are making this presumption. In my community, I'm battling uncertainty. There is no path to funding I-205 expansion, only a commitment on the cost to complete. There's no commitment, yet we're presuming there is. I'm troubled that we haven't identified funding, yet we're presuming in these models that it will be funded. I appreciate the overview of this, but I think it would be valuable to understand why we aren't moving forward with some of the concepts, particularly concept 4. We ought to identify those costs with a financial analysis.
- As we go into the next round of model analysis, can you provide an overview of the numbers in the spreadsheet? And were outliers removed?
 - *The KATE model was run for the baseline. The TOM model was used to evaluate other concepts. We ran each alternative through the KATE model and the TOM model, which provided quantitative outputs. There are no outliers for these models.*
- There are assumptions made: what assumption was made for the price range? Surely, there was a range assumed in the modeling. People will change behavior based on the extremity of the user fee, so it is important to understand.
 - *That doesn't matter at this point in the study. If you were to do any of these projects, you're not going to flip a switch. You're going to see what happens and adjust tolls to maximize flow. The toll is used to maximize*



- through-put, not to chase people off. Set it as low as possible to manage demand, not kick it off the freeway.*
- Part of the reason we look at demand management is because we know there are discretionary trips. Is the model sensitive to the type of trip?
 - *The model does break down types of trips.*
 - It might be useful to describe to people that congestion is not linear.
 - *Congestion is like filling a water cup. There's a certain breaking point: I can easily get the water cup to 90% full, but it's much more challenging to get the water cup 100% full. Another analogy – it's like pouring rice through a funnel. There's a breaking point when one more grain of rice plugs the funnel.*
 - Are we attempting to answer all of the questions (written on the poster on the wall) today?
 - *No. These are questions for the entire process.*
 - The Round 1 concepts can move forward? Or only the Round 2 concepts?
 - *The Round 2 concepts are what we think should move forward.*
 - We have certain assumptions, including construction of all the RTP projects. When we report to the OTC, we will let them know that. We aren't going to get into funding projects. We're making an assumption that those 2027 projects will be constructed.
 - Regarding the assumptions: How does the cross section differ in the Rose Quarter and the section of I-205 between Abernethy and Stafford?
 - *The Rose Quarter project does not change the recommendation, because that same fundamental issue of cost and physical restraints does not change.*
 - What traffic volumes did you use for these scenarios? Today's versus future volumes?
 - *The basis is a projected volume for 2027.*
 - Do the RTP assumptions carry through to Round 2?
 - *Yes.*
 - The concepts that we were just reviewing were based on traffic operations, but did not consider diversion and equity impacts. Will those impacts be included as a deliverable?
 - *Many of these concerns are along the lines of what we'll look at in round 2. How pricing would impact roadways with none of the planned improvements, that's a much harder question.*
 - Did anyone on the team look at the ability of congestion pricing to reduce demand on current roadways without the RTP projects? I suggest we look at the impacts of congestion pricing under current road conditions.
 - Have we ever done freight on priced lanes?
 - Please include the New York Times article on pricing in the materials for the next PAC meeting.
 - What does 'do nothing' look like and how can we communicate that to everyone, to help justify the story? We routinely discuss revenue – what is the revenue projected to be for each of these concepts? What does that revenue actually do? Are there any other states similar to this region with similar



congestion that have employed these concepts with or without tolling? Are there any lessons we can learn?

- *Portland is not alone. Other cities have deployed brand new toll roads or in the concept of express lanes. SR-91 in California is an example of optimizing pricing. Portland would be in a unique position if it priced all lanes of existing roadway. Impacts may be unknown. We may need to evaluate and refine, even after implementation. If Portland employs pricing all lanes, other DOTs will watch for impacts.*
- *Strategies need to be reflective of a variety of different users. Since there is already a forecasted component, the comparison to the baseline was used. We could create a narrative around the baseline.*

TOPIC: RECOMMENDED CONCEPTS FOR FURTHER EVALUATION AND PUBLIC INPUT

David Ungemah of WSP outlined the recommended concepts for Round 2. These recommendations were established by considering the technical aspects Chris outlined, input from the public involvement process, and lessons learned from other value pricing projects.

David then explained each concept. Concept A: relatively easy to implement due to federal law, as well as prevalent conditions. Concept B: a truncated version of tolling all lanes, concentrating it to the areas getting into central Portland. In many ways, this reflects Singapore's and London's pricing of the urban core. Concept C: low infrastructure cost; provides the greatest level of congestion relief for the system and addresses the balance of pricing on I-5 and I-205. Concept D: expand I-205 with a third lane, and pricing that lane; could be implemented by right under federal law. Concept E: taking concept D and narrowly refining it to the bridge.

David led the PAC through a discussion of recommended concepts. Member discussion included:

**Project team responses are indented and italicized. OTC Commissioner responses are identified by speaker and also indented and italicized.*

- Concept A: did you have an opportunity to look at the possible diversion impacts?
 - *Not yet. These are proposed concepts to further consider in terms of equity, diversion, etc.*
- Did you look at the mode regarding model results?
 - *We did not look at the mode because it is difficult to do that. The model gives us one number per segment, it does not give us a range.*
- I-5 southbound has no benefit to peak vehicle throughput, no benefit to freight throughput and no increase in peak general purpose (in the modeling). Because of the numbers, it looks as though it's a failure, but it's an option because it's cheap and it's easy.
 - *We believe the model is missing something. [We] don't believe it will be a constant failure.*



- The City of Portland sees the most benefit from Concept C and is the most concerned with Concept B, mostly due to the issues surrounding diversion. We request that Concept B be turned into the entire corridor – why did you pick this option?
 - *When we looked at pricing all lanes, the benefit of congestion relief was the most acute in central Portland.*
- My understanding is that in tolling an existing lane, there's a certain speed cars have to go.
 - *The performance target is that 45 mph or better 90% of the time.*
- In general, I'm supportive of the five round 2 concepts but most supportive of Concept C. Although I'm less interested in the concepts other than the "toll all lanes" concept. I had the assumption that tolling would be implemented before the bottleneck projects had been built, not that they'd be a condition of that. I would like to know what tolling would look like under current road conditions. There are people in the region that would be supportive of tolling only if it occurred before the freeway projects. (Personally, I want the RTP projects done.) There is an assumption that tolling would be implemented immediately, before the projects. We should also include information on how each scenario aligns with the regional climate strategy. And it would be worthwhile to explore how transit can reduce congestion. It would also be helpful to have an overall analysis of how each scenario impacts the PAC's defined principles. It would be helpful to have a chart or graph that shows the different scenarios and how they address the different policies that have been identified by this group.
 - *Commissioner O'Hollaren: Your points are incredibly valid. We haven't had all of these discussions. We need to have a broader, holistic conversation about this.*
 - *Many of these are along the lines of what we'll look at in round 2. Structuring the narrative around these different options – how pricing would impact roadways with none of the planning improvements, that's a much harder question. We have to ask difficult questions in terms of what gets built when.*
 - *Nothing about those projects affects whether pricing will work well.*
- If you want to impact the whole system, you toll the whole system at a lower rate and play with it [the price], to address smaller issues.
 - *The projects don't change the success of pricing. There will, however, be differences, which would have to be evaluated during the NEPA rounds.*
- I suggested adding a scenario in which we build new lanes without pricing. I'm asking for more scenarios than what is currently in Round 1. Can we have a discussion on the details, such as transit potential?
 - *Pricing is not going to solve the problem in and of itself. There will be a range of strategies included.*
 - *Building new lanes without pricing is outside the study's charge.*
- Concept B is not different than E – it's just a different place; it's about where you're standing.
- We need more time to answer all of these complex questions.



- *Commissioner O'Hollaren: We have a legislative timeline we have to follow. Uber, Lyft and Waze are looking at capacity in a new way. There are systems out there that are going through the algorithms with disregard to safety concerns and putting capacity on streets that weren't intended for it. There are a lot of questions that we want to get as much of an answer as we can, and within the given timeline.*
- If we can take 50,000 cars off our local streets by implementing more capacity that will probably be wise.
- The SR-91 works because they used the revenues to build a standalone express highway system. They built two separate systems and increased capacity that people were willing and able to pay for.

[STAFF NOTE: A discussion of mitigation strategies will take place at PAC meeting #4 in April. It will provide an opportunity to discuss in greater detail many of the issues raised above.]

Penny, noting that she hadn't heard a definitive "no" on any of the concepts and heard a couple of people say they generally support the concepts, opened discussion about moving forward with the five Round 2 concepts.

Member discussion included:

**Project team responses are indented and italicized. OTC Commissioner responses are identified by speaker and also indented and italicized.*

- I don't have an answer to your (Penny's) question. I am curious - why are we having an equity conversation couched in the mitigation aspect? As we heard from the public, we need to have them at the front end of it in these design models by using a more robust understanding of equity, such as air quality, diversion and safety/high crash corridors.
 - *Income and geography are the primary impacts that we can study. Tradeoffs are part of the impact analysis. There are challenges when we try to overreach with pricing. We understand that a rail system can have impacts around land use and development. Can express lanes have the same land use impacts as a rail line? When we try to address equity in those contexts (long term), we don't have a great understanding.*
- Are these standalone concepts?
 - *Both. Baseline conditions are a regional condition. Each of these revised would be compared with baseline and show regional metrics. B and C would have regional impacts. Some of the more localized ones would have very few consequential impacts in other parts of the region. Could some be used as a demonstration project or a pilot program? Could be possibilities. We look at local improvements side by side with regional improvements.*
- If you are just looking at one segment, that impact could be huge in terms of equity.
- I say "no" to Concept A.



- Are these the only 5 concepts that will be put forward for further study? If so, once that study is done, will we be selecting one individually or will we be piecing together some of the concepts for recommendation?
 - *Yes, these are the five we recommend moving forward with for deeper analysis. In terms of recommendation, you can utilize the outcomes from all of these to package a recommendation for the OTC.*
- Do we need to put all five forward? For me, tolling just the Abernethy Bridge doesn't make sense. I'm curious about why we have these options. People are interested in a deeper analysis of a concept that does not include the RTP projects and instead considers tolling under current conditions.
 - *The intent is to move all five forward for analysis. Combinations of projects could be recommended by the PAC.*
- If Concept C stays on the table, it will get at all the other options anyway because there would be a phasing process.
 - *It would be very difficult to implement all as one. I would caution against pricing all of I-5 without addressing I-205.*
 - *Some of the other things you have in place (ramp metering, etc.) helps this work together.*
- On the Washington side, we had roughly 160 people participate in the Open House. There was a lot of great information and it helped the community's understanding. However, there are questions about geographic equity. If the existing HOV lane did not exist, would you be recommending Option A?
 - *I don't know. HOV lanes have been a good entry point to try out pricing. Some HOV lanes have not been successful. Given the HOV lane's performance today, there is probably a 20-30% violation rate.*
- In Washington we did go through the painful experience of putting in an HOV lane and then converting it back. I believe it's going to be a struggle for Washington residents to see this as an equitable solution. I understand there are benefits to Washington residents, but it's going to come up as an equity issue. It's really only Washington residents that would be using it and losing the benefit of the southbound lane.
 - *Commissioner Simpson: I suggest we move the last agenda item, "Introduce potential mitigation strategies" to the next PAC meeting.*
- I'm not comfortable narrowing it down to these particular concepts. The public expects – if they pay a toll, they will see the benefit, and a benefit of capacity.
- I want to keep the "no tolling" scenario as a comparison, even if it doesn't move to Round 2.
- Would concept D and E be there if the RTP was built out? These concepts seem like extremes and very impactful in terms of diversion.
- We're supposed to come up with a recommendation. In our charter, our choices did not include do nothing. It should be one of the choices.
- The big concern Washington County has is the impact on commerce. When we consider mitigation, I'm hoping we consider the economy. Once tolling begins, every lane to get in and out of Washington County will be impacted and we will have to look at economic impacts.



Portland Metro Area Value Pricing Feasibility Analysis

Draft Policy Summary

DATE: April 4, 2018

SUBJECT: Portland Metro Area Value Pricing – Summary of Relevant Policies

This memorandum provides a summary of relevant federal, state, and regional plans and policies in support of the Portland Metro Area Value Pricing Feasibility Analysis.

This document is not intended to provide a comprehensive history of all tolling or value pricing efforts in Oregon. Further information about these topics can be found at ODOT's website, <http://www.oregon.gov/ODOT/Pages/Value-Pricing.aspx>. Questions about the content of this document can be directed to valuepricinginfo@odot.state.or.us.

1 BACKGROUND

In 2017, the legislature made a significant commitment to Oregon's multimodal transportation system by passing House Bill 2017, also known as Keep Oregon Moving. The legislation committed \$5.3 billion for projects aimed at freeway bottlenecks, active transportation needs, and funding for transit operations.

Section 120 of HB 2017 creates the Traffic Congestion Relief Program and directs the Oregon Transportation Commission (OTC) to request approval from the Federal Highway Administration (FHWA) to implement value pricing on Interstate 5 and Interstate 205 in the Portland metropolitan area. The OTC has until December 31, 2018 to seek FHWA's approval. Once Oregon receives that authority, HB 2017 compels the OTC to move forward with value pricing implementation to relieve congestion.

The OTC directed the Oregon Department of Transportation (ODOT) to conduct a feasibility analysis, working with local government officials and stakeholders and seeking public input so that the voice of all those who may be affected can be heard. A Policy Advisory Committee (PAC) was convened to advise the OTC on implementing Section 120, making recommendation(s) regarding:

- Based on the considerations described under Committee Responsibilities, what location(s) on I-5 and/or I-205 are best suited to implement value pricing?
- For the recommended location(s), what type of value pricing should be applied?



- What mitigation strategies should be pursued based on their potential to reduce the impact of value pricing on environmental justice communities or adjacent communities?

The PAC is asked to consider the following factors in evaluating pricing options:

- Revenue and cost
- Traffic operations improvements
- Diversion of traffic
- Adequacy of transit service
- Equity impacts
- Impacts on the community, economy, and environment
- Public input
- Consistency with state and regional law and policy
- Feasibility under federal law
- Project delivery schedules

2 OREGON PLANS & POLICIES

HB 2017 and its value pricing directive are not Oregon's first legislative experience with tolling. The Oregon Department of Transportation's (ODOT's) deliberate approach to modern tolling and value pricing policy began in 1995 with the passage of Senate Bill 626. That legislation resulted in much of Oregon Revised Statutes (ORS) Chapter 383 as it exists today, governing tollway project authority, agreements, funding and fee collection. Although lawmakers and ODOT did not move forward any tolling projects at the time, the Traffic Congestion Relief Program provisions of HB 2017 augment this existing statute in ORS Chapter 383.

2.1 Oregon Highway Plan Goal 6

Starting in 2006, the OTC adopted policies to support the consideration of tolling in Oregon as a means to improve the capacity and operational efficiency of the state highway system. Following the commission of a series of white papers that investigated many facets of tolling and value pricing, ODOT updated the Oregon Highway Plan (OHP) in 2009 with Goal 6: Tolling and Congestion Pricing. These amendments set the policy for ODOT and the OTC to follow on future value pricing projects. The white papers and resulting policy identified that tolling can accomplish more than just revenue generation. Additional objectives include congestion relief, greenhouse gas/emission reduction, and economic development. OHP Goal 6 also established policies that stipulate tolling project requirements, public engagement and education, and tolling technology and system interoperability



(<http://www.oregon.gov/ODOT/Planning/Documents/OHP-Tolling-Pricing-Policy-Amendments.pdf>).

Statewide tolling policy work continued in 2012, with the adoption of many additions to Oregon Administrative Rule (OAR) Chapter 731, Division 40. These rules implement the provisions of ORS Chapter 383 that direct ODOT and OTC to further clarify statute and set the parameters OTC will use when considering toll project proposals. These rules also create a process for reviewing and approving toll rates, reinforce Oregon's commitment to interoperability, establish civil penalties for failure to pay a toll, and set up processes specific to interstate bridge toll projects.

2.2 Oregon Policy on Uses of Revenue

HB 2017 dedicates net revenue from value pricing to a newly created Congestion Relief Fund. As a tax or excise levied on the operation or use of a motor vehicle, revenue from value pricing would be subject to the same limitations as the State Highway Fund. The State Highway Fund is bound by the restrictions of Article IX, Section 3a of the Oregon Constitution, which specifies that funds “shall be used exclusively for the construction, reconstruction, improvement, repair, maintenance, operation and use of public highways, roads, streets and roadside rest areas in this state.”

The Oregon Supreme Court has interpreted this to mean that these funds “must be limited exclusively to expenditures on highways, roads, streets and roadside rest areas themselves and for other projects or purposes within or adjacent to a highway, road, street or roadside rest area right-of-way that primarily and directly facilitate motorized vehicle travel.”

The Oregon Department of Justice (DOJ) has not completed a full analysis of what activities that support public transportation or active transportation may be eligible under Article IX, Section 3a. However, DOJ has provided informal and formal opinions on a range of potential eligible uses of State Highway Fund dollars that may help inform the OTC considerations:

- Park-and-ride lots that connect auto users to bus systems: these must be in or adjacent to the right-of-way and must serve bus routes (and could not solely serve light rail, for example, as it is not “motorized vehicle travel”).
- Construction of shared-purpose lanes that include light rail—although the cost of light rail-only improvements within the lane (such as the rail itself) would not be eligible to be paid with State Highway Fund dollars.
- Bus malls: former public streets that will be closed to all motor vehicle traffic except buses are eligible.
- Bus pullouts on the highway.



- Bicycle and pedestrian facilities that are within the highway, road or street right-of-way are eligible. Off-system paths and trails are not.

The newly created Congestion Relief Fund is a dedicated account to finance congestion relief efforts on the identified tollways, including value pricing administrative and operating costs, new or expanded facilities and ongoing maintenance of the tollways.

While the Congestion Relief Fund is established in statute as a distinct account from the previously established State Tollway Account, the latter may provide insights into future rules for use for the newly created fund. ORS 383.009(2) provides that State Tollway Account funds may be used to finance preliminary studies, acquire right of way, construct, improve or maintain the tollway, operate and administer applicable toll systems, and finance any bonds or other obligations used for such expenses.

Upon passage of HB 2017, the legislature included a “budget note” directing ODOT to dedicate value pricing revenue for funding congestion relief efforts along I-205, particularly the I-205 Stafford Road to Abernethy Bridge projects. The note attached to ODOT’s 2017-2019 budget is in effect through the duration of the budgetary biennium, which ends June 30, 2019. Beyond the period of time covered by the budget note, the Oregon Transportation Commission will set policy for where revenue from value pricing should be directed, subject to further direction from the Legislature. The Policy Advisory Committee may choose to make recommendations to the Commission on this topic.

3 FEDERAL TOLLING PROGRAMS

Federal laws pertaining to the collection of tolls on Interstate highways, and the use of federal funds for tolling projects, largely predate the Interstate system itself. Initially, provisions in Title 23 of United State Code (U.S.C.) prohibited the use of federal money for tolling projects on federal-aid highway fund facilities. In 1991, however, the Intermodal Surface Transportation Efficiency Act (ISTEA) opened the door for federally funded tolling projects. ISTEA required that tolling of any existing roads or bridges may only occur after the facility is reconstructed, expanded or otherwise improved. Subsequent congressional action allowed tolling of high-occupancy vehicle lanes and established a pilot project for jurisdictions to experiment with congestion pricing. The following is an overview of relevant tolling regulations and their applicability to the various concepts under consideration by the Portland Metro Area Value Pricing Policy Advisory Committee (PAC).



3.1 23 U.S.C. Section 129 – Mainstream Tolling

Title 23 U.S.C. Section 129 provides authority for tolling Federal-aid highways in conjunction with new construction or other improvements to those highways. Public agencies may impose new tolls on federal-aid highways in the following cases:

- Initial construction of a new highway, bridge, or tunnel
- Initial construction of new lanes on highways, bridges, and tunnels (including Interstates), as long as the number of toll-free lanes is not reduced
- Reconstruction or replacement of a bridge or tunnel
- Reconstruction of a highway (other than an Interstate)
- Reconstruction, restoration, or rehabilitation of an Interstate highway, as long as the number of toll-free lanes is not reduced

Prior to October 1, 2012, public authorities were required to execute a tolling agreement with FHWA to impose tolls on a federal-aid highway, but this requirement is no longer required. Although tolling agreements are no longer required under the mainstream tolling programs, State departments of transportation and other public agencies responsible for toll facilities are strongly encouraged to execute a memorandum of understanding (MOU) with their FHWA Division Offices, particularly considering the new requirements for audits and the potential consequences of noncompliance (including the discontinuation of toll collection).

Of the pricing concepts advanced for Round 2 analysis, Concepts D (adding capacity to the southern section of I-205 and pricing those lanes) and E (replacement of the Abernethy Bridge) fall under the jurisdiction of the Title 23 U.S.C. Section 129 provisions.

3.2 23 U.S.C. Section 166 – HOV/HOT Lane Program

Under Section 166 of Title 23, existing HOV lanes may be converted to tolled operation provided that tolls are variably priced and collected electronically in order to manage travel demand. The program includes consultation the local metropolitan planning organization (MPO) regarding the placement and amount of tolls on the converted lanes. To implement tolls on an existing high-occupancy vehicle (HOV) lane, project sponsors must demonstrate that the presence of paying vehicles will not cause conditions on the facility to become degraded. Ongoing annual reporting documenting conditions on the converted lanes is also required, and if the HOV facility becomes degraded the sponsor must bring the facility into compliance either by increasing HOV occupancy requirements, increasing tolls, increasing capacity, or eliminating access to paying motorists.

The following certification provisions apply whenever an HOV lane is converted to HOT operations under Section 166:



- States must certify annual to FHWA that they meet the operational requirements stipulated in Section 166, including vehicle eligibility; enforcement, and operational performance monitoring, evaluation and reporting. The annual certifications must demonstrate that the presence of paying vehicles in the high-occupancy toll (HOT) lane has not cause traffic service to become degraded.
- States must demonstrate that programs are in place to inform motorists how they may enroll and use the managed lane, either in a non-paying HOV vehicle or a paying HOT vehicle.
- States must indicate that they have or will have an automated electronic toll collection system in place on the managed lanes.

While Oregon has only minimally utilized HOV lanes, one option under consideration in Round 2, Concept A, involves conversion of the existing HOV lane on the northbound portion of I-5. Accordingly, Oregon could avail itself to the provisions of 23 U.S.C. Section 166 should this concept continue to move forward.

3.3 Value Pricing Pilot Program

The Value Pricing Pilot Program (VPPP) is designed to assess the potential of different value pricing approaches for reducing congestion. Under this program, tolls may be imposed on existing toll-free highways, bridges, and tunnels, so long as variable pricing is used to manage demand. Congress has authorized up to 15 slots under the VPPP, which are allocated to State or local agencies. Seven of these slots have been permanently allocated to States that have executed agreements for tolling projects under the program.

Oregon currently has a VPPP slot, which was used in the past to evaluate tolling on Highway 217 as well as a project by Portland State University regarding peer-to-peer car sharing in Portland. This VPPP could be used for other congestion pricing projects in Oregon. Once an agency holds a slot in the program, it may be used for multiple value pricing projects.

Round 2 Concepts A (southbound I-5 managed lane), B (pricing all lanes of I-5 from Going St. at the northern end to Multnomah Blvd. at the southern end) and C (pricing all lanes of I-5 and I-205, from the Washington state line to the southern terminus of I-205 at I-5) would likely use the VPPP tolling program.

4 REGIONAL PLANS & POLICIES

In 2000, the Metro Council and the Joint Policy Advisory Committee on Transportation (JPACT) adopted a peak period pricing policy and policy direction for future corridor refinement plans and studies, as recommended by the Traffic Relief Options (TRO) study



led by ODOT and Metro. This action was reflected in a new RTP policy on peak period pricing and specific provisions for pricing to be considered as part of several upcoming corridor studies, including the Sunrise Highway, I-5-99W Connector, Sunset Highway, I-5, I-205, Highway 99E/224 and Highway 217.

The Transportation System Management and Operations (TSMO) Strategic Plan, which was adopted as part of the RTP in 2010, also identifies value pricing as a potential strategy for future traffic management and calls for the study and implementation of congestion pricing/high occupancy lanes.

The 2014 RTP also made value pricing an objective within the plan's Goal 4, "Emphasize Effective and Efficient Management of the Transportation System." The RTP advances value pricing as one possible strategy to help the region optimize capacity of existing facilities, improve travel conditions for system users, and address complementary goals such as improving air quality and meeting greenhouse gas emission reduction targets.

Chapter 2 of the 2014 RTP includes the following language:

"Value pricing—sometimes called congestion pricing—involves the application of market pricing (through variable tolls, variable priced lanes, area-wide charges or cordon charges) to the use of roadways at different times of day. While this tool has been successfully applied in other parts of the U.S. and internationally, it has not been applied in the Portland metropolitan region to date. In 2008, the Oregon Department of Transportation (ODOT) researched the potential effects of tolling/pricing to determine if and how tolling could be applied in Oregon. ODOT will research the application of this tool in the Portland metropolitan region and identify a pilot project to further test this strategy in response to House Bill 2001, which was adopted by the 2009 Legislature. . .

"As applied elsewhere, this strategy manages peak use on limited roadway infrastructure by providing an incentive for drivers to select other modes, routes, destinations or times of day for their travels. Reducing discretionary peak hour travel helps the system operate more efficiently improving mobility and reliability of the transportation system while limiting vehicle miles traveled and congestion-related auto emissions. In addition, those drivers who choose to pay tolls can benefit from significant savings in time. Similar variable charges have been utilized for pricing airline tickets, telephone rates and electricity rates to allocate resources during peak usage. In addition, value pricing may generate revenues to help with needed transportation improvements. More work is needed to gain public support for this tool." (2014 RTP, pages 2-86 and 2-87).



Chapter 6 of the RTP, “Implementation,” identifies several corridors and facilities that should consider pricing strategies as part of future rehabilitation or capacity expansion projects. Specifically, Tigard to Wilsonville (Mobility Corridor #3, centered on I-5 South), Clark County to I-5 via Gateway, Oregon City and Tualatin (Mobility Corridors # 7, 8, and 9, centered on I-205) and Portland Central City Loop (Mobility Corridor # 4, centered on I-5 and I-405) are all targets of opportunity for future pricing efforts.

DRAFT

Tolling Impacts and Mitigation Strategies for Environmental Justice Communities

research report

Prepared for

Oregon Department of Transportation

Prepared by

Cambridge Systematics, Inc.

Research report

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Date

October 30, 2017

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1.0 Introduction

Variable pricing on roadways can reduce congestion, generate revenue, or both. This report describes the potential impacts, both adverse and beneficial, on environmental justice (EJ) communities and households, and describes corresponding mitigation strategies to reduce or eliminate adverse impacts and/or capitalize on beneficial impacts. EJ, as defined by the Federal Highway Administration (FHWA), means identifying and addressing disproportionately high and adverse effects of the agency's programs, policies, and activities on minority populations and low-income populations to achieve an equitable distribution of benefits and burdens.

In this report, we present potential impacts for variable pricing strategies on all types of roadways: e.g., separated managed lanes that could function as express lanes (i.e., all vehicles pay tolls regardless of occupancy), high-occupancy toll (HOT) lanes, all lanes tolled on a limited access highway, open-road tolling on all roads within a major corridor, bridge and tunnels, cordon pricing around an urban center or CBD. The severity of EJ impacts from tolled corridors, roads, lanes, bridges, tunnels, or CBD are proportional to their proximity to and the size of EJ communities and the number of drivers from EJ households travelling on the tolled facility.

1.1 Summary

Based on extensive research, we have identified five overarching categories of potential impacts to EJ communities: 1) cost and travel time impacts; 2) displacement impacts; 3) neighborhood traffic impacts; 4) environmental impacts; and 5) economic impacts. The following sections provides more detailed and findings on what each impact entails, potential mitigation strategies to minimize the impacts or strategies to amplify their affects, and example mitigation strategies, if applicable. Table 1.1 provides a summary of findings.

Table 1.1 Tolling Impacts and Mitigation Strategies Summary

Impact Type	Impact Type	Impact Description	Mitigation Possibility	Mitigation Strategy
Toll Price	Modestly to severely adverse	<ul style="list-style-type: none"> The higher cost burden for EJ households may be offset by travel time savings. Toll costs may increase household expenditures. 	Medium to High	<ul style="list-style-type: none"> Fund alternative modes of transportation (e.g., shared mobility strategies such as peer-to-peer carpool transit). Provide subsidies for households meeting certain criteria.
Travel Time Savings	Modestly to significantly beneficial	<ul style="list-style-type: none"> An EJ transit rider would receive free travel time benefits if transit service operates in a faster tolled lane. Variable pricing may improve travel times on both tolled and non-tolled lanes within the same corridor.¹ 	Medium to High	<ul style="list-style-type: none"> Improve/subsidize access for higher occupancy modes in the corridor such as first-mile/last-mile park-n-ride lots (if tolled road involves HOT lanes) and transit stations/stops, providing the travel time benefits without paying tolls. Provide SOV subsidies for households meeting certain criteria.
Tolling Payment Methods	Modestly to severely adverse	<ul style="list-style-type: none"> Credit card or automatic-debit payment methods may not be readily available for unbanked households. Additional purchase of a transponder may be required. 	High	<ul style="list-style-type: none"> Offer prepaid cash payment options at multiple locations accessible to EJ communities. Allow multiple payment methods, including cash, money order, and checks. Provide free or discounted transponders. Reduce the minimum required balance.
Displacement of Homes & Businesses	Modestly to severely adverse & beneficial	<ul style="list-style-type: none"> Unique to area under analysis. Depending on design of new toll road/lane, none or many homes/businesses may be displaced. 	Low to Medium	<ul style="list-style-type: none"> Alter design of facility. Provide relocation assistance to affected properties.

¹ Results on the performance of the SR 167 HOT lanes, derived from an independent analysis of the Washington State Transportation Center (TRAC), indicate travel times in the general purpose lanes are more reliable than before the HOT lanes opened and all peak-period traffic is moving more efficiently. On average, daily general purpose lane volumes have decreased 4 to 5 percent, while speeds have increased 8 percent, and daily HOT lane volumes have increased 15 percent, while speeds have remained around the posted 60 mph speed limit. (FHWA. 2010. SR 167 HOT Lanes Pilot Project SR 167, Seattle WA HOT Lanes Project. https://ops.fhwa.dot.gov/freewaymgmt/publications/documents/nrpc0610/workshop_materials/case_studies/seattle.pdf)

Impact Type	Impact Type	Impact Description	Mitigation Possibility	Mitigation Strategy
Property value of adjacent but non-displaced homes & businesses	Modestly adverse & beneficial	<ul style="list-style-type: none"> • Unique to area under analysis. • If facility design improves access to businesses/homes, property values may increase. • Property adjacent to non-tolled, parallel routes that experience higher traffic volumes because of diversion 	Medium	<ul style="list-style-type: none"> • Dependent on local policies and programs. • Diminished property values may be offset by payment of “severance.” • Traffic calming along impacted to discourage diversion
Neighborhood Traffic Impacts	Modestly to severely adverse & beneficial	<ul style="list-style-type: none"> • Unique to area under analysis. • Depending on diversion to or from non-priced alternative routes, neighborhood traffic may increase or decrease. 	High	<ul style="list-style-type: none"> • Ban heavy vehicles from neighborhood streets. • Implement traffic calming measures on local streets used for by-passing tolls. • Implement time-of-day or directional restrictions on local streets used for by-passing tolls... • Value-pricing of a new bypass can improve central business district (CBD) circulation. • Provide additional transit service • Improve bicycle/pedestrian network, especially separate facilities
Noise and Air Quality	Modestly adverse	<ul style="list-style-type: none"> • Unique to area under analysis. • Diversion could increase neighborhood traffic, which could increase noise & pollution. • Reduced congestion and improved throughput on tolled facility could reduce pollution on tolled facility and could reduce diversion through neighborhoods. 	High	<ul style="list-style-type: none"> • Mitigation strategies for ‘Neighborhood Traffic Impacts’. • Prohibit compression/engine braking. • Support soundproofing buildings. • Structural design improvements, such as noise barrier or quieter pavements.

Impact Type	Impact Type	Impact Description	Mitigation Possibility	Mitigation Strategy
Safety and Collisions	Modestly adverse & beneficial	<ul style="list-style-type: none"> • Unique to area under analysis. • Diversion could increase neighborhood traffic, which would increase automobile, bicycle, and/or pedestrian conflicts. • Reduced congestion and improved throughput on tolled facility could reduce diversion through neighborhoods, reducing crashes on tolled highways & neighborhood streets. 	High	<ul style="list-style-type: none"> • Mitigation strategies for ‘Neighborhood Traffic Impacts’, especially traffic calming strategies. • Provide infrastructure improvements for non-motorized vehicles (e.g., sidewalks, crosswalks). • Deploy Integrated Corridor Management (ICM) strategies, including variable message signs (accident warnings), parallel arterial signal synchronization, dynamic ramp metering, etc.
Access to Employment	Modestly beneficial	<ul style="list-style-type: none"> • Primarily positive impact • Improved travel time and reliability increases the number of jobs accessible within the commute shed 	Medium	<ul style="list-style-type: none"> • Increase opportunities to alternative modes of transportation (e.g., carpool, transit), especially if they can utilize the toll facility
Goods Movement	Modestly adverse & beneficial	<ul style="list-style-type: none"> • Unique to pricing strategy deployed. • Reduced congestion across all lanes would improve travel time & reliability. • Diversion of auto traffic out of peak periods to avoid tolls could congest off-peak period, slowing truck travel times, reducing reliability, & increasing accidents. 	Low to Medium	<ul style="list-style-type: none"> • Variable pricing strategies could be structured to convert tolled lanes from peak period auto-only to truck only during off-peak.

2.0 Cost and Travel Time Impacts

The adverse financial burdens and travel time benefits to EJ households that come with variable pricing are distinct impacts, but they are also flip sides of the same coin. While we separate these two impacts in two subsections below, we summarize research findings which evaluate how low-income drivers trade-off these reciprocal impacts. These findings indicate that in some highly congested tolled corridors a significant minority of users are lower income drivers who will pay tolls to travel faster or arrive at their destination on-time (i.e., travel time reliability).

2.1 Tolling Cost

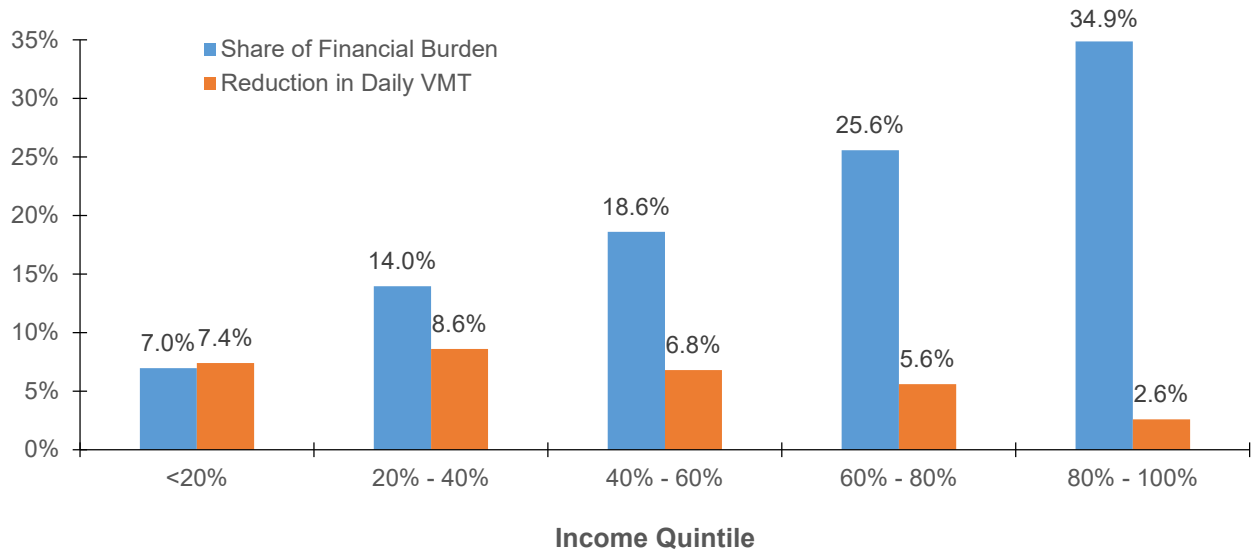
Variable pricing that significantly reduces peak period congestion indicates that peak period toll rates are forcing low-income households to divert to a less desirable alternative time of day, route, or mode. The cost of paying a high toll during peak-period travel will likely impose a net financial burden or inconvenience on some significant portion of the lowest-income households because they are the most price sensitive. Nevertheless, effective strategies may be deployed to reduce the financial burden on EJ households of paying a toll or the inconvenience of diverting to a travel time outside the tolled period or to a slower or longer alternative route, including the following:

- **Reducing the cost of tolls.** Subsidies for qualified EJ households can level or remove the burden across income levels. While the process of applying for means-tested subsidies creates a burden in itself, some phone companies, electrical utilities, schools, or county social service agencies have “lifeline” programs that screen and enroll qualified households for subsidized pricing of other services (e.g., telephone, school lunch, home power utilities, health care, etc.). Once an EJ household is qualified, its subsidy can be administered through automatic toll transaction credits on eligible transponder accounts for each transaction or can be provided as rebates at the end of the billing cycle.
- **Providing unpriced alternative modes.** If the objective of variable pricing is to divert drive-alone autos out of peak period on congested routes, subsidized tolls are counterproductive. Providing improved access to higher occupancy modes, such as carpools, vanpools, and bus and rail transit, can reduce their inconvenience and relieve some EJ drivers of paying a toll. Nevertheless, for some portion of EJ drivers even these improved alternative modes will be less desirable, imposing longer travel time and/or less flexibility, comfort, and/or convenience. While the Oregon State Constitution prohibits spending toll revenue on public transportation, Oregon Department of Transportation (ODOT) could fund park-and-ride lots and other auto-based shared mobility infrastructure and services to improve peer-to-peer carpooling. Furthermore, other sources of funding may be spent to improve public transit in a priced corridor.
- **Avoiding tolls.** EJ households can avoid paying a toll by diverting to a non-tolled parallel route or to off-peak travel times. Strategies that mitigate the downsides of route diversion along parallel arterials include signal synchronization, grade separation at busy intersections and at-grade rail crossings, and lane widenings at bottlenecks. Policies that promote employers allowing flex-time and extended hours for daycare and after-school care provide an effective mitigation strategies to allow travel off-peak (i.e., temporal diversion) commute travel.

The Federal Highway Administration (FHWA) investigated the equity impacts of congestion pricing, including the perception of whether higher income drivers receive more benefits from tolled facilities, and found that while higher income households are more likely to use variable-priced facilities, all income groups use them

(FHWA, 2008, Income-Based Equity Impacts of Congestion Pricing. See References at end of report). Unfortunately, the FHWA research does not report the income bracket distribution between peak and off-peak. Nevertheless, the case study of SR-91 Express Toll Lanes in California reports that the income distribution during the peak period showed that 19 percent of the peak-period HOT lane users made less than \$40,000 and 42 percent made less than \$60,000. One study indicated an individual’s flexibility of time and availability of alternative routes may be stronger predictors of their use of a tolled facility than income (Weinstein and Sciara, 2004). Another study analyzed a hypothetical toll in Los Angeles and found that higher income travelers would actually have the highest financial burden share, but the lowest reduction in daily vehicle miles traveled (VMT) (see Figure 2.1).

Figure 2.1 Equity Implications of Hypothetical Los Angeles 5-Cent VMT Fee



Source: FHWA, 2008.

A separate study investigated the public opinion of using tolls versus taxes to pay for transportation infrastructure (Taniguchi, 2008). The survey result found that approval ratings for the tolled facilities were high among all income groups, with the highest support among low-income households who also supported funding through tolls instead of taxes. Unfortunately, none of the recent survey research provides detailed findings of how many low income households use tolled facilities or the level of approval for tolling among non-users. FHWA concludes that all income groups appreciate the option of paying a toll for a reliable trip, especially when getting to a destination on time is of high importance, such as picking up a child from daycare before late fees occur.² Nevertheless, a 1998 survey of Portland metro area drivers found that approximately three percent of peak hour SOV commuters are low-income and 38 percent of the SOV commuters have relatively high incomes.³ Among all low income Portland metro area drivers (households earning less than the poverty line), almost 59 percent were not employed, 17 percent drove in SOV during the peak period, and the remaining 24 percent drove off-peak or in other modes (transit and carpools).

² <https://ops.fhwa.dot.gov/publications/fhwahop08040/fhwahop08040.pdf>

³ Svadlenak, J. and B. Jones (1998), “Congestion pricing and ability to pay: Income levels and poverty rates of peak-hour, single occupant vehicle commuters in Portland Oregon,” Northwest Journal of Business and Economics, 1-14.

Figure 2.2 Support for Tolls versus Taxes by Income Level in King County, Washington



Source: FHWA, 2008.

2.2 Variable Pricing Travel Time Benefits

Effective variable pricing charges drivers a toll amount sufficient to deter enough drivers on a congested facility (i.e., roadway, bridge, tunnel, or urban area with the application of cordon pricing) to improve traffic flow on the tolled lane; and also increase overall throughput on the corridor during peak periods. The amount of congestion reduction can vary from achieving free-flow speeds with corresponding modest revenue generation to modest congestion reduction with corresponding higher revenue generation. As explained above, a significant reduction in congestion indicates adverse impacts for low-income households because these are the most price sensitive, but those that do pay are indicating the benefits of travel time savings exceed the financial burden.

Nevertheless, some lower-income drivers may pay the tolls because they value the beneficial travel time savings more than the adverse cost of the toll. Research on specific tolled corridors determined that a majority of HOT lanes users were from high income households, but a significant minority of frequent HOT lanes users were lower income workers who must reach their jobs on time (e.g., contractors commuting to job-sites at the start of their work day)⁴. WSDOT conducts an annual survey the SR 167 HOT Lane users. The 2016 survey showed 66 percent satisfaction among the lowest income quartile households (below \$50,000) with the value of the HOT lanes, which was the same as for the other three higher income groups. Nevertheless, WSDOT did not report what share of the 8,200 users surveyed fell into this lowest income

⁴ RAND Corporation. 2009. Equity and Congestion Pricing. http://www.rand.org/content/dam/rand/pubs/technical_reports/2009/RAND_TR680.pdf, Los Angeles Magazine, June 11, 2015 <http://www.lamag.com/driver/oc-register-find-a-new-name-for-lexus-lanes/>

quartile, nor did the survey report the satisfaction with HOT lanes among the non-users or the percentage of all travelers using HOT lanes.⁵

2.3 Tolling Payment Methods

Some EJ households are burdened by the need to enroll in electronic toll collection (ETC) programs to pay for tolls using a transponder or license plate recognition. Not all households have access to credit cards, bank accounts (unbanked), and on-line payment options; or are able to deposit large amount of funds, creating a barrier to using a tolled facility (FHWA, 2008). Since ETC methods decrease costs and delay significantly, ETC deployment has become the de facto technology for all variable pricing deployments.⁶

Direct mitigation for unbanked EJ households or those without convenient access to banks or the Internet involves supplementing the ETC systems with a variety of payment options, including cash, money orders, and checks that may be conducted at a wide variety of locations, such as convenience stores, gas stations, grocery stores, and other retail locations. These outlets allow drivers to purchase and reload transponders, inspect and settle account balances, obtain authorization for discounted or free transponders, toll subsidies, or rebates. Examples of these mitigations include:

- **The Louisville-Southern Indiana Ohio River Bridges Project.** This new bridge toll crosses the Ohio River, connecting Louisville, Kentucky with Indiana via I-65, and requires all vehicles to pay a toll. For a limited time, transponders were provided at no cost and are now available for purchase at readily available locations, including physical stores within or with easy access to low-income and minority communities on both sides of the river. The facility also accepts a wide range of payment methods, including credit/debit cards, checking accounts, and cash. Drivers also can pay the toll by registering their license plate, removing the need for a transponder (KTC & INDOT, 2015; RiverLink, 2017).
- **The Los Angeles County Metropolitan Transportation Authority (LA Metro) ExpressLanes in Los Angeles County, California.** LA Metro has a program specifically aimed at low-income residents. The Low-Income Assistance Plan provides a one-time \$25 credit when an account is created, and the \$1 monthly maintenance fee is waived. Residents must meet certain eligibility requirements in order to be approved for the program (LA Metro, 2017).

⁵ <https://www.nga.org/files/live/sites/NGA/files/pdf/0806TransportationTaniguchi.pdf>

⁶ Transponders automatically charge and collect the toll, removing queue delays, toll booths, and associated labor.

3.0 Displacement Impacts

3.1 Displacement of Homes & Businesses

Any variable pricing strategy that involves widening the physical footprint of the highway, interchanges, or access roads may adversely impact adjacent communities. Additional land is often needed for right-of-way to construct additional travel lanes, auxiliary lanes, shoulders, clear zones, toll collection equipment, signage, supportive infrastructure, and other associated facilities. These acquisitions can displace homes, businesses, or community and public facilities (e.g., schools, parks, churches, recreational areas, graveyards, etc.).

Mitigation strategies include temporarily or permanently relocating housing and business. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) is one resource for the relocation process and requirements (U.S. Department of Transportation (DOT) et al., 2012). This act provides minimum standards for federally funded projects that displace homes, businesses, or farms, including provision of relocation assistance without discrimination and purchasing properties based on fair market value.

For example, the Colorado DOT's Environmental Impact Statement of U.S. 36 Express Lanes found that residential units and businesses would be displaced, depending on which design alternative was undertaken. Initial mitigation strategies included design modifications to decrease the number of displacements, such as reconfiguring interchanges, relocating storm water ponds, and realigning bikeways. When design modifications could not prevent property acquisition or relocation, Colorado DOT looked to the Uniform Act, including assigning each property owner a right-of-way specialist to assist them in an acquisition. Relocation instances also referenced the Uniform Act for assisting the owner with the relocation effort. The program covers both relocating structures within an acquisitioned parcel or away from the project (CDOT, 2009).

3.2 Property Value for Remaining Homes and Businesses

In some instances, taking right-of-way for a variable pricing project may not only displace homes and businesses in EJ communities, but may reduce the value of the remaining property if, for example, the decreased setbacks from the roadway leave the business or home with fewer parking spaces or mature trees, or diminished roadway or pedestrian access. Even if a landowner does not have to sell any of their property through eminent domain, their proximity to a wider or busier tolled roadway or ancillary facilities may reduce their property value due to increased traffic, noise, and pollution. These adverse effects trigger a complicated legal process called "severance" within in the body land use law known as "Takings."

Severance requires compensation or mitigation for the reduced value of the remaining private property. An explanation of when compensation is legally required for severance is beyond the scope of this report. There are legal precedents that support offsetting the cost of severance with the value of benefits conferred on property owners from a transportation investment, such as improved accessibility to workers, suppliers, customers, entertainment, recreation, etc. Furthermore, a value pricing project may reduce cut through traffic that clogs adjacent arterials or neighborhoods. Improved travel times and reliability on tolled corridors can be especially beneficial for industrial- and freight-related businesses. Tolling agencies may want to consider policies to mitigate the adverse impacts for reasons of social equity, such as relocation or monetary compensation. Agencies may need legal guidance on funding these mitigations with toll revenues. We describe in-lieu mitigations, such as sound walls and traffic calming, in Neighborhood Traffic Impacts below.

4.0 Neighborhood Traffic Impacts

Which neighborhoods experience the most severe diversion from a tolled highway depend on the capacity and performance of parallel routes and the density of trip origins and final destinations proximate to those neighborhoods, but there are not any reasons to assume that EJ communities will be more impacted by diversion than non-EJ communities. Robust simulation modeling can provide reliable forecasts of diversions and impacts on specific intersections, parallel arterials, transit mode share, and carpooling. Traffic patterns may shift when a toll is implemented. These shifts involve both drivers cutting through neighborhoods to avoid the tolled sections and other drivers using the tolled facility to take advantage of the more reliable and faster travel time. Other drivers might take transit or other travel modes, shift their time of travel, or decide not to make their trip. The net impact these route diversions on neighborhood streets can differ significantly at different locations along the same corridor, by time of day, day of week, and stochastic events, such as accidents, extreme weather conditions, and special events. Increased traffic volumes drive more automobile collisions, where more vehicles on neighborhood streets create more conflict points between autos and bicycles and pedestrian.

Although temporary, construction of a tolled facility on an active highway can cause such significant delays on the main line that highway traffic will divert to parallel routes or avoid entering the freeway until they are past the construction. Mitigation strategies include limiting lane closures during certain days or hours, identifying alternative routes to divert traffic and reduce traffic volumes along certain roadways, or restricting heavy vehicles to off peak travel.

Mitigation strategies include bans of heavy trucks from neighborhood streets, non-synchronized signal timing, restrictive intersection turning movements, enforcing time-of-day or directional restrictions,⁷ installing speed tables,⁸ and other traffic calming measures, which reduce speeds and degrade travel time savings for nonlocal traffic. Other mitigation strategies include roundabouts and streetscape improvements. These improvements also can be implemented for non-motorized vehicles, such as crosswalks and sidewalks, to provide safe infrastructure for all roadway users. In addition, these mitigation strategies can help reduce noise and pollution.

⁷ Physical barriers and traffic control measures prevent certain turning movements and/or funnel traffic in a certain direction (e.g., one-way streets, right-in-right-out driveways, medians preventing left turns), signs that prohibit no left turns during peak congestion (<http://www.ite.org/uiig/treatments/09%20Prohibit%20Movements%20Using%20Signs.pdf?pass=67>).

⁸ Speed tables are midblock traffic calming devices that raise the entire wheelbase of a vehicle to reduce its traffic speed. Speed tables are longer than speed humps and flat-topped, City of Seattle, 2017, (<https://nacto.org/publication/urban-street-design-guide/street-design-elements/vertical-speed-control-elements/speed-table/>).

5.0 Environmental Impacts

Our focus here is on the environmental impacts from increased traffic volumes and speeds on a variable-priced corridor. If the project only applies variable pricing to existing lanes without adding new capacity, the environmental impacts may be neutral or adverse depending on the aggregate change in speeds and throughput for all (tolled and non-tolled) lanes. If a tolling project adds new lane capacity to a congested highway corridor, implementation of well-functioning variable-pricing should further increase vehicle throughput, thus, increasing vehicle speeds and volumes on the highway. These increases may generate a net increase in noise and air pollution in the corridor, adversely impacting adjacent EJ communities. Nevertheless, the improved performance of the tolled corridor may divert some of the existing traffic from neighborhood streets, where this slower, longer, stop-and-go trip can generate more accidents, noise, and pollution than a trip at free-flowing freeway speeds. An evaluation of noise and air quality impacts before and after the variable pricing project is completed may show that conditions would worsen across the entire corridor (including adjacent communities) under a “no build” option. This is because a “build” scenario would attract latent (i.e., induced) demand because of the increase in the tolled corridor’s capacity. The net effects could be positive. In the short term, then trend toward neutral as latent demand congests the corridor.

If needed, strategies to reduce noise and pollution associated with the tolled facility vary, including more transit service and carpooling, structural improvements such as installing noise barriers along highways or installing quieter pavements on neighborhood streets. Subsidies for sound proofing buildings immediately adjacent a tolled roadway mitigate the remaining impacts, especially for sensitive sites, such as schools, hospitals, and places of worship (WSDOT, 2008). In Colorado DOT’s assessment of tolling the U.S. 36 Corridor, specific noise mitigation strategies were analyzed and implemented in identified impacted areas (CDOT, 2009), ranging from shifting highway alignment, depressing the highway, installing quiet pavement, installing earthen berms, reducing speeds, and installing sound walls. Some strategies, such as earthen berms, were not implemented due to site conditions.

A primary driver of congestion in these corridors involves the tradeoffs low-income families make between affordable housing and access to jobs. On average throughout Portland’s metropolitan region, housing becomes more affordable the further from the central business district and other concentrated job centers. EJ households may settle for longer commutes in exchange for cheaper housing. Unfortunately, as commute times grow, both the number of jobs available for EJ households and the number of lower wage and lower skilled workers available to employers’ declines. The benefits of variable pricing, especially when applied to highly congested regional corridors, such as I-5 and I-205, include improving travel time and reliability for all trips, including commute trips made by EJ households. We describe the underlying reasons for two major benefits EJ households below.

5.1 Access to Employment

All types of toll facilities with effective variable pricing shorten travel time and improve reliability of commute trips, which increases the distance a worker can travel to a job in the same amount of time (i.e., expands the catchment area or commute shed). These two benefits flow to workers, who have more jobs available to choose from, and businesses, who have more workers accessible within the commute shed. This benefit may be further improved if existing or new transit services use tolled lanes, increasing their speed and reliability. Expanding alternative modes of transportation, such as carpool and transit, will further capitalize on this increased access workers have to employment and businesses have to workers.

The ultimate benefits to EJ households comes from growth in employment and wages when the regional economy expands. This expansion occurs because improved access to labor expands the size and diversity of the labor pool in closer proximity to employers, which in turn increases the likelihood that employers can match their needs to worker skills and visa-a-versa (i.e., a skilled worker can better find a job that matches her skills).⁹ Better matches lead to higher productivity because they are more efficient. Estimates of productivity gains from an expanded labor pool depend on the regional economy, but they are consistently positive and more significant if the region has labor shortages, or commutes have long, congested commutes.

5.2 Goods Movement

A more reliable and uncongested route also benefits goods movement, allowing freight to reach its destination faster, making shippers, receivers, and logistic hubs more competitive. Variable pricing also can increase the feasibility of trucks traveling through a downtown area at peak hours, which are traditionally avoided due to high congestion and low reliability. This increases the total productive hours available to truck drivers, which confer the following benefits on goods movement intensive businesses:

1. Expand accessibility to intermediate inputs from a wider number and diversity of suppliers;
2. Sell their outputs to a larger customer market;
3. Lower freight transport costs;
4. Lower inventory and increase just in time delivery; and
5. Improve a more efficient mix of transportation and warehousing.

These benefits result in higher regional output and employment growth overall and especially in the goods movement-intensive industries. For low income households within the Portland metro region, expansion of goods-movement employment is especially beneficial because these jobs on average have better wages than many service sector jobs which pay minimum wages.

⁹ At a national (and possibly international) level, the benefits to the Portland derived from improving access to labor come at some expense of other regions, because the improved competitiveness of regional businesses lead them to capture market share from businesses outside the region. In other words, the global demand for the goods and services does not change, so an expanded market share in Portland costs businesses outside Portland to lose market share (e.g., Central Oregon, Washington State, southern states, China).

6.0 References

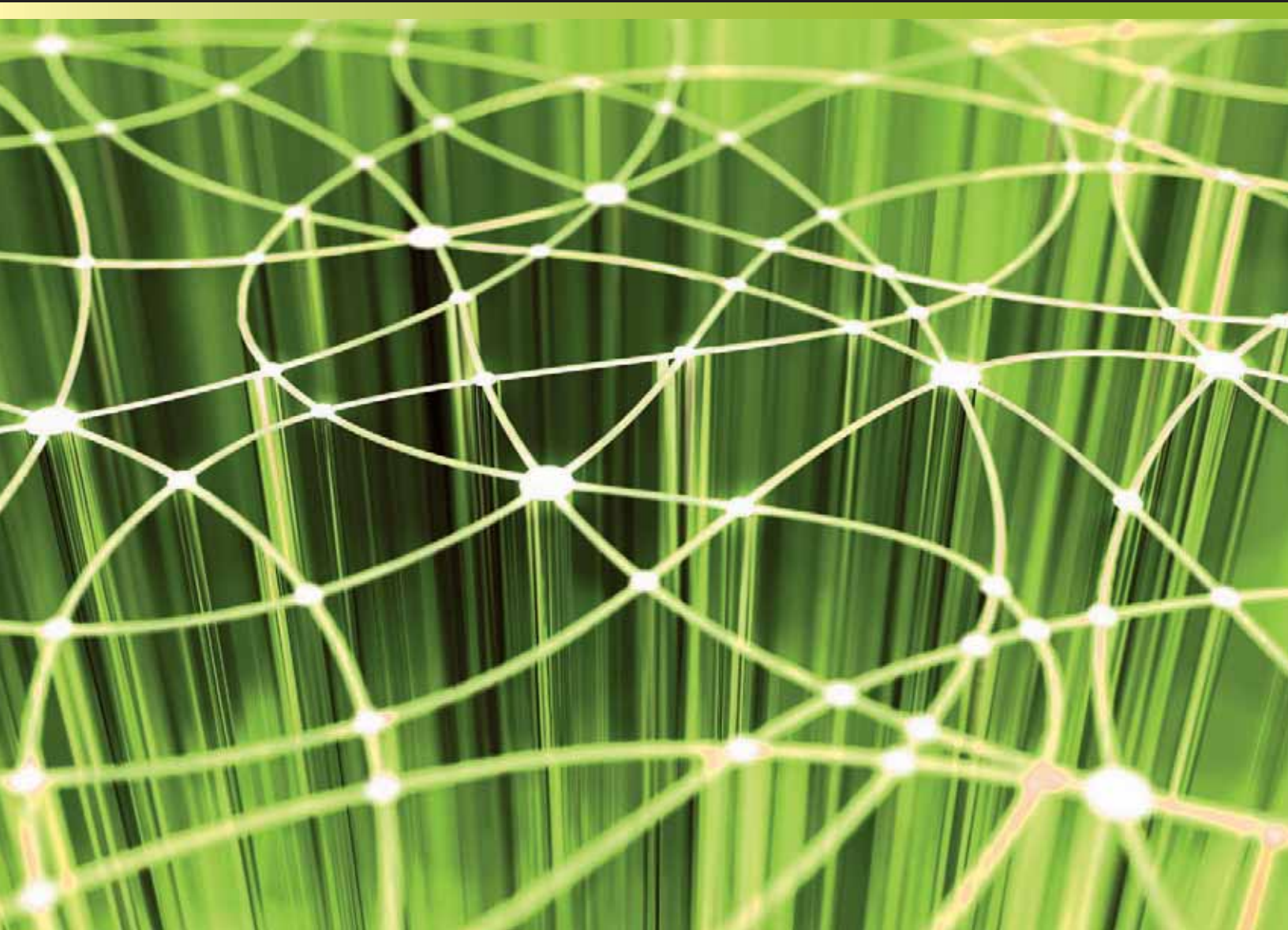
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U.S. Department of Transportation
Federal Highway Administration

Income-Based Equity Impacts of Congestion Pricing

A PRIMER





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The Primer Series and the Purpose of This Volume

States and local jurisdictions are increasingly discussing congestion pricing as a strategy for improving transportation system performance. In fact, many transportation experts believe that congestion pricing offers promising opportunities to cost-effectively reduce traffic congestion, improve the reliability of highway system performance, and improve the quality of life for residents, many of whom are experiencing intolerable traffic congestion in regions across the country.

About This Primer Series

The Congestion Pricing Primer Series is part of FHWA's outreach efforts to introduce the various aspects of congestion pricing to decision-makers and transportation professionals in the United States. The primers are intended to lay out the underlying rationale for congestion pricing and some of the technical issues associated with its implementation in a manner that is accessible to non-specialists in the field.

Titles in this series include:

- Congestion Pricing Overview.
- Economics: Pricing, Demand, and Economic Efficiency.
- Non-Toll Pricing.
- Technologies That Enable Congestion Pricing.
- Technologies That Complement Congestion Pricing.
- Transit and Congestion Pricing.
- Income-Based Equity Impacts of Congestion Pricing.

Because congestion pricing is still a relatively new concept in the United States, the Federal Highway Administration (FHWA) is embarking on an outreach effort to introduce the various aspects of congestion pricing to decision-makers and transportation professionals. One element of FHWA's congestion pricing outreach program is this Congestion Pricing Primer series. The aim of the primer series is not to promote congestion pricing or to provide an exhaustive discussion of the various technical and institutional issues one might encounter when implementing a particular project; rather the intent is to provide an overview of the key elements of congestion pricing, to illustrate the multidisciplinary aspects and skill sets required to analyze and implement congestion pricing, and to provide an entry point for practitioners and others interested in engaging in the congestion-pricing dialogue.

The concept of tolling and congestion pricing is based on charging for access and use of our roadway network. It places responsibility for travel choices squarely in the hands of the individual traveler, where it can best be decided and managed. The car is often the most convenient means of transportation; however, with a little encouragement, people may find it attractive to change their travel habits, whether through consolidation of trips, car-sharing, by using public transportation, or by simply traveling at less-congested times. The use of proven and practical demand-management pricing that we freely use and apply to every other utility is needed for transportation.



The application of tolling and road pricing to solve local transportation and sustainability problems provides the opportunity to solve transportation problems without federal or state funding. It could mean that further gas tax, sales tax, or motor vehicle registration fee increases are not necessary now, or in the future. The idea of congestion pricing is a conceptual first step, not a complete plan of action. It has to be coordinated

with other policy measures and environmental measures for sustainability.

Against this background, this equity primer was produced to examine the impacts of congestion pricing on low-income groups, public opinion as expressed by various income groups, and ways to mitigate the equity impacts of congestion pricing.

Introduction

There are three principal types of equity considerations that relate to the distribution of benefits and burdens of toll or congestion-pricing projects:

1. *Income equity:* Are low-income groups negatively affected? Is a system that places the burden of travel-behavior change disproportionately on low-income individuals fair?
2. *Geographic equity:* Are some parts of the region made worse off than other parts? Will traffic diversion from tolled routes negatively impact neighborhoods or reduce performance on alternative toll-free routes?
3. *Modal equity:* Are public perceptions with regard to encouragement of multi-modal transportation addressed? For example, some believe that it is not fair to offer the same travel-time savings to those who pay a toll as to those who “do the right thing” by carpooling or taking transit.



This primer focuses on the first type of equity— income equity. Equity concerns with regard to income have often been raised about congestion pricing. The benefits of congestion pricing may not be distributed equally among all users. High-income users are more likely to remain on the highway, pay the congestion fee, and benefit from a faster trip. Low-income users may be worse off if they choose other less-expensive times, routes, or modes. When public use of infrastructure assets is deliberately made more expensive at certain times, low-income people and those concerned about their welfare may raise legitimate concerns about equity.

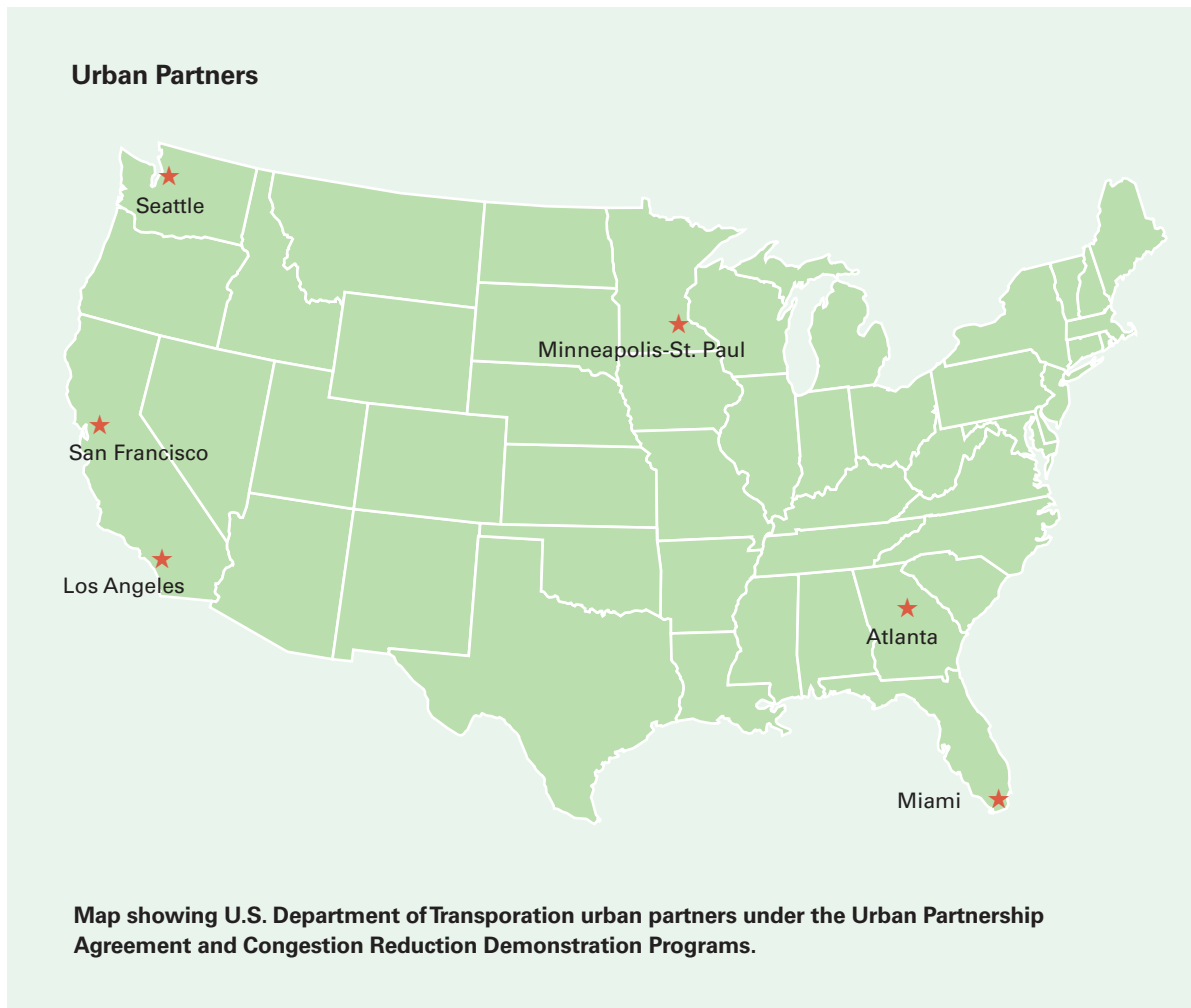
Toll roads impact environmental justice in at least two ways: impacts from the alignment and impacts from the ability to take advantage of better service. This primer focuses on the second impact—the ability to take advantage of better service—because the focus is on congestion pricing as applied to existing facilities. This primer presents information on the low-income equity issue in three sections as follows:

1. An overview of what is known about the low-income equity issue on the basis of current literature,
2. Results from studies conducted under the U.S. Department of Transportation’s (DOT’s) Value Pricing Pilot (VPP) Program, and
3. What is known about the issue, at this point in time, from DOT’s urban partners funded under the Urban Partnership Agreement (UPA) Program and the Congestion Reduction Demonstration (CRD) Program.

The VPP Program was established by the U.S. Congress as the Congestion Pricing Pilot Program in 1991. It was subsequently renamed the VPP program under Section 1216 (a) of the Transportation Equity Act for the 21st Century (TEA-21) in 1998, and continued through the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

The UPA Program was announced by U.S. DOT in May 2006 and was followed by the CRD Program, initiated in 2007. Both programs were designed to address congestion problems, with

particular emphasis on establishing partnerships with major urban areas to make significant reductions in roadway congestion by using congestion pricing as a key strategy. There are currently six urban partner cities—Miami, FL; Atlanta, GA; Minneapolis, MN; Seattle, WA; San Francisco, CA; and Los Angeles, CA. New York, NY, was originally designated an urban partner but lost its urban partner status in April 2008 after it failed to obtain the legislative authority needed to implement congestion pricing.



Review of the Literature

ISSUES

The “fairness” question may be viewed within the context of the overall highway financing system, in which, in the absence of congestion fees, the costs of providing peak-period highway service are borne by all highway users, not just by those who travel during congested periods or on congested routes. In this context, placing more of the burden of paying for peak-period highway service on those who make use of peak highway capacity is being increasingly viewed as an equity improvement.

A well-designed value-pricing plan can be less burdensome to low-income citizens than current systems that are based on regressive taxes, such as car-registration fees, sales taxes, and the gas tax. For example, low-income drivers usually drive older vehicles that are not as fuel-efficient as newer models. They therefore must purchase more fuel per mile driven and consequently pay higher fuel taxes for each mile driven than do those who own newer fuel-efficient models.

A report by the U.S. Congressional Budget Office (1990) found that the tax on motor fuels was regressive relative to annual income. In addition, Schweitzer and Taylor (2008) noted in one study that most forms of transportation finance—fuel taxes, sales taxes, and tolls—are regressive forms of taxation in that they burden the poor more than they do the rich. Schweitzer and Taylor (2008) stated that, “Using sales taxes to fund roadways creates substantial savings to drivers by shifting some of the costs of driving from drivers to consumers at large, and in the process disproportionately favors the more affluent at the expense of the impoverished.”

Another equity concern is that congestion pricing may make it too difficult or too expensive for low-skilled workers to get to their jobs. Entry-level and unskilled jobs are often not well served by public transit. Even if service routes exist for jobs of this type, the work hours for such jobs often require travel during off-peak service times, making public transit use less appealing as an option. Many low-skilled workers need to drive to retain their jobs; however, any congestion-pricing system can be sensitive to the issue of affordability, as discussed later in this primer.

When congestion pricing relies on an electronic cashless technology, households that do not have credit cards, bank accounts, or cannot afford large deposits may be unable to set up toll accounts, which may limit their use of these facilities. The Auto Express System in Puerto Rico mitigates many of these barriers by allowing users to purchase transponders and replenish their accounts by using cash at numerous retail and convenience stores without the need to provide a checking account or a credit card number. A light on the tag indicates when funds in the prepaid account are running low. Customers then have the option of replenishing their accounts at any number of locations, including gas stations. In Texas, TxTag accounts may be opened with cash. Those replenishing depleted accounts with cash must currently do so at a customer service center, but TxDOT is working with retailers to make TxTag services available at many retail outlets.

Another equity concern is that most tolled facilities that use electronic toll collection offer discounted tolls to those who use transponders rather than using video tolling or booth tolling. In situations in which the purchase of a transponder presents a significant economic barrier, low-income

travelers who cannot afford a transponder will face a regressive toll schedule. It is estimated that between 10 and 20 percent of the population is unable to overcome these barriers to transponder ownership (Parkany, 2005).

IMPACTS ON LOW-INCOME GROUPS

Congestion-priced facilities currently in operation in the United States include tollways and tolled water crossings with variable tolls and priced lanes along major transportation corridors that experience high levels of congestion (U.S. DOT, 2008). Such congestion-pricing projects are operating in California, Minnesota, Washington, Colorado, Utah, Florida, Texas, New Jersey, and New York. The data from priced lanes have shown that a wide range of income groups use the lanes at different levels of frequency of use.

The use of congestion-priced lanes by both high- and low-income users appears to be selective. If use of priced facilities was solely dependent on income, then low-income travelers would never use such facilities. Studies have indicated that roughly half of the users of congestion-priced lanes do so once a week or less. Weinstein and Sciara (2004) suggested that the impacts of congestion pricing are not necessarily related to income and can also be based on flexibility of time and routes available to users.

A paper by the Rand Corporation and Volpe National Transportation Systems Center (2007) indicated that household surveys suggest that rush-hour travelers who travel in the busier direction—and thus are more likely to pay congestion charges—are the most affluent group within the larger category of street and highway users.

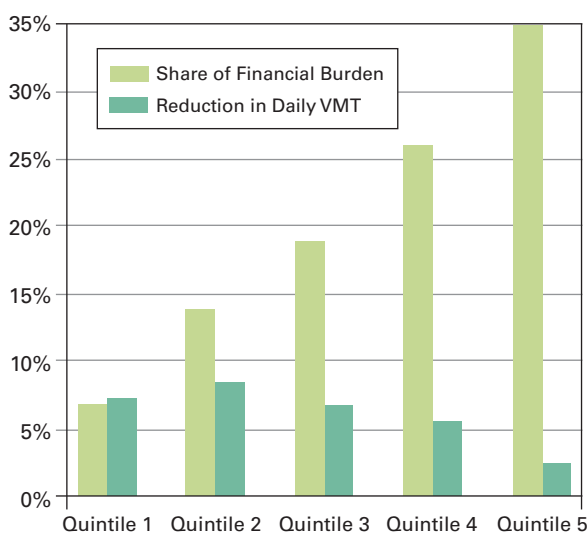
Congestion pricing clearly will create economic hardship for some households. Svadlenak and Jones (1998) found that of adult residents in the Portland, OR, area who travel during peak hours in single-occupant vehicles, approximately 3 percent are low-income commuters. Of all Portland-area commuters, 38 percent travel during peak hours in single-occupant vehicles and have relatively high incomes. Svadlenak and Jones (1998) suggested that of this 38 percent, most can afford tolls and would

Commuting pattern by income group in the Portland, OR, area.

	Less Than Poverty Guideline	100%–200% of Poverty Guideline	More Than 400% of Poverty Guideline
Not Employed	58.7%	43.2%	16.7%
SOV-Peak	17.1%	14.6%	35.4%
SOV-Off-Peak	4.3%	13.4%	19.2%
Carpool-Peak	5.7%	7.2%	9.8%
Carpool-Off-Peak	5.7%	2.3%	2.2%
All Other Modes	8.5%	19.2%	16.6%
Total	100.0%	100.0%	100.0%
Number of Cases	109	229	575
Missing Cases*	(16)	(21)	(63)

*Missing data concerning mode of travel were allocated proportionately across five commuter categories.

SOV = single-occupancy vehicle.



Equity implications of hypothetical Los Angeles 5-cent vehicle-miles-traveled (VMT) fee, 1991.

welcome tolls if they resulted in a commensurate improvement in travel time.

Deakin and Harvey (1996) found that, if a 5-cent vehicle-miles-traveled fee were to be imposed in Los Angeles, CA, the lowest income quintile (i.e., 20 percent of users) would bear only 7 percent of the financial burden, whereas the highest income quintile would bear 35 percent of the financial burden.

Safirova et al. (2003) estimated the impacts of a high-occupancy toll (HOT) lane network in the Washington, DC, area. They found that the lowest income quartile would pay 5.2 percent of tolls, whereas the highest income quartile would pay 50.3 percent of tolls.

Welfare changes and equity impacts by income group under high-occupancy-toll (HOT) lane network policy in the Washington, DC, area.

Quartile	Tolls paid by income group (\$000/year)	Percentage of tolls paid by income group	Welfare change* (\$000/year)	Percentage of welfare change accruing to quartile	Welfare change as percentage of income
1	3,412	5.2	3,047	2.9	0.028
2	7,822	12.0	12,172	11.5	0.037
3	21,073	32.4	32,717	30.9	0.050
4	32,728	50.3	57,935	54.7	0.042
Total	65,035	100.0	105,870	100.0	0.045

*Before counting the value of toll revenues.

Source: Welfare and Distributional Effects of Road Pricing Schemes for Metropolitan Washington, DC. Elena Safirova, Kenneth Gillingham, Ian Parry, Peter Nelson, Winston Harrington, and David Mason, October 2003—Discussion Paper 03-57.

Transek (2006) found that, in the case of the Stockholm city center congestion-pricing scheme, affluent men in the inner city pay the most in congestion-pricing charges. Because high-income individuals use their cars more frequently, it was found that high-income households were more likely to incur the congestion charge compared with the average household. This analysis indicates that, if the revenues are used for public transportation, those who gain the most from the pricing scheme are young people, low-income individuals, single people, women, and residents of the inner suburbs. These groups pay relatively little in congestion charges on average and use public transportation more often than do other groups.

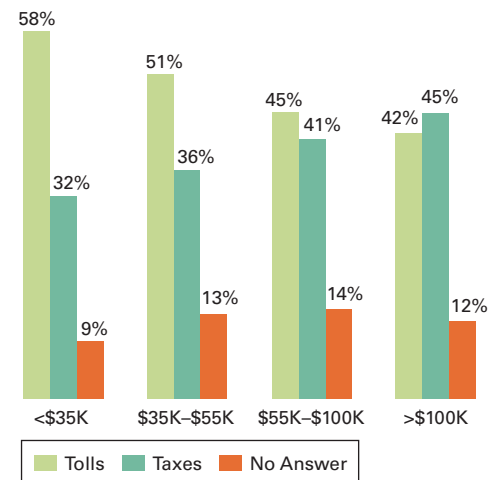
PUBLIC OPINION

Taniguchi (2008) provided results from a survey of public opinion on paying for transportation infrastructure with tolls versus taxes. The survey found that support for tolls was higher among low-income individuals (58 percent support for tolls) than among high-income individuals (42 percent support for tolls). Support for taxes was 32 percent for low-income individuals compared with 45 percent for high-income individuals.

Morallos (2006) found that, although limited, evidence from the successfully operating VPP projects clearly demonstrates that the most valued feature in tolling and pricing projects is that of provid-

ing people with a choice of whether to use priced lanes. Studies have shown that lower income individuals face the greatest financial harm when they are denied adequate travel choices. Lack of choice to pay a toll in exchange for reliable travel times can result in lost wages or late fees for daycare that could have been avoided.

Even when priced lanes are seen to be used more heavily by high-income users than by low-income users, a broad spectrum of income groups still express approval of the projects (as documented later in this primer) because they are given the choice of choosing the tolled route, an alternative free route,



Support for tolls versus taxes in King County, Washington. Low-income households prefer tolls over taxes.

or a different transportation mode. Although high-income motorists do use the priced lanes more often, all income groups value the choice of a reliable trip travel time that is now available to them, serving their needs when they absolutely have to get to their destinations on time (e.g., getting to a daycare center before late fees kick in).

ADDRESSING EQUITY CONCERNS

Research has identified strategies for addressing equity concerns through redistribution of toll revenues. These include distributing rebates or credits, or revenue transfer to transit and carpooling services in the priced corridor. To ensure that at least some surplus toll revenue is used to improve transit, some areas have passed legislation to dedicate a portion of the surplus revenue to transit, whereas others have created special transit accounts.

A particularly important consideration in evaluating congestion-pricing options and their equity implications is the use of revenues generated by tolls. Toll revenues can be used to compensate those who might otherwise consider themselves “losers” as a result of congestion pricing. Compensation can come in a variety of forms. Toll revenues may be used to finance highway improvements (particularly in the corridor where the tolls are levied) or to pay for improvements in transit service. In cases in which effects on low-income drivers are felt to be particularly severe, toll exemptions or toll rebates may be offered to eligible drivers, or other forms of

monetary compensation may be offered, such as tax rebates that provide reimbursement for tolls paid or income supplements.

Each of these approaches has been used or considered for use in congestion-pricing programs. For example, revenues from area pricing in Central London were used in part to improve bus service into the priced area, thereby enhancing transportation services to low-income groups and other users of those systems. The statutes in California mandate that 18 percent of toll revenues from the Bay Area Toll Authority be transferred into three accounts controlled by the Metropolitan Transportation Commission, a multimodal planning agency for the region. The Port Authority of New York and New Jersey likewise uses surplus toll revenue to subsidize transit services. When New York City considered a cordon-pricing scheme, it proposed a tax rebate for drivers who qualified for the federal-earned income tax credit. In the case of a proposed congestion-pricing scheme on the San Francisco Bay Bridge, tolls were to be raised from \$1 to \$3 per trip, but the proposal called for a reduced “lifeline” toll rate of \$1 for low-income users.

Schweitzer and Taylor (2008) suggested that if policymakers are worried about low-income, peak-period commuters paying tolls, one way to address this would be to provide discounted “lifeline” pricing based on income levels, as is done by utility companies for qualifying customers. As an alternative, they could provide travel credits to low-income commuters.

Evidence From VPP Program Projects

The perception that value pricing is “unfair” to low- and perhaps even middle-income drivers has been a concern for many VPP program projects. Since the inception of the VPP program, equity has been a key issue of interest, with particular attention given to mitigating possible adverse effects of projects on low-income drivers. Project experiences are summarized in FHWA’s report on lessons learned from the program (KT Analytics and Cambridge Systematics, Inc., 2008). Project experience has shown, particularly for the most common projects funded under the early phases of the program (e.g., HOT lanes), that the perception of unfairness may be exaggerated. Data from the various cities that have implemented projects or have projects underway are discussed below. Most of the data have been obtained from projects involving “partial” pricing on one or more lanes of a freeway facility. Equity impacts relating to income have not been evaluated in the case of “full facility” pricing projects, such as those implemented on tollways and tolled water crossings. Overall, the perception that congestion pricing is an inequitable way of responding to the problem of traffic congestion does not appear to be borne out by experience.

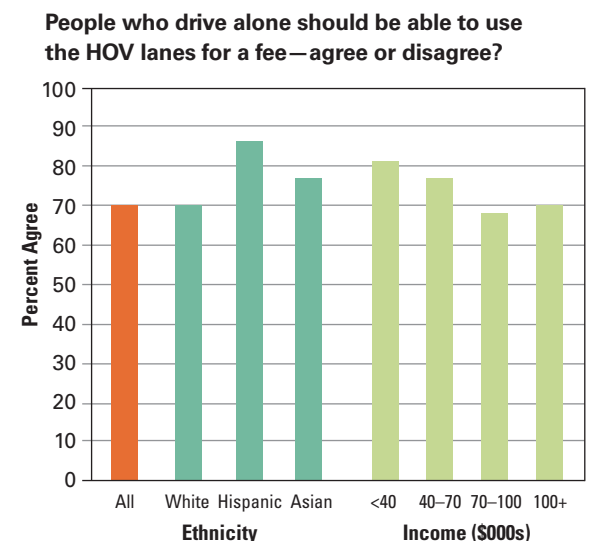
EXPERIENCE FROM “PARTIAL” PRICING PROJECTS

San Diego, CA

For the I-15 HOT lanes in San Diego, CA, user and stakeholder concerns about the potential elitist character of the project arose in the first year but diminished with time as users across income groups used the facility. By the final evaluation, such con-

cerns were minimal. In the case of the planned expansion and extension of the I-15 HOT lanes, a telephone survey of all facility users of I-15 found that most consider the extension fair to regular-lane users (71 percent approval) and to HOT-lane users (75 percent approval). There were very few differences in attitudes about the fairness of the lanes based on ethnicity or income; however, half of respondents felt that tolling solo drivers was an unfair double taxation. HOT-lane users paying tolls were less likely to feel that way than were other corridor users.

When considering the statement, “People who drive alone should be able to use the I-15 express lanes for a fee,” 80 percent of the lowest income motorists using the I-15 corridor agreed with it, and



Public acceptance of I-15 high-occupancy toll lanes by income group and ethnicity. There is wide support for value-pricing concepts, which are viewed as “buying time” for a premium level of service.

low-income users were more likely to support the statement than were the highest income users.

Users of San Diego’s I-15 HOT lanes were more likely to have higher incomes than were drivers in regular lanes, but lower income drivers sometimes did use the HOT lanes. I-15 drivers showed a broad approval of the HOT-lane program and felt that it was fair and had reduced congestion. Equity issues are addressed by dedicating the HOT-lane revenues to bus service in the corridor. I-15 was the first project to demonstrate that implementing tolls as a demand-management measure can play a major role in paying for transit and reducing the negative impact of this strategy on low-income individuals.

Denver, CO

For the I-25/US-36 HOT lanes in Denver, CO, public outreach leading to implementation of HOT lanes did not uncover critical concerns regarding equity or other social impacts, nor have such concerns arisen since implementation.

Minneapolis, MN

On I-394 in Minneapolis, MN, the first attempt at implementing HOT lanes in 1997 met resistance in large part because of public belief that only high-income users would benefit. A second attempt approximately 9 years later succeeded in part because advocates made the case that all income groups value time savings and reliability for certain trips. Worsening congestion and a shortage of transportation funds were also important to the success of the second attempt, according to evaluators. Surveys of corridor users found a relatively small difference in income between those who do and those who do not own transponders: 25 percent of owners had annual incomes of \$50,000 or less compared with 32 percent of non-owners. However, concerns about equity have not been significant since start up.

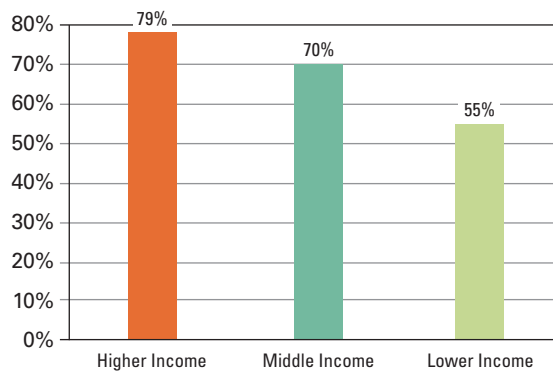
Patterson and Levinson (2008) stated that “[HOT] lanes are Lexus Lanes in the sense that increased income predicts increases in three of the four metrics used to measure direct benefit...

Individuals with higher incomes receive more direct benefits from the lane than those with lower incomes.” However, according to the University of Minnesota and NuStats (2005), HOT-lane usage with MnPass was reported across all income levels, including by 79 percent of high-income respondents, 70 percent of middle-income respondents, and 55 percent of low-income respondents.

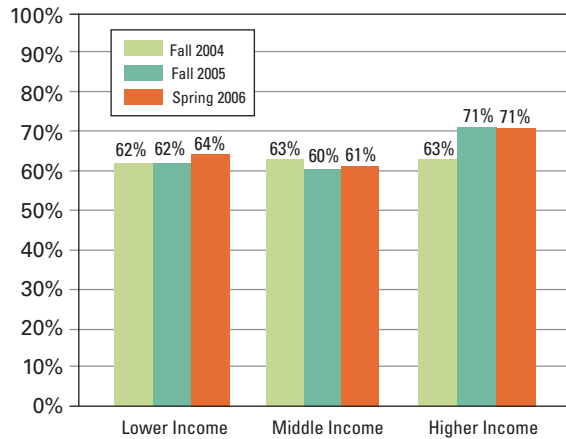
Patterson and Levinson (2008) sought to determine whether the higher levels of MnPass use found among wealthier drivers was attributable to their residential location (specifically along the managed-lanes corridor) or to their income. Both factors were found to be significant. The highest income motorists paid the most (in average and total tolls) and received the most benefit.

Patterson and Levinson (2008) cited specific equity benefits of managed lanes:

- Vehicle shifts away from general-purpose lanes lead to improved travel conditions on such lanes,
- A high-quality transit alternative is generally part of a managed-lanes project,
- Unused transponders may be considered to provide high-value travel-time insurance to their owners, and
- When social benefits are paid for by those who choose to drive, situational equity is generally improved.



Users of I-394 MnPass high-occupancy toll lanes as a percentage of Minneapolis, MN, population.



Percentage of Minneapolis consumers surveyed who approve of allowing single-occupant drivers to use the carpool lane for a fee.

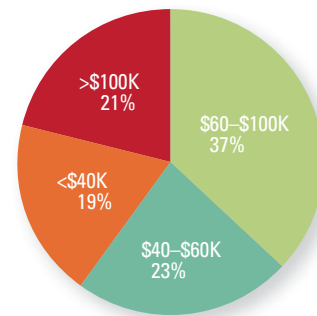
Approximately 65 percent of respondents to a survey conducted in spring 2006, a year after initial implementation, thought that HOT lanes were a good idea. Support for the lanes was also found to be high across income levels, including by 71 percent of high-income respondents, 61 percent of middle-income respondents, and 64 percent of low-income respondents.

Houston, TX

For the I-10 and US-290 HOT lanes in Houston, TX, focus groups held during project planning did not find concerns about social equity among either corridor users or the public at large. The general reaction was that all would benefit if congestion were reduced. There also have been no equity concerns raised during operations. It should be noted, however, that these HOT lanes are somewhat different from other examples, that is, single-occupant vehicles are not permitted in the HOT lanes—tolls are used to manage two-person carpool demand. Burriss et al. (2007) found that even in the lowest income group, over two-thirds of respondents were interested in paying to use the HOT lanes.

Seattle, WA

For SR-167 HOT lanes in Seattle, WA, evaluators found through outreach efforts that low-income drivers are as supportive of the HOT lanes as are drivers from other income groups.



Annual household income of SR-91 peak-period travelers in 1999.

Orange County, CA

SR-91 in Orange County, CA, was the first project to implement congestion pricing on new lanes and until 2008 was the only operating example of congestion pricing on new lanes. FHWA's *A Guide for HOT Lane Development* report (FHWA, 2005) provides data from studies of SR-91 express toll lanes in California. At any given time, about one-quarter of the vehicles in toll lanes are driven by high-income individuals, whereas the remaining cars are driven by low- and middle-income individuals. It is estimated that 19 percent of the peak-period users of the SR-91 express lanes make less than \$40,000 a year, and 42 percent make less than \$60,000 a year. Low-income drivers do use the express lanes and are as likely to approve of the lanes as drivers with higher incomes. In fact, over half of commuters with household incomes less than \$25,000 a year approved of providing toll lanes.

An evaluation of the SR-91 express lanes (Sullivan, 2000) found a “moderate” income effect, with the percentage of trips on the express lanes for the lowest and highest income groups (20 percent and 50 percent) staying the same over the 3-year evaluation period. Evaluators also found that the use of express lanes increased over time for both those who carpooled and solo drivers across all incomes. Low-income and moderate-income travelers appeared to be more selective and used the tolled route for less than half of their trips.

When prices rose, people in the lowest income group did not reduce their travel, but people of moderate income did. This suggests that people with lower incomes have less flexibility in the time they travel (Kuehn, 2008), or that low-income individuals have very high values for reliable travel when they need it.

EXPERIENCE FROM “FULL FACILITY” PRICING PROJECTS

Lee County, FL

In Florida, proposals to raise peak-period tolls on Lee County’s bridges were rejected as inequitable to those with inflexible schedules and led to a program of reduced off-peak tolls instead. Income equity was not raised as an issue in planning or in evaluation focus groups and surveys.

New York, NY

The Port Authority of New York and New Jersey did not uncover major equity issues in planning for variable tolls, nor did they evaluate equity effects after program implementation.

PLANNING STUDIES CONDUCTED UNDER THE VPP PROGRAM

Studies funded under the VPP program have included innovative approaches designed specifically to address equity issues. The authors of one study evaluated the equity impacts of a regional value pricing program, which are discussed below.

Fast and Intertwined Regular (FAIR) Lanes

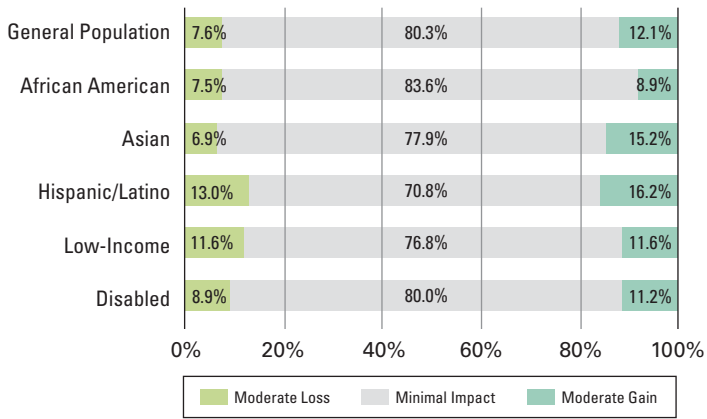
This approach was studied in Alameda County, CA, and involved providing toll credits to qualified low-income users on the basis of their monitored usage of free regular lanes located adjacent to HOT lanes. Accumulated credits allowed for periodic free use of the HOT lanes by these motorists.

“FAST Miles”

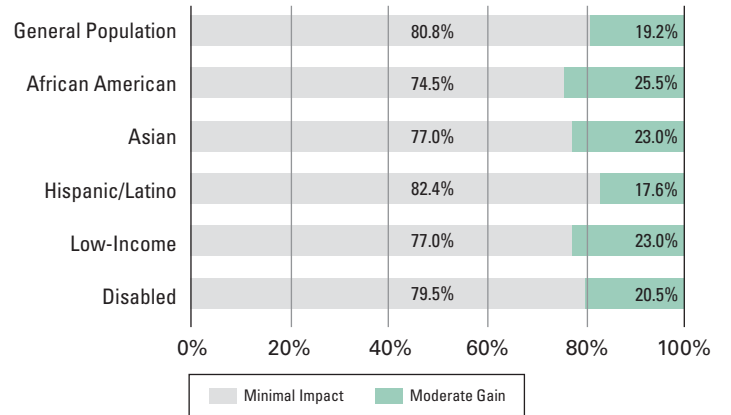
The FAST Miles approach being studied in Minneapolis would allocate a fixed amount of toll credits to all area motorists, similar to the limited number of free peak-period minutes allocated by cell phone companies to their customers. Total credits allocated to all motorists would be limited by the peak-period capacity available on the roadway system. This would ensure that demand would not exceed supply of road space (i.e., roadway capacity) and guarantee congestion-free travel for all motorists in exchange for use of their free credits to “pay” for roadway use.

Network of Variably Priced Lanes in the Washington, DC, Metropolitan Area

An analysis was performed for three scenarios involving a network of priced lanes (National Capital Region Transportation Planning Board, 2008). With respect to transit, because transit service was added between the base case and the scenarios, only gains in accessibility were noted. With regard to highways, one scenario had no losses in accessibility; thus, no population group experienced losses. The pattern of losses and gains for the other two scenarios were very similar, with no one population group receiving a large share of the benefit and no one population group shouldering a disproportionate share of the losses. Gains and losses in accessibility to jobs by highways across population groups for one scenario is presented in the figure “Demographic assessment of the change in accessibility to jobs by highways,” and the distribution of gains in accessibility to jobs by transit for the same scenario is presented in the figure “Demographic assessment of the change in accessibility to jobs by transit.”



Demographic assessment of the change in accessibility to jobs by highways.



Demographic assessment of the change in accessibility to jobs by transit.

Equity Implications of Urban Partnership Agreements

FHWA conducted a survey of the UPA cities (including New York) to gather information about the real and perceived equity implications of their projects. In addition to equity by income, regional geographic equity was also considered in some instances, because the costs of congestion pricing and the distribution of benefits (typically in the form of new transit and ferry services funded from toll revenue) may be distributed unequally, as with any transportation policy that does not involve tolls or pricing. The comprehensive evaluations that take place in the UPA cities will each, to some degree, provide further examination of equity issues after the projects are in operation. Details about the projects are available on FHWA's Web site at <http://www.upa.dot.gov/index.htm>

MIAMI, FL

Focus groups were conducted in 1995 in regard to South Florida's managed lanes on I-95. The focus groups discussed potential traffic-improvement strategies, including managed lanes. Of the nine focus groups of approximately 10 participants each, five were conducted in English, three in Spanish, and one in Creole. Although focus groups by their nature do not present a statistically valid representation of public opinion, their results may nevertheless be indicative of such opinion. Focus groups also have the benefit of ensuring that people fully understand the aspects of an issue before voicing their opinions.

A key finding from the focus groups is that the perceptions of benefits from managed lanes did not divide along any apparent demographic boundary, including ethnicity and income. The managed-lanes concept was found to be difficult to communicate, but after sufficient time was taken to convey the concept clearly, participants generally perceived that both personal and regional benefits would result from managed-lanes implementation. As could be expected, participants said that they would use managed lanes less frequently as the price to use these lanes rises. It is interesting to note, however, that many individuals had been unaware of toll increases that took place in the region shortly before the focus groups were conducted, suggesting that those who participated in the focus groups might be overestimating their price sensitivity.

SAN FRANCISCO, CA

A 2007 survey asked 600 residents of the San Francisco, CA, region (JD Franz Research, Inc., 2007) about support for studying congestion pricing. Support was found to be slightly higher among very-low- and low-income residents of the region relative to other residents. San Francisco's UPA project managers offered a theory for this result: Lower income residents are more likely to be transit riders who would benefit from both reduced congestion and increased transit investments from pricing revenues. For low-income drivers, their increased likelihood of having less scheduling flexibility (e.g., due to having to punch a time clock) and concern about daycare late fees may cause them to more highly value reduced congestion and greater travel time reliability.

SEATTLE, WA

King County, WA, conducted a transportation survey in December 2007 (EMC Research Inc., 2007). Many questions were asked of the 501 respondents, a number of them pertaining to support for tolling. Although the survey report did indicate the percentage of respondents in each income group, survey responses were not broken out by income. Among the findings was high support for tolling when compared with other alternatives when a specific infrastructure need was presented. Between 78 and 84 percent (depending on the order in which answers were presented) of respondents preferred electronic tolls over a sales tax increase to fund the SR 520 bridge replacement.

Support for tolling grew substantially if a portion of revenues was dedicated to transit, even if tolls had to be significantly higher to allow for such a diversion of revenue to occur. A toll of \$2.50 to fund the replacement of the Lake Washington floating bridge was supported by 64 percent of respondents, whereas 74 percent supported a \$4 toll to fund the bridge replacement along with increased transit and bicycling investments in the corridor. Thus, the equity and other benefits of improved transportation options were shown to be more important to respondents than was keeping the toll rates as low as possible.

With revenues dedicated to replacing the SR 520 bridge, 69 percent of respondents indicated support for variable tolling. In regard to another roadway, in which the need for tolling revenues was not presented, only 28 percent of survey participants indicated support for variable tolling, even after the benefits of such tolling in terms of relieving congestion were described to them. The bottom line is that the use of revenues is an extremely important determinant of public support for congestion pricing and is likely to be a more important determinant of support than the level of congestion charges and the design of the congestion-pricing scheme.

NEW YORK, NY

An analysis was conducted for the New York City Traffic Congestion Mitigation Commission with regard to the regional equity implications of three cordon pricing and tolling scenarios and supporting transit services (New York City Traffic Congestion Mitigation Commission, 2008). Results from the analysis are discussed below.

Geographic Equity

The analysis of the regional equity implications of the scenarios under consideration started by emphasizing the regional inequities from existing toll policies, in which 45 percent of toll revenues collected from drivers bound for Manhattan's central business district (CBD) are paid by New Jersey residents, even though New Jersey vehicles constitute only 24 percent of the total drivers heading into the CBD. This 45 percent figure can be compared with Manhattan drivers, who currently pay only 7 percent of collected toll revenues, and residents of the other four boroughs of New York City, who pay a total of 29 percent.

Three scenarios were considered: (1) the mayor's cordon pricing plan, (2) an alternative modified cordon pricing plan, and (3) tolling of existing free bridges into Manhattan. For new tolls under the various scenarios, Manhattan residents would pay between 28 and 31 percent, residents of the other four boroughs would pay between 38 and 49 percent, and New Jersey residents would pay only an additional 7 to 17 percent. The new toll revenues would be dedicated to subsidizing transit, and the new transit would primarily serve New York City residents. The new bus routes would be along the corridors where there is substantial car commuting, further relieving congestion along these routes and thus directly benefiting those who continue to commute by car.

The analysis concluded that between 22 and 24 percent of revenues for the transit subsidies would come from Manhattan drivers, and 41 percent would come from drivers from other boroughs, which would appear to be fair. Both the mayor's

congestion-pricing plan and the alternative congestion-pricing plan were found to “allocate transit subsidies among drivers largely in proportion to the percentage of CBD-bound drivers in each geographic area.” The toll plan, which added tolls to bridges that are currently toll-free, “allocates transit subsidies less proportionately as compared to the two congestion pricing plans.”

Income Equity

Councilwoman Melissa Mark-Viverito’s blog posting on January 30, 2008 (Mark-Viverito, 2008), partially excerpted on this page, speaks for itself.

The New York City mayor’s proposed congestion-pricing plan, the alternative congestion-pricing plan, and the toll plan all included the imposition of new fees and tolls. To better understand the impacts of these costs on different socioeconomic groups, agency staff examined the income profiles of those groups most likely to pay the fee or toll. This analysis raised several issues for further consideration, as discussed below.

The fee and toll plans most impact those who drive to the CBD on a daily basis; the vast majority of trips into the zone are not made by automobile. Therefore, individuals who typically walk, bike, or take transit to the CBD would not be financially affected by the fee or toll options. Of motorists, those who drive into the CBD every day for work would be most impacted. For example, under the mayor’s plan, a daily auto commuter who travels from Upper Manhattan to the Financial District would pay about \$2,000 in congestion fees each year (vs. \$912 a year for those who use transit). By comparison, a motorist who drives into the zone on weekdays once or twice a month for shopping or entertainment would pay about \$100 to \$200 a year in congestion fees under the mayor’s plan.

Those who commute by car to the CBD earn comparatively higher incomes: New York City DOT staff analyzed the income levels of city and suburban residents who use the automobile as their primary mode to reach Manhattan jobs. Staff found that of the 2.14 million workers in Manhattan,

“In the East Harlem and South Bronx communities that I represent, we are automatically skeptical when business interests and politicians from outside our communities claim to be watching out for us—because nine times out of 10, they’re doing just the opposite.

“So it is with congestion pricing. For months, some suburban elected officials from wealthy areas, as well as a coalition backed primarily by the American Automobile Association and Manhattan garage owners, have tried their best to cloak themselves as guardians of New York’s poor and middle-class residents.

“...The truth is that just 5 percent of commuters in Brooklyn, Queens, Staten Island and the Bronx travel to Manhattan by private car. People who drive their cars to work also earn 30 percent more a year than those of us who use mass transit. It is our poor and middle-class families who would benefit from congestion pricing—as the fees charged to drivers would be used to improve the bus and subway system.

“Critics have also tried to whitewash congestion pricing’s health benefits to communities such as Harlem and the Bronx, where kids are hospitalized for asthma attacks far more often than in Westchester, Nassau and Suffolk counties...

“Unlike those who falsely claim to speak for the best interests of my constituents, the commission ought to recognize it would be irresponsible not to pursue a policy that could provide immediate and measurable relief of traffic congestion while improving the air that all of my constituents breathe and the buses and subways that they ride daily.”

Councilwoman Melissa Mark-Viverito’s blog posting on January 30, 2008.

about 292,000, or 14 percent, drive to work each day. These workers have a median annual income of \$60,941, compared with a median annual income of \$46,416 for all workers in Manhattan, including the 1.85 million workers who take transit, walk, or bike to work. In aggregate, the fee would most impact commuters who earn 31 percent more than the median income of all Manhattan workers. Taking into account other income earners in the household, workers who drive to work in Manhattan have a median household income of \$103,700. This compares with a median household income of \$89,379 for all Manhattan workers.

A small proportion of low- and moderate-income commuters who drive would be disproportional

tionately impacted by a fee or toll: Most low- and moderate-income commuters who travel into the CBD take transit or walk and would not be impacted by a fee or toll. Of all New York City residents who commute to work, only 5 percent drive to the CBD. Of that 5 percent, most (80 percent) have a feasible transit alternative to get to work that would take no more than 15 minutes longer than their auto trip. Therefore, only 1 percent of Manhattan workers lack a viable alternative to paying a congestion fee or toll. The low- and moderate-income workers disproportionately impacted by a fee or a toll represent a further subgroup within this 1 percent. Legislation that was proposed for consideration by the State legislature would have provided

tax credits to compensate low-income motorists for amounts that they would have to pay in excess of the round-trip transit fare.

A large number of low- and moderate-income residents would benefit from improved transit services under any of the three revenue-generating plans: As a group, low- and moderate-income New York City residents rely more on transit for their travel needs when compared with higher income residents. Therefore, these low- and moderate-income residents would benefit more from the short-term transit enhancements that would precede a toll or fee imposition and from the expansion of the transit system made possible by increased revenues for transit investment.



Conclusions

Any change in the way charges are made for road use will benefit some individuals more than others. Those who have higher incomes will tend to use congestion-priced facilities more often, which leads to a perception that wealthy people are favored; however, income-related equity concerns may not be entirely warranted. Although data from priced lanes that are operated in the United States show that high-income motorists do use the lanes more often, the lanes are used by all income groups, serving drivers' needs when they absolutely have to get to their destinations on time (e.g., getting to a day-care center before late fees kick in). Moreover, approval ratings are equally high for all income groups, in the 60–80 percent range, because all income groups value the “insurance” of a reliable trip time when they absolutely need it.

Low-income travelers who take transit more frequently will benefit from transit-service improvements that generally accompany congestion pricing. Toll revenues can be used to compensate those who might otherwise consider themselves “losers” as a result of congestion pricing. Low-income transit riders can benefit significantly from toll-financed transit improvements, which are generally included in any pricing package. In cases in which effects on low-income drivers are perceived to be particularly severe, such drivers could be provided with toll exemptions, rebates, or other forms of monetary compensation, such as tax rebates or income supplements. Pricing schemes may include protections for low-income individuals, such as toll credits.

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Portland Metro Area Value Pricing Feasibility Analysis



Policy Advisory Committee Meeting #4

April 11, 2018

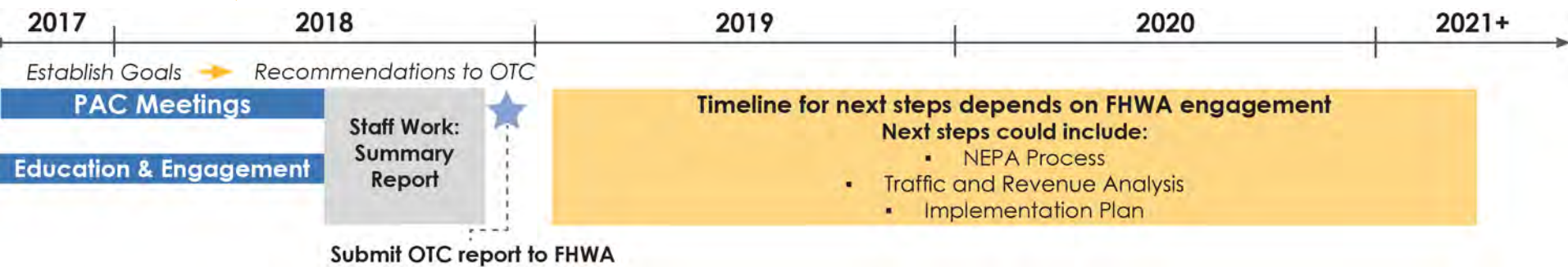
Welcome and agenda

1:30	Welcome and agenda review
1:40	Comments from PAC Co-Chairs
1:45	Public comment
2:05	Public participation update
2:20	PAC work session
4:15	Next steps
4:30	Adjourn



PAC is moving from learning to developing recommendation(s) for OTC

We are here



PAC recommendation process

	PAC 4 April 11	PAC 5 May 14	PAC 6 June 25
Information/ Discussion	Strategies / current policies	Round 2 concept analysis findings	Refinement of recommendations
Outcome	Identify benefits and strategies to address potential impacts	Draft recommended concept(s)	Final recommendations - <i>Location</i> - <i>Type</i> - <i>Mitigation strategies</i>
OTC meeting July 12	Present the PAC recommendation(s) and hear public comment		



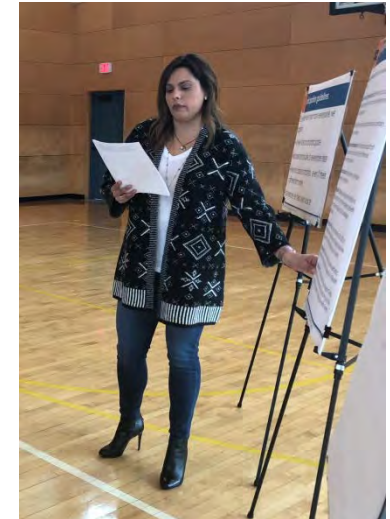
Comments from PAC Co-Chairs



Public comment



Public Participation Update



Public participation to date

- 6,700 visitors to online open house
- 3,500 views of overview video
- 260 people at 3 events
- 2,100+ completed questionnaires
- 1,200 email + voicemail



What we did in March

- Six stakeholder interviews
- Six discussion groups: Vietnamese, Slavic, Hispanic, Chinese, African-American, Native American
- 114 participants (75% low income)
- 286 completed questionnaires



What we heard: Nov - Feb

- Congestion is a problem
- Pressures of population growth
- Questions about the effectiveness of congestion pricing
- Concerns about disproportionate impacts and affordability



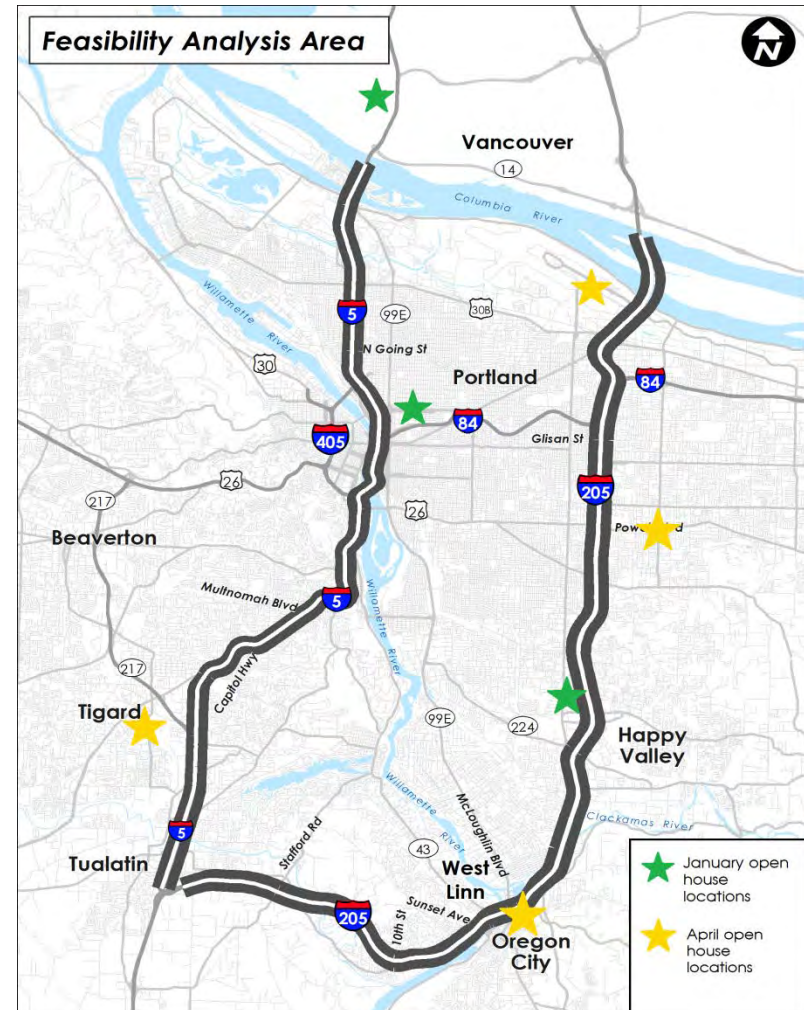
What we heard: Distinctions

- Stronger reliance on I-5 and I-205
- Housing crisis has pushed low-income families further out
- Higher degrees of skepticism
- More uncertainty about impacts
- More sensitivity to the financial burden
- Less flexibility

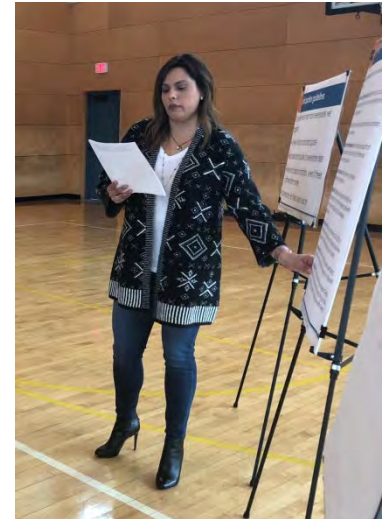


Ongoing participation and next steps

- Four open houses
 - April 12 Oregon City
 - April 14 East Portland
 - April 18 Tigard
 - April 21 Airport area
- Online open house (April 5 – 19)
- Community presentations



QUESTIONS?



PAC work session



Overview of work session structure

- Primer on benefits and strategies to address potential impacts
- Small group discussions
- Reports out from small groups
- Large group synthesis



Primer: benefits and strategies to address potential impacts

PAC Charter:

What mitigation strategies should be pursued based on their potential to reduce the impact of value pricing on environmental justice communities or adjacent communities?



Defining environmental justice communities

Environmental justice communities are:

- Title VI and Environmental Justice
 - Race
 - Color
 - National origin
 - Income
 - Limited English Proficiency (LEP)



Thinking about equity

- What input do environmental justice communities have?
- How would benefits be shared?
- What choices will exist and for whom?
- How would impacts be experienced?
- What can be done to better distribute benefits and mitigate impacts?

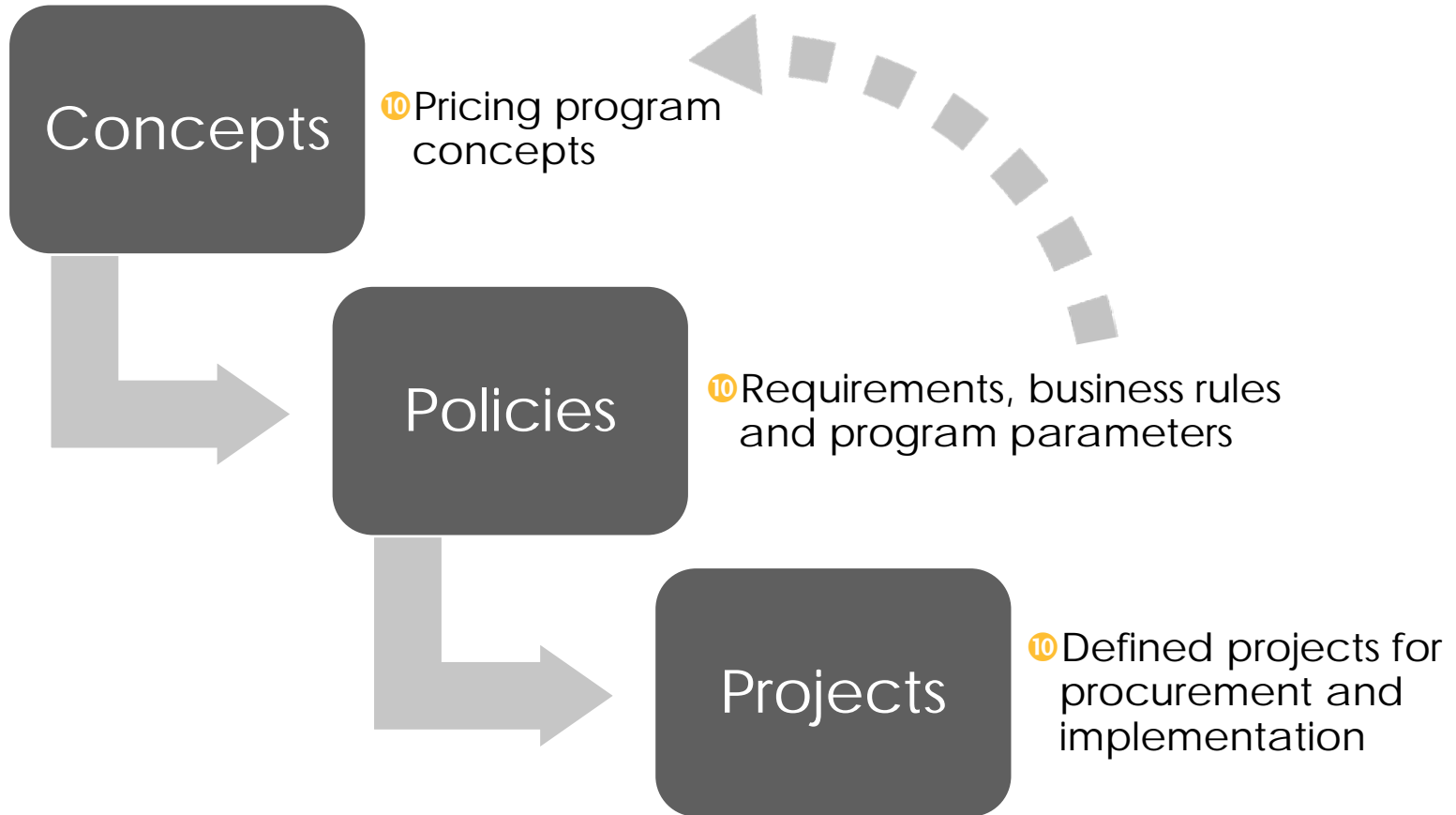


Thinking about equity

- Existing inequities in transportation
 - Auto-dependent system development
 - Housing/jobs balance in land use planning
 - Traditional funding sources
 - User fees compared to other tax types
 - Infrastructure impacts
 - Air quality, noise, construction, etc.
- Congestion pricing
 - Sharing in benefits
 - Out of pocket costs



How policies are considered



Actions other states have taken

Incentives and discounts



HOV Toll-Free Use Signage, I-10 Express, Los Angeles, California

- HOV use for free / discounted rates
 - Most express lanes
 - Some toll roads
- Subsidized toll rates
 - Los Angeles Low Income Assistance Plan for I-10 / I-110
- Toll credits for use of modal alternatives
 - Atlanta I-85 Express Lanes
 - Los Angeles I-10 / I-110 Express
- Toll credits by location
 - Ft. Worth Chisholm Trail Tollway

Actions other states have taken

Enhanced multi-modal investments



In-line bus station on I-35W Express Lane, Minneapolis, Minnesota

- Provide improved and expanded transit facilities and services to address accessibility
 - Washington
 - Minnesota
 - California

Actions other states have taken

Special access programs



License Plate Tolling Signage, North Tarrant Express, Ft Worth, Texas

- Cash accounts for unbanked populations
 - California
 - Washington
 - Texas
- License-plate tolling
 - Colorado
 - Washington
 - Texas
 - Florida
- Freight incentives

Actions other states have taken

Traffic diversion



- Traffic calming on impacted arterials and neighborhood streets
- Advanced traffic management
- Bans on heavy vehicles from neighborhood streets
- Improvements for pedestrian and bike infrastructure

PAC discussion

- Small group discussions
- Reports out from small groups
- Large group synthesis



Next steps

PAC Meeting #5: May 14, 2018

PAC Meeting #6: June 25, 2018

OTC Meeting: July 12, 2018



Spring open houses

Thursday April 12th
5:30pm to 7:30pm

Museum of Oregon Territory
Oregon City

Saturday April 14th
10am to 12pm

Ron Russell Middle School
Southeast Portland

Wednesday April 18th
5:30pm to 7:30pm

Public Works Auditorium
Tigard

Saturday April 21st
9:30am to 12:30pm

Embassy Suites Airport
Northeast Portland

On-line open house available April 5 to 19, 2018



Adjourn





Portland Metro Area Value Pricing Feasibility Analysis AGENDA

Policy Advisory Committee: Meeting 5

DATE: May 14, 2018

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 9:00 a.m. – 12:00 p.m.

MEETING OBJECTIVES

- Shared understanding of the remaining PAC recommendation process
- Review and discussion of themes and priorities from PAC 4 and public outreach
- Review and discussion of findings from Round 2 concept evaluation
- Discuss initial draft PAC recommendation framework

AGENDA ITEMS

Time	Topic	Lead
9:00-9:20 a.m. <i>(20 mins)</i>	Welcome and agenda review <ul style="list-style-type: none">• PAC sharing from community input• Agenda review• Approve PAC meeting 4 summary• Project schedule• PAC recommendation framework and process	Penny Mabie, Facilitator Judith Gray, ODOT
9:20-9:25 a.m. <i>(5 mins)</i>	Comments from PAC Co-Chairs	Alando Simpson, Sean O'Hollaren, Oregon Transportation Commission
9:25-9:45 a.m. <i>(20 mins)</i>	Public comment <i>Meeting observers are welcome to provide comment to members of the PAC. Comments or questions will not be responded to by PAC members. Individual comment time limits will be determined by number of people desiring to make comment.</i>	Penny Mabie, Facilitator



Agenda

Time	Topic	Lead
9:45-9:55 a.m. <i>(10 mins)</i>	Public participation update <i>(Informational)</i> <ul style="list-style-type: none"> Results of project outreach Resources, reports 	Anne Pressentin, EnvirolIssues
9:55-10:15 a.m. <i>(20 mins)</i>	Mitigation strategies and priorities <i>(Informational/discussion)</i> <ul style="list-style-type: none"> What we heard: PAC 4 work session and public input 	Kirsten Pennington, WSP David Ungemah, WSP
10:15-10:45 a.m. <i>(30 mins)</i>	Key findings from Round 2 concept evaluation <i>(Informational/discussion)</i> <ul style="list-style-type: none"> Review concept findings from round 2 analysis and mitigation considerations Clarifying questions 	Chris Swenson and David Ungemah, WSP
10:45-11:45 a.m. <i>(60 mins)</i>	PAC initial recommendation(s) discussion <i>(Discussion)</i> <ul style="list-style-type: none"> Framework Concepts Mitigations Other issues of interest to the PAC 	Penny Mabie, Facilitator Kirsten Pennington, WSP
11:45-Noon <i>(15 mins)</i>	Next steps	Penny Mabie, Facilitator
Noon	Adjourn	

PAC Meeting #6: June 25, Monday, 9:00 a.m. – noon



Portland Metro Area Value Pricing Feasibility Analysis MEETING SUMMARY

DRAFT Meeting Summary: Policy Advisory Committee Meeting 4

DATE: April 11, 2018

LOCATION: ODOT Region 1, 123 NW Flanders Street, Portland; Conference Room A/B

TIME: 1:30 pm – 4:30 pm

MEETING OBJECTIVE

- Begin transition from learning stage to developing PAC recommendation(s) for OTC consideration, starting with a focus on benefits and strategies to address potential impacts.

ATTENDANCE

Bernie Bottomly (TriMet), Tony DeFalco (Verde), Craig Dirksen (Metro), Phil Ditzler (Federal Highway Administration), Brendan Finn (City of Portland), Chris Hagerbaumer (Oregon Environmental Council), Marion Haynes (Portland Business Alliance), Jana Jarvis (Oregon Trucking Associations), Gerik Kransky (The Street Trust), Anne McEnery-Ogle (City of Vancouver), Sean O'Hollaren (Oregon Transportation Commission), Eileen Quiring (Clark County), Curtis Robinhold (Port of Portland), Paul Savas (Clackamas County), Alando Simpson (Oregon Transportation Commission), Kris Strickler (Washington Department of Transportation), Pam Treece (Westside Economic Alliance), Jessica Vega Pederson (Multnomah County), Rian Windsheimer (Oregon Department of Transportation), Park Woodworth (Ride Connection).

AGENDA ITEMS AND SUMMARY

TOPIC: WELCOME AND AGENDA REVIEW

Facilitator Penny Mabie (EnviroIssues) led introductions; reviewed the agenda, Portland Metro Area Value Pricing Feasibility Analysis timeline and meeting materials and provided an overview of the meeting structure.

TOPIC: COMMENTS FROM PAC CO-CHAIRS

Alando Simpson and Sean O'Hollaren (Oregon Transportation Commissioners and PAC co-chairs) provided opening comments. Key points included:

- The PAC is about to cross the halfway point, which is an exciting time. Given the amount of information and interest this project has received, today will be a very impactful meeting.



- It is important to get all issues out on the table, and today's meeting is an opportunity to do so.

TOPIC: PUBLIC COMMENT

Penny welcomed public comments and asked individuals to hold their comments to 90 seconds. The following is a summary of comments heard during the public comment period:

- I'm very concerned about diversion. We need to get our priorities right. I participated in the Columbia River Crossing process and we looked at the impact of tolling on the I-5 corridor. It was going to be chaos. I've spent my life in supply chain management and creating systems that allow businesses to make money: if we put together a value pricing system that inhibits our ability to do business, it's a lose-lose situation. People I've talked to have said they'd rather pay a higher gas tax or have anything other than a tolling system. We need new capacity. I'm not against tolling if it was part of creating new capacity like a Westside bypass. We can't put a stopper in the road. Ultimately, I don't think we're going to see this work and run efficiently and smartly.
- The Western Arterial Highway is the most sensible solution because it's not an interstate freeway. It could connect existing highways and improve travel times. Tolling could bring some benefits, but there are factors to consider. Population growth is a consideration. As the economy grows, we have Californians and Washingtonians moving here. And the other factor is more freight. I agree with needing more capacity.
- Why is the staff rather than the 25 PAC members controlling the process? At the end of the last meeting, PAC members were leaving and a staffer said – we didn't reach a consensus. Who's in charge? It's not the PAC members. The ODOT staff recommended narrowing down the choices. None of the PAC members got to rank their options. Why not? The PAC could have ranked them to include their voices. Staff didn't include option 4 for further study and evaluation. We were told this wasn't advancing due to astronomical cost, but there was no explanation or cost estimates.
- There is a lot of negativity and denials as far as who will be disadvantaged by Value Pricing. I want to continue to encourage collaboration with Clark County and ODOT leadership. It will be fruitful. When this is done, I hope we can get a new I-5 bridge.
- West Linn sits on the 205 bottleneck. There is already diversion in West Linn. The city recently got funding to upgrade Highway 43, but imagine what will happen with diversion when Highway 43 is under construction. We recently had a survey – more than 2/3 of respondents said traffic and congestion were major concerns. This is even before tolling. I ask you: don't do any tolling before I-205 and Abernethy Bridge is widened.
- I appreciate ODOT and this committee's efforts. West Linn is quite distraught about I-205 being left out of the transportation package for adding capacity. My concern is that this well intended effort for value pricing will create a monster on



its own, which will distract us from a broader transportation strategy. Value pricing should be used as a tool, but this program won't be available for another 10 years. So, I ask: what are we supposed to do in the next 10 years (when we are already in gridlock and have severe diversion)? With population growth, the scenario is disturbing. We need alternative modes and recommend a broader transportation strategy, such as light rail. We need a better framework to help our communities connect and to address quality of life issues.

- I am a resident of Northeast Portland. It appears daily working-class drivers don't have seats on this committee. Any tolling will add congestion on local and neighborhood streets. New lanes need to be added and non-tolled routes must be upgraded and easily accessed with signage. The bridges must be toll free and tolling must be contingent on fixing the I-5 bottleneck. Any money must be used to increase motor vehicle capacity, not to subsidize alternative infrastructure. If bike lanes are determined to have value, bicyclists must pay user fees. Tolling is an inequitable money grab.
- I live in Clackamas County and have a background in materials handling. I go back to the original Legislation in Salem. We started with an \$8-billion bill that went to \$5-billion. One of my biggest concerns was the prioritization issues. What we heard in Clackamas County was that we'll look at tolling and study I-205. This area has the most potential – the growth out there is exploding. We are killing commerce. We are discussing the equity of tolling, at the same time – where does the authorization for tolling come from? How did we get from the legislative bill to here? There isn't discussion of equity. The core issue is that we have a desperate need that isn't being addressed.
- I am surprised there isn't an option to toll all Portland area freeways, including I-84, US 26, OR-217, I-405, etc. Additional tolled freeways would have the lowest price per vehicle. Second, it is the most equitable. Third, it has the greatest potential to reduce congestion and improve commute times of anything available. Fourth, it is explicitly authorized by House Bill 2017. I encourage the committee to get that option on the table.
- I haven't heard anyone talk about demand management. The Oregon Legislature made a decision on tolling, so the PAC is doing the best they can on how to implement it, which is their job. I encourage you [the PAC] to keep doing this. I encourage you to think about what we're trying to do: control the demand for highway lanes. I encourage you to keep doing the work and don't be swayed by people who should have made the no tolling argument to the legislature, not here. Think about this being another alternative in addition to more transit. Keep doing the work.
- In Missouri, I dealt with a lot of the same circumstances. I'm glad the FHWA and trucking is here. I drive the I-5 corridor every day, the biggest thing is: band aids never fix anything. The tolling idea will never fix anything. All it's going to do is push the traffic to the city streets, which are already congested. The City of Portland has accidents every day because of the traffic on city streets. You need another bridge – another corridor. The trucking industry is panicking. If you don't build a new highway and another bridge, you're never going to get ahead. Also, with the federal government, you can get it done in five years. Have a vision for the future.



- I think this is an awesome idea. I think congestion pricing is great and you're following the mandate of the Legislature. We have something called induced demand, which means if you build more lanes, more cars will fill the lanes. I would love to see I-5 a transit corridor. The PAC is doing a great job, so thank you.

Penny closed the public comment period by thanking the public for keeping their comments to 90 seconds and encouraging use of additional forms of participation, such as the online Open House.

Penny asked PAC members if they approved the Meeting #3 summary. Comments included:

- One of the earlier public speakers summarized the meeting well, as far as discussion and lack of direction. We're steam rolling ahead and some of the comments made last meeting don't seem to be recognized. The minutes don't reflect that comment or concern. I'm not asking for edits, but I want to get this on record.

PAC Action: Meeting #2 summary was approved without change.

TOPIC: PUBLIC PARTICIPATION UPDATE

April deLeon-Galloway (Oregon Department of Transportation) and Alex Cousins (Envirolssues) gave a presentation on the public participation process and results. To date, public participation included: 1,700 visitors to online open house; 3,500 views of the overview video; 260 people at 3 events; 2,100+ completed questionnaires; and 1,200 email and voicemail comments. April and Alex also provided a summary of the Title VI/Environmental Justice discussion groups, including who was involved and what feedback was provided. Key feedback included: congestion is a problem; pressures of population growth are putting a strain on existing road capacity; questions about the effectiveness of congestion pricing; and concerns about disproportionate impacts and affordability of tolling. Alex covered distinctions in March engagement compared to Winter engagement input. Title VI/Environmental Justice groups expressed a stronger reliance on I-5 and I-205; the housing crisis has pushed low income families further out; higher degrees of skepticism that value pricing will work; more uncertainty about impacts; more sensitivity to the financial burden of tolls and less flexibility to change travel times. Throughout the presentation PAC members were encouraged to ask questions and provide comments. PAC member discussion included:

**Responses are indented and italicized.*

- Do we have access to the questionnaires?
 - *The appendices online include the questionnaire.*
- Thank you to Judith Gray and her team for making presentations in Vancouver. We are looking forward to another.



- o *There will be an Open House in Vancouver on April 30th, 2018.*

TOPIC: PAC WORK SESSION: BENEFITS AND STRATEGIES TO ADDRESS POTENTIAL IMPACTS (*PAC DISCUSSION*)

Penny transitioned the PAC to the mitigation workshop and discussion portion of the meeting.

David Ungemah (WSP) opened the work session by providing an overview of mitigation strategies to help PAC members with their small group discussions. David began by encouraging PAC members to think about the input environmental justice communities have; how benefits would be shared; what choices would exist and for whom; how impacts would be experienced; and what strategies can be done to better distribute benefits and mitigate impacts. In addition, David said that there are existing inequalities in transportation to consider. He then explained that mitigation pertains to certain rights defined by federal regulation, particularly Title VI of the Civil Rights Act of 1964. Title VI and Environmental Justice include: race, color, national origin, income and limited English proficiency (LEP). Mitigation strategies from other states include incentives and discounts, enhanced multi-modal investments and special access programs, in addition to traffic diversion strategies.

David encouraged the PAC to be creative in thinking of mitigation strategies. David concluded by emphasizing now is the time to think about mitigation techniques, so they can be applied to any pricing concepts that may move forward.

PAC members were divided into four small table groups, with a facilitator at each table. The groups discussed the key concerns heard to date, potential mitigation strategies to address these concerns, key considerations for each strategy and the concept most relevant to the concern. Groups were asked to focus on at least three issues. In addition, project staff circulated the room to answer technical questions. Penny walked the PAC through an example of the worksheet. During the PAC work session, audience members were given a similar version of the worksheet to complete.

**See appendices for PAC meeting materials.*

WORK SESSION: REPORT OUT

Penny led the table facilitators in reporting out on the PAC discussion groups. The following summarizes statements made during the report-out from these discussions.

**See appendices for a complete summary of workshop outcomes.*

Issue 1: Disproportionate impacts on low-income drivers.

Key points on mitigation strategies included:



- Providing a cash-based payment system.
- Providing a priced lane and providing free use of the general-purpose lane.
- Providing transit accessible to affordable housing.
- More affordable housing.
- Priority access to jobs for low-income residents – a job development aspect.
- Provide toll credits for people who take transit.
- Implement dynamic pricing: higher pricing when the roads are congested and a much lower rate when the roads are not congested.
- Focus on strategies for both Washington and Oregon residents.
- Provide transit incentives, discounts, and subsidies.
- Make using modes of transportation seamless.
- Issues specific to geographic areas should be considered.

Issue 2: How do we know pricing will be effective?

Key points on mitigation strategies included:

- One strategic consideration is the need for a long-term transportation plan. Given the growth our region is experiencing, we can't have performance measures that are a snapshot in time. We need a long-term metric of success that considers ongoing growth, a short-term metric of success, and to consider tools to employ next.
- The effectiveness of pricing (issue 2) is tied to how the revenue will be used (issue 7).
- How is effectiveness defined? Is it reducing congestion, is it raising revenue or some combination of the two?
- Changing behavior might not work because the options are not currently available (e.g. transit, biking or walking).
- Consider how to interpret the statute (the constitutional requirements regarding toll revenue and roadway spending)
- Regarding data points about discretionary trips – there is a lack of clarity and source(s). This data might be outdated.
- The evidence of success needs to be corridor- and system-wide, and not just focused on a small area.

Issue 3: Traffic diverting to local streets and neighborhoods.

Key points on mitigation strategies included:

- Discourage traffic moving onto local streets.
- Improve arterials.
- Use dynamic pricing.
- Consider looking at successes elsewhere to understand the history and understand how much diversion occurred.
- Consider supply side strategy to address available land and transportation options.
- Provide better and faster transit service.
- Provide low-income transit fares.
- Facilitate employer incentives for carpools in toll lanes.
- People are already diverting onto local streets.



- More study is needed to understand diversion.
- Diversion depends on which Regional Transportation Plan (RTP) projects are built.
- There are issues with transit currently, including unfair policing of low-income as well as low-income fare considerations.
- Consider how apps like Waze and Google Maps might encourage people to divert onto local streets.

Issue 4: Priced lanes might be confusing and difficult to understand.

No comments.

Issue 5: Some communities and locations don't have other options to driving on the freeway.

Key points on mitigation strategies included:

- Deduct the price of tolls from Washington drivers' income taxes. That could also be a strategy for low-income drivers.
- Add capacity to provide more options while preserving unpriced general purpose lanes.
- Put more transit on the freeways.
- There might be legislative considerations for the income tax suggestion.
- The revenue for increasing capacity could be helpful, particularly for concept A and perhaps concepts C and D.
- People have limited options and low-income drivers need to be considered in a different way.

Issue 6: No transit, biking and walking options exist.

Key points on mitigation strategies included:

- Increase the availability of transit.
- Add more transit service or add transit in the first place.
- All kinds of transit and transit choices should be considered: rail, bus, water, as well as access to those transit options through walking and biking.
- Create partnerships with agencies to look at pairing investments.
- Consider the stretch on I-205 with limited or no transit or bike options.
- Strategies could include more alternative mode options.
- The team should be looking at examples in other states.

Issue 7: How will toll revenue be used?

Key points on mitigation strategies included:

- Suggest spending revenue on added capacity and improving infrastructure.
- There is a disconnect regarding what the revenue can be spent on. There is desire to have that clarified.
- A user-fee based model is most effective.
- The PAC needs to look bigger picture for this process and projects, including looking beyond pricing applications on solely the I-5 and I-205 corridors.

Other concerns: Supporting unbanked populations

Key points on mitigation strategies included:



- Provide a cash-based system in places where transit passes are sold.
- Develop a universal pass for transit, tolling and bike share.
- Concern with helping the unbanked population – 16% of non-white people don't have access to banks, while 5% of whites do not have access.
- The bill by mail option might not work because individuals frequently move.
- Paying the toll needs to be easy – with low barriers.
- Undocumented individuals might have concerns with accessing the toll and banking systems.

Penny asked PAC members if they had additional comments on strategies developed at this workshop for the technical team to use for further consideration. PAC member feedback included:

**Responses are indented and italicized.*

- In general, these are worthwhile strategies to approach the issues we've talked about. But I still question the ability to be specific when there are a lot of assumptions about what our road structure will look like in 2027. I'm concerned about having a realistic idea of what people will be driving on when congestion pricing is in effect. This is something we brought up last meeting, but I want to stress my desire to see more flexibility in the modeling – perhaps as projects are completed.
- As we were discussing, we had a few realizations – there are some givens as to where this money is going in the short term and the long term. It would be nice to see the list of projects and how they are going to look out over the time line. If tolling is going to be paying for the projects in House Bill 2017 – what is the cost and when are they phased in?
 - *The use of the tolling revenue has not been identified for any particular project(s). This is an OTC decision. In the policy memo, this is addressed – there is a budget note on I-205 which sunsets at the end of the biennium. The PAC can weigh in on how toll revenue could be used. We do have constitutional restrictions and there are policy guidelines, but there isn't a presumption that the revenue will pay for specific projects. This is an area for the PAC to give a recommendation on.*
- Let's include in our recommendation where revenue should go.
- There are questions about the timing around conducting an analysis on Title VI. It would be good to have a discussion on how we can possibly speed up some of that analysis.
- We didn't get to the third column of the worksheet, which applies these strategies to each concept. The objective is unknown: where we're going to spend the revenue, understanding we want to first reduce congestion. Not understanding where the revenue is going will impact our decision on concept A, B, C or D as well as what mitigation strategies we will select.
- Today we've talked about concerns around tolling and mitigation strategies. A lot of what we've identified is technical and administrative. At a policy level, the point needs to be made that these strategies can't be looked at separately from



the tolling plan. They need to be part of it. We should include the reduction of the three regional bottlenecks as part of the tolling program, not separately from it.

Penny asked the PAC members if there were any other last thoughts about the issues, strategies or considerations they wanted to share beyond the mitigation strategies that had been identified in the work session and opened the discussion to any remaining thoughts from the PAC. Member comments included:

- As the technical team goes forward and looks deeper into the options, there are a lot of conversations about transit. These two discussions need to be married in some way. I sit on the [House Bill 2017] Transit Advisory Committee, too. How can we make tolling more successful based on where those transit investments should be made? I want to encourage collaboration between ODOT, TriMet and C-tran and the larger transit community. For a lot of these issues, transit is an option. The PAC should be clear with the OTC that you can't talk about one or the other, but you have to talk about both.
- I would like to hear more about how freight is addressed. In the presentation, we heard about how freight can't access the priced lanes, so I'm curious how that gets addressed.

TOPIC: NEXT STEPS

Penny outlined the next steps and provided a schedule for the remaining PAC meetings. Commissioner O'Hollaren closed the meeting by thanking the PAC for their engagement and time:

- This feedback is very meaningful. As a commissioner, what we've heard is hugely helpful.
- We ultimately have a mandate from the legislature to make a recommendation to the FHWA.
- We may need to look at this holistically – not just these two areas, but a whole loop around Portland. It's a three-tiered chess game: There are multiple levels, not all corridors have the same options – there are more viable options in some travel corridors. Can we create more transit options in other corridors?
- We all want to know – where is the money going? The legislature creates a congestion relief fund and leaves it to the commission. The congestion relief fund would go towards congestion relief projects for the corridor.
- Congestion pricing has a myriad of impacts – some change behavior, some incentivize people to look elsewhere to be more efficient. It's on us to create those alternatives and to thoroughly study the impacts.
- We recognize this isn't a crystal-clear process, but the intent is that we've embraced and heard different views and do the best possible job to make a decision. When we do make that decision, it won't address all the concerns, but this is nonetheless helpful for us to make our decision.
- I appreciate everyone's willingness to dive deep. Oregon has a history of being creative and innovative and learning from others – knowing it's not apples to



apples. Our unique geography and situation means we can't take what others have done and implement it here. Our neighbors to the north, however, have implemented this and there's a lot to learn from them. Vancouver is part of our community, and we must look at our broader community to figure out if we can do this holistically.

- We can't buy our way out of this problem: we are growing much faster than our ability to solve congestion. We have a lot to do with some options. We need to get moving and take some steps – there isn't a silver bullet that solves it all.

The meeting was adjourned at 4:20 pm.

DRAFT



Portland Metro Area Value Pricing Feasibility Analysis

MEETING SUMMARY

Appendix: PAC Work Session Output

WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
<p>Pricing will have disproportionate impacts on people with low incomes or otherwise disadvantaged groups:</p> <ul style="list-style-type: none"> ➤ <i>Toll discounts, subsidize rates and programming</i> ➤ <i>Helping unbanked populations</i> ➤ <i>Bi-state low income strategy</i> ➤ <i>Affordable housing</i> ➤ <i>Transit and transit incentives</i> ➤ <i>Dynamic variable pricing</i> ➤ <i>System technology</i> 	<p>Toll discounts, subsidize rates and programming:</p> <ul style="list-style-type: none"> • For low income groups • For Environmental Justice groups • Carpool and a greater discount for more people in cars • Disabled and seniors should have access to free credit van programs • Enhanced ridesharing and vanpool programs especially in areas without good transit • Discount rates for carpools, and perhaps greater discount for more people in car • Improve arterials so people have a non-tolled option • Employer incentives for carpools and tolls • Credits for transit use 	<p>Toll discounts, subsidize rates and programming:</p> <ul style="list-style-type: none"> • Use existing programs to identify low income qualification • Low income to pay less if already in a qualifying program for low income people eg: snap program (food stamp program) • Environmental Justice communities are located along corridors • Unfair policing of transit fares • Connect decisions with demographic and job data • Some van programs for disabled and seniors should be free or have credits 	<p>Toll discounts, subsidize rates and programming:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Supporting unbanked populations:</p> <ul style="list-style-type: none"> • Cash discounts • Cash-based system such as what is used in the L.A. system • Pass system for transit 	<p>Supporting unbanked populations</p> <ul style="list-style-type: none"> • 16% of nonwhite don't have access to banks • 5% white people don't access bank • Bills and payment by mail may not work because unbanked 	<p>Supporting unbanked populations:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes




WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
		<p>populations may move more often</p> <ul style="list-style-type: none"> • Trouble accessing the systems • Need cash accessible options 	<ul style="list-style-type: none"> <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Bi-state low income strategy:</p> <ul style="list-style-type: none"> • Must apply to both sides of the river. • Consider a Federal Program • Revenue sharing between states for low income strategies • Need reasonable choices as low income is a geographic issue too 	<p>Bi-state low income strategy:</p> <ul style="list-style-type: none"> • Will also have disproportionate impact on specific geographies, and this is linked to the concern that some communities and locations don't have another option to driving on the freeway • Revenue generated in Oregon also be used in Washington to support low-income drivers • These strategies need to be applicable to residents of Washington not just Oregon • HB 2017, 217/Rose Quarter/funded. 	<p>Bi-state low income strategy:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Affordable housing:</p> <ul style="list-style-type: none"> • Housing near transit and near jobs • Priority for low income • Develop jobs in areas where people already live • Priority job access program for lower income 	<p>Affordable housing:</p> <ul style="list-style-type: none"> • Key groups, including low-income groups, may be pushed farther out of the metro area, which compounds low income effect. • Example of urban renewal impact tradeoff 	<p>Affordable housing:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> • Make reasonable choices for pricing, knowing what we are buying. 		<ul style="list-style-type: none"> <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Transit and transit incentives:</p> <ul style="list-style-type: none"> • Shoulder conversion for transit • C-Tran services exempt from tolls • Tri-Met services exempt from tolls • Credits for transit use • Transit credits • Grow and expand transit options • Employer strategies • Mechanisms and models to make alternatives, such as the Hop Pass, transit, bike, C-Tran, seamless. • Low-income fares for transit affordability • Better transit options, more transit and more transit infrastructure 	<p>Transit and transit incentives:</p> <ul style="list-style-type: none"> • Constitution: funds must be used back on the corridor itself for infrastructure improvements on the roadway • Is there eligibility for funds to be spent on transit on parallel facilities? • Can transit funding go to C-Tran and consider incentives for C-Tran use? • Creates unfair stress on low income 	<p>Transit and transit incentives:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Dynamic variable pricing:</p> <ul style="list-style-type: none"> • Only apply tolls when congested • A new priced lane and a new general-purpose lane 	<p>Dynamic variable pricing:</p> <ul style="list-style-type: none"> • Difficult to budget with variable public toll rate 	<p>Dynamic variable pricing:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> No tolls at certain times, and only apply toll when congested Variable price when roads are congested (<u>dynamic</u>) 		<ul style="list-style-type: none"> <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>System technology:</p> <ul style="list-style-type: none"> Cash-based payment system for unbanked populations to access Mechanisms to make alternatives seamless such as the Hop Pass (transit, bike, C-Tran) Universal card 	<p>System technology:</p> <ul style="list-style-type: none"> Refunds and discounts Mechanisms for delivery such as the Tri-Met Hop fast pass Need data on the timing and use by Environmental Justice communities What are existing programs to identify low income qualification Data-based decision-making using demographic and job data 	<p>System technology:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>How do we know pricing will be effective?</p> <ul style="list-style-type: none"> ➤ <i>Behavior change</i> ➤ <i>Information and long term planning</i> 	<p>Behavior change:</p> <ul style="list-style-type: none"> Pricing a free resource may assist in changing behavior Changing behavior might not work if there are no other options eg. transit, bike, walk Many trips are discretionary 	<p>Behavior change:</p> <ul style="list-style-type: none"> Need better data to know if discretionary trips are reduced. This drives the capacity question Need to measure freeway impacts and drivers on routes parallel to the system Adjust based on performance measures and metrics 	<p>Behavior change:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
		Need to balance between revenue raising and pricing congestion, as what is the goal, to reduce congestion or to raise revenue	<input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	Information and long-term planning: <ul style="list-style-type: none"> • Need comprehensive long-term transportation plan that defines short and long-term tools • Congestion pricing to optimize existing resource. • Goal is to reduce congestion 	Information and planning: <ul style="list-style-type: none"> • Long-term planning and what is the next tool • What are the short-term plan/goals? • Monitoring and measuring plan • Data is old, and this drives the capacity question; more information is needed • Freight movement monitoring plan • Consider how effectiveness is defined • How will this system respond to growth? 	Information and planning: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	Impact on freight: <ul style="list-style-type: none"> • Freight movement monitoring plan • Need to account for system-wide impact analysis 	Impact on freight: <ul style="list-style-type: none"> • Performance measures and metrics are required to understand how to improve throughput of freight • Understand system response to growth • Metrics and monitoring needed 	Impact on freight: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
			<input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>Traffic will divert onto local streets and into neighborhoods</p> <ul style="list-style-type: none"> ➤ <i>Neighborhood strategies</i> ➤ <i>System capacity and quality</i> 	<p>Neighborhood strategies:</p> <ul style="list-style-type: none"> • Traffic calming to discourage diversion • Maintain neighborhood streets • Advanced traffic management on local streets • Dynamic pricing • Limitations on Google maps alternative routes and Waze for where people are diverted • No heavy vehicles on some streets, specifically local streets • Education needed about diversion problems and impact • Leaving some lanes unpriced to give people choice 	<p>Neighborhood strategies:</p> <ul style="list-style-type: none"> • People are already diverting • Lots of success elsewhere to learn from • Safety and air quality issues in neighborhoods where diversion may occur • Air quality around I-5 • Diversion issues where pronounced in Portland on connected streets • Understand what would price sensitivity be to diversion more study • Traffic calming could strain Portland's existing under-capacity transportation infrastructure 	<p>Neighborhood strategies:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>System capacity and quality:</p> <ul style="list-style-type: none"> • Diversion onto other state routes including SR-14 and 217, not just local streets • Supply strategy to address road and transit capacity to minimize diversion • Improve arterials specifically where people want to be • Improve arterials so people have a non-tolled option • Address road and transit capacity to minimize diversion 	<p>System capacity and quality:</p> <ul style="list-style-type: none"> • Maintaining unpriced lanes • Impact depends on which RTP projects are finished and when • Address road and transit capacity to minimize diversion • Diversion impacts need to be looked at as part of the tolling process, an integrated study 	<p>System capacity and quality:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input checked="" type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input checked="" type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input checked="" type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> • Faster transit service • Swifter transit and increased speed of transit 		<input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>Some communities and locations don't have another option to driving on the freeway</p> <ul style="list-style-type: none"> ➤ Geographic constraints 	<p>Geographic constraints:</p> <ul style="list-style-type: none"> • Reducing income tax to compensate for cost of tolls for low income or for all (differing preferences) • Provide geographic incentives for people who are more limited non-freeway options • Enhance transit capacity • Transit where limited options • Transit potentiality, even on freeway • If there is an isolated community, lessen the impact • Improve non-tolled arterial options • Use revenue from tolling to pay for new lanes, capacity and transit supply 	<p>Geographic constraints:</p> <ul style="list-style-type: none"> • Not sure this is a problem in Portland Metro Area • Clark County doesn't have other options to cross the river • Legislative changes • Disproportionate impact on no transit areas – need own solution • Don't want to undermine the effectiveness of congestion pricing • Deal with the disproportionate impact in other ways, especially for isolated communities 	<p>Geographic constraints:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input checked="" type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input checked="" type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input checked="" type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>No alternative transit, bike or walking options exist</p> <ul style="list-style-type: none"> ➤ <i>Capacity of alternatives modes</i> 	<p>Capacity of alternatives modes:</p> <ul style="list-style-type: none"> • Improved transit access due to lack of transit alternatives • Increase availability and frequency of transit services, carpool and vanpool including BRT, LRT and Express busses • Add transit where no options 	<p>Capacity of alternatives modes:</p> <ul style="list-style-type: none"> • Other examples in other states • What most effective alternatives will be • On I-205 there are a lot of miles with no other options (12, 13 miles) and need to expand options • Consider Clark County 	<p>Capacity of alternatives modes:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> • Create partnerships between ODOT, TriMet, BARD (or another source) to pair these methods CTRAN on shoulders for reliability benefit • More options for I-205 • Build capacity • Linked to how toll revenue will be used. 	<ul style="list-style-type: none"> • All transit options should be considered including bus, light rail, walking, bike, ferry • This should be a decision-making criterion -- current transit access. 	<ul style="list-style-type: none"> <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>How will the revenue be used?</p> <p>➤ <i>Revenue proposals</i></p>	<p>Revenue proposals:</p> <ul style="list-style-type: none"> • Capacity • Columbia River Crossing I-5 bridge replacement • Expanding BRT, LRT, Express buses • Clarify projects listed, can't be hidden, remove disconnect in understanding • Improve safety and fix infrastructure • I-5 bridge operation • Need clarity • Use the income where collected • User-fee based model • Congestion mitigation • Low-income mitigation strategies such as cash discounts and free passes 	<p>Revenue proposals:</p> <ul style="list-style-type: none"> • There is a current disconnect in understanding • Need projects listed – can't be hidden, needs to be clarified. • Need clarity on how to interpret the statue consistent with HB2017 and the "State Line" • Look bigger picture and look at L.A. for examples • Round One Concept 4 previously not being considered due to cost; but why when we are still deciding where to spend the revenue. • OTC decides where revenue will be spent • Revenue should be used for roadway infrastructure Improvements and back into the corridor itself • Is there eligibility for funds to be spent on transit on parallel facilities 	<p>Revenue proposals:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
		<ul style="list-style-type: none"> • I-5 and 217 are earmarked • Linked to no alternative transit, bike or walking options exist 	
<p>A priced lane may be confusing and hard to understand for some drivers</p>	<p>No strategies listed.</p>	<p>No strategies listed.</p>	<p>No strategies listed.</p>

DRAFT



Portland Metro Area Value Pricing Feasibility Analysis

Final

Congestion Pricing Mitigation and Related Policy Considerations



May 7, 2018



Portland Metro Area Value Pricing Feasibility Analysis

Final Congestion Pricing Mitigation and Related Policy Considerations

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May 7, 2018



1 PROJECT CONTEXT

The Portland Metro Area Value Pricing Feasibility Analysis identified the need to obtain informed input from members of the public and transportation stakeholders about issues and concerns that must be addressed when considering congestion pricing applications. The study's Policy Advisory Committee (PAC) charter specifies the need for identifying and considering mitigation strategies for detrimental impacts upon Title IV and environmental justice communities and other stakeholders within the affected corridors.

In discussions of freeway congestion pricing applications, PAC members and other stakeholders have discussed some of the negative impacts that could affect those who currently depend on the freeways, as well as potential impacts on the surrounding area and roadway network. PAC discussions have been informed by experience from other congestion pricing projects, as shared by members of the consultant team and documented in reports provided in January 2018 and again in April 2018. At the fourth meeting of the PAC (April 11, 2018), the majority of the time was used in a facilitated small-group work session among PAC members to focus on key concerns and to identify mitigation strategies. Facilitators for each of the small groups documented the discussions. A written summary of the workshop is provided in **Attachment A**. The attachment also provides written input from two PAC members who were not able to attend.

In addition to the PAC process, the project team incorporated the mitigation strategies theme into spring 2018 public outreach. Public engagement during this phase included five open houses held at locations throughout the region between April 12 and April 30; an on-line open house available from April 5 through 30; and, presentations were given to community groups throughout the region, including business, civic, and other interest groups. In addition to providing general information about congestion pricing and the current feasibility analysis, these efforts introduced the topic of mitigations and sought input on priority concerns and suggestions about potential mitigation strategies.

2 WHAT WE'VE HEARD

Discussions with PAC members and members of the public reveal a wide range of perspectives on congestion pricing and the potential benefits and negative impacts. The most common concerns heard throughout the process are consistent with the issues identified in the PAC Charter and helped to shape the discussions at the April 2018 PAC mitigation workshop and spring 2018 public outreach. These themes included:

- Impacts to environmental justice communities, with an emphasis on low-income populations.
- Impacts to communities that are highly dependent on the freeway system, due to a lack of choices (other modes, other routes, or flexible travel times).
- Diversion into adjacent communities and also onto arterials and other freeways.
- Questions and suggestions about how tolling revenue would be used.



- Skepticism about whether congestion pricing can effectively reduce traffic congestion.

3 MITIGATION STRATEGIES & OTHER CONSIDERATIONS

Input from the PAC and stakeholder outreach to affected communities concentrated on the following themes for strategy development.

3.1 Performance monitoring

Congestion pricing is new to the state of Oregon and the public has expressed skepticism about whether it would have the desired effects. Any pricing program must have in-depth performance monitoring and reporting to meet Federal law requirements. The specific level of reporting will depend on the concept(s) recommended and the specific federal authorization program that will be employed. Conversion of any existing general purpose or high-occupancy vehicle (HOV) lane to congestion pricing (Concepts A, B, and C) would have the highest requirements for setting performance metrics and regular monitoring to ensure that improvements in traffic congestion are being achieved. By comparison, the requirements for Concepts D and E are not subject to more stringent requirements, as they would be authorized under Section 129 of Title 23 of the US Code, but the state could develop performance measures and monitoring program in a similar manner.

Overall, the intent of the program is to encourage changes in mode and time of travel to maximize the use of capacity and improve average travel times and set the stage for broad implementation of a sustainable transportation system. In so doing, it has further intent to avoid disproportionate changes in route patterns that create new problems elsewhere in the system, and to avoid degrading the system from current levels.

Supporting these considerations, specific strategies that could be evaluated for inclusion are:

- **Trial / pilot system.** A pilot / trial approach has proven successful with other communities when they first considered pricing, including Washington and California. If Concept A or B move forward for development, they could be implemented as trial facilities, subject to review, revision, and (if necessary) termination.
- **Tolling sunsets with explicit re-authorization.** This strategy further extends the trial / pilot concept by requiring explicit legislative or potentially voter approval of the continuation of the program. In Stockholm, Sweden, the regional transportation authority did exactly this. In 2006, a 6-month trial of congestion pricing for the city was conducted. Following the trial, the pricing system was turned off, and voters were asked for approval to turn the system back on again. 2007 voter affirmation made the system permanent, with revenues dedicated to funding regional priorities identified in the voter package.



- **Partner coordination.** This strategy would provide the opportunity for regional collaboration in performance monitoring by forming a partnership with area agencies to review the effectiveness of the tolling system. This approach has been used in Washington where an executive advisory group was established to monitor and make decisions impacting the I-405/SR 167 tolling corridor. This group is made up of city, county and agency representatives. The SR 16 Tacoma Narrows Bridge has a Citizen Advisory Committee made up of nine members appointed by the Governor to advise on toll rates and discounts for certain users.

3.2 Improved transit access and availability

The PAC and other stakeholders emphasized the need to improve transit access and availability in conjunction with congestion pricing to provide travel choice and options. The provision of additional transit services, incentives, and facilities is identified as a strategy to address impacts to low-income communities, but it is also effective at reducing diversion to alternative routes and improving system effectiveness by increasing average vehicle occupancy and diversion to transit modes.

Specific policies that could be deployed include:

- New transit routes / services on priced roads
- New / expanded park & ride locations
- First / last mile transit connections
- Free HOV2+ or 3+ use
- More frequent bus service
- Transit rewards incentive program
- Benchmark peak period tolls with transit fares
- Universal pass linking toll accounts with TriMet accounts

Transit programs have been successful at mitigating concerns with pricing as it applies to lower-income communities. For example, the Los Angeles Metro ExpressLanes Transit Rewards Program was a key component toward obtaining public support for congestion pricing on I-10 and I-110. This program increased monthly transit boardings by 27 percent, improved travel times for 48 percent of bus riders, converted 37 percent of previously single-occupancy vehicle (SOV) travelers to bus riders, activated 10,000 transit rewards accounts (combined FasTrak and transit access pass (TAP) card accounts) in the first two years, and issued over \$45,000 in toll credits to transit users in the first two years.

3.3 Special provisions for low-income populations

As discussed above, the PAC expressed a key concern about disproportionate impacts of tolls on lower-income populations. Although the provision of transit and other travel options is among the most important mitigations to ensure that improved mobility is an overall outcome, other strategies are available to enhance the benefits of congestion management for the broadest possible cross-section of the public. Some specific strategies for consideration include:



- Implement toll discounts, credits, subsidies, or rebates. Preferential toll rates can be applied for various income classes (such as lifeline tolling registration like TriMet's low-income program), user classes, or even locations (such as landlocked locations such as Hayden Island).
- Implement a Universal Pass, which transfers benefits between modes for low-income households.
- Establish cash-based account options (while still using electronic and/or license plate toll systems) with an emphasis on ease of access and understanding.
- Operate toll-free when congestion is not present on the system.

As one of the few facilities operating in an environmental justice community, Los Angeles Metro's Low-Income Assistance Program complements the region's congestion pricing program. There, households meeting income thresholds (\$49,200 for a 4-person household in 2017) may obtain \$25 toll credits, no account maintenance fees, and no-fee access to transponder accounts. This eliminates the issue of lane access for low-income households. Surveys have reported that over 70 percent of low-income travelers experienced substantial travel time benefits because of the program.

3.4 Diversion

Although not explicitly an issue of Title IV and environmental justice, route diversion from tolled highways onto adjacent surface arterials is one of the priority mitigation topics identified in the charter. This concern was shared by PAC members and members of the public who participated in the Feasibility Analysis's engagement process. As noted by the technical analysis and confirmed by members of the public, there is already diversion onto surface streets as drivers try to avoid freeway congestion, so the specific impacts may be more limited – especially as congestion pricing recaptures functional capacity on saturated highways. An additional issue to study in future planning phases is the distribution of diversion: is diverted traffic moving to other freeways or to local facilities? If it is moving to other freeways, system balancing through tolling or other means could be pursued. Some specific strategies identified to minimize and mitigate unwanted route diversion include:

- Design and price structure factors that can minimize diversion, including avoidance of creating natural "jumping off" points on exit ramps to avoid tolls.
- Traffic calming, ramp meters, and other flow controls on entrance / exit ramps as well as on neighborhood streets.
- Restrictions of freight travel on local streets.

3.5 Other considerations

Finally, there are additional themes that were expressed by PAC members and in other community engagement which may support improved system effectiveness and public acceptance.



3.5.1 Connect revenue with congestion relief and transportation system improvements

Congestion pricing is often viewed negatively by the public until opening of the pricing program; after opening, demonstrated reduction in congestion levels yield positive findings in public opinion surveys from across the country. Until opening of a pricing program, public acceptance of congestion pricing may be tied to views on how net revenue from tolling is to be used. Although the specific uses of revenue may not be known for years (until the program has continued through the project development and approvals process) the PAC may wish to suggest appropriate uses of net revenues from tolling as priorities and principles to inform the OTC. Some of the themes heard from the public and the PAC include:

- Revenue should be used to mitigate congestion.
- Revenue should be used to plan for and accommodate growth by increasing roadway and transit capacity.
- Revenue should be used to improve transportation within the corridor where the revenue is collected.
- Consider identifying specific projects.

3.5.2 Regional congestion pricing analysis

Although HB 2017 directs ODOT to consider pricing on I-5 and I-205 first, it does not preclude examining pricing other freeways. Several PAC members and members of the community have indicated the need to see a more holistic analysis, including the rest of the freeway system. Such an analysis could be conducted as part of further consideration of Concept C in future steps of regional and statewide planning. For example, a broader congestion pricing feasibility analysis could be conducted, including potential pricing implementation of I-84, I-405, US 26, and/or Hwy 217 in addition to deployment on I-5 and I-205.

3.5.3 Planning for growth: capacity

There are strong views about the need to plan for growth, including potentially increasing freeway and transit capacity. Analysis of the five round 2 concepts included the planned third lane on I-205 between Stafford Road and the Abernethy Bridge. The results of this feasibility analysis could lay the foundation to develop a policy framework for expanding freeway capacity in the context of a congestion pricing environment. Similarly, expanding transit capacity has been urged through public comment and could be folded into a capacity policy framework.

4 CONCLUSIONS

Policy and strategy mitigations may be helpful to resolving issues of public acceptance and specific impacts upon Title IV and environmental justice communities. As the Feasibility Analysis is only the beginning of the process, additional opportunities are forthcoming for further refining, prioritizing, and determining a preferred package of mitigations. These processes will establish performance measures, monitor, and



evaluate system performance; plan, design, and implement facilities for use by the broadest definition of system users; apply mitigations fairly across populations; gather more information on diversion effects and potential mitigations; demonstrate the value of implementing congestion pricing in the Portland metro area; and provide greater understanding of the interaction between mitigations and system effectiveness.



APPENDIX A



Portland Metro Area Value Pricing Feasibility Analysis

MEETING SUMMARY

Appendix: PAC Work Session Output

WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
<p>Pricing will have disproportionate impacts on people with low incomes or otherwise disadvantaged groups:</p> <ul style="list-style-type: none"> ➤ <i>Toll discounts, subsidize rates and programming</i> ➤ <i>Helping unbanked populations</i> ➤ <i>Bi-state low income strategy</i> ➤ <i>Affordable housing</i> ➤ <i>Transit and transit incentives</i> ➤ <i>Dynamic variable pricing</i> ➤ <i>System technology</i> 	<p>Toll discounts, subsidize rates and programming:</p> <ul style="list-style-type: none"> • For low income groups • For Environmental Justice groups • Carpool and a greater discount for more people in cars • Disabled and seniors should have access to free credit van programs • Enhanced ridesharing and vanpool programs especially in areas without good transit • Discount rates for carpools, and perhaps greater discount for more people in car • Improve arterials so people have a non-tolled option • Employer incentives for carpools and tolls • Credits for transit use 	<p>Toll discounts, subsidize rates and programming:</p> <ul style="list-style-type: none"> • Use existing programs to identify low income qualification • Low income to pay less if already in a qualifying program for low income people eg: snap program (food stamp program) • Environmental Justice communities are located along corridors • Unfair policing of transit fares • Connect decisions with demographic and job data • Some van programs for disabled and seniors should be free or have credits 	<p>Toll discounts, subsidize rates and programming:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Supporting unbanked populations:</p> <ul style="list-style-type: none"> • Cash discounts • Cash-based system such as what is used in the L.A. system • Pass system for transit 	<p>Supporting unbanked populations</p> <ul style="list-style-type: none"> • 16% of nonwhite don't have access to banks • 5% white people don't access bank • Bills and payment by mail may not work because unbanked 	<p>Supporting unbanked populations:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes




WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
		<p>populations may move more often</p> <ul style="list-style-type: none"> • Trouble accessing the systems • Need cash accessible options 	<ul style="list-style-type: none"> <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Bi-state low income strategy:</p> <ul style="list-style-type: none"> • Must apply to both sides of the river. • Consider a Federal Program • Revenue sharing between states for low income strategies • Need reasonable choices as low income is a geographic issue too 	<p>Bi-state low income strategy:</p> <ul style="list-style-type: none"> • Will also have disproportionate impact on specific geographies, and this is linked to the concern that some communities and locations don't have another option to driving on the freeway • Revenue generated in Oregon also be used in Washington to support low-income drivers • These strategies need to be applicable to residents of Washington not just Oregon • HB 2017, 217/Rose Quarter/funded. 	<p>Bi-state low income strategy:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Affordable housing:</p> <ul style="list-style-type: none"> • Housing near transit and near jobs • Priority for low income • Develop jobs in areas where people already live • Priority job access program for lower income 	<p>Affordable housing:</p> <ul style="list-style-type: none"> • Key groups, including low-income groups, may be pushed farther out of the metro area, which compounds low income effect. • Example of urban renewal impact tradeoff 	<p>Affordable housing:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> • Make reasonable choices for pricing, knowing what we are buying. 		<ul style="list-style-type: none"> <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Transit and transit incentives:</p> <ul style="list-style-type: none"> • Shoulder conversion for transit • C-Tran services exempt from tolls • Tri-Met services exempt from tolls • Credits for transit use • Transit credits • Grow and expand transit options • Employer strategies • Mechanisms and models to make alternatives, such as the Hop Pass, transit, bike, C-Tran, seamless. • Low-income fares for transit affordability • Better transit options, more transit and more transit infrastructure 	<p>Transit and transit incentives:</p> <ul style="list-style-type: none"> • Constitution: funds must be used back on the corridor itself for infrastructure improvements on the roadway • Is there eligibility for funds to be spent on transit on parallel facilities? • Can transit funding go to C-Tran and consider incentives for C-Tran use? • Creates unfair stress on low income 	<p>Transit and transit incentives:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>Dynamic variable pricing:</p> <ul style="list-style-type: none"> • Only apply tolls when congested • A new priced lane and a new general-purpose lane 	<p>Dynamic variable pricing:</p> <ul style="list-style-type: none"> • Difficult to budget with variable public toll rate 	<p>Dynamic variable pricing:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> No tolls at certain times, and only apply toll when congested Variable price when roads are congested (<u>dynamic</u>) 		<ul style="list-style-type: none"> <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>System technology:</p> <ul style="list-style-type: none"> Cash-based payment system for unbanked populations to access Mechanisms to make alternatives seamless such as the Hop Pass (transit, bike, C-Tran) Universal card 	<p>System technology:</p> <ul style="list-style-type: none"> Refunds and discounts Mechanisms for delivery such as the Tri-Met Hop fast pass Need data on the timing and use by Environmental Justice communities What are existing programs to identify low income qualification Data-based decision-making using demographic and job data 	<p>System technology:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>How do we know pricing will be effective?</p> <ul style="list-style-type: none"> ➤ <i>Behavior change</i> ➤ <i>Information and long term planning</i> 	<p>Behavior change:</p> <ul style="list-style-type: none"> Pricing a free resource may assist in changing behavior Changing behavior might not work if there are no other options eg. transit, bike, walk Many trips are discretionary 	<p>Behavior change:</p> <ul style="list-style-type: none"> Need better data to know if discretionary trips are reduced. This drives the capacity question Need to measure freeway impacts and drivers on routes parallel to the system Adjust based on performance measures and metrics 	<p>Behavior change:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
		Need to balance between revenue raising and pricing congestion, as what is the goal, to reduce congestion or to raise revenue	<input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	Information and long-term planning: <ul style="list-style-type: none"> • Need comprehensive long-term transportation plan that defines short and long-term tools • Congestion pricing to optimize existing resource. • Goal is to reduce congestion 	Information and planning: <ul style="list-style-type: none"> • Long-term planning and what is the next tool • What are the short-term plan/goals? • Monitoring and measuring plan • Data is old, and this drives the capacity question; more information is needed • Freight movement monitoring plan • Consider how effectiveness is defined • How will this system respond to growth? 	Information and planning: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	Impact on freight: <ul style="list-style-type: none"> • Freight movement monitoring plan • Need to account for system-wide impact analysis 	Impact on freight: <ul style="list-style-type: none"> • Performance measures and metrics are required to understand how to improve throughput of freight • Understand system response to growth • Metrics and monitoring needed 	Impact on freight: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
			<input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>Traffic will divert onto local streets and into neighborhoods</p> <ul style="list-style-type: none"> ➤ <i>Neighborhood strategies</i> ➤ <i>System capacity and quality</i> 	<p>Neighborhood strategies:</p> <ul style="list-style-type: none"> • Traffic calming to discourage diversion • Maintain neighborhood streets • Advanced traffic management on local streets • Dynamic pricing • Limitations on Google maps alternative routes and Waze for where people are diverted • No heavy vehicles on some streets, specifically local streets • Education needed about diversion problems and impact • Leaving some lanes unpriced to give people choice 	<p>Neighborhood strategies:</p> <ul style="list-style-type: none"> • People are already diverting • Lots of success elsewhere to learn from • Safety and air quality issues in neighborhoods where diversion may occur • Air quality around I-5 • Diversion issues where pronounced in Portland on connected streets • Understand what would price sensitivity be to diversion more study • Traffic calming could strain Portland's existing under-capacity transportation infrastructure 	<p>Neighborhood strategies:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
	<p>System capacity and quality:</p> <ul style="list-style-type: none"> • Diversion onto other state routes including SR-14 and 217, not just local streets • Supply strategy to address road and transit capacity to minimize diversion • Improve arterials specifically where people want to be • Improve arterials so people have a non-tolled option • Address road and transit capacity to minimize diversion 	<p>System capacity and quality:</p> <ul style="list-style-type: none"> • Maintaining unpriced lanes • Impact depends on which RTP projects are finished and when • Address road and transit capacity to minimize diversion • Diversion impacts need to be looked at as part of the tolling process, an integrated study 	<p>System capacity and quality:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input checked="" type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input checked="" type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input checked="" type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> • Faster transit service • Swifter transit and increased speed of transit 		<input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>Some communities and locations don't have another option to driving on the freeway</p> <ul style="list-style-type: none"> ➤ Geographic constraints 	<p>Geographic constraints:</p> <ul style="list-style-type: none"> • Reducing income tax to compensate for cost of tolls for low income or for all (differing preferences) • Provide geographic incentives for people who are more limited non-freeway options • Enhance transit capacity • Transit where limited options • Transit potentiality, even on freeway • If there is an isolated community, lessen the impact • Improve non-tolled arterial options • Use revenue from tolling to pay for new lanes, capacity and transit supply 	<p>Geographic constraints:</p> <ul style="list-style-type: none"> • Not sure this is a problem in Portland Metro Area • Clark County doesn't have other options to cross the river • Legislative changes • Disproportionate impact on no transit areas – need own solution • Don't want to undermine the effectiveness of congestion pricing • Deal with the disproportionate impact in other ways, especially for isolated communities 	<p>Geographic constraints:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All concepts <input checked="" type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input checked="" type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input checked="" type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input checked="" type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>No alternative transit, bike or walking options exist</p> <ul style="list-style-type: none"> ➤ <i>Capacity of alternatives modes</i> 	<p>Capacity of alternatives modes:</p> <ul style="list-style-type: none"> • Improved transit access due to lack of transit alternatives • Increase availability and frequency of transit services, carpool and vanpool including BRT, LRT and Express busses • Add transit where no options 	<p>Capacity of alternatives modes:</p> <ul style="list-style-type: none"> • Other examples in other states • What most effective alternatives will be • On I-205 there are a lot of miles with no other options (12, 13 miles) and need to expand options • Consider Clark County 	<p>Capacity of alternatives modes:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd.



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
	<ul style="list-style-type: none"> • Create partnerships between ODOT, TriMet, BARD (or another source) to pair these methods CTRAN on shoulders for reliability benefit • More options for I-205 • Build capacity • Linked to how toll revenue will be used. 	<ul style="list-style-type: none"> • All transit options should be considered including bus, light rail, walking, bike, ferry • This should be a decision-making criterion -- current transit access. 	<ul style="list-style-type: none"> <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway
<p>How will the revenue be used?</p> <p>➤ <i>Revenue proposals</i></p>	<p>Revenue proposals:</p> <ul style="list-style-type: none"> • Capacity • Columbia River Crossing I-5 bridge replacement • Expanding BRT, LRT, Express buses • Clarify projects listed, can't be hidden, remove disconnect in understanding • Improve safety and fix infrastructure • I-5 bridge operation • Need clarity • Use the income where collected • User-fee based model • Congestion mitigation • Low-income mitigation strategies such as cash discounts and free passes 	<p>Revenue proposals:</p> <ul style="list-style-type: none"> • There is a current disconnect in understanding • Need projects listed – can't be hidden, needs to be clarified. • Need clarity on how to interpret the statue consistent with HB2017 and the "State Line" • Look bigger picture and look at L.A. for examples • Round One Concept 4 previously not being considered due to cost; but why when we are still deciding where to spend the revenue. • OTC decides where revenue will be spent • Revenue should be used for roadway infrastructure Improvements and back into the corridor itself • Is there eligibility for funds to be spent on transit on parallel facilities 	<p>Revenue proposals:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All concepts <input type="checkbox"/> Concept A: Northern I-5 Priced Lanes <input type="checkbox"/> Concept B: Priced Roadway between Going St./Alberta St. and Multnomah Blvd. <input type="checkbox"/> Concept C: Priced Roadway – Toll All Lanes <input type="checkbox"/> Concept D: I-205 Priced Lane – OR99E to Stafford Rd. <input type="checkbox"/> Concept E: Abernethy Bridge Priced Roadway



WHAT WE'VE HEARD	STRATEGIES	CONSIDERATIONS	CONCEPTS
		<ul style="list-style-type: none"> • I-5 and 217 are earmarked • Linked to no alternative transit, bike or walking options exist 	
<p>A priced lane may be confusing and hard to understand for some drivers</p>	<p>No strategies listed.</p>	<p>No strategies listed.</p>	<p>No strategies listed.</p>

DRAFT

April 9, 2018

Dear fellow ODOT Value Pricing Policy Advisory Committee (PAC) members,

I regret that pre-arranged travel on behalf of OPAL Environmental Justice Oregon means that I will be unable to be in attendance at the PAC meeting this week. The agenda and topics of discussion are of great interest to OPAL and our constituents and I appreciate the opportunity to share some of our thoughts and goals for building a successful program.

Value pricing can provide a progressive funding source for aging transportation infrastructure and public transit alternatives and reduce congestion. The question about who benefits the most and to whom and where the burdens are placed needs robust equity analysis during planning, design, implementation and review to address any potential unintended consequences and impacts to Environmental Justice communities. I am concerned that the impacts of a program will be studied *after* a recommendation has been put forward; while I trust that a robust NEPA and Title VI analysis will be undertaken, the impact that any value pricing program will have on EJ communities is concerning enough that I urge the analysis to be done early, often and in shaping any and all potential mitigation strategies.

In the group discussions at the PAC meeting #4, please consider the following:

Affordability

The *Income-Based Equity Impacts of Congestion Pricing* primer from the FHWA which was distributed via e-mail by our facilitator addresses income equity by asking, are low-income groups negatively affected? Is a system that places the burden of travel-behavior change disproportionately on low income individuals fair?

Low income individuals may not be able to afford tolling and higher income users are more likely to remain on the highway, pay the congestion fee, and benefit from a faster trip. Low-income users may be worse off if they must choose other less-expensive times, routes, or modes (for example, if their employment schedules cannot accommodate a shift in travel times). As found in ODOT's own engagement and outreach, rising housing prices and gentrification are pushing low income people further away from the city center, greatly increasing travel times to work, school and other vital destinations. A value pricing program must not be an additional cost burden to households that are *already* cost-burdened in our region.

Design and the Underbanked

When congestion pricing relies on an electronic cashless technology, households that do not have credit cards, bank accounts, or cannot afford the upfront cost of deposits may be unable to set up toll accounts, which may limit their use of these facilities. In a 2017 mobility needs assessment¹ that OPAL conducted in EJ communities in partnership with Portland State University utilizing focus groups and quantitative surveys, we found that respondents that identified as a person of color are less likely to have access to a checking account - 16.3% without, compared to 5.1% for respondents that identified as non-Hispanic White.

Low-income people without a debit or credit card may not be able to open an account for an electronic transponder, or they may not have enough cash to establish an account. Privacy concerns of the public should also be taken into consideration when designing a program to ensure that individuals can trust that their data (travel patterns, personal information, etc.) is not vulnerable and is not used for purposes outside of collecting toll payments.

¹ "Community-based Assessment of Transportation Needs" authored by Golub, Serritella (Portland State University) and Satterfield (OPAL Environmental Justice Oregon) to be published Spring 2018

Availability and Accessibility

For limited-English proficient (LEP) individuals, it may be very difficult to understand how to obtain a transponder or use the system. We hope that the initial engagement in language-specific focus groups will continue through the planning, design, implementation and review of any congestion pricing program to ensure that LEP populations will continue to receive education and meaningful engagement.

The Need for Increased Transit

In many communities, un-tolled options, such as riding transit or taking an alternate route may add too much travel time and distance to be a viable alternative. Currently, there aren't enough alternative and accessible forms of transportation and a lack of north-south service provided by transit in the corridor. Increased transit service, and its impact on communities living alongside and travelling along the potentially priced corridor, is critical to the success of any potential pricing operation. We cannot understand the viability of potential programs or corridors without factoring in the way that increased transit can mitigate inequitable impacts and potential congestion issues. In order to experience the environmental and equity benefits of pricing a corridor, transit must be a reliable, affordable, and efficient alternative to a priced roadway, which means it must be incorporated into the project scope from the beginning.

We are concerned that, to this point, the process has treated increased transit service and access as something that is separate from the pricing operation and study. We cannot support an outcome where transit service is treated as something that will be figured out during implementation, or that is outside the scope of any pricing study.

We must also address and fund mitigation to address cut-through traffic; we are especially concerned in areas with documented high crash corridors in East Portland which result in serious injuries and even loss of life of our community members. How will any value pricing program complement the stated goals of Vision Zero (adopted by City of Portland) that one death on our streets is too many and that everyone deserves safe streets to walk, bike, operate mobility devices, access transit, and drive?

Thank you for your leadership throughout this process. With a more complete understanding of the impacts of pricing and the importance of engaging a holistic view of potential solutions, including integration of transit, our region will be in a much stronger position to design a successful approach to reducing congestion.

Sincerely,



Vivian Satterfield
Deputy Director
OPAL Environmental Justice Oregon



WASHINGTON COUNTY

OREGON

April 24, 2018

Commissioner Sean O'Hollaren
Commissioner Alando Simpson
Oregon Transportation Commission
355 Capitol Street NW, MS #11
Salem, OR 97301-3871

Re: Value Pricing Mitigation Measures

Dear Commissioners:

I want to thank you both for your time and commitment to the Value Pricing Policy Advisory Committee. I am sorry I was unable to join you in your discussion of mitigation measures at our last meeting due to other commitments. Policies that mitigate the adverse impacts of value pricing are a key factor in the acceptance of a tolling approach and I would like to take this opportunity to share my comments. Please consider these comments along with the other mitigation ideas that were raised at the meeting.

The data we have seen at the PAC coupled with everyday experience demonstrates both I-5 and I-205 do not have enough capacity to meet travel demand. Traffic diverts onto other arterials where it contributes to additional congestion and safety problems. The impact this has on travel region-wide and state-wide is clear.

Value pricing has the potential to shift trips to transit or to other times of day. Without additional transit or road capacity added to the system however, value pricing has the potential to greatly impact adjacent facilities and not provide additional capacity for those who pay the tolls.

To mitigate this, I would like to see the evaluation consider mitigation measures that focus the tolling revenue on adding capacity to the system.

I look forward to learning more from the study about the potential for pricing to improve traffic flow on I-5 and I-205 and shift traffic to other times of day, modes or facilities. When our adjacent facilities are already congested, safety is a key concern and transit options are limited, tolling could have adverse impacts and needs to be carefully understood and mitigated.

Please share my comments with fellow members of the ODOT Value Pricing Policy Advisory Committee

Sincerely,

Roy Rogers, Commissioner
Washington County Board

RR/cd/cj

cc: Matt Garrett, Director, Oregon Department of Transportation

Board of County Commissioners
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Portland Metro Area Value Pricing Feasibility Analysis

Final

Round 2 Concept Evaluation

Executive Summary



May 7, 2018



EXECUTIVE SUMMARY

Project summary

Technical Memorandum 4 presents findings from the round 2 evaluation of five pricing concepts for I-5 and I-205 from the Oregon/ Washington state line south to the I-5/I-205 interchange near Tualatin, Oregon. The purpose of this evaluation is to examine the benefits and impacts of different pricing concepts to inform a recommendation by the study's Policy Advisory Committee (PAC) to the Oregon Transportation Commission (OTC), based on application of a series of performance measures to the five concepts.

Background

In 2017, the Oregon Legislature authorized substantial funding to improve highways, transit, biking and walking facilities, and use technology to make the state's transportation system work better. The Legislature also directed the OTC to seek federal approval to implement value pricing on I-5 and I-205 in the Portland metro area to address congestion.

The Oregon Department of Transportation (ODOT) initiated the Portland Metro Area Value Pricing Feasibility Analysis to explore the options available and determine how and where congestion pricing could help improve congestion on I-5 or I-205 during peak travel times.

The feasibility analysis included two rounds of evaluation. The first round of evaluation assessed the opportunities and issues associated with the primary types of highway congestion pricing applications. Following the round 1 evaluation, a total of five round 2 concepts, referred to as Concepts A through E, were developed based on technical evaluation results, input from the PAC and the public on the initial concepts, and project team experience with congestion pricing systems throughout the U.S. These refined concepts allowed for a more detailed assessment of potential impacts and benefits for defined pricing strategies and locations.

- Concept A – Northern I-5 Priced Lanes
- Concept B – I-5 Priced Lanes: Toll all lanes between Going Street/Alberta Street and Multnomah Boulevard
- Concept C – I-5 and I-205 Priced Roadway: Toll all lanes
- Concept D – I-205 Priced Lane – OR99E to Stafford Road
- Concept E – Abernethy Bridge Priced Roadway

Equity and diversion mitigation strategies

The Oregon Transportation Commission has established that considerations of equity and diversion to surrounding communities are priorities in evaluating potential congestion pricing concepts. The PAC Charter includes both equity impacts and diversion of traffic as factors to be considered in the evaluation of congestion pricing options. The Charter also requests that the PAC identify potential mitigation strategies with a potential to reduce the impact on Title VI and/or Environmental Justice communities and adjacent communities.

Some mitigation strategies that were identified by the project team, the PAC and solicited from the public during outreach events include the following:



- Many diversion impacts can be addressed through design of the system and rate structure. Appropriate rate setting through dynamic pricing could maximize flow on the priced portion of the facility and reduce the incidence of diversion; it should be noted that for Concept E, this could reduce revenue substantially.
- A strategy that combines pricing concepts on I-5 and I-205 could improve overall flow and help to manage diversion between the two freeways.
- Transit, bicycle, and pedestrian improvements or introduction of transit service as well as traffic calming strategies could address local diversion concerns.
- Where diversion increases traffic on surface streets, improvements to walking and bicycling facilities may be needed to mitigate potential safety impacts.
- Discounting programs, such as free, reduced or pre-paid toll tags for Title VI and Environmental Justice communities may be considered. Such programs may also be considered for area residents who do not have viable, toll free alternatives. For example, the residents of Hayden Island must use I-5 to get off the island and may therefore require such mitigation programs if I-5 is to be tolled in the future.
- Lane pricing, as opposed to roadway pricing may result in relatively higher tolls for use of the priced lanes. As such, additional consideration of toll discounting policies for low income users may be needed for approaches where only certain lanes are to be priced.
- Freight vehicles are restricted by Oregon statute from using the left inside lane of highways. In general, when a lane pricing (as opposed to roadway pricing) approach is adopted, it is the inside left lane(s) that is priced. If such an approach were used in Portland, freight vehicles would therefore be restricted from using the facility and thus would not benefit from pricing. As such, revisiting and refining Oregon statutes in relation to tolling on the use of the inside left lane by freight vehicles might be considered as a freight-oriented mitigation measure if lane pricing is implemented.
- A monitoring program with key performance measures could be established to evaluate effectiveness at addressing regional goals.

Round 2 evaluation measures

The round 2 pricing concepts were evaluated using performance measures to demonstrate the range of positive and negative impacts of pricing. This evaluation will inform a project team recommendation for the PAC so it can in turn develop a recommendation for the OTC. Performance metrics were organized based on the following policy considerations, which are identified in the PAC Charter:

- Traffic operations improvement on I-5 and I-205
- Diversion of traffic
- Transit service and active transportation
- Equity benefits and impacts
- Benefits and impacts for the community, economy and environment
- Revenue and costs
- Implementation
 - Consistency with state and regional law and policy
 - Federal feasibility
 - Project delivery schedule



Concepts were assessed as to how they generally performed against each performance metric, with concepts that provide positive impacts or reduce negative impacts performing “well” and concepts that reduce positive benefits or increase negative impacts performing “poorly.”

Round 2 evaluation results

Table 1.1-1 is the performance evaluation summary of Concepts A through D, which were developed with the primary intent to minimize congestion. Results are explained in greater detail in the next section. Concept E results are included separately in the next section because the intent of the Concept E analysis was to evaluate its revenue generation potential as opposed to minimizing congestion.

Table 1.1-1. Concepts A through D: performance evaluation summary

Policy consideration	Metric	Concept			
		A	B	C	D
Traffic operations improvement	Vehicle and person throughput on I-5 and I-205				
	Freight truck throughput on I-5 and I-205				
	Passenger vehicle travel time on I-5 and I-205				
	Passenger vehicle travel time on managed lanes		N/A	N/A	
	Freight truck travel time on I-5 and I-205				
	Assessment of change in duration of peak vehicle traffic conditions				
	Delay on priced facility				
	Safety impacts				
	Trip length distribution				
Diversion of traffic	Diversion impacts on non-tolled facilities				
	Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion				



Policy consideration	Metric	Concept			
		A	B	C	D
Transit service and active transportation	Adequacy of transit service				
	Bus transit travel time				
	Mode share shift (high-occupancy vehicle [HOV], single occupancy vehicle [SOV], transit, walk, bike)				
	Availability of bicycle travel on alternative routes				
	Completeness of pedestrian network				
Equity	Value or travel time savings for Title VI and/or Environmental Justice communities (regional)				
	Changes in travel time based on geographic zones				
	Access to jobs				
Community, economy and the environment	Physical impacts to existing residences and businesses				
	Regional travel time savings				
	Regional vehicle miles traveled (VMT) (including non-freeway)				
	Change in air pollution				
	Value of travel time savings				
Cost and revenue	Capital expenditure on facility				
	Estimated gross toll revenue potential from tolled facility				
Implementation	State law & policy				
	Regional law & policy				
	Federal feasibility				
	Project delivery schedule				
Legend:	Performs well 	Performs moderately 	Performs poorly 		



Concept A: Northern I-5 Priced Lanes

In Concept A, a single lane in each direction would be converted to a tolled managed lane. The concept would convert an existing general purpose lane in the southbound direction, and the existing HOV lane in the northbound direction.

Concept A has limited congestion relief benefits, which are generally restricted to the tolled lanes during peak hour. Conditions on the unpriced lanes are mostly unchanged, and diversion would be limited. Both revenue and capital costs would be relatively low. This concept would likely cover its own tolling infrastructure operating costs but would not offset all roadway rehabilitation and reconstruction costs. Tolling authority for the southbound segment could come under FHWA's Value Pricing Pilot Program and the northbound segment would qualify under FHWA's HOV/High-Occupancy Toll (HOT) Lane Program.





Concept B: I-5 Toll All Lanes between Going St./Alberta St. and Multnomah Blvd.

Concept B converts all lanes between NE Going Street/Alberta Street and SW Multnomah Boulevard to a priced roadway. Concept B has strong potential to reduce congestion along I-5 with modest diversion to I-205 and adjacent facilities. This concept also has a much denser network of transit and multi-modal facilities that can serve as a toll-free travel alternative to minimize impacts. This concept generates more revenue than single-lane concepts and would cover all toll collection and operating costs, as well as routine and periodic roadway operations and maintenance. The beginning and end points of the corridor segments where this concept would be implemented would need to be examined as part of the future environmental analysis process. Tolling authority for this concept could come under FHWA's Value Pricing Pilot Program.





Concept C: Priced Roadway – Toll All Lanes

Concept C would implement pricing on all lanes of I-5 and I-205 from the Washington/Oregon state line to the I-5/I205 interchange near Tualatin. Concept C has the greatest potential for reducing congestion and generating travel time savings for the widest possible range of users. Because of the scale of this concept, it could be considered as part of a broader regional pricing application in the future, pending success of a pilot pricing program. While diversion can be expected, it could be minimized through dynamic tolling. This concept would by far generate the largest amount of revenue compared to the other concepts. Tolling authority for this concept could come under FHWA's Value Pricing Pilot Program.

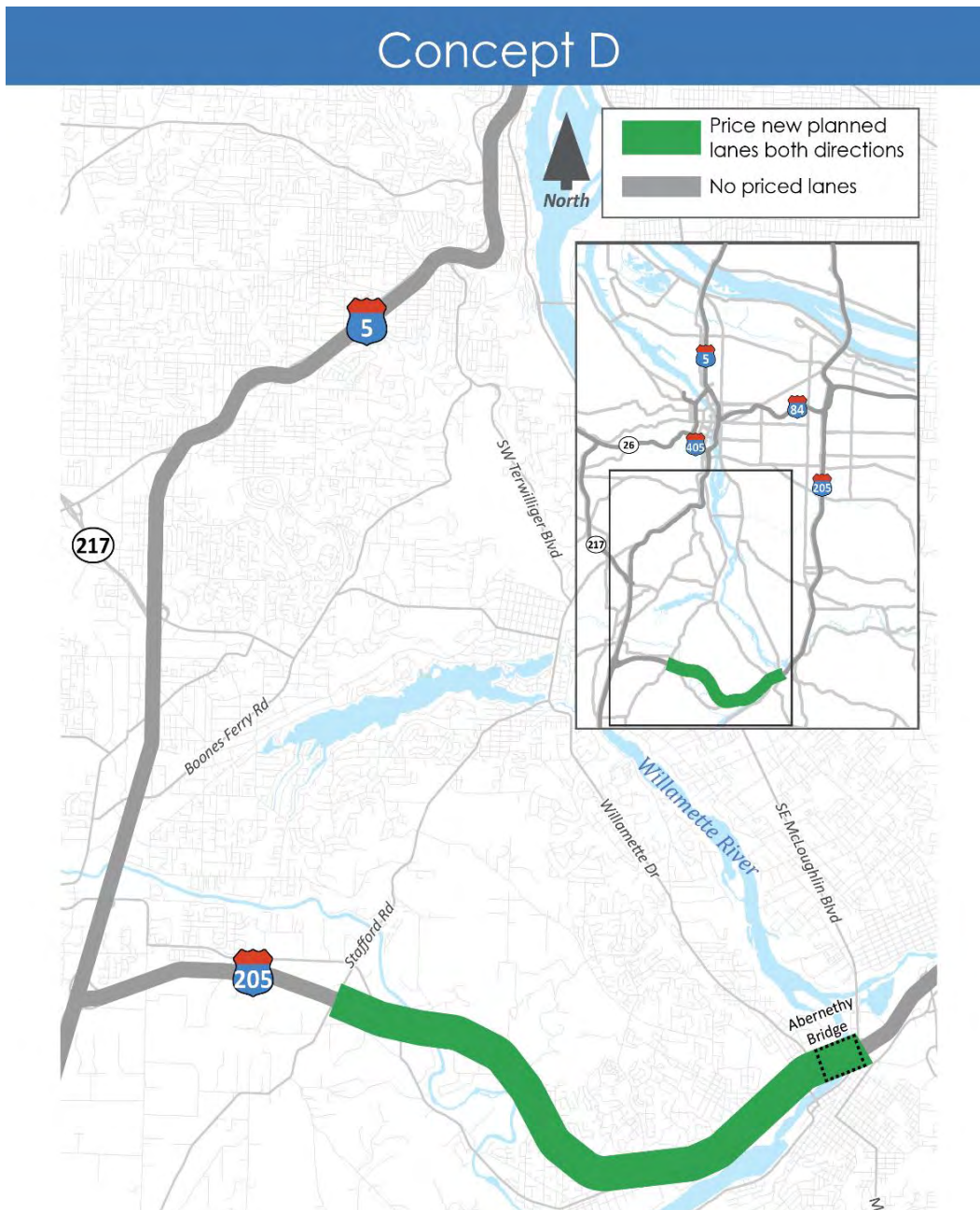




Concept D: I-205 Priced Lane – OR99E to Stafford Rd.

Concept D would price the third lane in each direction, currently planned on I-205 from OR99E to Stafford Road, including widening of the Abernethy Bridge. Existing general purpose lanes in each direction would remain unpriced. The future planned project was considered part of the 2027 baseline for all concepts in the evaluation.

Concept D shows some congestion relief benefit with minimal traffic diversion and provides some benefit to I-205. The pricing concept is not expected to generate significant revenue to contribute toward the construction of the planned lanes and bridge widening project. Concept D would qualify for implementation under Section 129 of U.S. Title 23 if the planned additional lanes were constructed as priced lanes.

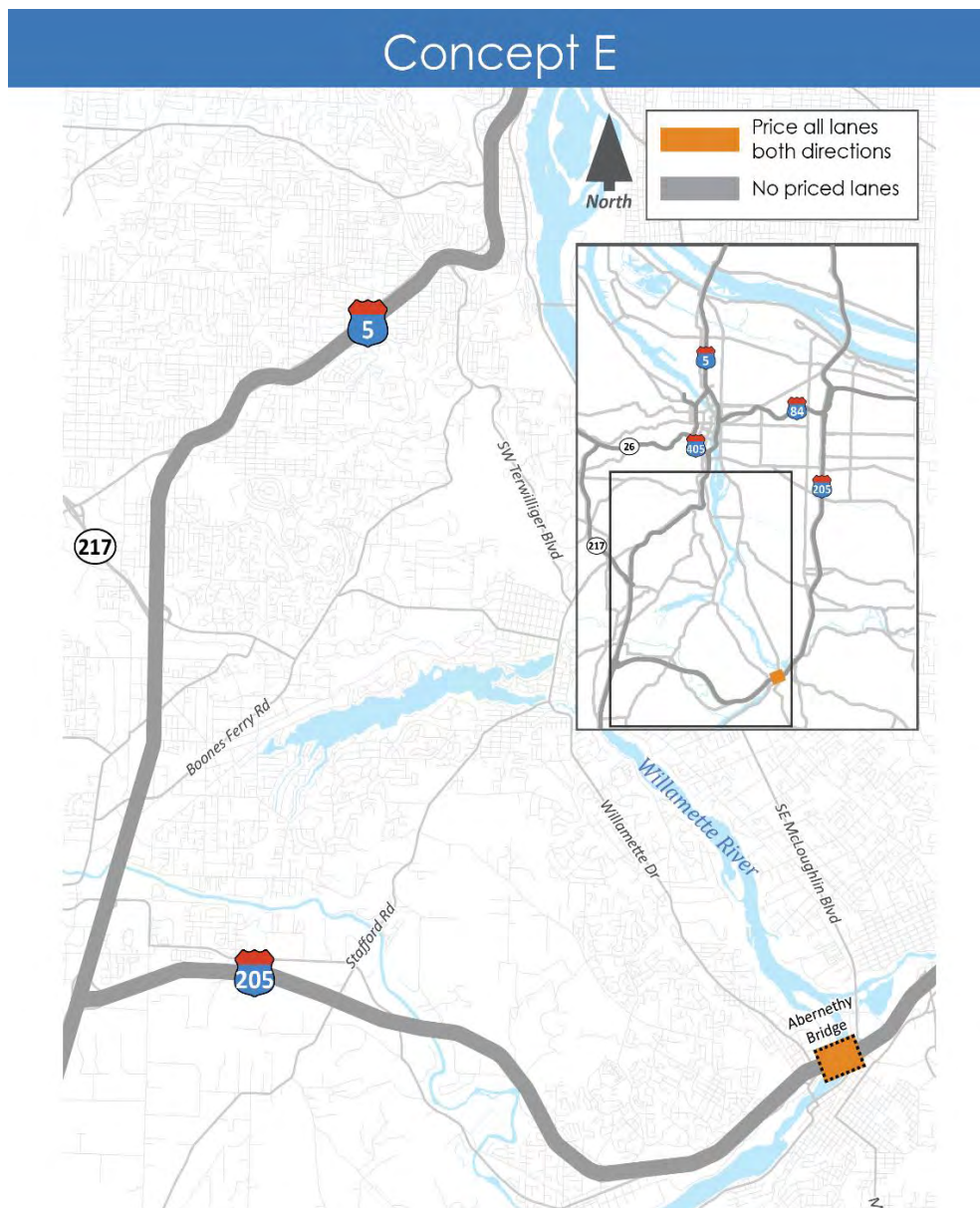




Concept E: Abernethy Bridge Priced Roadway

Concept E applies pricing on all existing lanes of the Abernethy Bridge as well as additional lanes to be constructed as part of the planned bridge widening. While this Concept assumes a variable rate structure, with highest rates during peak hours, it was evaluated to determine its potential to help fund the planned addition of a lane on I-205 from OR99E to Stafford Road and reconstruction of the Abernethy Bridge.

Concept E shows promise to raise revenue and reduce congestion on I-205. This concept, or a variant, could pair with a pilot program to balance the travel choice between the I-5 and I-205 corridors. Mitigation strategies would likely be needed to address potential diversion to OR99E and the Arch Bridge. The beginning and end points of the corridor segments where this concept would be implemented would need to be examined as part of the future environmental analysis process.





Key findings

The evaluation of the five round 2 concepts has shown that congestion pricing on I-5 and I-205 has potential benefits to people living and traveling through the Portland metro area and would be effective in addressing traffic congestion on these facilities. Key findings to help support the recommendation are provided on the following pages. Additionally, general findings and considerations include:

- Any concepts considered further should be paired with policies or programs that address potential impact on lower-income and adjacent communities.
- The analysis indicates that all five concepts would likely generate sufficient revenue to pay for tolling operations. However, there is less certainty regarding whether revenue from Concepts A and D (both single-lane concepts) would also cover capital costs of tolling implementation.
- Concepts B, C and E all indicate they would provide revenue to support mitigation and/or planned transportation projects in the Portland metro area.
- A phased approach—implementing a smaller-scale application as a pilot program and following up with monitoring and scheduled reporting—may ensure that the pricing application meets state and regional goals, and may also lay the foundation for a more comprehensive pricing approach for the Portland metro area.
- Key performance measures could be established to gauge success during future monitoring.

Consultant team recommendation

Based on the key findings from the evaluation, the consultant team recommends a phased approach to implementation of congestion pricing on I-5 and I-205:

- Initial implementation of Concept B as a pilot pricing program, coupled with a sunset or trigger to evaluate success.
 - *Rationale:* Strong potential at congestion reduction along I-5 with minimal diversion to I-205 and adjacent facilities; has a much denser network of transit and multi-modal facilities that can serve as a toll free alternative; significant improvements in facility efficiency and vehicular throughput, meaning that more vehicles can be moved and diversion to free facilities can be managed.
- Consider implementation of Concept E concurrent with implementation of Concept B.
 - *Rationale:* Provides the benefits of Concept B while generating funding to advance the addition of new lanes on I-205 where only two lanes in each direction currently exist as well as retrofitting and adding a lane in each direction to the Abernethy Bridge.
- After assessment of the performance of the initial pricing project, and assuming successful evaluation, implementation of Concept C in phases with more comprehensive system analysis.
 - *Rationale:* Greatest potential for reducing congestion and generating travel time savings for the widest possible range of users; significant improvements in

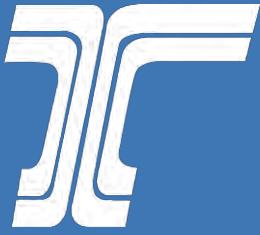


facility efficiency and vehicular throughput, meaning that more vehicles can be moved and diversion to free facilities can be managed.

- Do not implement Concept A or D.
 - *Rationale:* Little congestion relief benefit; would not provide a reasonable test for the potential for pricing to provide congestion relief.

Next steps

At the fifth PAC meeting on May 14, 2018, the PAC will review and consider the evaluation presented in this technical memorandum as well as the public comment received over the past six months. In May and June 2018, the PAC will develop a recommendation(s) to advise the OTC. The OTC will submit a report to FHWA by December 2018. After coordination with FHWA, the OTC will provide direction about next steps such as an environmental analysis, which would include additional public involvement, Title VI and Environmental Justice analysis, traffic analysis, and other analysis of potential benefits and impacts.



Portland Metro Area Value Pricing Feasibility Analysis

Final

Round 2 Concept Evaluation

Technical Memorandum 4





Portland Metro Area Value Pricing Feasibility Analysis

Final
Final
Technical Memorandum 4

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May 7, 2018



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EXECUTIVE SUMMARY

Project summary

Technical Memorandum 4 presents findings from the round 2 evaluation of five pricing concepts for I-5 and I-205 from the Oregon/ Washington state line south to the I-5/I-205 interchange near Tualatin, Oregon. The purpose of this evaluation is to examine the benefits and impacts of different pricing concepts to inform a recommendation by the study's Policy Advisory Committee (PAC) to the Oregon Transportation Commission (OTC), based on application of a series of performance measures to the five concepts.

Background

In 2017, the Oregon Legislature authorized substantial funding to improve highways, transit, biking and walking facilities, and use technology to make the state's transportation system work better. The Legislature also directed the OTC to seek federal approval to implement value pricing on I-5 and I-205 in the Portland metro area to address congestion.

The Oregon Department of Transportation (ODOT) initiated the Portland Metro Area Value Pricing Feasibility Analysis to explore the options available and determine how and where congestion pricing could help improve congestion on I-5 or I-205 during peak travel times.

The feasibility analysis included two rounds of evaluation. The first round of evaluation assessed the opportunities and issues associated with the primary types of highway congestion pricing applications. Following the round 1 evaluation, a total of five round 2 concepts, referred to as Concepts A through E, were developed based on technical evaluation results, input from the PAC and the public on the initial concepts, and project team experience with congestion pricing systems throughout the U.S. These refined concepts allowed for a more detailed assessment of potential impacts and benefits for defined pricing strategies and locations.

- Concept A – Northern I-5 Priced Lanes
- Concept B – I-5 Priced Lanes: Toll all lanes between Going Street/Alberta Street and Multnomah Boulevard
- Concept C – I-5 and I-205 Priced Roadway: Toll all lanes
- Concept D – I-205 Priced Lane – OR99E to Stafford Road
- Concept E – Abernethy Bridge Priced Roadway

Equity and diversion mitigation strategies

The Oregon Transportation Commission has established that considerations of equity and diversion to surrounding communities are priorities in evaluating potential congestion pricing concepts. The PAC Charter includes both equity impacts and diversion of traffic as factors to be considered in the evaluation of congestion pricing options. The Charter also requests that the PAC identify potential mitigation strategies with a potential to reduce the impact on Title VI and/or Environmental Justice communities and adjacent communities.

Some mitigation strategies that were identified by the project team, the PAC and solicited from the public during outreach events include the following:



- Many diversion impacts can be addressed through design of the system and rate structure. Appropriate rate setting through dynamic pricing could maximize flow on the priced portion of the facility and reduce the incidence of diversion; it should be noted that for Concept E, this could reduce revenue substantially.
- A strategy that combines pricing concepts on I-5 and I-205 could improve overall flow and help to manage diversion between the two freeways.
- Transit, bicycle, and pedestrian improvements or introduction of transit service as well as traffic calming strategies could address local diversion concerns.
- Where diversion increases traffic on surface streets, improvements to walking and bicycling facilities may be needed to mitigate potential safety impacts.
- Discounting programs, such as free, reduced or pre-paid toll tags for Title VI and Environmental Justice communities may be considered. Such programs may also be considered for area residents who do not have viable, toll free alternatives. For example, the residents of Hayden Island must use I-5 to get off the island and may therefore require such mitigation programs if I-5 is to be tolled in the future.
- Lane pricing, as opposed to roadway pricing may result in relatively higher tolls for use of the priced lanes. As such, additional consideration of toll discounting policies for low income users may be needed for approaches where only certain lanes are to be priced.
- Freight vehicles are restricted by Oregon statute from using the left inside lane of highways. In general, when a lane pricing (as opposed to roadway pricing) approach is adopted, it is the inside left lane(s) that is priced. If such an approach were used in Portland, freight vehicles would therefore be restricted from using the facility and thus would not benefit from pricing. As such, revisiting and refining Oregon statutes in relation to tolling on the use of the inside left lane by freight vehicles might be considered as a freight-oriented mitigation measure if lane pricing is implemented.
- A monitoring program with key performance measures could be established to evaluate effectiveness at addressing regional goals.

Round 2 evaluation measures

The round 2 pricing concepts were evaluated using performance measures to demonstrate the range of positive and negative impacts of pricing. This evaluation will inform a project team recommendation for the PAC so it can in turn develop a recommendation for the OTC. Performance metrics were organized based on the following policy considerations, which are identified in the PAC Charter:

- Traffic operations improvement on I-5 and I-205
- Diversion of traffic
- Transit service and active transportation
- Equity benefits and impacts
- Benefits and impacts for the community, economy and environment
- Revenue and costs
- Implementation
 - Consistency with state and regional law and policy
 - Federal feasibility
 - Project delivery schedule



Concepts were assessed as to how they generally performed against each performance metric, with concepts that provide positive impacts or reduce negative impacts performing “well” and concepts that reduce positive benefits or increase negative impacts performing “poorly.”

Round 2 evaluation results

Table 1.1-1 is the performance evaluation summary of Concepts A through D, which were developed with the primary intent to minimize congestion. Results are explained in greater detail in the next section. Concept E results are included separately in the next section because the intent of the Concept E analysis was to evaluate its revenue generation potential as opposed to minimizing congestion.

Table 1.1-1. Concepts A through D: performance evaluation summary

Policy consideration	Metric	Concept			
		A	B	C	D
Traffic operations improvement	Vehicle and person throughput on I-5 and I-205				
	Freight truck throughput on I-5 and I-205				
	Passenger vehicle travel time on I-5 and I-205				
	Passenger vehicle travel time on managed lanes		N/A	N/A	
	Freight truck travel time on I-5 and I-205				
	Assessment of change in duration of peak vehicle traffic conditions				
	Delay on priced facility				
	Safety impacts				
	Trip length distribution				
Diversion of traffic	Diversion impacts on non-tolled facilities				
	Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion				



Policy consideration	Metric	Concept			
		A	B	C	D
Transit service and active transportation	Adequacy of transit service				
	Bus transit travel time				
	Mode share shift (high-occupancy vehicle [HOV], single occupancy vehicle [SOV], transit, walk, bike)				
	Availability of bicycle travel on alternative routes				
	Completeness of pedestrian network				
Equity	Value or travel time savings for Title VI and/or Environmental Justice communities (regional)				
	Changes in travel time based on geographic zones				
	Access to jobs				
Community, economy and the environment	Physical impacts to existing residences and businesses				
	Regional travel time savings				
	Regional vehicle miles traveled (VMT) (including non-freeway)				
	Change in air pollution				
	Value of travel time savings				
Cost and revenue	Capital expenditure on facility				
	Estimated gross toll revenue potential from tolled facility				
Implementation	State law & policy				
	Regional law & policy				
	Federal feasibility				
	Project delivery schedule				
Legend:	Performs well 	Performs moderately 	Performs poorly 		



Concept A: Northern I-5 Priced Lanes

In Concept A, a single lane in each direction would be converted to a tolled managed lane. The concept would convert an existing general purpose lane in the southbound direction, and the existing HOV lane in the northbound direction.

Concept A has limited congestion relief benefits, which are generally restricted to the tolled lanes during peak hour. Conditions on the unpriced lanes are mostly unchanged, and diversion would be limited. Both revenue and capital costs would be relatively low. This concept would likely cover its own tolling infrastructure operating costs but would not offset all roadway rehabilitation and reconstruction costs. Tolling authority for the southbound segment could come under FHWA's Value Pricing Pilot Program and the northbound segment would qualify under FHWA's HOV/High-Occupancy Toll (HOT) Lane Program.





Concept B: I-5 Toll All Lanes between Going St./Alberta St. and Multnomah Blvd.

Concept B converts all lanes between NE Going Street/Alberta Street and SW Multnomah Boulevard to a priced roadway. Concept B has strong potential to reduce congestion along I-5 with modest diversion to I-205 and adjacent facilities. This concept also has a much denser network of transit and multi-modal facilities that can serve as a toll-free travel alternative to minimize impacts. This concept generates more revenue than single-lane concepts and would cover all toll collection and operating costs, as well as routine and periodic roadway operations and maintenance. The beginning and end points of the corridor segments where this concept would be implemented would need to be examined as part of the future environmental analysis process. Tolling authority for this concept could come under FHWA's Value Pricing Pilot Program.





Concept C: Priced Roadway – Toll All Lanes

Concept C would implement pricing on all lanes of I-5 and I-205 from the Washington/Oregon state line to the I-5/I205 interchange near Tualatin. Concept C has the greatest potential for reducing congestion and generating travel time savings for the widest possible range of users. Because of the scale of this concept, it could be considered as part of a broader regional pricing application in the future, pending success of a pilot pricing program. While diversion can be expected, it could be minimized through dynamic tolling. This concept would by far generate the largest amount of revenue compared to the other concepts. Tolling authority for this concept could come under FHWA's Value Pricing Pilot Program.

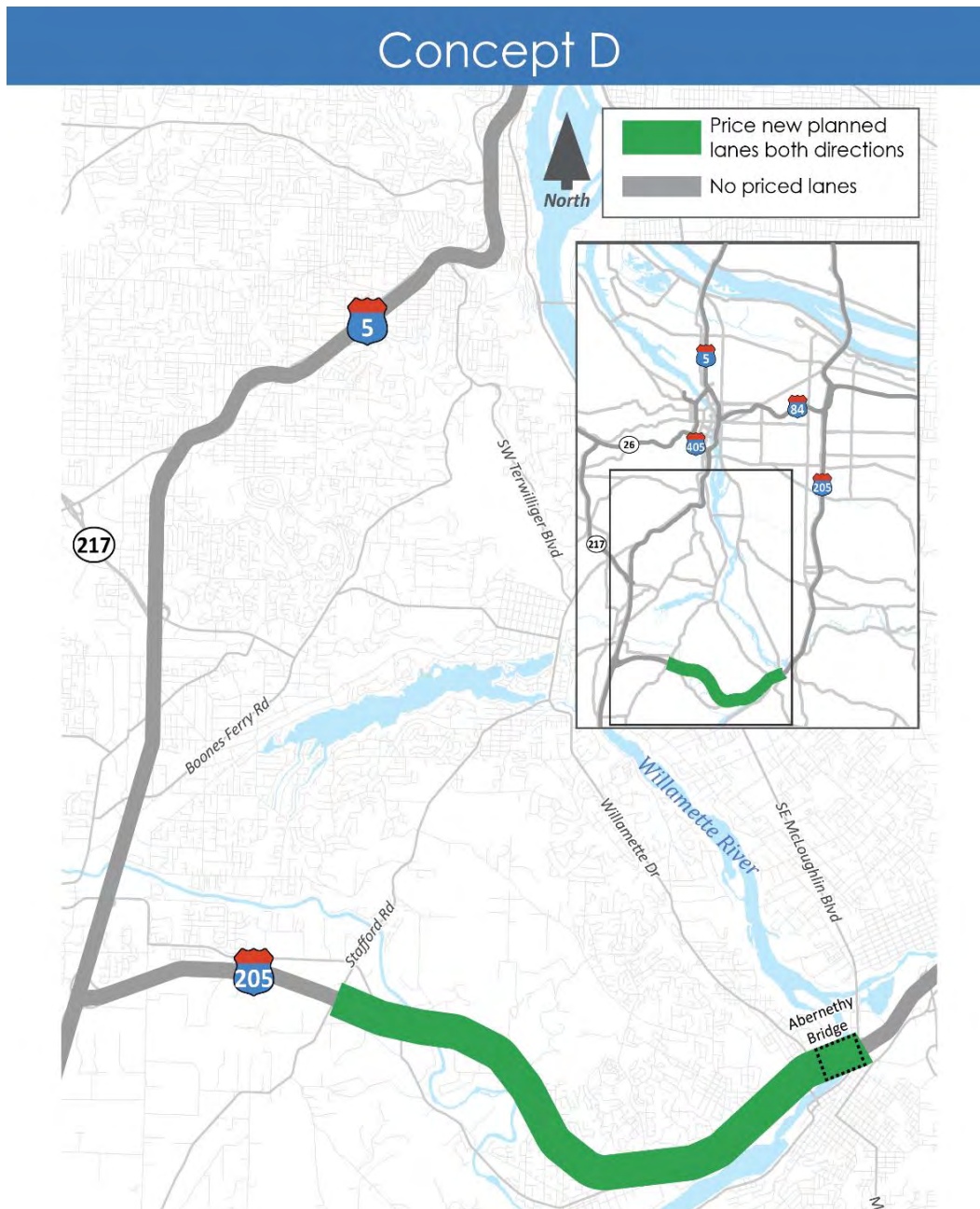




Concept D: I-205 Priced Lane – OR99E to Stafford Rd.

Concept D would price the third lane in each direction, currently planned on I-205 from OR99E to Stafford Road, including widening of the Abernethy Bridge. Existing general purpose lanes in each direction would remain unpriced. The future planned project was considered part of the 2027 baseline for all concepts in the evaluation.

Concept D shows some congestion relief benefit with minimal traffic diversion and provides some benefit to I-205. The pricing concept is not expected to generate significant revenue to contribute toward the construction of the planned lanes and bridge widening project. Concept D would qualify for implementation under Section 129 of U.S. Title 23 if the planned additional lanes were constructed as priced lanes.

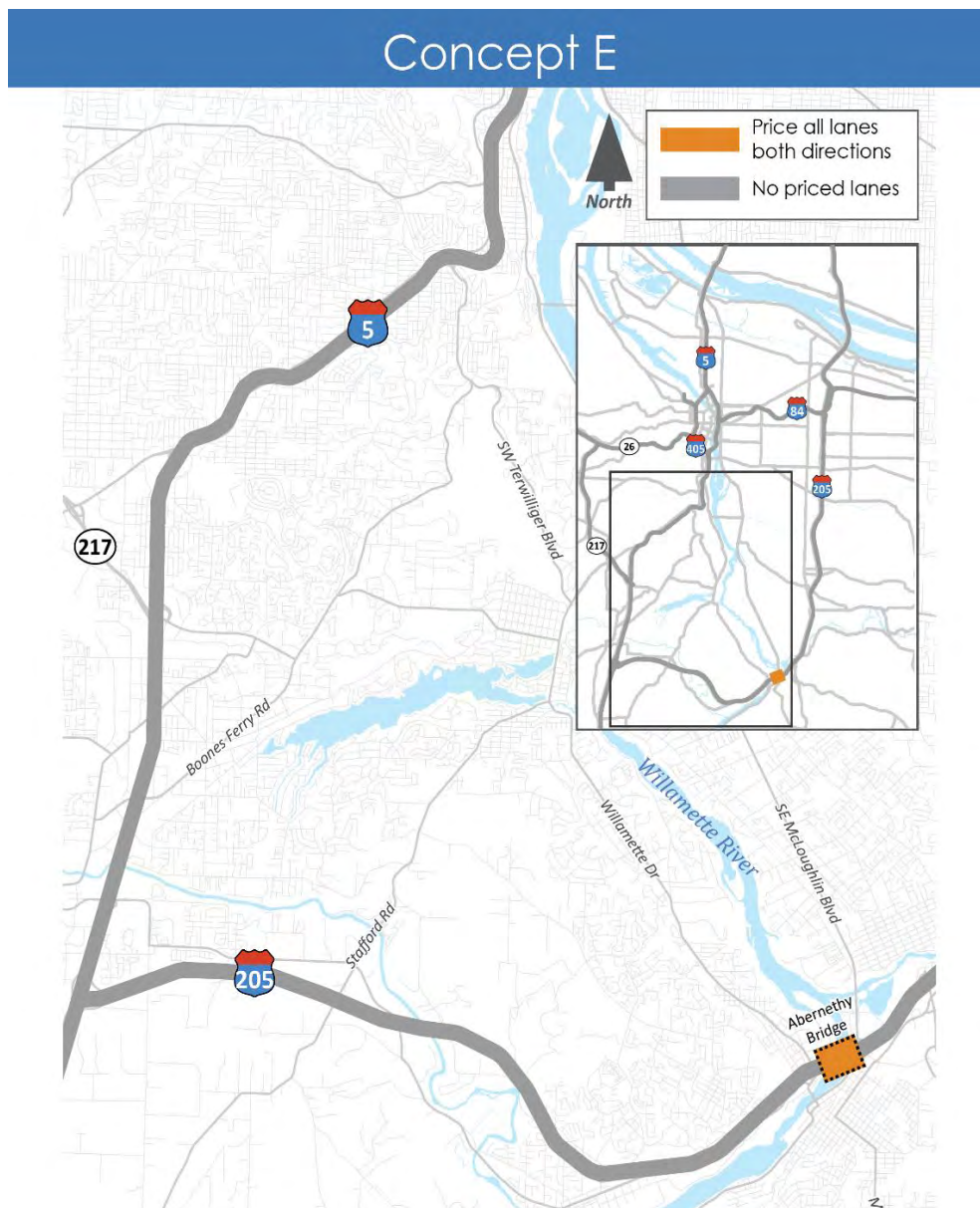




Concept E: Abernethy Bridge Priced Roadway

Concept E applies pricing on all existing lanes of the Abernethy Bridge as well as additional lanes to be constructed as part of the planned bridge widening. While this Concept assumes a variable rate structure, with highest rates during peak hours, it was evaluated to determine its potential to help fund the planned addition of a lane on I-205 from OR99E to Stafford Road and reconstruction of the Abernethy Bridge.

Concept E shows promise to raise revenue and reduce congestion on I-205. This concept, or a variant, could pair with a pilot program to balance the travel choice between the I-5 and I-205 corridors. Mitigation strategies would likely be needed to address potential diversion to OR99E and the Arch Bridge. The beginning and end points of the corridor segments where this concept would be implemented would need to be examined as part of the future environmental analysis process.





Key findings

The evaluation of the five round 2 concepts has shown that congestion pricing on I-5 and I-205 has potential benefits to people living and traveling through the Portland metro area and would be effective in addressing traffic congestion on these facilities. Key findings to help support the recommendation are provided on the following pages. Additionally, general findings and considerations include:

- Any concepts considered further should be paired with policies or programs that address potential impact on lower-income and adjacent communities.
- The analysis indicates that all five concepts would likely generate sufficient revenue to pay for tolling operations. However, there is less certainty regarding whether revenue from Concepts A and D (both single-lane concepts) would also cover capital costs of tolling implementation.
- Concepts B, C and E all indicate they would provide revenue to support mitigation and/or planned transportation projects in the Portland metro area.
- A phased approach—implementing a smaller-scale application as a pilot program and following up with monitoring and scheduled reporting—may ensure that the pricing application meets state and regional goals, and may also lay the foundation for a more comprehensive pricing approach for the Portland metro area.
- Key performance measures could be established to gauge success during future monitoring.

Consultant team recommendation

Based on the key findings from the evaluation, the consultant team recommends a phased approach to implementation of congestion pricing on I-5 and I-205:

- Initial implementation of Concept B as a pilot pricing program, coupled with a sunset or trigger to evaluate success.
 - *Rationale:* Strong potential at congestion reduction along I-5 with minimal diversion to I-205 and adjacent facilities; has a much denser network of transit and multi-modal facilities that can serve as a toll free alternative; significant improvements in facility efficiency and vehicular throughput, meaning that more vehicles can be moved and diversion to free facilities can be managed.
- Consider implementation of Concept E concurrent with implementation of Concept B.
 - *Rationale:* Provides the benefits of Concept B while generating funding to advance the addition of new lanes on I-205 where only two lanes in each direction currently exist as well as retrofitting and adding a lane in each direction to the Abernethy Bridge.
- After assessment of the performance of the initial pricing project, and assuming successful evaluation, implementation of Concept C in phases with more comprehensive system analysis.
 - *Rationale:* Greatest potential for reducing congestion and generating travel time savings for the widest possible range of users; significant improvements in



facility efficiency and vehicular throughput, meaning that more vehicles can be moved and diversion to free facilities can be managed.

- Do not implement Concept A or D.
 - *Rationale:* Little congestion relief benefit; would not provide a reasonable test for the potential for pricing to provide congestion relief.

Next steps

At the fifth PAC meeting on May 14, 2018, the PAC will review and consider the evaluation presented in this technical memorandum as well as the public comment received over the past six months. In May and June 2018, the PAC will develop a recommendation(s) to advise the OTC. The OTC will submit a report to FHWA by December 2018. After coordination with FHWA, the OTC will provide direction about next steps such as an environmental analysis, which would include additional public involvement, Title VI and Environmental Justice analysis, traffic analysis, and other analysis of potential benefits and impacts.



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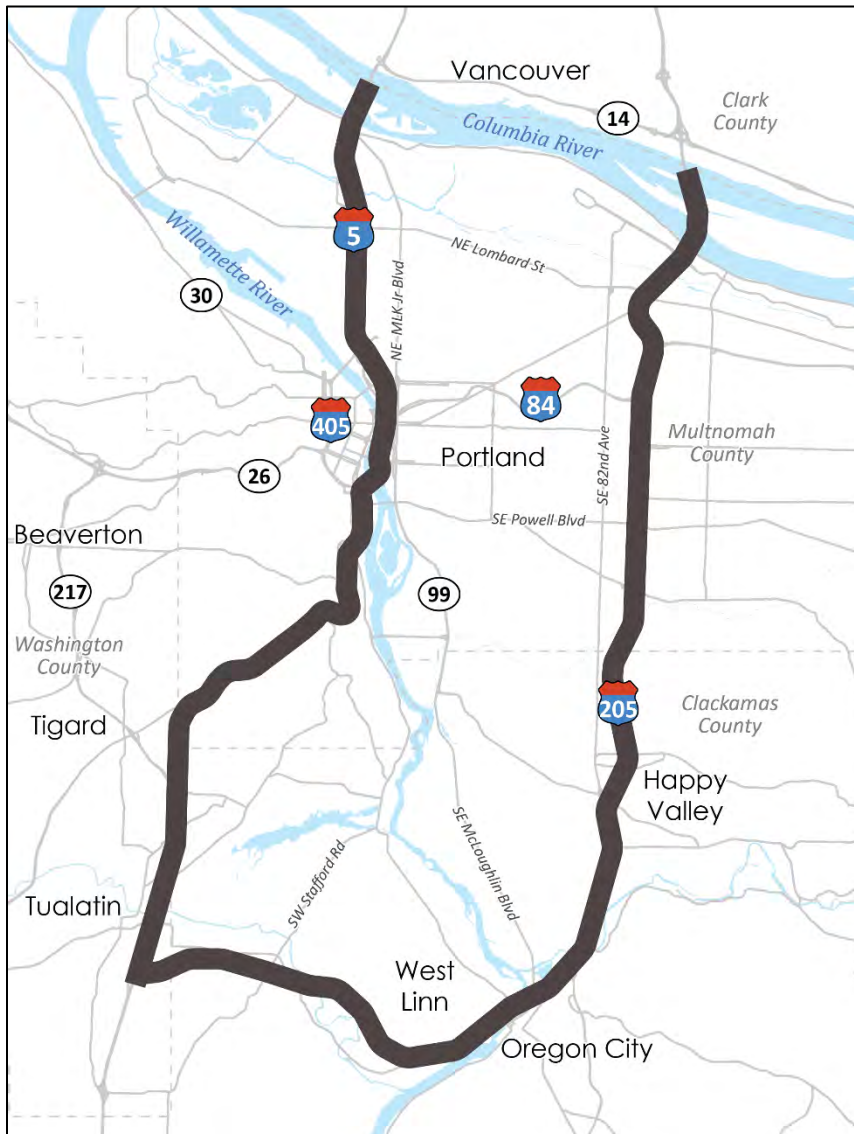
1 INTRODUCTION

1.1 Project context and purpose of this report

In 2017, the Oregon Legislature authorized substantial funding to improve highways, transit, biking and walking facilities, and use technology to make the state's transportation system work better. The Legislature also directed the Oregon Transportation Commission (OTC) to seek federal approval to implement value pricing on I-5 and I-205 in the Portland metro area to address congestion.

The Oregon Department of Transportation (ODOT) initiated the Portland Metro Area Value Pricing Feasibility Analysis to explore the options available and determine how and where congestion pricing could help improve congestion on I-5 or I-205 during peak travel times. The feasibility analysis corridors are depicted on Figure 1-1.

Figure 1-1. Study Corridors: I-5 and I-205





Value pricing, also known as congestion pricing, has been successfully implemented in the U.S. and around the world, resulting in faster, more reliable and predictable trips. It does this using variable rate toll pricing to manage traffic flow during peak travel times, which is typically during the morning and evening peak commuting periods. This creates an incentive for some drivers to reduce the number of trips made, shift travel to less congested periods of the day or use alternate modes such as transit. Some drivers will choose to take alternate routes. Those choosing to pay the toll have higher travel speeds and improved travel time reliability. Pricing may also benefit users of nearby and adjacent non-tolled facilities and lanes by improving traffic flow on the priced lanes and thus reducing the potential for drivers to divert off the freeway to avoid congestion. Pricing can also benefit the users of other modes, and in particular transit, as tolling systems are often implemented with transit improvements such as express bus service and dedicated lanes or access points to the tolled facility. Enhanced transit service is common with newer pricing applications and help all transportation system users benefit from the improved traffic operations provided by pricing.

This memorandum presents findings from the round 2 evaluation of five pricing concepts for I-5 and I-205 from the Oregon/Washington state line south to the I-5/I-205 interchange near Tualatin, Oregon. The purpose of this evaluation is to examine the benefits and impacts of different pricing concepts to inform a recommendation by the study's Policy Advisory Committee (PAC) to the OTC, based on application of a series of performance measures to the five concepts. The PAC recommendation will also be informed by public outreach and input, experience from other pricing projects around the country, and PAC policy discussion to date. The Congestion Pricing Mitigation and Related Policy Considerations memorandum, dated May 2018, reports on PAC discussion and public input about mitigation and should be reviewed concurrent with this memorandum.

The OTC will consider PAC recommendation(s), public input, and technical findings, and develop a report to the Federal Highway Administration (FHWA) to be submitted by the end of 2018. Upon discussion or approval from FHWA (depending on the type of pricing application), ODOT would then conduct further study, which is likely to include environmental analysis, including additional traffic analysis and public involvement.

This memorandum includes the following:

- Section 1 – Introduction
- Section 2 – Round 2 evaluation approach
- Section 3 – Round 2 evaluation summary by concept
- Section 4 – Project team recommendation and next steps

1.2 Technical approach

The feasibility analysis included two rounds of evaluation. The first round of evaluation assessed the opportunities and issues associated with the primary types of highway congestion pricing applications. The analysis identified a broad range of impacts that could be experienced by implementation of value pricing on the study corridors. These



findings are summarized in *Technical Memorandum 3 – Round 1 Concept Evaluation and Recommendations*.¹ Overall, the following conclusions were drawn from round 1:

- An assessment of current and baseline conditions through 2027 found that portions of I-5 and I-205 are currently experiencing “hyper-congestion,” a traffic condition characterized by exceptionally high traffic volumes and travel speeds below 40 miles per hour, often causing stop-and-go conditions. Round 1 modeling showed that these conditions are likely to worsen through 2027.
- In general, concepts that priced the entire roadway, as opposed to single-lane pricing concepts, would be the most effective at managing congestion. Pricing all lanes could result in more traffic diversion. Priced roadways are also more likely to generate net revenues that could fund mitigation strategies.
- Concepts involving the conversion of a general purpose lane to pricing had the advantage of maintaining some unpriced lane options but were found to be less effective at addressing the goal of reducing congestion. Priced lane concepts on facilities with only two lanes in each direction, as is the case on locations along I-5, are not operationally feasible without a major interchange reconstruction because at least two general purpose through lanes must be maintained for facility operations.
- Concepts involving the construction of a new priced lane performed well in terms of improved traffic operations due to added capacity but, in addition to being the costliest to implement, the benefits are somewhat limited by downstream bottlenecks. This was particularly true on I-5 approaching the Columbia River Bridge, and on I-205 as well as I-5 at the southern end approaching the Boone Bridge. Constructing new lanes would be the most expensive option and also would likely have the most significant environmental and community impacts. Furthermore, there is evidence that Portland area drivers are already avoiding I-5 and I-205 due to congestion. Additional detail on the results of the round 1 evaluation is provided in *Technical Memorandum 3 – Round 1 Concept Evaluation and Recommendations*.² Following the round 1 evaluation, a total of five round 2 concepts were developed based on evaluation results, public input on the initial concepts, and project team experience with congestion pricing systems throughout the U.S. These refined concepts define the pricing strategy and the location where it is to be applied, allowing for a more detailed assessment of potential impacts and benefits. The next section describes the round 2 concepts.

1.3 Round 2 concepts

For the round 2 evaluation, five concepts were studied. The primary goal of each concept is to mitigate congestion on I-5 and I-205, except for Concept E, which was evaluated as a potential strategy to help fund a congestion-relief project that adds a lane in each direction on I-205 from OR99E to Stafford Road and on the Abernethy

¹ Technical Memorandum 3 is available on ODOT's Value (Congestion) Pricing website: <http://www.oregon.gov/ODOT/Pages/VP-Feasibility-Analysis.aspx>

² Technical Memorandum 3 is available on ODOT's Value (Congestion) Pricing website: <http://www.oregon.gov/ODOT/Pages/VP-Feasibility-Analysis.aspx>



Bridge. These concepts are described in more detail in Technical Memorandum 3 and are as follows:

- Concept A – Northern I-5 Priced Lanes
- Concept B – I-5 Priced Lanes: Toll all lanes between Going Street/Alberta Street and Multnomah Boulevard
- Concept C – I-5 and I-205 Priced Roadway: Toll all lanes
- Concept D – I-205 Priced Lane – OR99E to Stafford Road
- Concept E – Abernethy Bridge Priced Roadway

These five concepts represent a range of potential congestion pricing applications. The concepts include: conversion of an existing high-occupancy vehicle (HOV) lane in Concept A (northbound); conversion of general lanes in Concept A (southbound), Concept B and Concept C as allowed under the FHWA Value Pricing Pilot Program (VPPP); added freeway capacity with the third lane assumed under Concepts D and E; and a tolled bridge as a funding strategy in Concept E).

These concepts were identified to respond to public comment received during the PAC meetings and the winter outreach as well as the technical evaluation of the round 1 concepts. Key themes heard during the winter outreach and how they informed the concepts is provided in Table 1.3-1.

Table 1.3-1. Developing the round 2 concepts

Issue	Concept development
Round 1 public involvement: what we heard (key themes)	
Congestion is a problem	Congestion pricing concepts were identified to address locations along I-5 and I-205 that experience the worst traffic congestion.
How and where revenue will be spent	Concept E – toll all lanes of the Abernethy Bridge was identified as a potential funding strategy for the planned third lane and bridge reconstruction.
Fairness of value pricing	A variety of congestion pricing concept types were identified for round 2 consideration and evaluation, including different geographic locations and a combination of concepts that toll all lanes and concepts that toll one lane.
Transit accessibility and potential transit investments	All round 2 concepts are evaluated within this technical memo for their ability to provide mobility options for all users.
Highway capacity	A variety of congestion pricing concept types were identified for round 2 consideration and evaluation, including those that did and did not provide new capacity.
Round 1 technical evaluation	
Addresses most substantial hyper-congestion	All concepts (A through E) were selected such that each covers a segment or segments of I-5 and/or I-205 that is currently experiencing hyper-congested conditions.
Multimodal transportation options	Concepts A and B were selected in part because there are transit and multi-modal facilities that can serve as an alternative to freeway travel.



Issue	Concept development
Round 1 public involvement: what we heard (key themes)	
Comprehensive approach to congestion management on I-5 and I-205	Concept C was selected and evaluated as an approach to addressing congestion on the entirety of the I-5 and I-205 corridors within the Portland metro area.
Federal feasibility	The concepts selected and evaluated in round 2 would each have unique implementation issues from a federal perspective and would be authorized under different federal tolling authorization programs (HOV to high-occupancy toll [HOT] conversion for Concept A, mainstream tolling for Concept D and Value Pricing Pilot Program for concepts A, B, C and E)
Revenue generation	Concept E was selected and evaluated to examine its ability to generate revenue for further congestion relief strategies.

1.4 Equity and diversion mitigation strategies

The Oregon Transportation Commission has established that considerations of equity and diversion to surrounding communities are priorities in evaluating potential congestion pricing concepts. The PAC Charter includes both *equity impacts* and *diversion of traffic* as factors to be considered in the evaluation of congestion pricing options. The Charter also requests that the PAC identify potential mitigation strategies with a potential to reduce the impact on Title VI and/or Environmental Justice communities and adjacent communities.

In evaluating potential impacts of congestion pricing to Title VI and Environmental Justice communities, a recommendation should consider ways to share benefits as well as strategies to offset negative impacts. Reflecting this objective, many strategies should be considered as trade-offs. For example, pricing all lanes of a roadway is more effective at managing congestion than pricing a single lane. With this increased effectiveness, the amount of the toll can be set at a lower rate when compared to single-lane pricing concepts; also, it is possible to operate more hours with very low or no tolls. The opportunity to maintain lower toll amounts makes the benefits of congestion pricing available to more people at a lower cost.

However, a trade-off with priced roadways, from a low-income impact perspective, is that they do not provide general purpose (unpriced) lanes; drivers who choose to use the freeway during tolled periods would have to pay a toll. For this reason, it is especially important that strategies are considered -- such as increased transit service, low-income toll discounts, or incentives to use transit or carpools -- that can help offset negative impacts and distribute benefits more broadly.

Development of mitigation strategies will depend to a large degree on the type and location of any pricing concept(s) that moves forward. The PAC recommendation will be informed in part by information presented and committee deliberations from the April PAC meeting (PAC meeting #4), which was largely dedicated to a workshop on mitigation strategies. Final identification and development of mitigation strategies will be required as part of the National Environmental Protection Act (NEPA) process, which is required for all federal projects.



Several mitigation strategies and related policy considerations were identified by the project team, the PAC and solicited from the public during outreach events. A monitoring program with key performance measures could be established to evaluate effectiveness at addressing these strategies. Mitigation strategies identified include the following:

- Many diversion impacts can be addressed through design of the system and rate structure. Appropriate rate setting through dynamic pricing could maximize flow on the priced portion of the facility and reduce the incidence of diversion; it should be noted that for Concept E, this could reduce revenue substantially.
- A strategy that combines pricing concepts on I-5 and I-205 could improve overall flow and help to manage diversion between the two freeways.
- Transit, bicycle, and pedestrian improvements or introduction of transit service as well as traffic calming strategies could address local diversion concerns. Improvements in multimodal options also can provide alternatives for drivers who want to avoid paying a toll.
- Where diversion increases traffic on surface streets, improvements to walking and bicycling facilities may be needed to mitigate potential safety impacts.
- Discounting programs, such as free, reduced or pre-paid toll tags for Title VI and Environmental Justice communities may be considered. Such programs may also be considered for area residents who do not have viable, toll free alternatives. For example, the residents of Hayden Island must use I-5 to get off the island and may therefore require such mitigation programs if the northern section of I-5 is to be tolled.
- Lane pricing, as opposed to roadway pricing, may result in relatively higher tolls for use of the priced lanes. As such, additional consideration of toll discounting policies for low-income users may be needed for approaches where only certain lanes are to be priced.
- Freight vehicles are restricted by Oregon statute from using the left inside lane of highways. In general, when a lane pricing (as opposed to roadway pricing) approach is adopted, it is the inside left lane(s) that is priced. If such an approach were used in Portland, freight vehicles would therefore be restricted from using the facility and thus would not benefit from pricing. As such, revisiting and refining Oregon statutes in relation to tolling on the use of the inside left lane by freight vehicles might be considered as a freight-oriented mitigation measure if lane pricing is implemented.

1.5 Revenue generation considerations

As value pricing involves the use of tolling, revenue will be generated from the users of the priced facilities. Understanding how the revenue will be accounted for is vital towards understanding its contribution to funding improvements over time. For the calculation of revenue, the U.S. Department of Transportation (USDOT) developed a hierarchy of accounting and payments that yields a flow of funds. In general, toll revenues first account for uncollectable toll transactions (called “leakage”), followed by operations and maintenance expenditures, senior debt, rehabilitation and reconstruction funds, investment obligations, and finally equity (excess net revenues).



However, most agencies also account for hedging costs (for managing debt and income over time), reserve funds, and periodic roadway capital maintenance.

In short, the flow of funds puts operating uses as first priority and capital uses last. In terms of forecasting revenues, operations and maintenance costs are regular, recurring, and predictable; whereas, rehabilitation and reconstruction costs are periodic, they do not occur within the first few years of operations, but they need to be annualized in some manner in order to be accounted for within one forecast year revenue estimate.³

This memo provides a cursory examination of revenue generation potential for each of the five concepts. For the purposes of this analysis, the project team used a 3-stage assessment:

Stage One – gross toll revenues, minus:

- Leakage, which may include uncollectable transactions
- Routine annual toll collection operations and maintenance expenditures
- Routine annual roadway operations and maintenance expenditures

Stage Two – net toll revenues (remaining revenue after Stage One deductions), minus:

- Debt service on potentially borrowed funds for capital investment
- Contributions to rehabilitation and reconstruction for toll collection systems
- Contributions to rehabilitation and reconstruction for periodic roadway capital, if appropriate

Stage Three – excess net revenues (remaining revenue after deductions from both Stage One and Stage Two) which may be used for other uses, including incentives and policy-based mitigations.

All five concepts have positive net revenues at Stage 2. Stage 3 uses of revenue will depend on policy and project decisions made during a later phase.

For the following concept evaluation, with the exception of Concept E, the project team poses two primary questions regarding net revenues:

1. Is there sufficient toll revenue generated to cover toll and roadway operations and maintenance costs?
2. If yes, meaning positive net revenues, then what is the range/order of magnitude of annual net revenue remaining that could contribute toward capital investments, which may include capital funding, rehabilitation and reconstruction expenditures.

³ A detailed description of revenue estimation and funding analysis for toll facilities can be found at USDOT's Center for Innovative Finance Support website: <https://www.fhwa.dot.gov/ipd/>



2 ROUND 2 EVALUATION APPROACH

2.1 Round 2 performance measures

Concepts were evaluated according to the following performance measures identified with the PAC and documented in *Technical Memorandum 1 – Objectives and Performance Measures*.⁴ The list of measures below also includes the description of the key considerations as contained in the PAC charter. Some performance measures apply to more than one consideration. For example, “adequacy of transit service” is both a transit service and equity measure. In addition, there will be a need to look at multiple performance measures in later stages of concept project planning. Some measures will be better captured at later stages. Many factors can be addressed through design and ongoing performance management. If a measure shows poor performance in the feasibility analysis, it can be identified as an objective to incorporate in design.

Consideration: traffic operations improvement on I-5 and I-205

Charter description: To what extent the option will improve the traffic operations of the priced facility, including but not limited to increasing reliability and mitigating congestion.

- Vehicle and person throughput on I-5 and I-205
- Freight truck throughput on I-5 and I-205
- Passenger vehicle travel time on I-5 and I-205
- Passenger vehicle travel time on managed lanes
- Freight truck travel time on I-5 and I-205
- Assessment of change in duration of peak vehicle traffic conditions
- Delay on priced facility
- Safety impacts
- Trip length distribution

Consideration: diversion of traffic

Charter description: To what extent the option will cause diversion to other routes and modes that will impact the performance and operations of other transportation facilities, including both roads and transit service.

- Diversion impacts on non-tolled facilities
- Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion

Consideration: transit service and active transportation

Charter description: To what extent public transportation service is available to serve as an alternative, non-tolled mode of travel.

- Adequacy of transit service
- Transit travel time

⁴ Technical Memorandum 1 is available on ODOT's Value (Congestion) Pricing website:
<http://www.oregon.gov/ODOT/Pages/VP-Feasibility-Analysis.aspx>



- Mode share shift (HOV, single-occupancy vehicle [SOV], transit, walk, bike)
- Availability of bicycle travel on alternative routes
- Completeness of pedestrian network

Consideration: equity benefits and impacts

Charter description: Whether the option will disproportionately impact environmental justice households or communities and to what extent mitigation strategies could reduce the impact.

- Value or travel time savings for Title VI and/or Environmental Justice communities (regional)
- Changes in travel time based on geographic zones
- Access to jobs

Consideration: benefits and impacts for the community, economy and environment

Charter description: Whether and how the option will impact the surrounding community, economy, and/or environment and the economy of the state in general.

- Physical impacts to existing residences and businesses
- Regional travel time savings
- Regional VMT (vehicle miles traveled) (including non-freeway)
- Change in air pollution
- Value of travel time savings

Consideration: revenue and cost

Charter description: To what extent the option will raise sufficient revenue to cover the cost of implementing value pricing as well as the ongoing operational expenses, including the costs of maintenance and repairs of the facility.⁵

- Capital expenditure on facility
- Estimated gross toll revenue potential from tolled facility

Consideration: implementation

Charter description: Whether the option will comply with existing Oregon Transportation Commission policies, state laws, and regional planning regulations.

- Consistency with state law and policy
- Consistency with regional law and policy

Charter description: Whether the option is allowable under federal tolling laws or will require a waiver under the Value Pricing Pilot Program or some other authority.

- Feasibility under federal law

Charter description: Whether a value pricing option has the potential to alter the expected delivery schedule for a project on the corridor.

- Project delivery schedule

⁵ Note, as described in Section 1.5 above, gross revenue will first be allocated to ongoing operations and maintenance expenditures for the value pricing program, followed by debt service or state repayment of capital costs for implementing the system.






2.2 Round 2 performance measure evaluation approach

As with the round 1 evaluation, performance of each concept was evaluated against a 2027 baseline. Baseline conditions included all projects in the constrained 2027 Regional Transportation Plan and assumed no pricing. More information on the baseline conditions is provided in *Technical Memorandum 3*.

To evaluate each concept, the performance metrics were assigned a score based on professional assessment and, in some cases, analysis of modeling data. The team then converted the score to ranking symbols based on the extent to which the concept generated additional benefits or reduced negative impacts. More information on the evaluation methods and assumptions used is provided in Appendix A. Concepts providing positive impacts or reducing negative impacts were scored as “performs well,” while those that reduce positive benefits or increase negative impacts were scored as “performs poorly.”

The ranking is displayed throughout as follows:

- Concept performs well: 
- Concept performs moderately: 
- Concept performs poorly: 



3 ROUND 2 EVALUATION SUMMARY BY CONCEPT

This section provides a summary of the round 2 evaluation for the performance measures listed in section 2.1.⁶ Concepts A through D were evaluated based on how well they performed for each performance metric. Concept E was evaluated against a smaller subset of performance measures, since the purpose of Concept E was to test revenue generation. While each concept is composed of numerous individual roadway segments, each concept was evaluated as a whole. As such, individual segments may perform relatively better or relatively worse than other segments composing the concept, but the overall evaluation is reflective of the concept in its entirety. Detailed scoring of performance metrics and associated data for each performance metric is provided in an evaluation metric matrix attached as Appendix B. A summary of regional data and associated findings generated through the round 2 evaluation is provided in Appendix C.

3.1 Concept A: Northern I-5 Priced Lanes

In Concept A, a single lane in each direction would be converted to a tolled managed lane. The concept would convert an existing general purpose lane in the southbound direction, and the existing HOV lane in the northbound direction. The following are key findings from the assessment of Concept A:

- Concept A has limited congestion relief benefits, which are generally restricted to tolled lanes during the peak hour.
- Conditions on the unpriced lanes are mostly unchanged, and diversion would be limited.
- Both revenue and capital costs would be relatively low. Revenue will cover toll system operations and maintenance costs, but may not be enough to offset all roadway rehabilitation and reconstruction costs that would be incurred regardless of whether the lanes are priced. It is not likely to substantially support other capital improvements.
- Mitigation strategies particularly may be needed for Hayden Island, which is only accessible via this section of I-5. Impacts to Title VI and/or Environmental Justice communities are likely to be minimal.
- Regarding user costs, this concept maintains two unpriced lanes in each direction; at the same time, the toll amount per user would be higher, which is consistent among single-lane pricing concepts.
- The northbound segment would qualify under FHWA's HOV/HOT Lane Program. The southbound segment may qualify under the FHWA Value Pricing Pilot Program.

⁶ As with the round 1 evaluation, data for quantifying the evaluation metrics and conducting the assessment were supplied by Metro's regional travel demand model. Much of the travel demand model data were processed through ECONorthwest's Toll Optimization Model (TOM), which supplies a refined assessment of changes in traveler behavior, traffic volumes and other metrics associated with the implementation of pricing concepts (see Appendix D for assumptions used in the TOM model). Metro's Multi-criteria Evaluation (MCE) tool, also based on the regional travel demand model results, was used to assess regional and community impacts for measures not traditionally produced directly from regional demand modeling.



Figure 3-1. Round 2 Concept A: Northern I-5 Priced Lanes





3.1.1 Traffic operations improvement on I-5 and I-205

Concept A would improve travel for users of the priced lanes but would not generate much travel time savings for users of the general purpose lanes or the remainder of the area network. Overall, the probability of encountering congestion is slightly reduced and minimal diversion would occur with this concept. Additional detail on this group of performance metrics is included in the evaluation methods and assumptions matrix in Appendix A.

Table 3.1-1. Concept A evaluation: traffic operations improvement

Performance measure	Concept A evaluation	Findings
Vehicle and person throughput on I-5 and I-205		Both an increase and decrease in vehicle and person throughput. Little net impact.
Freight truck throughput on I-5 and I-205		Change in freight truck throughput is relatively minor, but there is an overall trend on I-5 of reduced throughput as well as evidence of diversion to I-205. Trucks are also assumed to be prohibited from accessing the managed lane based on current state law and practice around the country.
Passenger vehicle travel time on I-5 and I-205		Improved travel time on the managed lanes themselves, and no evidence of negative impacts to the general purpose lanes.
Passenger vehicle travel time on managed lanes		Improved travel time on the managed lanes.
Freight truck travel time on I-5 and I-205		No significant improvement or detriment to freight truck travel times.
Assessment of change in duration of peak vehicle traffic conditions		Decrease in the potential for encountering hyper-congested conditions in the vicinity of the managed lanes. This impact extends to some extent away from the managed lanes, and there are no detrimental impacts in other areas on either I-5 or I-205.
Delay on priced facility		Reduced delay on the priced managed lanes with no detrimental effects elsewhere.
Safety impacts		Some limited potential to decrease the frequency and severity of crashes in the region.
Trip length distribution		No significant changes to freeway trip lengths are expected.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Vehicle and person throughput on I-5 and I-205

Concept A would result in daily vehicle throughput comparable to the baseline with daily vehicle volumes remaining essentially unchanged. Slight increases in vehicle throughput were seen on I-5 in the southbound direction during the AM and PM peak hours.



Daily person throughput was also comparable to the baseline, with slight increases on I-5 in the southbound direction and slight decreases on I-5 in the northbound direction.

Freight truck throughput on I-5 and I-205

This concept shows modest shifts in daily truck volumes from I-5, with its priced managed lane, to the unpriced I-205 corridor. This shift occurs because trucks over 10,000 pounds cannot access the managed lane under current Oregon law,⁷ and general purpose capacity is limited to two lanes rather than three general purpose lanes in the baseline.

Passenger vehicle travel time on I-5 and I-205

Passenger vehicle travel times, relative to the baseline, change modestly in the general purpose lanes.

Passenger vehicle travel time on managed lanes

The tolled lanes on the northern portion of I-5 in Concept A provide moderate travel time savings to the users of those lanes. These savings occur primarily during the peak hours and are concentrated in those areas where the lanes exist. Travel time savings do not extend much beyond the priced lane, but there is also no observable reduction in travel times in the general purpose lanes.

Freight truck travel time on I-5 and I-205

Freight vehicles over 10,000 pounds are barred by state law from accessing the (leftmost) priced lanes in Concept A. As such, the travel time for freight vehicles in the general purpose lanes for this concept are the same for passenger vehicles in the general purpose lanes, which are generally not affected by the implementation of pricing.

Assessment of change in duration of congested traffic conditions

Concept A results in slight reductions in congested conditions on I-5 where the priced managed lane option is offered. During the 7 AM peak hour, the chance of hyper-congestion on I-5 is reduced from the baseline condition (from 36 to 38 percent in both directions). During the 5 PM peak hour, the chance of encountering hyper-congestion on I-5 is reduced only in the southbound direction, from 34 percent in the baseline to 33 percent for Concept A.

Delay on priced facilities

Concept A reduces delay in the parts of the corridor where pricing is applied (the priced lanes). These results are more pronounced during the AM and PM peak hours than off-peak times of travel.

⁷ Oregon Revised Statute 2017 Edition. Chapter 811.325: Failure to keep camper, trailer or truck in right lane. Applies to any vehicle with a trailer and any vehicle with a registration weight of 10,000 pounds or more; this includes transit vehicles except in the HOV lane. https://www.oregonlegislature.gov/bills_laws/ors/ors811.html. Accessed February 9, 2018.



Safety

Concept A provides limited potential for reducing roadway crashes in the region. Reduction in crashes on the priced lanes may be offset in part by increased crashes on the general purpose lanes. According to researchers, "HOV-to-[priced lane] conversion does not significantly affect the safety performance of the roadway segments as a whole."⁸

Trip length distribution

No significant changes to trip length distribution are expected to result from Concept A.

3.1.2 Diversion of traffic

Diversion in Concept A is anticipated to be minimal, but some changes to traffic circulation patterns could occur. While these changes are anticipated to be small, potential locations where increases in roadway volumes could occur include the following:

- Martin Luther King Boulevard (OR 99E) [Lombard Street to Marine Drive]
- Interstate Avenue (OR 99W) [Alberta Street to Columbia Boulevard]
- Columbia Boulevard [I-5 to Martin Luther King Boulevard (OR 99E)]
- I-205

As such, the impact to road users, including vehicular traffic as well as bicyclists and pedestrians, is expected to be minimal. Additional detail on the diversion performance metric is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.1-2. Concept A evaluation: diversion of traffic

Performance measure	Concept A evaluation	Findings
Diversion impacts on non-tolled facilities		No substantial traffic diversion impacts.
Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion		No substantial increase in the frequency or severity of crashes is expected.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

3.1.3 Transit service and active transportation

Concept A scores moderately well in this category of performance metrics. There is viable transit service in the area with numerous routes parallel to I-5. However, there is a lack of supporting infrastructure, in particular park-and-ride lots. Furthermore, there are

⁸ Abuzwidah, M. and M. Abdel-Aty. "Effects of Using High Occupancy Vehicle Lanes on Safety Performance of Freeways". Presented at the 96th Annual Meeting of the Transportation Research Board, Paper No. 17-06894, Washington, D.C., (2017).



relatively few frequent service lines. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.1-3. Concept A evaluation: transit service and active transportation

Performance measure	Concept A evaluation	Findings
Adequacy of transit service		Eight total transit lines, two TriMet, both frequent service, and six C-Tran. Two park and ride lots and one transit center.
Bus transit travel time		Time savings for AM peak and PM peak (northbound/southbound). Six C-Tran express bus routes would benefit.
Mode share shift (HOV, SOV, transit, walk, bike)		Minimal impacts on regional mode share. Slight potential to shift some trips from SOV to HOV.
Availability of bicycle travel on alternative routes		About 50 miles of bike lanes within a 1-mile buffer of the corridor. Five roadways with bike lanes run mostly parallel to the freeway and another two are somewhat parallel. Gaps are noticeable in the network, however.
Completeness of pedestrian network		66 total street miles of sidewalks. 16.5 miles of sidewalk/mile of corridor length within a half mile buffer.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, WSP

Adequacy of transit service

Concept A performed well in terms of parallel transit lines running near the corridor as well as lines that run a significant length of the corridor. Altogether C-Tran has six lines that run from Vancouver to downtown Portland (the Lloyd Center, and/or the Delta Park MAX Station), facilitating inter-state travel via transit. TriMet service offers two lines that run the length of this concept's corridor, and both are high frequency. The MAX Yellow line runs near the I-5 Corridor and allows for transfers to C-Tran at the Delta Park MAX Station.

Bus transit travel time

Concept A provides a modest amount of potential travel time savings along I-5. Six C-Tran routes currently use this section of the freeway for their express bus service between downtown Portland and Lloyd Center to Vancouver. TriMet currently operates no bus service along this section of the freeway, and the modest travel time savings potential along with the presence of the MAX Yellow line may not be enough to result in new TriMet service being added.



Mode share shift

The regional model results indicate that there would likely be minimal shifts in mode share, with some limited potential shift from SOV to HOV. No significant change was identified for transit or bicycle/pedestrian mode share.

Availability of bicycle travel

Five routes run parallel to Concept A, providing options for people riding bikes. A path extends across the Columbia River providing access to those traveling to and from Vancouver. However, there are noticeable gaps in the bicycle network, particularly in northern areas where there are fewer bike facilities overall. Some bike lanes also start and end abruptly, limiting connectivity to destinations within the area.

Completeness of pedestrian network

In the southern half of the concept corridor there is a tight, complete pedestrian network. However, north of Columbia Boulevard, the pedestrian network is severely limited with few, if any, sidewalks. Furthermore, pedestrians desiring to walk to Delta Park, the Columbia River or any of the recreational areas in that northern area face obstacles in terms of available infrastructure. Overall, 66 miles of sidewalks are present with 16.5 miles per mile of corridor length.

3.1.4 Equity benefits and impacts

Concept A does not result in any significant travel time benefits for Title VI or Environmental Justice communities (low-income, people of color, and low English proficiency communities), but it also does not result in any substantive negative impacts. Performance measures in other categories also relate to equity, although they are not specifically categorized as such. Additional detail on this and other performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Regarding user costs, this concept maintains two unpriced lanes in each direction, so area drivers would have toll free alternatives to travelling in the tolled lane. However, those using the tolled lane would be subject to a higher toll rate relative to other concepts that price all lanes. This is consistent with other experience with single-lane pricing projects.



Table 3.1-4. Concept A evaluation: equity benefits and impacts

Performance measure	Concept A evaluation	Findings
Value or travel time savings for Title VI and/or Environmental Justice communities (regional)		Small travel time benefit for Title VI and Environmental Justice communities.
Changes in travel time based on geographic zones		Small travel time benefit for the region.
Access to jobs		No significant impact on job access for Title VI or Environmental Justice communities.

Legend: Performs well Performs moderately Performs poorly

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Value of travel time savings for Title VI and/or Environmental Justice communities

A small benefit in terms of overall travel time can be expected with this concept for Title VI and Environmental Justice communities in the region. However, the scale of those travel time benefits is small—less than any of the other value pricing concepts.

Travel time savings by geographic area

Concept A would result in a small improvement in vehicle travel time for Title VI and Environmental Justice communities, but the scale of the improvement is the smallest of any value pricing concept. Furthermore, benefits to the region are limited. Trips to and from central Portland, north Portland and in areas between Columbia Boulevard and the Columbia River (between I-5 and I-205) would benefit most.

Access to jobs

Concept A does not result in any significant change in access to jobs within a 30-minute drive for Title VI and Environmental Justice communities.

3.1.5 Benefits and impacts for the community, economy and environment

The positive and negative impacts to the community, economy and environment are mixed for Concept A. The concept shows the potential to increase overall system efficiency by slightly reducing total motor vehicle hours traveled (VHT), VMT, and regional vehicle emissions. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.



Table 3.1-5. Concept A evaluation: benefits and impacts for the community, economy and environment

Performance measure	Concept A evaluation	Findings
Physical impacts to existing residences and businesses		No physical impacts expected.
Regional travel time savings		Minimal impact on overall Regional VHT. Potential for reduction to regional VHT is highest during the AM peak hour.
Regional VMT (including non-freeway)		No significant change on Regional VMT.
Change in air pollution		No significant change expected. Some potential to slightly reduce regional vehicle emissions.
Value of travel time savings		Potential to provide a small regional travel time benefit for motor vehicles. Has the smallest benefit of all concepts evaluated.

Legend:
Performs well:
Performs moderately:
Performs poorly:

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Overall, the regional transportation system shows some potential to operate more efficiently under Concept A, as system-wide impacts show the potential to slightly reduce total motor VHT, VMT and vehicle emissions.

This concept does not include construction of new lanes along tolled segments and, therefore, would not have significant physical impacts to residents or businesses adjacent to the corridor.

3.1.6 Revenue and costs

As a single priced lane in each direction of travel with adjacent, toll-free general-purpose lanes, Concept A is not anticipated to generate significant revenue. Revenues would cover toll collection and operating costs, but may not cover all roadway rehabilitation and reconstruction costs of the facility; however, these costs would be incurred regardless of the lanes being priced. Significant revenue for other capital programs is unlikely. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.



Table 3.1-6. Concept A evaluation: revenue and cost

Performance measure	Concept A evaluation	Findings
Capital expenditure on facility	●	Low capital costs as tolling is only anticipated for a relatively short distance in a single lane (each direction).
Estimated toll revenue potential from tolled facility	○	Low total annual revenue but moderate daily revenue per centerline mile. Sufficient revenue for capital investments would likely not be available.

Legend: Performs well Performs moderately Performs poorly

● ◐ ○

Source: WSP, Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Capital expenditure on facility

Concept A would convert an existing northbound HOV lane and would require the conversion of another general purpose lane in the southbound direction. It would likely have low capital costs as tolling is only anticipated for a relatively short distance in these lanes. Capital costs for Concept A are much less than if additional lanes were added, and are less than many major highway capital project costs.

Gross toll revenue potential

The potential annual gross toll revenue estimate for Concept A is \$20 million (in 2017 dollars), one of the two lowest of the five concepts. The revenue estimates were calculated based on toll rates that vary for each segment and time of day based on traffic conditions. The modeling analysis adjusted the toll rates for each hour of the day to the level that maintains free flow traffic conditions on the tolled lanes throughout the day and during peak periods. The toll rates range between \$0.34 per mile during non-peak hours to a high of \$1.45 per mile during the peak. Estimated revenue would be sufficient to cover routine costs associated with toll collection and operations, roadway operations and maintenance, and periodic costs associated with rehabilitation and reconstruction of toll equipment. However, estimated revenues may not be sufficient to cover all periodic roadway rehabilitation and reconstruction costs that would be incurred whether or not the lanes are priced. Excess revenue would likely not be available for significant contributions to capital improvements particularly for underwriting revenue bonds. Appendix E includes additional information about revenue and cost assumptions.

3.1.7 Implementation

Concept A complies with state and regional policy. The conversion of the northbound HOV lane would qualify under FHWA's Section 166 HOV/HOT Lane Program; the southbound conversion could qualify under FHWA's Value Pricing Pilot Program. Concept A could be deployed within a relatively quick timeframe with no impact to



other regional project schedules. Additional detail on all performance metrics are provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.1-7. Concept A evaluation: implementation

Performance measure	Concept A evaluation	Findings
Consistency with state law and policy		Consistent with state law and policy. Any tolling proposal would need to meet additional legal requirements.
Consistency with regional law and policy		Complies with regional law and policy; tolling proposals would need coordination with Metro.
Feasibility under federal law		Operationally similar in the northbound direction to many other congestion pricing projects in the U.S. Southbound conversion of a general purpose lane would have some federal requirements.
Project delivery schedule		No negative impacts to the delivery schedules of other projects.

Legend:
 Performs well
 Performs moderately
 Performs poorly
Please see summaries below for additional assessment detail.

Source: WSP

Consistency with state and regional law and policy

Concept A generally conforms to guidance and requirements found in state and regional laws and policies. Descriptions of state and regional laws and policies are provided in Appendix F.

Feasibility under federal law

The northbound conversion of the existing HOV lane would be operationally feasible from a federal perspective and would qualify under FHWA's Section 166 HOV/HOT Lane Program. Under Section 166 the implementing agency is required to consult with the local metropolitan planning organization (MPO) regarding the placement and amount of tolls on the converted lanes. The implementing agency is also required to demonstrate that the conversion has not and does not (upon implementation) degrade service for HOV vehicles. Annual reporting is required. The conversion of the southbound general purpose lane may qualify under FHWA's Value Pricing Pilot Program.

Project delivery schedule

Concept A can be developed and implemented relatively quickly. There are no negative impacts to other projects.



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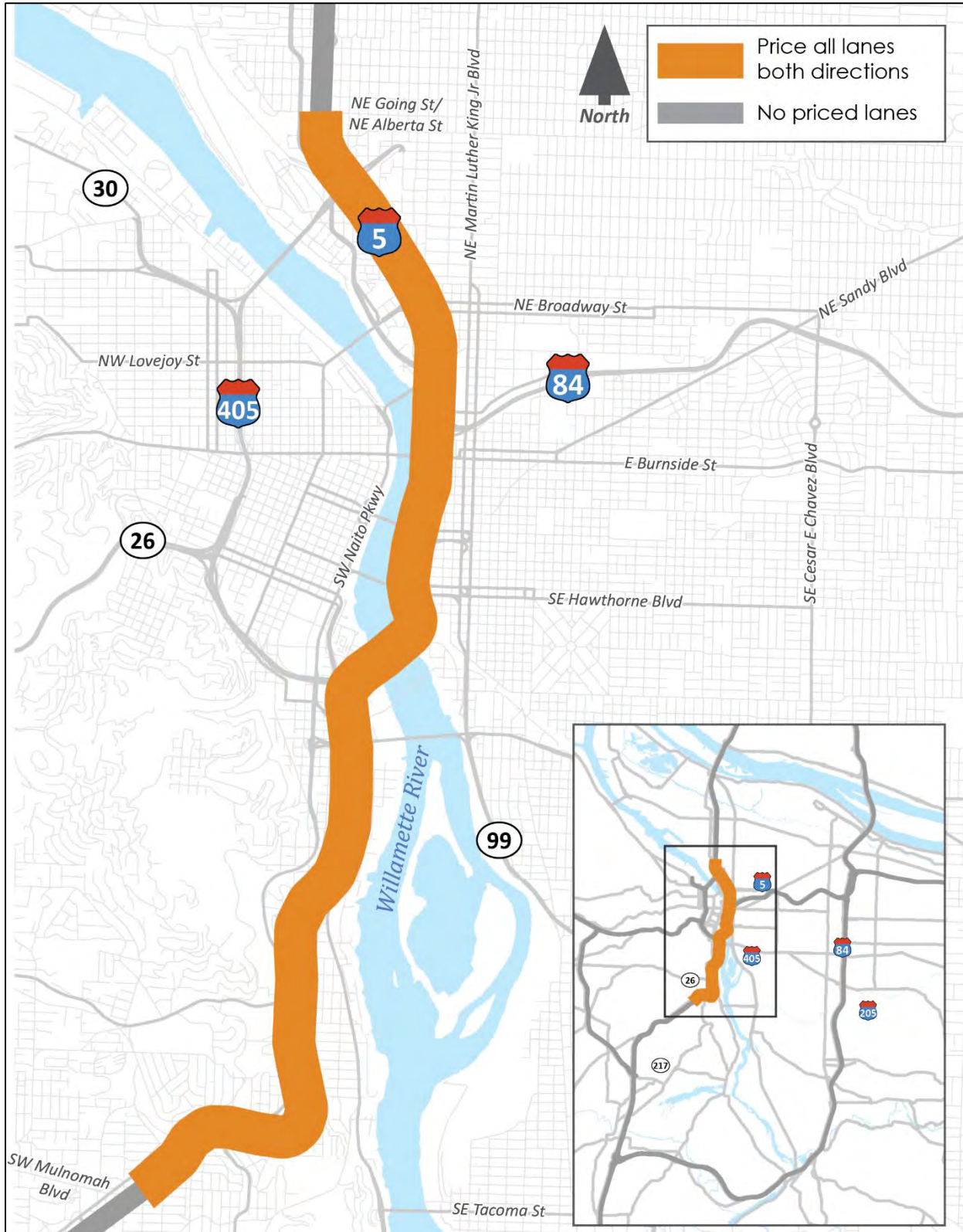
3.2 Concept B: I-5 Priced Lanes: Toll All Lanes between Going Street/Alberta Street and Multnomah Boulevard

Concept B converts all lanes between NE Going Street/Alberta Street and SW Multnomah Boulevard to a priced roadway. The following are key findings from the assessment of Concept B.

- There are noticeable congestion reduction and time savings for users of the facility, particularly during peak periods.
- Concept B provides travel time savings to area Title VI and Environmental Justice communities.
- The concept moves vehicles more efficiently in terms of vehicles per lane per hour relative to the baseline and, as a result, diversion from the tolled facility to I-205 and nearby roads is modest.
- The concept's context features a dense network of transit and multi-modal facilities.
- Because it does not maintain any general purpose (unpriced) freeway lanes, there may be a need to provide mitigations such as increased transit service, low income toll rates, or other strategies.
- Tolling authority for this concept would come under FHWA's Value Pricing Pilot Program.



Figure 3-2. Round 2 Concept B: I-5 Toll All Lanes between Going Street/Alberta Street and Multnomah Boulevard





3.2.1 Traffic operations improvement on I-5 and I-205

Concept B would improve travel for users, with benefits in travel time and delay reductions. Other metrics generally show moderate benefits or limited impacts. It is important to note that traffic operations results should be examined holistically instead of examination of just one or two performance measures to understand the full breadth of implications. Additional detail on this group of performance metrics is included in the evaluation methods and assumptions matrix in Appendix A.

Table 3.2-1. Concept B evaluation: traffic operations improvement

Performance measure	Concept B evaluation	Findings
Vehicle and person throughput on I-5 and I-205		Some evidence of increased vehicle throughput during the peak hours. It is not, however, consistent for all segments. There does not appear to be substantial overall diversion to I-205.
Freight truck throughput on I-5 and I-205		Diversion of truck traffic from I-5 to I-205, which results in less freight truck throughput on I-5. However, freight throughput can be managed with pricing policies post implementation to reduce diversion and maintain throughput.
Passenger vehicle travel time on I-5 and I-205		Improved travel times on I-5 with no significant negative impacts on I-205.
Passenger vehicle travel time on managed lanes	N/A	Not applicable.
Freight truck travel time on I-5 and I-205		Freight trucks travel at the same speeds as passenger vehicles.
Assessment of change in duration of peak vehicle traffic conditions		Conditions moderately improve on I-5, but this is offset to some extent by moderate deterioration on I-205.
Delay on priced facility		Reduced delay on the priced portions of I-5.
Safety impacts		Some limited potential to decrease the frequency and severity of crashes in the region.
Trip length distribution		Trip length distribution is not impacted by this concept.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Vehicle and person throughput on I-5 and I-205

Overall, Concept B does not result in significant changes in daily vehicle and person throughput relative to the baseline (no tolls), but there are potential increases in throughput during the peak hours on some segments. While the modeling results indicate that pricing could lower vehicle volumes during off-peak periods, dynamic pricing of all lanes in this concept allows for toll rates to be adjusted and volumes managed in response to travel conditions.



Freight truck throughput on I-5 and I-205

Concept B results in a shift in daily truck volumes from I-5 (the tolled facility) to I-205 (where no pricing is present). This shift occurs during the peak hours as well as over the course of the day. However, the magnitude of the shift is greater during the peak periods. The model shows that overall throughput on both corridors combined is slightly less than baseline conditions. Freight throughput can be managed post implementation through changes to the tolling schedule if needed to minimize diversion and maintain throughput.

Passenger vehicle travel time on I-5 and I-205

Concept B results in passenger travel time savings on I-5 with some modest increase in travel time on I-205. This is expected given potential for traffic shifts from I-5 to I-205. However, the average increase in travel times on I-205 across all the hours of the day is about 1 percent, or less than a minute, over the 27-mile corridor.

Freight truck travel time on I-5 and I-205

Freight vehicles receive the same travel time improvement benefits on I-5 as passenger vehicles. Furthermore, freight vehicles would see a similar increase in travel times on I-205 (approximately 1 percent) as passenger vehicles.

Assessment of change in duration of congested traffic conditions

Concept B reduces congested conditions on I-5 while only very modestly increasing the incidence of these conditions on I-205. During the 7 AM peak hour, the chance of hyper-congestion on I-5 is reduced from the baseline condition (38 percent in the northbound and southbound directions) to 30 percent in the northbound and 32 percent in the southbound. Further, during the 5 PM peak hour, the chance of hyper-congestion on I-5 is reduced relative to the baseline condition (35 percent in the northbound and 34 percent in the southbound) to 28 percent in the northbound and 30 percent in the southbound.

Delay on priced facilities

The pattern in changes in vehicular volume leads to a similar pattern in delay, as Concept B reduces hours of delay on I-5 and slightly increases delay on I-205.

Safety

No significant change in the overall frequency and severity of crashes is expected to result from this concept, although it may result in a small reduction in the overall frequency and severity of crashes based on Portland Metro's MCE tool that analyzes safety impacts on the overall regional transportation system.

Trip length distribution

No significant changes to trip length distribution are expected to result from this concept.

3.2.2 Diversion of traffic

As all lanes are priced in Concept B, there is a chance of diversion that could negatively impact safety on adjacent and regional toll-free facilities. Additional detail



on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.2-2. Concept B evaluation: diversion of traffic

Performance measure	Concept B evaluation	Findings
Diversion impacts on non-tolled facilities		No substantial diversion impacts are expected when freeway throughput is increased during peak hours. Diversion to non-tolled facilities may occur in off-peak periods.
Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion		The diversion of trips in off-peak periods from a priced facility to adjacent arterials and other roadways could increase need for safety mitigation on those facilities.

Legend:
 Performs well:
 Performs moderately:
 Performs poorly:

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Diversion impacts during peak conditions are expected to be minimal, as I-5 may be able to move more traffic. The application of tolls during off-peak conditions could divert vehicles off the freeway during those times, but tolling through dynamic pricing could minimize this effect.

While the scale of diversion is expected to be small overall, potential locations where increases in roadway volumes could occur include the following:

- I-205
- I-405
- Lewis and Clark Highway (SR-14) [I-5 to I-205]
- Martin Luther King Boulevard (OR 99E) [Broadway Street to Marine Drive]
- Interstate Avenue (OR 99W) [Broadway Avenue to Going Street]
- Greeley Avenue [Going Street to Interstate Avenue]
- McAdam Avenue/Riverside Drive (OR 43) [I-5 to A Avenue]
- Boones Ferry Road [Kruse Way to Terwilliger Boulevard]
- Taylors Ferry Road [McAdam Avenue (OR 43) to I-5]
- Terwilliger Boulevard [Boones Ferry Road to I-5]
- Barbur Boulevard (OR 99W) [I-405 to I-5]
- Minnesota Avenue/Missouri Avenue [Alberta Street I-5 Ramps to Going Street I-5 Ramps] – this potential use of ramps to bypass a short tolled segment is dependent on how tolling is structured

Diversion from freeways in off-peak periods may increase the likelihood of motor vehicle crashes on the potentially impacted roadways and at intersections. Additionally, non-vehicular travel (e.g., bicyclists and pedestrians) on diversion routes could experience increased conflicts with motor vehicles during off-peak periods, which could increase crash frequency.



It should be noted that surface streets (non-freeway roadways) with higher levels of congestion generally exhibit lower serious crash rates per mile than uncongested surface streets.⁹

3.2.3 Transit service and active transportation

Concept B scores well overall in this category of performance as it features good bicycle and pedestrian access and sufficient transit service - including all current and future MAX light rail lines - running in and parallel to the corridor. However, there are no park-and-ride lots and only one transit center adjacent to the corridor. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.2-3. Concept B evaluation: transit service and active transportation

Performance measure	Concept B evaluation	Findings
Adequacy of transit service		26 total transit line options. 19 transit lines by TriMet, five transit lines by C-Tran. No park and ride lots and one transit center.
Bus transit travel time		Time savings for the AM peak and PM peak (northbound/southbound). Five C-Tran express bus routes and one TriMet route would benefit.
Mode share shift (HOV, SOV, transit, walk, bike)		Minimal impact on regional mode share. Some potential to discourage SOV trips, with shifts to HOV, transit, and active modes.
Availability of bicycle travel on alternative routes		Nearly 110 miles of bike lanes within a 1 mile buffer, 17 of which run parallel to the corridor and another 4 that run in a near-parallel fashion. Some gaps are found in the southern area, but options still exist.
Completeness of pedestrian network		138 total street miles of sidewalks. 20 miles of sidewalk/mile of corridor length within a half-mile buffer.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, WSP

Adequacy of transit service

Concept B performed very well with a total of 21 bus routes, three current and future MAX lines, and two streetcar lines offering parallel service along its route, 19 of which are run by TriMet with 9 of those being frequent service. This provides numerous transit options into and out of the downtown Portland area. C-Tran also has five lines running the length of the I-5 corridor into either downtown Portland or the Lloyd District. However, none of these lines provide frequent service, and they do not run the length

⁹ Metro State of Safety Report, April 2012.



of the corridor. A lack of transit centers and park-and-ride facilities creates further issues for those who want to drive for at least a portion of their trip.

Bus transit travel time

Concept B provides a modest amount of potential travel time savings along I-5. Five C-Tran bus routes currently use this section of the freeway for express bus service between downtown Portland and Lloyd Center to Vancouver. TriMet currently operates one bus route along this section heading into and out of downtown Portland. There is the potential for a new express bus service serving the corridor; however, with the current Yellow Line MAX train and the planned SW Corridor high-capacity transit line, this would need examination.

Mode share shift

Concept B is anticipated to have a minimal impact on regional mode share. However, some potential to discourage SOV trips in favor of HOV, transit, and active modes such as bicycling and pedestrian would be expected due to the application of tolling costs.

Availability of bicycle travel

Concept B has numerous bike facilities running parallel to the corridor giving cyclists multiple options. This concept also benefits from being near downtown Portland, which has multiple planned routes, including the upcoming Green Loop. While some gaps do exist in the southern area of the concept, overall the corridor provides options regardless of where a cyclist travels.

Completeness of pedestrian network

A complete and consistent pedestrian network exists within the concept corridor. Few gaps exist that do not have some type of natural barrier (river, steep hills). This corridor segment also has the highest number of sidewalks per mile of corridor. Overall, aside from the very southern tip of the corridor, the pedestrian network is complete and provides good options for pedestrians.

3.2.4 Equity benefits and impacts

Concept B offers some limited travel time benefits for Title VI and/or Environmental Justice communities in the region. Performance measures in other categories also relate to equity, although they are not specifically categorized as such. Additional detail on this and other performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Because this concept does not maintain any general purpose (unpriced) freeway lanes, there may be a need to provide mitigations such as increased transit service, low income toll rates, or other strategies.



Table 3.2-4. Concept B evaluation: equity benefits and impacts

Performance measure	Concept B evaluation	Findings
Value or travel time savings for Title VI and/or Environmental Justice communities (regional)		Potential travel time benefit for Title VI and Environmental Justice communities.
Changes in travel time based on geographic zones		Potential for vehicle travel time reduction for the region, particularly along the I-5 corridor.
Access to jobs		Potential for some improved access to jobs for Title VI and Environmental Justice communities. Low wage job access shows slightly higher improvements than the overall average.

Legend: Performs well Performs moderately Performs poorly

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Value of travel time savings for Title VI and/or Environmental Justice communities

An improvement in overall travel time can be expected with this concept for Title VI and Environmental Justice communities in the region (low-income, people of color, and low English proficiency communities). The scale of travel time benefit is smaller than for Concept C but more than would be expected with Concepts A, D or E.

Travel time savings by geographic area

A reduction in vehicle travel time can be expected with this concept and the benefits would be experienced throughout the region. Trips to and from areas along the I-5 corridor (between the I-5 junction with I-205 and the Columbia River) would benefit most, including parts of Tigard, Tualatin, Lake Oswego, and central, north and northeast Portland.

Access to jobs

Concept B offers some potential improvement to the percent of regional jobs accessible within a 30-minute drive for Title VI and/or Environmental Justice communities. On average, approximately 1 percent more (from 32 percent to 33 percent) of all regional jobs would be accessible within a 30-minute drive during the morning peak hour. Access to low wage jobs would be expected to have slightly higher improvements than access to all jobs.

3.2.5 Benefits and impacts for the community, economy and environment

By pricing all lanes, Concept B would improve overall system efficiency, which yields moderate benefits in terms of time savings, reduction in regional vehicle miles traveled and reduction in air pollution. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.



Table 3.2-5. Concept B evaluation: benefits and impacts for the community, economy and environment

Performance measure	Concept B evaluation	Findings
Physical impacts to existing residences and businesses		No physical impacts expected.
Regional travel time savings		Potential for minor reduction in regional VHT. Benefit consistent throughout the day and highest in the AM peak hour.
Regional vehicle miles traveled (VMT) (including non-freeway)		Greater potential for reducing VMT than Concepts A or D or E, minor impacts anticipated.
Change in air pollution		No significant change expected. Some potential to slightly reduce regional vehicle emissions.
Value of travel time savings		Potential to provide travel time savings for the region as a whole. Has the second-highest benefit of all concepts evaluated.

Legend:
 Performs well
 Performs moderately
 Performs poorly

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Overall, the regional transportation system is expected to operate more efficiently as system-wide impacts show the potential to reduce total motor VHT, VMT and vehicle emissions.

This concept does not include building new lanes and, therefore, would not have any physical impacts to residents or businesses that run adjacent to the corridor.

3.2.6 Revenue and costs

Concept B would generate more revenue than single-lane concepts and would cover all toll collection and operating costs, as well as routine and periodic roadway operations and maintenance that would be incurred regardless of whether the lanes were priced. At this level of analysis, there are too many unknowns to determine how much funding for other capital projects would be generated, and whether it is significant enough to contribute to long-term rehabilitation and reconstruction of the corridor's infrastructure. This concept is relatively inexpensive to deploy. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.



Table 3.2-6. Concept B evaluation: revenue and cost

Performance measure	Concept B evaluation	Findings
Capital expenditure on facility		Higher than costs associated with concepts that only toll a single lane; not as costly as many highway capital projects.
Estimated gross toll revenue potential from tolled facility		Low-to-moderate total annual revenue and revenue per centerline mile. Likely provides excess revenue to designate to other capital projects, but at an unknown level of contribution.

Legend:

Performs well	Performs moderately	Performs poorly

Source: WSP, Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Capital expenditure on facility

Capital costs for converting general purpose lanes on I-5 for Concept B are higher than the costs associated with concepts that only toll a single lane, but not as costly as many major highway capital projects.

Gross toll revenue potential

The potential annual gross toll revenue estimate for Concept B is \$50 million (in 2017 dollars). The revenue estimates are calculated based on toll rates that vary for each segment and time of day based on traffic conditions. The modeling analysis adjusted the toll rates for each hour of the day to the level that maintains free flow traffic conditions on the tolled lanes throughout the day and during peak periods. The toll rates range between \$0.10 per mile during non-peak hours of the day and up to \$0.26 per mile during the peak. Estimated revenue would be sufficient to cover routine costs associated with toll collection and operations, roadway operations and maintenance, and periodic costs associated with rehabilitation and reconstruction of toll equipment. Estimated revenues hold the potential for excess revenue to be available to support capital investments and/or mitigation solutions. Appendix E includes additional information about revenue and cost assumptions.

3.2.7 Implementation

Concept B complies with applicable state and regional law and policy. The concept may qualify under the FHWA Value Pricing Project Program (VPPP) but would not qualify under the FHWA's Mainstream Tolling or HOV/HOT Lane Program. The concept could be deployed relatively quickly with minimal impact to other regional projects. Additional detail on all performance metrics are provided in the evaluation methods and assumptions matrix in Appendix A.



Table 3.2-7. Concept B evaluation: implementation

Performance measure	Concept B evaluation	Findings
Consistency with state law and policy		Consistent with state law and policy. Any tolling proposal would need to meet additional legal requirements.
Consistency with regional law and policy		Consistent with regional law and policy; likely coordination with Metro.
Feasibility under federal law		May qualify under FHWA VPPP program.
Project delivery schedule		No negative impacts to the delivery schedules of other projects.
Legend:	Performs well Performs moderately Performs poorly	Please see summaries below for additional assessment detail.

Source: WSP

Consistency with state and regional law and policy

Concept B is consistent with guidance and requirements found in state and regional laws and policies. Information on state and regional laws and policies is provided in Appendix F.

Feasibility under federal law

Concept B may qualify for FHWA's Value Pricing Pilot Program (Oregon has a slot), which may allow tolling of all existing general purpose lanes in the absence of reconstruction activities.

Project delivery schedule

Concept B can be developed relatively quickly without significant impact to other projects in the area. Discussion on state and local laws and policies is provided in Appendix F.



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3.3 Concept C: I-5 and I-205 Priced Roadway – Toll All Lanes

Concept C would implement pricing on all lanes of I-5 and I-205 from the Washington/Oregon state line to the I-5/I205 interchange near Tualatin. The following are key findings from the assessment of Concept C:

- Concept C generates the greatest overall benefit in terms of regional congestion reduction and travel time savings.
- Route diversion can be expected, which could be minimized through dynamic tolling.
- The concept would provide travel time savings and enhanced access to jobs for Title VI and Environmental Justice communities.
- Transit and multi-modal facilities can serve as travel alternatives though accessibility of these options varies over the I-5 and I-205 corridors.
- Because it does not maintain any general purpose (unpriced) freeway lanes, there may be a need to provide mitigations such as increased transit service, low income toll rates, or other strategies.
- Concept C would generate the largest amount of revenue compared to other concepts.



Figure 3-3. Round 2 Concept C: Priced Roadway – Toll All Lanes





3.3.1 Traffic operations improvement on I-5 and I-205

Concept C would result in the largest overall benefits for the region in terms of congestion reduction and improvement in travel times. However, diversion to the regional arterial network and other non-priced freeways is likely without mitigation. It is important to note that traffic operations results should be examined holistically instead of examination of just one or two performance measures to understand the full breadth of implications. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.3-1. Concept C evaluation: traffic operations improvement

Performance measure	Concept C evaluation	Findings
Vehicle and person throughput on I-5 and I-205		Modeling results indicate that there would be a reduction in vehicle and person throughput on I-5 and I-205, particularly during off-peak periods. It may be possible to minimize or eliminate this in practice through toll adjustments.
Freight truck throughput on I-5 and I-205		Modeling results indicate that freight truck throughput would be reduced. However, freight throughput can be managed with pricing policies post implementation to minimize diversion and maintain throughput.
Passenger vehicle travel time on I-5 and I-205		Major improvements in travel times on all segments of I-5 and I-205.
Passenger vehicle travel time on managed lanes	N/A	Not applicable.
Freight truck travel time on I-5 and I-205		Freight travel times mirror passenger vehicle travel times in this concept.
Assessment of change in duration of peak vehicle traffic conditions		All segments of I-5 and I-205 indicate reductions in the possibility of encountering hyper-congested conditions, indicating a reduction in the duration of congested travel. This is confirmed by the reduction in peak hour VHT for the region as a whole.
Delay on priced facility		Reduced delay on all segments of both I-5 and I-205.
Safety impacts		Some limited potential to decrease the frequency and severity of overall crashes in the region.
Trip length distribution		No significant changes are expected. Some limited potential to reduce overall freeway trip lengths as users seek to limit payments under assumed distance-based toll.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Vehicle and person throughput on I-5 and I-205

The modeling results show that Concept C could reduce vehicle volumes, particularly during off-peak periods. The use of dynamic pricing would allow volumes to be



managed in response to traffic conditions. This would allow for more efficient traffic flow overall. Overall regional VMT and VHT are reduced with Concept C, an indication the network is performing more efficiently overall.

As noted, Concept C could reduce daily vehicle and person throughput on both facilities when compared to the baseline. However, the reduction is smaller during the peak periods, and may explain why the overall network performance shows increased efficiency. Some segments of I-5 and I-205 have higher throughput than the baseline during the peak hour, but the trend overall is moderately lower.

The model used in this analysis applied off-peak toll rates that may have been higher than required and resulted in more vehicle diversion than would be desired in these off-peak travel hours. It is also possible that the toll rates modeled during the peak travel hours had the same effect. Toll rates could be managed to balance freeway performance and vehicle diversion.

Freight truck throughput on I-5 and I-205

Concept C results in lower daily truck throughput on both facilities relative to the baseline. The magnitude of this reduction is greater during the peak hours. Freight throughput can be managed post implementation through changes to the tolling schedule if needed to minimize diversion and maintain throughput.

Passenger vehicle travel time on I-5 and I-205

Concept C results in the largest travel time savings of all the tolling concepts. Travel time savings during the peak hours range from 5 to 9 minutes depending on the corridor and direction of travel. In some cases, this represents a more than a 20 percent reduction in travel time. During off-peak hours, the travel time savings are more modest.

Passenger vehicle travel time on managed lanes.

Concept C has no priced managed lanes in operation.

Freight truck travel time on I-5 and I-205.

Freight vehicles travel in the general purpose lane of I-5 and I-205. As such, the travel time for freight vehicles shows the same improvement as passenger cars.

Assessment of change in duration of congested traffic conditions

Concept C does the most to reduce the probability of experiencing congested conditions compared to other concepts analyzed. During the 7 AM peak hour, the probability of hyper-congestion is reduced by 25 to 50 percent. During the 5 PM peak hour, it is reduced by between 33 to 66 percent.

Delay on priced facilities

Concept C significantly reduces hours of delay during peak periods on both I-5 and I-205 by between 25 to 50 percent depending on the location and time.

Safety

Hyper-congested freeways can create high variances in motor vehicle speeds, especially when approaching a queue, which can result in crashes. Removing hyper-



congestion reduces speed differentials and can therefore reduce the opportunity for crashes on freeways. The freeway performance improvements described above for Concept C, paired with overall region-wide reductions in VMT, would be expected to improve overall safety in the region.

Trip length distribution




No substantial changes to trip length distribution are expected to result from this concept. There is some limited potential to reduce overall freeway trip lengths as users seek to limit payments under an assumed distance-based toll.

3.3.2 Diversion of traffic

The application of pricing to all lanes of I-5 and I-205 within the overall study area is anticipated to result in diversion to arterials and surface streets under Concept C. This could negatively impact safety for bicyclists and pedestrians, as well as drivers on these roads without mitigation. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.3-2. Concept C evaluation: diversion of traffic

Performance measure	Concept C evaluation	Findings
Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion	○	The diversion of trips from a priced facility to adjacent arterials and other roadways could increase the need for safety mitigation on those facilities.
Diversion impacts on non-tolled facilities	○	Potential for diversion impacts is higher than other concepts. Potential impacts have a wide geographic spread between I-5 and I-205.

Legend:	Performs well 	Performs moderately 	Performs poorly 
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Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Concept C analysis showed high potential for diversion impacts without mitigation. The analysis produced mixed results for changes in freeway volumes, with some freeway segments showing increased throughput during peak demand periods (when hyper-congestion could be relieved) and others showing decreased volume. The impacts vary by time of day, direction and highway. Overall daily impacts show an average decrease of 150 to 250 vehicles per hour on I-5 (each direction) and 250 to 350 fewer vehicles per hour on I-205 (each direction).

The impact of diversion away from freeways is expected to be distributed over many major roadways in the region, particularly north-south routes that are alternatives to I-5 and I-205. Model results indicate most diversion would occur in off-peak periods.

Where diversion from freeways could increase demand on other roadways, the likelihood of motor vehicle crashes could increase. Additionally, non-vehicular travel mode road users (e.g., bicyclists and pedestrians) on diversion routes could experience



increased conflicts with motor vehicles during off-peak periods, which could increase crash frequency.

Safety impacts could occur along segments and at intersections on the diversion routes, as increased motor vehicle volume is an indicator of increased crash potential. It should be noted that surface streets (non-freeway roadways) with higher levels of congestion generally exhibit lower serious crash rates per mile than uncongested surface streets.¹⁰

3.3.3 Transit service and active transportation

Concept C performs well in some aspects of transit service and active transportation but not as well in other areas. This is primarily due to the size of the concept relative to the others. The primary benefits to transit occur around downtown Portland and the inner core of I-205 near the Gateway Transit Center and at the intersection of I-84 and I-205. However, the southern areas of the concept lack transit service and, in particular, frequent service lines (e.g. in Clackamas County). Furthermore, bicycle and pedestrian infrastructure is almost non-existent in the southern areas of the concept. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.3-3. Concept C evaluation: transit service and active transportation

Performance measure	Concept C evaluation	Findings
Adequacy of transit service		36 total transit lines running. 26 lines from TriMet, eight from C-Tran, and 1 from SMART. A total of 11 frequent service lines, four of which are MAX trains. 12 park-and-ride and seven transit centers exist directly along this concept corridor.
Bus transit travel time		Time savings for AM peak and PM Peak (northbound/southbound). Eight C-Tran express bus routes and two TriMet routes would benefit.
Mode share shift (HOV, SOV, transit, walk, bike)		Could produce changes in regional mode share. Potential to discourage SOV trips, with shifts to HOV, transit, and active modes. Overall shift away from SOV travel would be less than 1% of regional trips.
Availability of bicycle travel on alternative routes		335 total miles of bike lanes within a 1-mile buffer. Dozens of parallel paths depending on the location. Gaps exist, especially in the southern and eastern parts of the concept corridor.
Completeness of pedestrian network		416 total street miles of sidewalks. 9 miles of sidewalk per mile of corridor length within a half-mile buffer.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, WSP

¹⁰ Metro State of Safety Report, April 2012



Adequacy of transit service

Concept C features the most transit options with 28 bus routes, five current and future MAX lines, two streetcar lines, and the WES commuter rail line, but it is also the largest concept in terms of geographic area. This limits its effectiveness in terms of transit service evaluation. Through downtown Portland and inner east Portland areas, transit options are plentiful and provide frequent service. There are also large numbers of park-and-ride lots (12) and seven transit centers. However, the southern areas of both corridors lack service as few lines run parallel to either I-5 or especially I-205. The few lines that do run parallel to these corridors either do not run a sufficient length and/or do not offer frequent service.

Bus transit travel time

Concept C provides the highest amount of potential travel time savings along I-5 and I-205. Eight C-Tran routes currently use the concept corridor for express bus service between downtown Portland, Lloyd Center, and Delta Park MAX station to Vancouver. TriMet currently operates two bus routes along this concept corridor. SMART has one route that travels from Wilsonville to the Barbur Transit Station on I-5. Given the potential savings, there is also the possibility to add express bus service along either I-5 or I-205. I-205 along the southern corridor and near the Abernethy Bridge may benefit the most from a new service as it is currently the only section of highway that does not have a current or planned MAX/high-capacity transit line.

Mode share shift

By pricing all lanes of I-5 and I-205 within the study corridor, Concept C has the largest potential mode shift. The pricing of the entire corridor for both facilities would create an incentive to form carpools to reduce the individual burden of tolls or to use transit, bikes or walking to avoid tolls altogether. However, when analyzed over the entire region, the cumulative shift away from SOV travel is anticipated to be less than 1 percent of all regional trips.

Availability of bicycle travel

Concept C has the most bicycle infrastructure with 335 total miles, but this is unequally distributed among the 45 centerline miles of the corridors. As such, some segments of the concept's corridors perform very well. Portland central city and the I-205 east Portland sections have adequate bicycle travel options with multiple parallel bike lanes and paths. I-205 is also home to the I-205 trail, which runs directly parallel to the corridor concept from Abernethy Bridge to Vancouver. However, gaps persist in the overall network. The southern end of the corridor has very few bike facilities, and entire sections of the corridor often have no parallel bike paths. This provides cyclists with few, if any, options to travel the entire length of I-5 or I-205.

Completeness of pedestrian network

Concept C covers the most geographic area and, therefore, is the most challenging to assess in terms of pedestrian network completeness. This is primarily because of the large gaps in the far north segment of I-5 north of Columbia Boulevard, the far south segments of I-5 and I-205, and the general spottiness of the pedestrian network in the



eastern side of the corridor. Pedestrians are likely to encounter at least some gaps unless they are in inner Portland.

3.3.4 Equity benefits and impacts

Concept C offers travel time benefits for Title VI and Environmental Justice communities in the region. Performance measures in other categories also relate to equity, although they are not specifically categorized as such. Additional detail on this and other performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Because this concept does not maintain any general purpose (unpriced) freeway lanes, there may be a need to provide mitigations such as increased transit service, low income toll rates, or other strategies.

Table 3.3-4. Concept C evaluation: equity benefits and impacts

Performance measure	Concept C evaluation	Findings
Value or travel time savings for Title VI and/or Environmental Justice communities (regional)	●	Highest potential travel time benefit for Title VI and Environmental Justice communities.
Changes in travel time based on geographic zones	●	Highest potential vehicle travel time reductions for the region. Benefits would be experienced region-wide.
Access to jobs	●	Greatest potential to improve access to jobs for Title VI and Environmental Justice communities. Low wage jobs have slightly higher improvements than the overall average.

Legend:

Performs well	Performs moderately	Performs poorly
●	◐	○

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Value of travel time savings for Title VI and/or Environmental Justice communities

A benefit in overall travel time can be expected with this concept for Title VI and Environmental Justice communities in the region (low-income, people of color, and low English proficiency communities). The scale of travel time benefit is larger than for any other concept.

Travel time savings by geographic area

A reduction in vehicle travel time can be expected with this concept, and the benefits would be experienced throughout the region and into southern Washington. Trips to and from areas along the I-5 and I-205 corridors would benefit most, including parts of Wilsonville, Tualatin, Tigard, Beaverton, Lake Oswego, Portland, West Linn, and Oregon City.



Access to jobs

Concept C offers potential improvement to the percent of regional jobs accessible within a 30-minute drive for Title VI and/or Environmental Justice communities. On average, approximately 3 percent more (from 32 percent to 35 percent) of all regional jobs would be accessible within a 30-minute drive during the morning peak hour. The benefits are more evident for low-wage jobs, as approximately 5 percent more of regional low-wage jobs would be accessible in the morning peak hour. The off-peak period also shows potential for improving the share of regional jobs that can be accessed within a 30-minute drive by approximately 2 percent.

3.3.5 Benefits and impacts for the community, economy and environment

Concept C is anticipated to generate the largest travel time savings for the region and could decrease regional vehicle miles traveled. The benefits of travel time savings are likely to be distributed across the entire regional network. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.3-5. Concept C evaluation: benefits and impacts for the community, economy and environment

Performance measure	Concept C evaluation	Findings
Physical impacts to existing residences and businesses		No physical impacts expected.
Regional travel time savings		Highest potential to decrease regional VHT, with a daily decrease of up to 5%.
Regional vehicle miles traveled (VMT) (including non-freeway)		Could decrease regional VMT, up to 2% across all time periods.
Change in air pollution		Some potential to reduce regional vehicle emissions.
Value of travel time savings		Highest potential to provide regional travel time benefit for motor vehicles.

Legend:

Performs well	Performs moderately	Performs poorly

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Overall, the regional transportation system is expected to operate more efficiently as system-wide impacts show the potential to reduce total motor VHT and VMT.

Air pollution impacts (vehicle emissions) of Concept C are challenging to estimate at the regional level because of the scale of potential changes and the dynamics that influence vehicle emissions. While model results indicate a potential exists to reduce regional vehicle emissions if Concept C were implemented, the ultimate outcome is not definitive.

This concept does not include construction of any additional new lanes (beyond the baseline 2027 assumptions) and, therefore, would not have any physical impacts to residents or businesses that run adjacent to the corridor.



3.3.6 Revenue and costs

Concept C generates the greatest amount of revenue of the concepts analyzed, which may cover all routine and periodic roadway facility operation and maintenance costs. The concept would require the largest capital expenditure in terms of tolling equipment. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.3-6. Concept C evaluation: revenue and cost

Performance measure	Concept C evaluation	Findings
Capital expenditure on facility	●	Requires the largest capital expenditure for toll equipment but not as costly as many highway capital projects.
Estimated gross toll revenue potential from tolled facility	●	Highest total annual revenue, moderate-to-high daily revenue per centerline mile. Results in excess revenue to designate to other capital projects, but at an unknown level of contribution.

Legend: Performs well Performs moderately Performs poorly

● ◐ ○

Source: WSP, Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Capital expenditure on facility

Concept C requires the largest capital expenditure for toll equipment as the concept covers the entirety of I-5 and I-205 within the study area. Capital costs would be less than many major highway capital projects.

Gross toll revenue potential

The potential annual gross toll revenue estimate for Concept C is approximately \$300 million (in 2017 dollars), the highest of all five concepts. About 55 percent of this revenue will be generated by I-5 and 45 percent generated by I-205. The revenue estimates were calculated based on toll rates that vary for each segment and time of day based on traffic conditions. The modeling analysis adjusted the toll rates for each hour of the day to the level that maintains free flow traffic conditions on I-5 and I-205 throughout the day and during peak periods. The toll rates range from \$0.17 per mile during off-peak hours to \$0.38 per mile during peak hours. In addition to covering routine toll collection and operations as well as roadway operations and maintenance costs, Concept C revenues would likely be sufficient to cover periodic toll system rehabilitation and reconstruction costs, roadway rehabilitation and reconstruction costs, and support capital investments and/or mitigation solutions. Appendix E includes additional information about revenue and cost assumptions.



3.3.7 Implementation

Concept C is consistent with state and regional laws and policies. The concept could qualify under the FHWA Value Pricing Pilot Program but would not qualify under FHWA's Mainstream Tolling or HOV/HOT Lane Program. The system would be deployed slower than concepts A and B, given its geographic size, but construction costs and construction timing would be far shorter than that required to add lanes to a facility. Development and implementation would not negatively impact regional project schedules. Additional detail on all performance metrics are provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.3-7. Concept C evaluation: implementation

Performance measure	Concept C evaluation	Findings
Consistency with state law and policy		Consistent with state law and policy. Any tolling proposal would need to meet additional legal requirements.
Consistency with regional law and policy		Consistent with regional law and policy; likely coordination with Metro.
Feasibility under federal law		May qualify for VPPP (Oregon has a slot).
Project delivery schedule		No negative impacts to the delivery schedules of other projects.

Legend:
 Performs well
 Performs moderately
 Performs poorly
Please see summaries below for additional assessment detail.

Source: WSP

Consistency with state and regional law and policy

Concept C is consistent with state and regional laws and policies. Information on state and regional laws and policies is provided in Appendix F.

Feasibility under federal law

Concept C may qualify for FHWA's Value Pricing Pilot Program (Oregon has a slot), which allows for the tolling of pre-existing general purpose that are not being reconstructed using toll revenues.

Project delivery schedule

Concept C would not require construction of new roadway lanes; however, because it is being implemented over the entirety of the I-5 and I-205 corridors, it would take longer to develop than the smaller-scale concepts. It is not expected to impact regional project delivery schedules.



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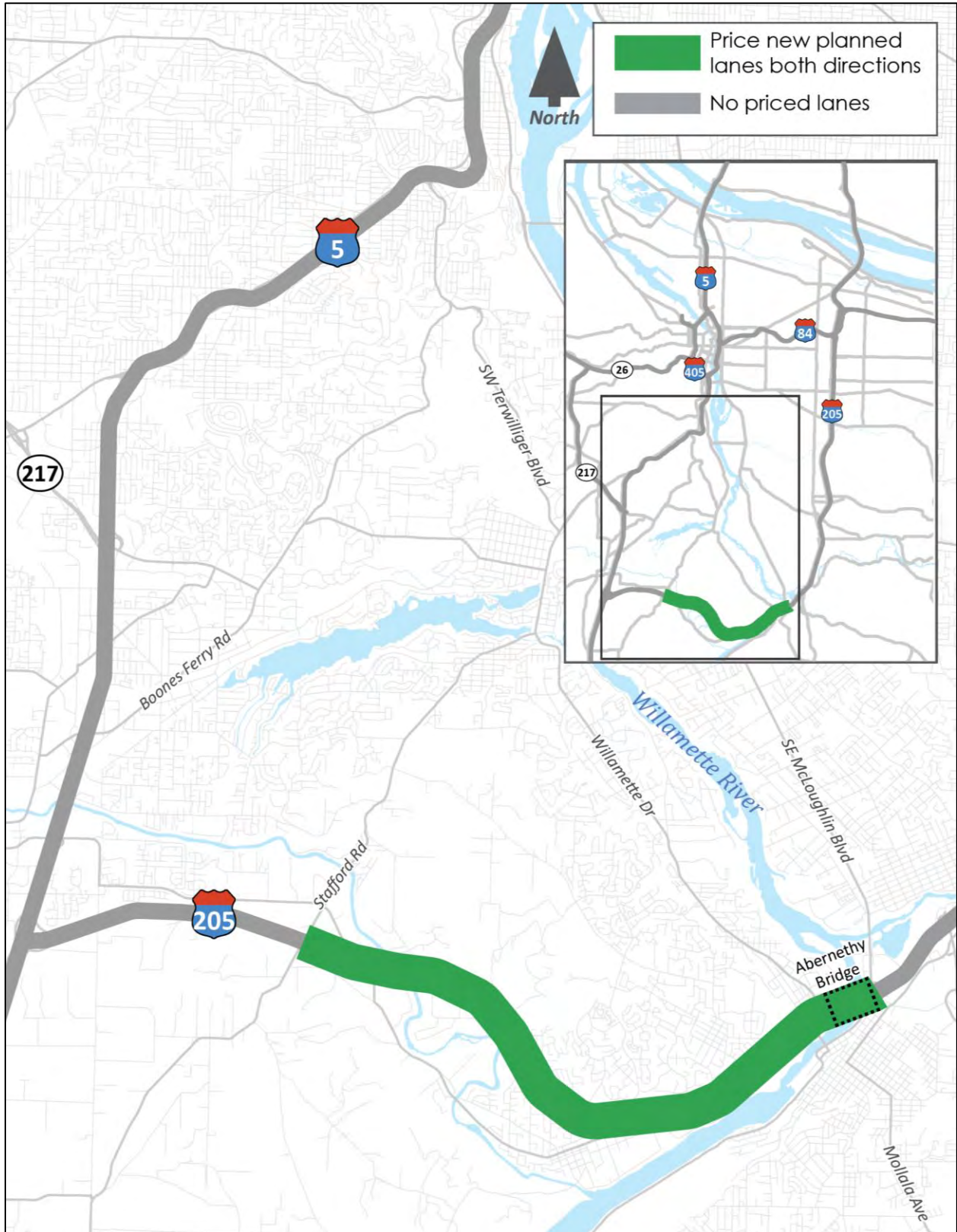
3.4 Concept D: I-205 Priced Lane – OR99E to Stafford Road

Concept D would price future additional third lanes in each direction currently planned but not funded for construction on I-205 from OR99E to Stafford Road, including widening of the Abernethy Bridge. Existing general purpose lanes in each direction would remain unpriced. The future planned project was considered part of the 2027 baseline for all concepts in the evaluation. Key findings from the assessment of Concept D are as follows:

- Congestion reduction is minimal, though the concept slightly reduces congestion along the priced portion of I-205.
- Diversion may occur but it is likely to be minimal.
- The concept area provides very few travel alternatives such as transit and active modes.
- Regarding user costs, this concept maintains two unpriced lanes in each direction; at the same time, the toll amount per user would be higher than all-tolled corridor options, which is consistent among single-lane pricing concepts.
- Concept D may be the quickest to implement from a federal perspective.



Figure 3-4. Round 2 Concept D: I-205 Priced Lane – OR99E to Stafford Road





3.4.1 Traffic operations improvement on I-5 and I-205

Concept D results in travel time improvements for users of the priced lanes. Diversion is minimal. Additional detail on this group of performance metrics can be found in the evaluation methods and assumptions matrix in Appendix E.

Table 3.4-1. Concept D evaluation: traffic operations improvement

Performance measure	Concept D evaluation	Findings
Vehicle and person throughput on I-5 and I-205		Moderate increases in person throughput during the peak hour on I-205. This is likely because this is a managed lane scenario and higher occupancy vehicles have a preference. Vehicle throughput is changed to a far lesser degree.
Freight truck throughput on I-5 and I-205		Moderate increases in truck throughput on I-5, but these are offset by decreases on I-205. Trucks are also assumed to not be able to access the managed lane based on current state law and practice around the country. Freight vehicles will receive some benefit from minor decreases in travel time in the general purpose lanes on I-205 in the vicinity of the improvement.
Passenger vehicle travel time on I-5 and I-205		No significant impacts to travel time on I-5 or I-205. There are improvements in travel time on the managed lanes themselves.
Passenger vehicle travel time on managed lanes		For vehicles using the managed lanes, there are improvements in travel time.
Freight truck travel time on I-5 and I-205		No differences in travel time compared with the baseline for trucks on I-5 or I-205.
Assessment of change in duration of peak vehicle traffic conditions		Moderate improvement on I-205 for the duration of congested travel. This does not translate to I-5.
Delay on priced facility		Moderate improvements in delay on the priced facility.
Safety impacts		Potential to decrease the frequency and severity of crashes in the priced section of corridor.
Trip length distribution		No significant changes to freeway trip lengths are expected overall. Some longer-distance trips may switch from I-5 to I-205 to take advantage of performance improvements on the tolled segment.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Vehicle and person throughput on I-5 and I-205

Concept D results in little change in daily vehicle throughput relative to the baseline. All-day vehicle volumes are essentially unchanged but, during the peak hours and in the peak direction, vehicle volumes could increase slightly on I-205 relative to the baseline condition.



All-day person throughput is relatively unchanged compared to the baseline with peak hour, peak direction person throughput on I-205 increasing slightly (about 5 percent in the northbound direction in the 5 PM hour and 7 percent in the southbound direction during the 7 AM peak hour).

Freight truck throughput on I-5 and I-205

Concept D results in modest shifts in daily truck volumes from I-205 (with the priced lane) to I-5 (the facility without the priced lane) with shifts during the peak periods being higher. In Concept D, a single lane in each direction is converted from a general purpose lane to a toll managed lane. Since trucks cannot access the managed lanes, and since general purpose capacity is lower when compared with the baseline, this change in truck routing from I-205 to I-5 is expected. However, freight vehicles should receive some benefit from minor decreases in travel time in the general purpose lanes on I-205 in the vicinity of the improvement.

Passenger vehicle travel time on I-5 and I-205

Concept D results in only modest changes in travel times in the general purpose lanes when compared with the baseline. During peak hours, travel times in the general purpose lanes increase slightly on the segments of I-205 where the priced managed lane is implemented, but total corridor travel times increase very modestly.

Passenger vehicle travel time on managed lanes

Concept D provides a toll managed lane alternative to the general purpose lanes on the southern portion of I-205. As such, users experience travel time savings for the entire corridor of between 7 and 9 percent during peak hours. For the specific segment where the priced managed lanes are operating, the time savings are greater on a percent basis (between 13 and 34 percent).

Freight truck travel time on I-5 and I-205

Freight vehicles travel in the general purpose lanes of I-5 and I-205 in this concept, not the priced lanes. As such, the travel time for freight vehicles is the same as corresponding travel times for passenger vehicles in the general purpose lanes.

Assessment of change in duration of congested traffic conditions

Concept D results in modest reductions in congested conditions on I-205 where the priced managed lane is offered. During the 7 AM peak hour, the chance of encountering hyper-congestion on I-205 is reduced from the baseline condition (28 percent in the northbound and 36 percent in the southbound) to 24 percent for the northbound direction and 31 percent for the southbound. Furthermore, during the 5 PM hour, the chance of hyper-congestion on I-205 is reduced from the baseline condition (30 percent for the northbound and 21 percent for the southbound) to 25 percent in the northbound direction and 19 percent in the southbound.

Delay on priced facilities

Concept D reduces delay in the parts of the corridors where managed lanes are operational. This reduction is more pronounced (up to 10 percent) during peak hours.



Safety

Concept D could potentially reduce crashes within the priced lanes by improving traffic flows. However, there is the potential for these benefits to be offset in part by increased crashes in the general purpose lanes.

Trip length distribution

No significant changes to trip length distribution are expected to result from this concept.

3.4.2 Diversion of traffic

Concept D is not anticipated to generate levels of diversion that may negatively impact safety. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.4-2. Concept D evaluation: diversion of traffic

Performance measure	Concept D evaluation	Findings
Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion		No substantial diversion impacts are expected.
Diversion impacts on non-tolled facilities		No substantial traffic diversion impacts.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Overall, diversion is expected to be minimal. However, some changes to traffic circulation patterns may occur. While the scale of diversion is expected to be small, potential locations where increases in roadway volumes could occur include the following:

- Borland Road/Willamette Falls Drive [Stafford Road to Willamette Drive]
- McLoughlin Boulevard [I-205 to Roethe Road]
- Pacific Highway (OR 99E) [I-205 to south of Metro area]
- Trails End Highway (OR 213) [I-205 to south of Metro area]

This concept would likely not result in significant diversion of vehicular traffic from the freeway to arterials or other roads. Therefore, effects to road users (vehicular, bicyclists or pedestrians) are expected to be minimal.

3.4.3 Transit service and active transportation

Concept D performs the worst of any of the concepts in terms of transit service and active transportation. There are no parallel running transit lines, very few bicycle facilities and the pedestrian network is almost non-existent. What pedestrian infrastructure there is has little to no connectivity. Additional detail on this group of



performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.4-3. Concept D evaluation: transit service and active transportation

Performance measure	Concept D evaluation	Findings
Adequacy of transit service		A total of three transit lines, all run by TriMet. Only a single frequent service line, and only a single transit center. No park-and-rides exist in the area.
Bus transit travel time		Minimal time savings for AM peak and PM peak (northbound/southbound). One TriMet route would marginally benefit.
Mode share shift (HOV, SOV, transit, walk, bike)		Minimal impacts on regional mode share. Slight potential to shift SOV to HOV.
Availability of bicycle travel on alternative routes		Just over 28 miles of bike lanes within a 1-mile buffer. Zero parallel paths that run the distance of the concept corridor. Gaps exist along every part of the corridor.
Completeness of pedestrian network		37 total street miles of sidewalks. 6 miles of sidewalk/mile of corridor length within a half-mile buffer.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, WSP

Adequacy of transit service

Concept D performs poorly from a transit perspective. Only three bus routes intersect the Concept D corridor. Only a single bus route runs parallel to the concept corridor for any meaningful length and it does not provide frequent service. For much of the day, bus headways are one hour. The other two bus routes run only slightly parallel to the corridor length but not enough to make them reasonable alternatives. A single transit center exists along the concept corridor and no park-and-rides exist in the area.

Bus transit travel time

Concept D provides only a modest amount of potential travel time savings along I-205. TriMet currently operates one bus route along this section of the freeway, but only over the Abernethy Bridge. Furthermore, there is unlikely to be any incentive for adding a new TriMet express freeway service.

Mode share shift

Concept D is anticipated to have minimal to no impact on regional mode share. What little mode shift may occur would likely be from SOV to HOV modes.



Availability of bicycle travel

Concept D performed poorly for bicycle travel options. While some bike lanes exist near the corridor, only few sections are parallel, and those run for only a small segment to the east. No paths run parallel to the full length of this concept corridor. Cyclists have no alternative options to ride for the length of the concept corridor. Finally, this concept area has severe gaps in the existing bicycle network. What bicycle lanes do exist only run for a few hundred feet before ending.

Completeness of pedestrian network

Concept D performed poorly for pedestrian network completeness. The pedestrian networks that exist are fragmented and end in many cul-de-sacs. A very small, tight sidewalk network is located near the Abernethy Bridge, but it is much too small to be of use to those who live in the western areas of the network.

3.4.4 Equity benefits and impacts

Concept D offers some minimal travel time benefits to the region, but it does not provide much travel time benefits for Title VI and Environmental Justice communities. Performance measures in other categories also relate to equity, although they are not specifically categorized as such. Additional detail on this and other performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Regarding user costs, this concept maintains two unpriced lanes in each direction. At the same time, the toll amount per user would be higher, which is consistent among single-lane pricing concepts.

Table 3.4-4. Concept D evaluation: equity benefits and impacts

Performance measure	Concept D evaluation	Findings
Value or travel time savings for Title VI and/or Environmental Justice communities (regional)		Small travel time benefit for Title VI and Environmental Justice communities.
Changes in travel time based on geographic zones		Small travel time benefit for the region.
Access to jobs		No significant impact on job access for Title VI and/or Environmental Justice communities.

Legend: Performs well Performs moderately Performs poorly

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Value of travel time savings for Title VI and/or Environmental Justice communities

A small benefit in overall travel time can be expected with this concept for Title VI and Environmental Justice communities in the region (low-income, people of color, and low English proficiency communities). The scale of the travel time benefit is relatively small, but greater than in Concept A.



Travel time savings by geographic area

A small improvement in vehicle travel time can be expected with this concept. Benefits to the region are focused on the south side of the Portland Metro area. Trips to and from West Linn, Oregon City, Tualatin, Tigard, Wilsonville, and parts of Portland would benefit most.

Access to jobs

Concept D offers no significant change to the percent of regional jobs accessible within a 30-minute drive for Title VI or Environmental Justice communities.

3.4.5 Benefits and impacts for the community, economy and environment

Concept D analysis shows minimal impact on travel time savings or regional vehicle miles traveled. The construction of new capacity could impact nearby residences and businesses. However, the new lanes are already planned for the corridor (and considered part of the baseline for all concepts analyzed). Construction will have impacts regardless of whether they are constructed as general purpose lanes or as priced lanes. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.4-5. Concept D evaluation: benefits and impacts for the community, economy and environment

Performance measure	Concept D evaluation	Findings
Physical impacts to existing residences and businesses		Limited physical impacts might be expected (the additional lane and bridge widening are considered part of the baseline for all concepts).
Regional travel time savings		Minimal impact on overall regional VHT. Potential for reduction of regional VHT is highest during the AM peak period.
Regional vehicle miles traveled (VMT) (including non-freeway)		No significant change in regional VMT.
Change in air pollution		No significant change expected. Some potential to slightly reduce regional vehicle emissions.
Value of travel time savings		Potential to provide a small regional travel time benefit for motor vehicles. Has the second-smallest benefit of all concepts evaluated.
Legend:	Performs well Performs moderately Performs poorly	

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Overall, the regional transportation system shows some potential to operate more efficiently as system-wide impacts show the potential to slightly reduce total motor VHT. There is potential for a small increase (less than 0.1%) in overall VMT due to out-of-





direction travel to the southern portion of I-205, which would benefit from improved performance during peak hours.




Though this concept is anticipated to toll new lanes, the new lanes are planned and included in the baseline for this study. It should be noted that the planned project could have limited physical impacts to adjacent residences and businesses (with or without pricing in place).

3.4.6 Revenue and costs

Concept D generates relatively little revenue, though shows low capital costs as tolling is anticipated for a relatively short distance in a single lane each direction. Additional detail on this group of performance metrics is provided in the evaluation methods and assumptions matrix in Appendix A.

Table 3.4-6. Concept D evaluation: revenue and cost

Performance measure	Concept D evaluation	Findings
Capital expenditure on facility		Low capital costs as tolling is only anticipated for a relatively short distance in a single lane (each direction). ^a
Estimated gross toll revenue potential from tolled facility		Lowest total annual revenue and daily revenue per centerline mile. Sufficient revenue for capital investments would likely not be available.

Legend:
 Performs well: 
 Performs moderately: 
 Performs poorly: 

Note: All concepts assume construction of a third lane on I-205 between Stafford Road and OR99E will be operational by 2027. However, if construction of the third lane were to be funded through toll revenues, this assessment would be poor. Source: WSP, Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Capital expenditures on facility

For this feasibility analysis, the roadway improvement project to add a lane to I-205 along this concept's corridor (including Abernethy Bridge widening) was assumed to be independent of tolling the new lane. As a result, Concept D would likely have low capital costs as tolling is only anticipated for a relatively short distance in these lanes. If tolling revenue is identified as a funding source for the project, the capital cost of constructing the new planned lanes would not be fully covered by the anticipated revenues from this concept.

Gross toll revenue potential

The potential annual gross toll revenue estimate for Concept D is \$20 million (in 2017 dollars), one of the two lowest of the five concepts. The revenue estimates were calculated based on toll rates that vary for each segment and time of day based on traffic conditions. The modeling analysis adjusted the toll rates for each hour of the day to the level that maintains free flow traffic conditions on the tolled lanes throughout the



day and during peak periods. The toll rates range between \$0.16 per mile during non-peak hours to a high of \$1.05 per mile during the peak. Estimated revenue would be sufficient to cover routine costs associated with toll collection and operations, roadway operations and maintenance, and periodic costs associated with rehabilitation and reconstruction of toll equipment. However, estimated revenues may not be sufficient to cover roadway rehabilitation and reconstruction costs that would be required regardless of the lane being tolled. Excess revenue would likely not be available for significant contributions to capital improvements. Appendix E includes additional information about revenue and cost assumptions.

3.4.7 Implementation

Concept D is consistent with state and regional law and policy. The concept qualifies under FHWA's Mainstream Tolling program if the planned new lanes on I-205 are constructed as priced facilities. However, if new lanes were to be constructed and then converted to priced lanes, the authority would be granted under the Value Pricing Pilot Program. The implementation of this concept would not impact other projects, but could require additional design time for the planned project due to the need to address tolling facility design considerations. Developing the new lanes as priced lanes could accelerate their construction. Additional detail on this group of performance metrics is provided in the evaluation matrix in Appendix A.

Table 3.4-7. Concept D evaluation: implementation

Performance measure	Concept D evaluation	Findings
Consistency with state law and policy		Consistent with state law and policy. Any tolling proposal would need to meet additional legal requirements.
Consistency with regional law and policy		Consistent with regional law and policy; likely coordination with Metro.
Feasibility under federal law		Qualifies under Section 129 of U.S. Title 23 for tolling if implemented at time of construction. Otherwise VPPP.
Project delivery schedule		Potential for construction acceleration; may need additional design time to reflect tolling.
Legend:	Performs well Performs moderately Performs poorly	Please see summaries below for additional assessment detail.

Source: WSP

Consistency with state and regional law and policy

Concept D is consistent with guidance and requirements found in state and regional laws and policies. Discussion on state and regional laws and policies is provided in Appendix F.



Feasibility under federal law

Concept D would qualify for implementation under Section 129 of U.S. Title 23 if the planned additional lanes were constructed as priced lanes. However, if the new lanes were to be constructed as general purpose lanes and then converted to priced lanes, then the Value Pricing Pilot Program applies.

Project delivery schedule

It is possible, but not likely, that revenues from Concept D could accelerate construction of the planned additional lane between Stafford Road and OR 99E. There is risk of a need to modify existing design work to reflect tolling design considerations (e.g. buffer between managed lane and general purpose lane).



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3.5 Concept E: Abernethy Bridge Priced Roadway

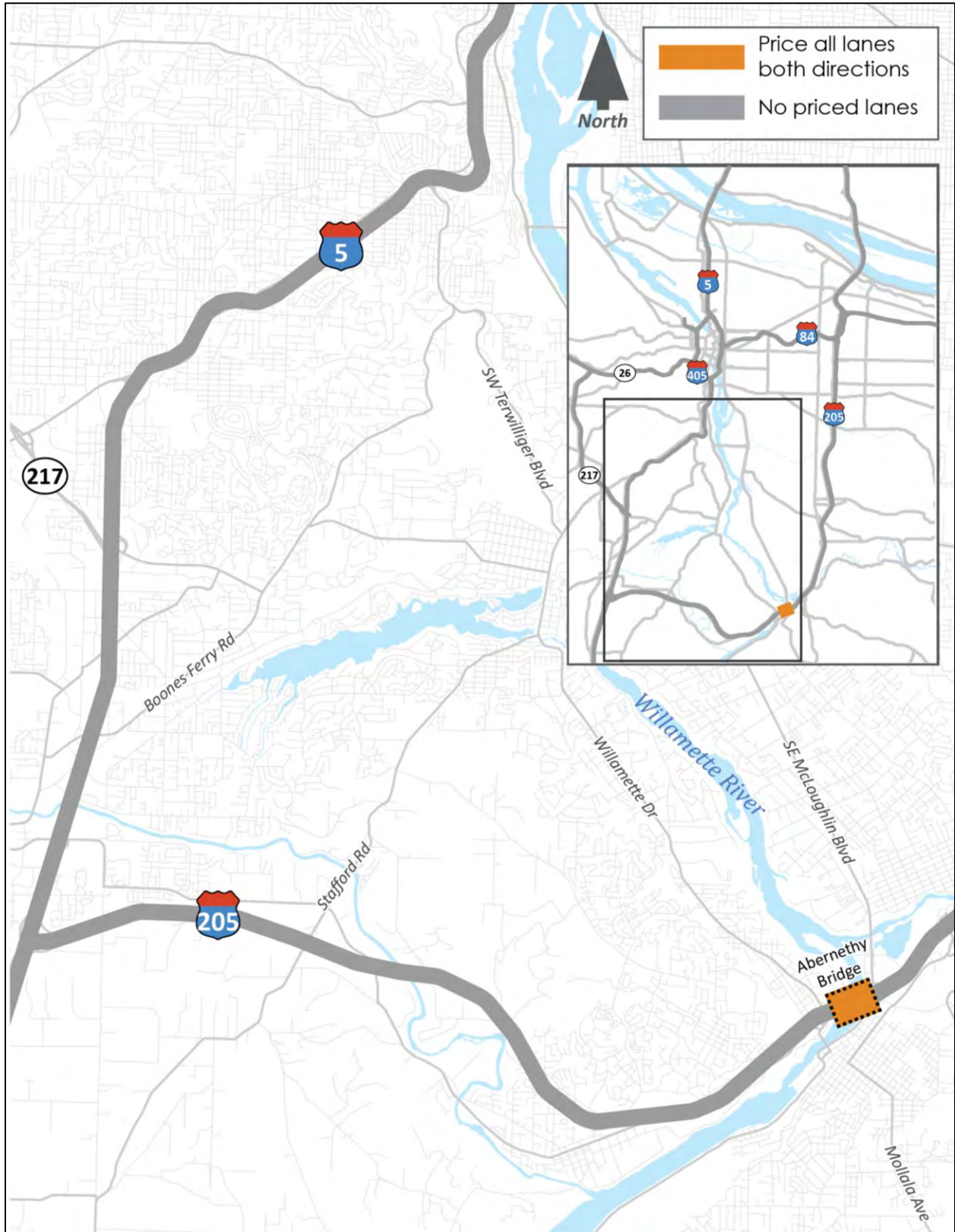
Concept E (Figure 12) applies pricing on all existing lanes of the Abernethy Bridge as well as additional lanes to be constructed as part of the planned bridge widening. This Concept has a different primary objective than Concepts A through D. Rather than pricing to relieve congestion, Concept E was evaluated as a strategy to help reduce congestion by funding a bottleneck relief project that would add a third lane in each direction on I-205 from OR99E to Stafford Road and widening of the Abernethy Bridge. Therefore, revenue generation was the primary objective of this Concept.

The following are key findings from the assessment of Concept E.

- Congestion reduction and travel time savings would occur for drivers on I-205; particularly near the Abernethy Bridge.
- Some traffic, particularly freight traffic, would be diverted to I-5, with longer distance trips attracted to I-5, slightly increasing I-5 travel times.
- There is a high probability of diversion to other facilities as some vehicles seek to avoid the toll (although some trips may also be diverted to different modes or times of day). Strategies to minimize traffic diversion onto the local street network would need to be examined as part of the future NEPA process if this concept is pursued further.
- Because it does not maintain any general purpose (unpriced) freeway lanes, there may be a need to provide mitigations such as increased transit service, low income toll rates, or other strategies.
- Pricing all lanes on the Abernethy Bridge would likely generate sufficient revenue over time to fund bridge expansion, as well as all or a portion of the additional lane in both directions on I-205 from the bridge to Stafford Road (as well as covering tolling operations and freeway operation and maintenance costs).



Figure 3-5. Round 2 Concept E: Abernethy Bridge Priced Roadway





While the primary objective of Concept E is revenue generation in support of constructing congestion relief projects, the use of variable toll rates that are highest during peak conditions on the bridge would also provide congestion relief on I-205. The sections that follow detail findings from key performance measures to help understand the effect of this concept: traffic operations, diversion, revenue and cost, and implementation. Not all the performance measures used for Concepts A through D are relevant to evaluation of Concept E, or in some cases, the results from Concept D are the same.

3.5.1 Traffic operations improvement on I-5 and I-205

Concept E shows reductions in delay on I-205. Concept E would result in some diversion of vehicles away from I-205. Some freight vehicles would be impacted as many long-distance trips would likely shift from I-205 to I-5. As a result of this increased demand on I-5, travel times would likely be slightly increased on I-5. The volume reductions on I-205 would result in travel time improvements, most notably near the Abernethy Bridge. It is important to note that traffic operations results should be examined holistically instead of examination of just one or two performance measures to understand the full breadth of implications. As discussed earlier in this memorandum, reductions in throughput can indicate benefits for other performance measures such as reduced delay or travel time.

Table 3.5-1. Concept E evaluation: traffic operations improvement

Performance measure	Concept E evaluation	Findings
Vehicle and person throughput on I-5 and I-205		Decreased throughput on I-205 with slightly increased throughput on I-5.
Freight truck throughput on I-5 and I-205		Decreased throughput on I-205 with slightly increased throughput on I-5. Freight throughput can be managed post implementation. This ability will be contingent to some extent on potential bonding requirements.
Passenger vehicle travel time on I-5 and I-205		Reduced travel times on I-205 and modestly increased travel times on I-5.
Passenger vehicle travel time on managed lanes	NA	Not applicable.
Freight truck travel time on I-5 and I-205		Reduced travel times on I-205 and increased travel times on I-5.
Assessment of change in duration of peak vehicle traffic conditions		Reduction in duration of peak vehicle traffic conditions on I-205 and a slight increase on I-5.
Delay on priced facility		Substantial delay reductions on I-205, particularly in the area near the Abernethy Bridge.

Legend: Performs well Performs moderately Performs poorly

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool



Vehicle and person throughput on I-5 and I-205

Concept E results in relatively large reductions in daily passenger vehicle throughput, and therefore likely diversion to other facilities, travel modes, of time of travel on I-205 relative to the Baseline in 2027; approximately 1,000 fewer vehicles per hour (up to 25% during the peak hours) would cross the Abernethy Bridge in each direction. Concept E would likely lower vehicle volumes during the peak periods on both I-5 and I-205. This amount of diversion is significant, and the project team recognizes that mitigation measures and other efforts to minimize impacts on local facilities would need to be identified in future planning phases. The concept would result in slight increases in passenger vehicle throughput on I-205 in the southbound direction in some segments during the AM peak hour as speeds increase and the volume of trucks decline to avoid the peak tolls at the Abernethy Bridge. Daily person throughput follows a similar pattern relative to the baseline as passenger vehicle volumes.

Freight truck throughput on I-5 and I-205

Concept E results in sizable shifts in daily truck volumes from I-205 to I-5. This shift is even more pronounced during peak hours. This shift would occur because trucks are making longer trips than passenger vehicles and have an increased opportunity to avoid the Abernethy Bridge toll by taking I-5 through the Portland metro area. This finding is dependent on the assumption that trucks would pay a multiple of the passenger vehicle toll based on the number of axles, but could be offset to some extent based on the actual toll charged freight vehicles.

Passenger vehicle travel time on I-5 and I-205

Passenger vehicle travel times increase modestly on I-5 (relative to the baseline) due to the diversion of traffic (especially longer distance trips made by trucks) from I-205. However, travel times on I-205 improve as a result of the lower volume of vehicles. Travel times during peak hours decrease by about 10 percent, while off-peak travel time decreases are more modest.

Passenger vehicle travel time on managed lanes

The tolls on the Abernethy Bridge would apply to all lanes, not just a managed lanes subset, so managed lanes travel times are not applicable for this tolling concept.

Freight truck travel time on I-5 and I-205

Because Concept E prices all lanes of travel on the Abernethy Bridge, the travel time for freight vehicles would be the same as for passenger vehicles. Travel time would be reduced on I-205, with modest increases on I-5. However, since a sizable share of freight vehicles divert from I-205 to I-5, a large number of freight vehicles would experience longer travel times on I-5 while a smaller share of freight vehicles would benefit from the reduced travel times on I-205.

Assessment of change in duration of congested traffic conditions

Congested conditions on I-205 would be virtually eliminated at the Abernethy Bridge, with congestion reduction improvements gradually diminishing with distance away from the bridge as a result of the Concept E tolling. However, modest increases in congested



conditions would be expected on I-5 due to longer trip, through traffic diverted from tolling on I-205. During the morning peak hour the chance of hyper-congestion in the I-205 corridor would be reduced from the Baseline condition; from 28 to 14 percent in the northbound direction and from 36 to 23 percent in the southbound direction. During the evening peak the chance of encountering hyper-congestion in the I-205 corridor would also be reduced; from 30 to 12 percent in the northbound direction and from 21 to 9 percent in the southbound direction.

Delay on priced facilities

Concept E would reduce delay in the I-205 corridor, especially near the Abernethy Bridge. This improvement would be more pronounced during the peak hours. Daily hours of delay in the I-205 corridor would be reduced by 38 percent in the northbound direction of travel and by 37 percent in the southbound direction.




3.5.2 Diversion of traffic

All lanes would be priced in Concept E with the primary intention of raising revenue (rather than the primary intention of relieving congestion). As such, there is a high probability of diversion to other facilities as some vehicles seek to avoid the toll (although some trips may also be diverted to different modes or times of day). This diversion could negatively impact safety on adjacent and regional toll-free facilities without mitigation. Additional detail on this group of performance metrics can be found in the evaluation methods and assumptions matrix in Appendix A.

Table 3.5-2. Concept E evaluation: diversion of traffic

Performance measure	Concept E evaluation	Findings
Diversion impacts on non-tolled facilities	○	Potential for diversion impacts on non-tolled facilities is high.
Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion	○	The diversion of trips from the priced bridge facility to adjacent arterials and other roadways could increase the need for safety mitigation on those facilities.

Legend: Performs well Performs moderately Performs poorly

Source: Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Overall diversion is expected to be substantial based on the expected change in vehicle throughput on the tolled segments of I-205. Diversion from the Abernethy Bridge is expected to average approximately 1,000 vehicles per hour (about 25% during peak hours) in each direction. Diversion can occur to different modes, to travel times with lower tolls, or to other roadways. The diversion to other roadways may potentially impact locations including:

- I-5
- OR 224 [OR 99E to OR 212]



- Sellwood Bridge/Tacoma Street [Macadam Avenue (OR 43) to McLoughlin Boulevard (OR 99E)]
- McLoughlin Boulevard (OR 99E) [Tacoma Street to OR 224]
- OR 43 [Taylors Ferry Road to A Avenue]
- Stafford Road/McVey Ave [OR 43 to Borland Road]
- Willamette Falls Drive
- Downtown Oregon City
- Pacific Highway (OR 99E) [I-205 to south of Metro area]

Because this concept does not maintain any general purpose (unpriced) freeway lanes, there may be a need to provide mitigations such as increased transit service, low income toll rates, or other strategies.

3.5.3 Revenue and costs and implementation

Concept E has potential to generate more revenue than all other concepts except for Concept C. Net revenue projections over a 30-year period appears to support \$350 to \$550 million in up-front capital investments through toll-backed financing. Revenue could be available to support the planned additional lane on I-205 (Stafford to OR99E) including the Abernethy Bridge, while funding the tolling and maintenance and operations of the facility.

Table 3.5-3. Concept E evaluation: revenue and cost and implementation

Performance measure	Concept E evaluation	Findings
Capital expenditure on facility	●	Revenue would be sufficient to cover funding the estimated \$250 million required for the bridge lane expansion, and may be sufficient to cover part, and possibly all, the cost of additional lanes on I-205 between OR99E and Stafford Road.
Estimated gross toll revenue potential from tolled facility	◐	Moderate total annual revenue; highest daily revenue per centerline mile due to a single point toll at the Abernethy Bridge.
Estimated revenue leakage	◐	Primarily leakage attributed to vehicles without an account / pass diverting to alternative facilities or using the facility as a violator, which may be partially mitigated by allowing for image based toll collection and by roadside cameras and visual enforcement.
Estimated toll collection operation and maintenance and periodic rehabilitation and reconstruction costs including toll vendor(s) procurement costs	●	Relatively low toll transaction volumes will result in higher fixed costs per transaction, or higher costs attributed to contracting with an existing back office system operated by another agency/vendor(s). However, these are offset by high revenue per transaction. Lane-side equipment costs would still be directly incurred along with agency staff and transactional costs. Revenues after leakage adjustments are anticipated to be sufficient to cover toll operating and maintenance costs and contribute toward facility operation and maintenance costs, rehabilitation and reconstruction costs, and / or debt service costs if capital financing is assumed.



Performance measure	Concept E evaluation	Findings
Project delivery schedule		Potential for construction acceleration; may need additional design time to reflect tolling.
Legend:	Performs well Performs moderately Performs poorly	

Source: WSP, Metro Regional Travel Demand Model, Metro Multi-Criteria Evaluation Tool

Capital expenditure on facility

Preliminary costs for identified improvements are estimated at approximately \$250 million for the bridge widening and seismic retrofit project, as well as another \$250 million for adding a lane in each direction from OR99E to SW Stafford Road. Revenue is anticipated to be sufficient to cover bonding for the estimated \$250 million required for the bridge lane expansion, and may be sufficient to cover part, and possibly all of the cost of additional lanes on I-205 between OR99E and Stafford Road.

Gross toll revenue potential

The potential annual gross toll revenue estimate for Concept E is around \$53 million (in 2017 dollars). Concept E differs from the other concepts in that a single point (the Abernethy Bridge) is tolled for an emphasis on revenue generation. Toll rates vary with the level of traffic congestion; the modeling analysis estimated the highest tolls during the peak periods (\$3.50) and no toll between 11 pm and 5 am. Weekend tolls were not modeled but were assumed to have a midday peak toll, with weekend tolls generally lower value than weekdays. In addition to covering routine toll collection and operations, roadway operations and maintenance costs, Concept E revenues would likely be sufficient to cover periodic toll system rehabilitation and reconstruction costs, roadway rehabilitation and reconstruction costs, and support capital investments and/or mitigation solutions. Appendix E includes additional information about revenue and cost assumptions.

Revenue leakage often refers to potential revenue that is not collected from users and may be associated with policy decisions such as available toll payment methods and enforcement strategies. In Concept E, it is assumed that all users must have a tag/transponder in their vehicle that is linked to a pre-established customer account to use the tolled lanes. This analysis did not account for tag/transponder penetration rates or the percentage of through-trips and out of state/country trips that likely would not have a registered transponder account in the state of Oregon. As such, the leakage or revenue loss factors provided assume that a certain number of vehicles would divert to alternative routes to avoid fines and fees associated to being a violator.

In Concept E, HOV and carpool vehicles are assumed to pay tolls; therefore, no leakage associated with false carpool declaration is assumed. Revenue leakage is assumed to occur in the following ways:

- *No Account*: drivers without a valid account who choose an alternate route is estimated between 10 to 20 percent. This could be mitigated if an alternative payment method was offered for infrequent users.



- *Violations*: drivers using the lanes without a transponder are expected to be in the range of 5-10 percent. This, too, could be mitigated with the implementation of an alternative payment method for infrequent users. Depending on that method, there will still likely be some leakage arising from delayed violations due to unpaid toll bills.
- *Equipment error*: equipment read errors of transponders is assumed to be less than 0.5 percent.
- *Account status*: transponder accounts linked to expired credit and debit cards and accounts with insufficient balances are assumed to be 4 percent, some of which may ultimately be recovered depending on business rules implemented.

Routine annual toll collection operations and maintenance costs, as well as periodic rehabilitation and reconstruction costs for Concept E are based on toll agency experience for other comparable toll facilities in the U.S. Concept E includes routine annual costs for credit card banking fees, state/agency management and oversight, back office customer service center vendor systems and operations contract(s), lane-side equipment and vendor operations, and enforcement costs for state highway patrol. Periodic rehabilitation and reconstruction costs include lane-side toll equipment and the procurement of back office and lane-side toll vendor multi-year contracts.

Concept E revenues are based on toll rates that emphasize revenue-generation while still alleviating congestion, and are expected to produce gross toll revenues in the range of \$66 million in year of collection dollars for 2027. This level of revenue, after factoring in leakage, should be sufficient to cover routine toll collection costs, routine facility maintenance costs, and banking fees, with the remaining net revenues available to support the financing of capital investments and contribute to periodic toll collection and roadway facility rehabilitation and capital reconstruction costs.

Under very preliminary, conceptual net revenue and financing assumptions, the Concept E net revenue projections over a 30-year period would appear to support \$350 to 550 million in up-front capital investments through toll bond financing.

The revenues available from pricing could potentially allow the expansion to be accelerated. There is risk of a need to modify existing design work to reflect tolling design considerations.



4 RECOMMENDATION AND NEXT STEPS

The technical analysis identified the following key findings from the evaluation of congestion pricing on I-5 and I-205:

- Concept A in north Portland exhibits little congestion relief benefit and the potential for minimal benefits may harm successful implementation of congestion pricing in the area.
- Concept B near the Portland city center has strong potential to reduce congestion along I-5 with minimal diversion to I-205 and adjacent roadways. This concept also has a dense network of transit and multi-modal facilities in the downtown/Rose Quarter/Swan Island area that can serve as a toll free travel alternative to minimize impacts. Concept termini would need to be examined as part of the future NEPA process.
- Concept B would generate revenue to cover operations and associated costs with excess revenue being available for capital investment and/or mitigation.
- Concept C has the greatest potential for reducing congestion on both I-5 and I-205 and generating travel time savings for the widest possible range of users, and could be considered as part of a future broader regional pricing application pending success of a pilot pricing program.
- Concept C has the greatest revenue potential and would cover toll collection costs, toll system replacement and rehabilitation costs, and provide revenue for capital investment and/or mitigation.
- Concept D in the southern end of I-205 shows little congestion relief benefit with minimal traffic diversion and provides some benefit to I-205.
- Concepts A and D would likely generate sufficient funding to cover toll operations but not replacement and rehabilitation costs, roadway maintenance and would not support capital investments and/or mitigation.
- Concept E centered at the Abernethy Bridge shows promise to raise revenue and reduce congestion on I-205. This concept, or a variant, could pair with a pilot program to balance the travel choice between the I-5 and I-205 corridors. Concept termini would need to be examined as part of the future NEPA process.

4.1 Implications for congestion pricing implementation

Congestion pricing on I-5 and I-205 shows benefits to people living and traveling in the Portland metro area. Pricing would be effective in addressing traffic congestion on these corridors, based on the technical analysis and evaluation. Consideration should be given to the following if any pricing concept is implemented.

- Any concepts considered further should be paired with policy or programs that address potential impacts on lower-income and adjacent communities as part of an equitable strategy to ensure benefits are shared broadly.
- A phased approach – implementing a smaller-scale application as a pilot program and following up with monitoring and scheduled reporting – may ensure that the pricing application meets state and regional goals. Such a program would also lay the foundation for a more comprehensive pricing approach for the metro area by illustrating to the public how pricing has



positively impacted congestion where implemented. A smaller-scale application as a pilot program followed up with monitoring and scheduled reporting based on key performance measures could be established to gauge success. A sunset or benchmark paired with the pilot program could provide a predictable schedule for re-assessment of pricing as a tool for congestion minimization.

4.2 Consultant team recommendation

Based on the key findings from the evaluation, the consultant team recommends a phased approach to implementation of congestion pricing on I-5 and I-205:

- Initial implementation of Concept B as a pilot pricing program, coupled with a sunset or trigger to evaluate success.
 - *Rationale:* Strong potential at congestion reduction along I-5 with minimal diversion to I-205 and adjacent facilities; has a much denser network of transit and multi-modal facilities that can serve as a toll free alternative; significant improvements in facility efficiency and vehicular throughput, meaning that more vehicles can be moved and diversion to free facilities can be managed.
- Consider implementation of Concept E concurrent with implementation of Concept B.
 - *Rationale:* Provides the benefits of Concept B while generating funding to advance the addition of new lanes on I-205 where only two lanes in each direction currently exist as well as retrofitting and adding a lane in each direction to the Abernethy Bridge.
- After assessment of the performance of the initial pricing project, and assuming successful evaluation, implementation of Concept C in phases with more comprehensive system analysis.
 - *Rationale:* Greatest potential for reducing congestion and generating travel time savings for the widest possible range of users; significant improvements in facility efficiency and vehicular throughput, meaning that more vehicles can be moved and diversion to free facilities can be managed.
- Do not implement Concept A or D.
 - *Rationale:* Little congestion relief benefit; would not provide a reasonable test for the potential for pricing to provide congestion relief.

4.3 Next Steps

At the fifth PAC meeting on May 14, 2018, the PAC will review and consider the evaluation presented in this technical memorandum as well as the public comment received over the past six months. In May and June 2018, the PAC will develop a recommendation(s) to advise the OTC. The OTC will submit a report to FHWA by December 2018. After coordination with FHWA, the OTC will provide direction about next steps such as an environmental analysis, which would include additional public involvement, Title VI and Environmental Justice analysis, traffic analysis, and other analysis of potential benefits and impacts.



Appendix A Evaluation methods and assumptions



ROUND 2 METHODOLOGY AND SCREENING DATA DEVELOPMENT

***NOTE:** Scoring is generally 0, 2.5, 5 for qualitative measures, and 0, 1, 3, 5 for quantitative measures. They are different scales to indicate the finer level of detail for the quantitative analysis.

Performance Measure	Evaluation Type	Tool	Description	Scoring*
Traffic operations improvement on I-5 and I-205				
<ul style="list-style-type: none"> Vehicle and person throughput on I-5 and I-205 	Quantitative (vehicles and persons)	TOM	<p>This metric describes the number of vehicles and the number of people moved in those vehicles along the I-5 and I-205 corridors. Concepts that increase the number of vehicles and people moving along I-5 and I-205 during the AM (7am – 8am) and PM (5pm – 6pm) peak hours as well as on a daily basis will score higher. <i>Likely will be based on assessment of average volume per lane mile within the concept, but first the team needs to see the data.</i></p>	<p>0 – Does not improve (or reduces) vehicular or person throughput.</p> <p>1- Results in marginal improvements in throughput (0 to 5 percent improvement over the baseline).</p> <p>3 – Results in noticeable improvements to throughput (between 5 to 10 percent improvement over the baseline).</p> <p>5 – Results in significant improvements to throughput (over 10 percent improvement over the baseline).</p>
<ul style="list-style-type: none"> Freight truck throughput on I-5 and I-205 	Quantitative	TOM	<p>This metric describes the number of commercial and other heavy freight vehicles that move along the I-5 and I-205 corridors. Concepts that increase the amount of freight moving along I-5 and I-205 during the AM (7am – 8am) and PM (5pm – 6pm) peak hours as well as on a daily basis will score higher. <i>Likely will be based on assessment of average volume per lane mile within the concept, but first the team needs to see the data.</i></p>	<p>0 – Does not improve (or reduces) freight throughput.</p> <p>1- Results in marginal improvements in throughput (0 to 5 percent improvement over the baseline).</p> <p>3 – Results in noticeable improvements to throughput (between 5 to 10 percent improvement over the baseline).</p> <p>5 – Results in significant improvements to throughput (over 10 percent improvement over the baseline).</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Passenger vehicle travel time on I-5 and I-205 	Quantitative <i>(for all concepts)</i>	TOM	<p>Pricing frees available freeway capacity and provides tools to better manage that capacity. As such, pricing should reduce the amount of time it takes to travel along I-5 or I-205.</p> <p>This metric describes the time it takes a passenger vehicle to travel along I-5 and I-205 during the AM (7am – 8am) and PM (5pm – 6pm) peak hours as well as on a daily basis. Concepts that reduce travel time will receive a higher score than pricing concepts that do not improve travel time or increase travel times. For priced lanes concepts (Concepts A and D), this metric reflects both travel time in the priced lane and the general-purpose lanes. A different performance measure captures travel time for priced lanes only. A different performance measure captures travel time for freight vehicles.</p>	<p>0 – Does not reduce travel times or results in increased travel times.</p> <p>1 – Results in marginal improvements to travel time (0 to 5 percent reduction relative to the baseline).</p> <p>3 – Results in noticeable improvements to travel time (between 5 to 10 percent decrease relative to the baseline).</p> <p>5 – Results in significant improvements to travel times (over 10 percent reduction relative to the baseline).</p>
<ul style="list-style-type: none"> Passenger vehicle travel time on managed lanes 	Quantitative <i>(for priced lanes concepts only – Concepts A and D)</i>	TOM	<p>Managing congestion on a designated lane on a freeway maintains its free-flow travel conditions and should result in a reduced travel time compared with the general-purpose lanes.</p> <p>For priced lanes concepts only (Concepts A and D), this metric describes the time it takes a passenger vehicle to travel along I-5 and I-205 during the AM (7am – 8am) and PM (5pm – 6pm) peak hours on as well as on a daily basis <i>on the priced lanes only</i>. This is to disaggregate results that combine the travel time for priced lanes and general-purpose lanes. Concepts that reduce travel time as compared to baseline will receive a higher score than pricing concepts that do not improve travel time or increase travel times.</p>	<p>0 – Does not reduce travel times or results in increased travel times.</p> <p>1 – Results in marginal improvements to travel time (0 to 10 percent reduction relative to the baseline).</p> <p>3 – Results in noticeable improvements to travel time (between 10 to 25 percent decrease relative to the baseline).</p> <p>5 – Results in significant improvements to travel times (over 25 percent reduction relative to the baseline).</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Freight truck travel time on I-5 and I-205 	Quantitative	TOM	<p>This metric describes the time it takes a commercial or heavy freight vehicle to travel along I-5 and I-205 during the AM (7am – 8am) and PM (5pm – 6pm) peak hours as well as on a daily basis. Pricing concepts that reduce travel time for freight vehicles, regardless of whether they travel in priced lanes or general-purpose lanes, will receive a higher score than pricing concepts that do not improve travel time or increase travel times.</p> <p>Travel in general purpose lanes may or may not improve in concepts with both priced and general-purpose lanes. In concepts with all lanes priced, all vehicles, including freight vehicles, travel in priced lanes. In concepts with both priced and general-purpose lanes, freight vehicles were assumed to travel only in the general-purpose lanes due to the state restriction on heavy vehicles in the left lane (single priced lanes are designed to be in the left lane so that they are safer and more efficient by avoiding ingress and egress conflicts).</p>	<p>0 – Does not reduce travel times or results in increased travel times.</p> <p>1 – Results in marginal improvements to travel time (0 to 5 percent reduction relative to the baseline).</p> <p>3 – Results in noticeable improvements to travel time (between 5 to 10 percent decrease relative to the baseline).</p> <p>5 – Results in significant improvements to travel times (over 10 percent reduction relative to the baseline).</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Assessment of change in duration of peak vehicle traffic conditions 	Qualitative	TOM	<p>Both the severity of congestion and the length of time congestion exists describes the overall impacts of congestion on a facility. Because travel conditions vary substantially from day to day, this metric will look at the probability of encountering congested conditions during any given hour of peak demand. Congestion is generally defined on a freeway as when travel speeds drop below 40 mph, though this can vary based on number of lanes, geometric configuration, and posted speed. Observing the decreasing probability of congestion as the time measured moves farther from the peak hour allows for a determination of the likely length of congested conditions. This is a relative measure for the assessed concepts that will show the probability that congestion is encountered.</p>	<p>0 – Longer congested periods likely. 2.5 – Congestion periods somewhat reduced. 5 – Significant congestion reduction.</p>
<ul style="list-style-type: none"> Delay on priced facility 	Qualitative	TOM	<p>This metric describes the continued impact to travel time from congestion after implementation of pricing. This will be developed for both priced and unpriced lanes when appropriate for the concept. It is generated by subtracting the free flow travel time on the segment from the travel time on the segment with the concept in place.</p>	<p>0 – Longer travel time impacts likely. 2.5 – Travel time impacts somewhat reduced. 5 – Significant reduction in travel time impacts.</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Safety impacts 	Qualitative	Informed by MCE	<p>This measure assesses the potential to improve regional safety by reducing number of total crashes and/or crash severity. Concepts that increase freeway throughput and reduce probability of congested conditions will score well as freeways are generally safer on a per vehicle mile basis than arterial roadways, particularly when operating at consistent speeds. This measure is informed by regional outputs from Metro Multi-criteria Evaluation Tool that consider overall system impacts on both freeways and non-freeways.</p>	<p>0 – Expected to have no significant impact on number or severity of crashes in the region.</p> <p>2.5 – Some limited potential to decrease number or severity of crashes in the region.</p> <p>5 – Significant potential to decrease number or severity of crashes in the region.</p>
<ul style="list-style-type: none"> Trip length distribution 	Qualitative	Informed by SWIM & KATE	<p>Pricing may serve to discourage drivers from making short distance trips on the freeway or may provide an incentive to use alternative, toll free routes or other modes for short trips. This could result in more freeway capacity available for drivers making longer distance trips.</p> <p>This metric describes the likely change in the distribution of trip lengths along segments of I-5 and I-205. Concepts will be scored higher if they result in trip distributions on the freeway with a higher mean trip length; indicating that fewer drivers are making short distance trips on the facility.</p>	<p>0 – Does not result in any significant change to trip length distribution or reduces the mean trip length along segments of I-5 or I-205.</p> <p>2.5 – Results in noticeable increases in mean trip length (between 10 and 25 percent increase relative to the baseline).</p> <p>5 – Results in significant increases in mean trip length (over 25 percent increase relative to the baseline).</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
Diversion of traffic				
<ul style="list-style-type: none"> Diversion impacts on non-tolled facilities 	Qualitative	Informed by KATE	<p>Pricing provides incentives for drivers to change the time they travel, the mode they use or the routes they take. Regarding route choice, there is a chance that pricing will shift travel to non-tolled routes, potentially increasing congestion and increasing travel times on those routes.</p> <p>This metric will assess the potential of pricing to adjacent, non-tolled facilities. Concepts that may result in significant diversion to adjacent toll-free facilities and increase congestion on those facilities will be rated lower.</p>	<p>0 – Significant potential to cause diversion away from freeways to the arterial system. Scale is extensive in volume and/or in geographic impact.</p> <p>2.5 – Moderate potential to cause diversion away from freeways to the arterial system. Scale is relatively minor in volume and/or geographic impact.</p> <p>5 – Limited potential to cause significant diversion away from freeways to the arterial system. The scale is expected to be negligible or limited to parallel routes in the immediate vicinity.</p>
<ul style="list-style-type: none"> Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion 	Qualitative	Based on the level of trip diversion and the location of bicycle and pedestrian facilities (bike/ped maps); Informed by MCE	<p>The diversion of trips from a priced facility to adjacent arterials and other roadways may degrade those facilities and could increase safety risks.</p> <p>This metric qualitatively assesses the potential of pricing concepts to increase safety risks on adjacent facilities due to diversion. Concepts that do not result in high levels of diversion to adjacent facilities will therefore be scored higher.</p>	<p>0 – High diversion: Pricing concept is expected to result in increased safety risks on adjacent facilities due to diversion of trips</p> <p>2.5 – Medium diversion: Pricing concept is expected to result in diversion to adjacent facilities but safety risks on those facilities will be minimal</p> <p>5 – Low diversion: Pricing concept is expected to have minimal diversion and will not result in any new safety risks for adjacent facilities</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
Transit service and active transportation				
<ul style="list-style-type: none"> Adequacy of transit service 	Qualitative	Transit System Maps (TriMet, CTRAN, SMART), Aerial Review	<p>This performance measure assesses the availability of existing or planned transit service along I-5 and I-205 or parallel routes in the vicinity of the concept. Drivers with little to no access to viable transit services will not be able to use transit as an alternative to travel in a personal vehicle. Concepts with existing or planned frequent transit service running along a direct route with short headways (15-minute arrivals or better) and concepts with many transit stations and/or park-and-ride facilities in the area near the concept will be scored higher.</p>	<p>0 – Concepts with no or minimum existing and planned transit service, or only one route with long headways near the concept.</p> <p>2.5 – Concepts with one transit route with relatively short headways, or multiple routes with longer headways in the concept area; and one park-and-ride lot or major transit station within a one-mile buffer. OR concepts with low or non-existent existing services with planned service.</p> <p>5 – Concepts with multiple routes with short headways in the area and served by more than one park-and-ride lot or major transit station (within a one-mile buffer). OR concepts with moderate transit services with planned service.</p>
<ul style="list-style-type: none"> Transit travel time 	Qualitative	Transit System Maps (TriMet, CTRAN, SMART), and informed by travel speed information from TOM and/or KATE	<p>This performance measure assesses potential improvements in transit travel time on I-5 and/or I-205. Concepts with more freeway transit service, or that can reasonably encourage additional rubber tired transit options would score higher. Transit routes will be cross-referenced with freeway travel times.</p>	<p>0 – Transit routes with little to no freeway interaction and no opportunity for beneficial freeway interaction – this includes almost all local service.</p> <p>2.5 – 1-2 existing or planned transit routes with modest freeway mileage OR The concept can encourage development of express service in an area without rail alternatives.</p> <p>5 – Two+ existing or planned transit routes with freeway mileage and the concept will benefit transit travel time OR The concept has some existing or planned routes and the concept can encourage development of express service in an area without rail alternatives.</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Mode share shift (HOV, SOV, transit, walk, bike) 	Qualitative	KATE	This metric considers potential changes in the share of daily person trips by mode. It is based on results from the regional travel demand model with a focus on the ability of a concept to encourage shifts away from SOV travel. This allows consideration of potential changes to transit service on managed facilities beyond that assumed in baseline modeling.	<p>0 – Expected to increase share of regional SOV trips while reducing share from HOV, transit, or active modes.</p> <p>2.5 – Some limited potential to decrease share of regional SOV trips while increasing share for HOV, transit, or active modes.</p> <p>5 – Significant potential to decrease share of regional SOV trips while increasing share for HOV, transit, or active modes.</p>
<ul style="list-style-type: none"> Availability of bicycle travel on alternative routes 	Qualitative	RTP Existing Regional Bicycle Network maps	This metric assesses the availability of bicycle infrastructure that might serve as a non-vehicular option to travel in a personal vehicle along alternative and parallel routes. Concepts with available bicycle options within approximately 1-mile buffer of the concept will be scored higher. The analysis was conducted based on the amount of bike lanes per mile of concept length to standardize the assessment across the concepts.	<p>0 – Non-existent bicycle options.</p> <p>2.5 – Concepts with minimal bicycle options.</p> <p>5 – Concepts with multiple bicycle options.</p>
<ul style="list-style-type: none"> Completeness of pedestrian network 	Qualitative	RTP Existing Regional Pedestrian Network maps	This metric assesses the consistency of the pedestrian network in a concept area that might serve as a non-vehicular option to travel in a personal vehicle or provide access to transit. Concepts with connected pedestrian networks within approximately 0.5-mile buffer of the concept will be scored higher. The analysis was conducted based on the amount of pedestrian facilities per mile of concept length to standardize the assessment across the concepts.	<p>0 – Non-existent to minimal pedestrian connections (lots of pedestrian system gaps).</p> <p>2.5 – Concepts with average pedestrian network (minimal gaps).</p> <p>5 – Concepts with highly connected pedestrian network (few to no gaps).</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
Equity impacts				
<ul style="list-style-type: none"> Value of travel time savings for Title VI and/or Environmental Justice communities (regional) 	Quantitative	MCE	<p>Pricing may disproportionately impact Portland metro region drivers based on where they live and travel with regard to I-5 and I-205. This metric assesses travel time benefit by Title VI and/or Environmental Justice communities. Title VI/Environmental Justice communities include low income, low English proficiency (LEP), or communities of color in the region.</p> <p>This measure reflects a regional annualized benefit of travel time savings from the Metro Multi-criteria Evaluation Tool that considers overall system impacts on both freeways and non-freeways. Pricing concepts that decrease travel times and/or do not result in significant increases in travel time for Title VI and/or Environmental Justice communities will receive higher scores.</p>	<p>0 – Concept will increase travel times for Title VI and/or Environmental Justice communities.</p> <p>1 – Concept will improve travel times but will impose significant travel costs Title VI and/or Environmental Justice communities.</p> <p>3 – Concept will significantly improve travel times but with additional travel costs.</p> <p>5 – Concept will significantly improve travel times and with marginal to no increases in overall travel costs.</p>
<ul style="list-style-type: none"> Changes in travel times based on geographic area 	Qualitative (map)	MCE	<p>This criterion reflects the relative change in total vehicle travel time by geographic area (based on Transportation Analysis Zones). It will show the locations where the most vehicle travel time benefit is expected to be experienced by drivers). The measure does not include changes in travel time for trucks. Pricing concepts that decrease total vehicle travel time and offer benefits across the region will receive higher scores.</p>	<p>0 – Significantly increases vehicle travel times across the region.</p> <p>2.5 – Has relatively little effect on vehicle travel time across the region.</p> <p>5 – Significantly reduces vehicle travel time across the region.</p> <p>*NOTE – will be displayed in "heat" map format to inform about areas of greatest benefit</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Access to Jobs 	Qualitative	KATE	<p>This measure describes the share of regional jobs accessible by mode within a 30-minute drive for Title VI and/or Environmental Justice communities (aggregate changes for TAZs that have these communities, and based on census data). Concepts that increase access will be scored higher.</p>	<p>0 – Significantly increases travel time to employment for areas with significant concentrations of Title VI and/or Environmental Justice communities.</p> <p>2.5 – Has relatively little effect on travel time to employment for areas with significant concentrations of Title VI and/or Environmental Justice communities.</p> <p>5 – Significantly reduces travel times to employment for areas with significant concentrations of Title VI and/or Environmental Justice communities.</p>
Impacts on the community, economy, and environment				
<ul style="list-style-type: none"> Physical impacts to existing residences and businesses 	Qualitative	<p>Based on review of aerials (with an understanding of the location of concentrations of Title VI and/or Environmental Justice communities)</p>	<p>This metric assesses each concept's potential to require significant construction or changes to the current roadway footprint. Concepts that do not require new construction or would not require significant changes to the operation of nearby roadways will receive higher scores.</p>	<p>0 – High: Concept will require new construction or significant changes to current roadway footprint such that nearby residences and businesses can be expected to see significant impacts. Significant impacts to concentrations of Title VI and/or Environmental Justice communities.</p> <p>2.5 – Medium: Concept will require new construction, reconstruction, or changes to existing roadway footprints that will likely impact some nearby residences and businesses. Concentrations of Title VI and/or Environmental Justice communities are impacted.</p> <p>5 – Low to Non-existent: Concept will not require new construction or changes to existing roadway footprints.</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Regional travel time savings 	Quantitative	KATE	<p>This metric examines total vehicle hours of travel (VHT) on the Metro area roadway network, based on the regional travel demand model. The model considers the number of vehicle trips being made, the routing of vehicle trips through the network, and the vehicle travel time required from origin to destination. While most changes are expected to occur near the concept location, changes are often felt throughout the system. This metric compares the total regional travel time between the baseline and the concept.</p>	<p>0 – Pricing concept will increase VHT.</p> <p>1 – Pricing concept will have only a small effect on VHT</p> <p>3 – Pricing concept will somewhat reduce VHT.</p> <p>5 – Pricing concept will significantly reduce VHT.</p>
<ul style="list-style-type: none"> Regional vehicle miles traveled (VMT) (including non-freeway) 	Quantitative	KATE	<p>This metric assesses the change in total vehicle miles of travel on the Portland Metro area roadway network due to pricing, based on the regional travel demand model. The model considers the number of vehicle trips being made and the routing of trips through the network from origin to destination. While most changes are expected to occur near the project location, changes are often felt throughout the system. This metric compares total region VMT between the baseline and the concept. Lower VMT is usually associated with a more efficient system and will be scored higher.</p>	<p>0 – Significant increase in Regional VMT.</p> <p>2.5 – No significant change in Regional VMT.</p> <p>5 – Significant reduction in Regional VMT.</p>
<ul style="list-style-type: none"> Change in air pollution 	Qualitative	MCE	<p>This measure examines the potential change in vehicle emissions in the region. The measure is informed by MOVES emissions model application to the regional travel demand modeling results.</p>	<p>0 – Expected to potentially increase regional vehicle emissions.</p> <p>2.5 – No significant change expected. Some potential to slightly reduce regional vehicle emissions.</p> <p>5 – Expected to potentially reduce regional vehicle emissions.</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Value of travel time savings 	Quantitative	MCE	<p>Travelers tend to use priced lanes because there is value associated with their time and they will often pay to reduce their travel time.</p> <p>This measure monetizes travel time savings generated by the pricing concepts across all modes of travel. It will be determined by the regional travel demand model and multi-criteria evaluation tool (MCE) using an average value of time appropriate to the Portland metro area.</p>	<p>0 – Travel time savings value is negative.</p> <p>1 – Travel time savings is less than \$20M annual benefit (2010 dollars).</p> <p>3 – Travel time savings is between \$20M and \$50M annual benefit (2010 dollars).</p> <p>5 – Travel time savings is greater than \$50M annual benefit (2010 dollars).</p>
Revenue and Costs				
<ul style="list-style-type: none"> Capital expenditure on facility 	Quantitative based on Order of Magnitude Costs	Based on estimates supplied by ODOT, or order of magnitude estimates from similar deployments in other areas.	<p>This metric provides an assessment of potential capital expenditures based on the requirements of the concept itself and the presence of limiting factors (such as a lack of ROW) along key corridor segments. Concepts that will require minimal capital expenditures will be scored higher.</p>	<p>0 – The concept can be accommodated within the segment but major capital expenditures for construction and/or right of way procurement will be required.</p> <p>2.5 – The concept can be accommodated within the segment with moderate capital expenditure.</p> <p>5 – The concept can be accommodated within the existing ROW of the segment with minimal capital expenditure.</p>



Performance Measure	Evaluation Type	Tool	Description	Scoring*
<ul style="list-style-type: none"> Estimated gross toll revenue potential from tolled facility 	Quantitative	Modeling Outputs and Traffic and Revenue Annualization Model	This metric relates to forecasted annual gross toll revenue potential. It will be generated by modeled daily toll trips, toll rates, and existing day of week traffic data. There will be consideration of policy and operational assumptions on tolling periods, payment options available to customers and potential differences in rates by payment method. Revenue is provided prior to adjustments for potential revenue leakage due to occupancy violations, unidentified trips or non-payment of toll bills.	<p>1 – Likely does not result in excess revenue.</p> <p>2.5 – Likely results in some excess revenue.</p> <p>5 – Results in substantial excess revenue.</p>
Implementation				
<ul style="list-style-type: none"> Consistency with state and regional law and policy 	Quantitative	Review of applicable laws and policies	This metric identifies and confirms compliance with existing OTC policies, state laws, and regional planning regulations.	<p>0 – No.</p> <p>5 – Yes.</p>
<ul style="list-style-type: none"> Feasibility under federal law 	Quantitative	Seek input from FHWA for specific alternatives being considered	This metric verifies that an option is allowable under federal tolling laws. In some cases options may require Federal concurrence under the Value Pricing Pilot Program or some other authority.	<p>0 – Option is not allowable under current Federal Law.</p> <p>2.5 – Option is potentially allowable if Federal concurrence is obtained.</p> <p>5 – Option is allowable under Federal law without additional concurrence.</p>
<ul style="list-style-type: none"> Project delivery schedules 	Quantitative	Comparison of concepts with planned projects	Concepts can potentially affect the schedule of other projects planned in the Portland metro area. Concepts that can accelerate project delivery are rated higher than those that might slow project delivery.	<p>0 – Project could slow the delivery of other projects.</p> <p>2.5 – Project is not likely to affect the delivery of other projects.</p> <p>5 – Project may speed up delivery of other projects.</p>



Appendix B Performance measure evaluation scoring

The following ratings summarize the scores for Concepts A-D for all performance metrics, and are intended for this analysis only. Traffic operations scores vary by segment within a concept because traffic impacts change depending on context or interaction with the regional transportation system. Non-traffic operations scores, however, are more localized (such as active transportation) or apply to the concept overall (such as federal feasibility). The project team used professional judgment and technical analysis, and converted these scores to symbols for ease of reporting. Supporting documentation is available upon request.



Summary Sheet – Concepts A through D

		Concept			
		A	B	C	D
Traffic operations improvement	Vehicle and person throughput on I-5 and I-205				
	Freight truck throughput on I-5 and I-205				
	Passenger vehicle travel time on I-5 and I-205				
	Passenger vehicle travel time on managed lanes		N/A	N/A	
	Freight truck travel time on I-5 and I-205				
	Assessment of change in duration of peak vehicle traffic conditions				
	Delay on priced facility				
	Safety impacts				
	Trip length distribution				
Diversion of traffic	Diversion impacts on non-tolled facilities				
	Safety impacts to all modes of transportation (including bicyclists and pedestrians) on routes with diversion				
Transit service and active transportation	Adequacy of transit service				
	Bus transit travel time				
	Mode share shift (HOV, SOV, transit, walk, bike)				
	Availability of bicycle travel on alternative routes				
	Completeness of pedestrian network				
Equity	Value or travel time savings for Title VI and/or Environmental Justice communities (regional)				
	Changes in travel time based on geographic zones				
	Access to jobs				



		Concept			
		A	B	C	D
Community, economy and the environment	Physical impacts to existing residences and businesses	●	●	●	●
	Regional travel time savings	◐	◐	●	◐
	Regional VMT (including non-freeway)	◐	◐	●	◐
	Change in air pollution	◐	◐	◐	◐
	Value of travel time savings	◐	◐	●	◐
Cost and revenue	Capital expenditure on facility	●	●	●	●
	Estimated gross toll revenue potential from tolled facility	○	◐	●	○
Implementation	State law & policy	●	●	●	●
	Regional law & policy	●	●	●	●
	Federal feasibility	◐	◐	◐	●
	Project delivery schedule	●	●	◐	◐
Legend:	Performs well	Performs moderately	Performs poorly		
	●	◐	○		



Non-Traffic Scores		5 ← 4 3 2 1 Most Favorable ← Least Favorable					
		<i>Impacts to the Community, Economy, and Environment</i>					
Impacts to the Community, Economy, and Environment		Physical Impacts Score	Regional Travel Time Savings Score	Diversion Impact Scores	Regional VMT Score	Change in Air Quality Score	Value of Travel Time Savings Score
Concept A	<i>HOV/GP to Priced Lane (I-5)</i>	5.0	1.0	5.0	2.5	2.5	1.0
Concept B	<i>Price All Lanes (I-5: Downtown)</i>	5.0	3.0	2.5	2.5	2.5	3.0
Concept C	<i>Price All Lanes (I-5 & I-205)</i>	5.0	5.0	0.0	5.0	2.5	5.0
Concept D	<i>Price New Planned Lane (I-205)</i>	5.0	1.0	5.0	2.5	2.5	1.0
Equity Impacts		<i>Equity Impacts</i>					
		Safety Impact Score (Routes w/ Diversion)	Access to Jobs Score	Geo Zone Travel Time Change Score	Value of Travel Time Savings Score (Regional)		
Concept A	<i>HOV/GP to Priced Lane (I-5)</i>	5.0	2.5	2.5	1.0		
Concept B	<i>Price All Lanes (I-5: Downtown)</i>	2.5	2.5	5.0	3.0		
Concept C	<i>Price All Lanes (I-5 & I-205)</i>	0.0	5.0	5.0	5.0		
Concept D	<i>Price New Planned Lane (I-205)</i>	5.0	2.5	2.5	1.0		
Transit Service & Active Transportation		<i>Transit Service & Active Transportation</i>					
		Adequacy of Transit Service Score	Transit Travel Time Score	SOV Mode Shift Score	Bicycle & Ped Option Score	Ped Network Consistency Score	
Concept A	<i>HOV/GP to Priced Lane (I-5)</i>	2.5	2.5	2.5	2.5	2.5	
Concept B	<i>Price All Lanes (I-5: Downtown)</i>	5.0	5.0	2.5	5.0	5.0	
Concept C	<i>Price All Lanes (I-5 & I-205)</i>	2.5	5.0	5.0	2.5	2.5	
Concept D	<i>Price New Planned Lane (I-205)</i>	0.0	0.0	2.5	0.0	0.0	
Cost & Revenue		<i>Cost & Revenue</i>					
		Capital Cost (High-Level) Score	Estimated Revenue Score				
Concept A	<i>HOV/GP to Priced Lane (I-5)</i>	5.0	1.0				
Concept B	<i>Price All Lanes (I-5: Downtown)</i>	5.0	2.5				
Concept C	<i>Price All Lanes (I-5 & I-205)</i>	5.0	5.0				
Concept D	<i>Price New Planned Lane (I-205)</i>	5.0	1.0				
Law & Policy		<i>Law & Policy</i>					
		State Law & Policy Score	Regional Law & Policy Score	Federal Feasibility Score	Project Delivery Schedule Score		
Concept A	<i>HOV/GP to Priced Lane (I-5)</i>	2.5	5.0	2.5	5.0		
Concept B	<i>Price All Lanes (I-5: Downtown)</i>	2.5	5.0	2.5	5.0		
Concept C	<i>Price All Lanes (I-5 & I-205)</i>	5.0	5.0	2.5	2.5		
Concept D	<i>Price New Planned Lane (I-205)</i>	5.0	5.0	5.0	2.5		



Baseline Traffic Performance

Corridor	Segment ID	Direction	From	To	Length (Miles)	Peak Hour	Traffic Operations on I-5 & I-205							
							Peak-Hour Vehicle Throughput	Peak-Hour Person Throughput	Peak-Hour Freight Truck Throughput	Peak- Hour GP Travel Time	Peak- Hour ML Travel Time	Peak-Hour Freight Truck Travel Time	Chance of Hyper-Congestion	Hours of Delay on Priced Facility
I-5	2	NB	I-205	OR-217	3.6	AM	3,891	4,447	356	7.52	0.00	7.52	0.44	253.7
						PM	4,998	5,899	198	6.81	0.00	6.81	0.44	255.2
I-5	3	NB	OR-217	Capitol Hwy	2.7	AM	3,440	3,917	430	4.11	0.00	4.11	0.20	78.1
						PM	4,075	4,773	192	4.00	0.00	4.00	0.10	77.8
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	AM	3,418	3,920	308	10.16	0.00	10.16	0.48	310.6
						PM	4,092	4,884	167	9.03	0.00	9.03	0.38	275.7
I-5	5	NB	Ross Island Bridge	I-84	1.9	AM	2,503	2,873	260	4.67	0.00	4.67	0.48	109.0
						PM	3,078	3,752	111	4.76	0.00	4.76	0.49	130.9
I-5	6	NB	I-84	N Skidmore St.	2.2	AM	3,255	3,714	348	3.98	0.00	3.98	0.38	103.8
						PM	3,803	4,911	151	3.54	0.00	3.54	0.26	85.6
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	AM	3,305	4,781	408	8.29	7.23	8.29	0.31	172.8
						PM	4,256	5,357	134	13.34	7.86	13.34	0.41	510.1
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	AM	3,398	3,845	208	11.67	0.00	11.67	0.53	370.3
						PM	3,750	4,486	301	8.02	0.00	8.02	0.27	190.3
I-5	9	SB	N Skidmore St.	I-84	2.2	AM	3,337	3,888	315	3.67	0.00	3.67	0.35	87.1
						PM	3,860	4,626	277	3.69	0.00	3.69	0.33	102.6
I-5	10	SB	I-84	Ross Island Bridge	1.9	AM	2,620	3,006	212	5.05	0.00	5.05	0.36	128.3
						PM	2,877	3,448	204	5.07	0.00	5.07	0.35	140.4
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	AM	3,531	4,002	302	8.93	0.00	8.93	0.39	248.5
						PM	4,088	4,873	282	9.31	0.00	9.31	0.40	313.7
I-5	12	SB	Capitol Hwy	OR-217	3.0	AM	3,621	4,062	312	4.32	0.00	4.32	0.27	94.8
						PM	3,832	4,550	289	4.27	0.00	4.27	0.25	95.9
I-5	13	SB	OR-217	I-205	3.7	AM	4,200	4,746	337	6.18	0.00	6.18	0.35	174.3
						PM	4,681	5,529	273	7.22	0.00	7.22	0.46	276.3
I-205	15	NB	I-5	Stafford Rd	2.0	AM	3,713	4,216	216	2.09	0.00	2.09	0.19	16.1
						PM	4,292	5,060	262	2.38	0.00	2.38	0.26	40.4
I-205	16	NB	Stafford Rd	10th St	3.3	AM	3,908	4,450	210	4.34	0.00	4.34	0.22	52.1
						PM	4,387	5,187	253	4.97	0.00	4.97	0.31	106.9
I-205	17	NB	10th St	Sunset Ave	1.9	AM	3,918	4,452	193	4.09	0.00	4.09	0.32	102.4
						PM	4,416	5,238	251	4.39	0.00	4.39	0.38	139.6
I-205	18	NB	Sunset Ave	Main St	1.2	AM	4,337	4,946	195	1.26	0.00	1.26	0.34	34.4
						PM	4,790	5,736	264	1.26	0.00	1.26	0.27	38.0
I-205	19	NB	Main St	SR-224	4.1	AM	3,887	4,512	164	7.92	0.00	7.92	0.44	246.3
						PM	4,440	5,408	263	6.78	0.00	6.78	0.30	199.4
I-205	20	NB	SR-224	NE Glisan St	7.7	AM	4,055	4,744	226	14.35	0.00	14.35	0.31	371.5
						PM	4,355	5,321	302	13.59	0.00	13.59	0.25	350.6
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	AM	3,726	4,386	234	6.90	0.00	6.90	0.15	61.0
						PM	5,092	5,844	284	9.14	0.00	9.14	0.33	287.2
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	AM	4,463	5,031	257	10.59	0.00	10.59	0.40	375.2
						PM	4,240	5,183	173	6.63	0.00	6.63	0.09	55.7
I-205	23	SB	NE Glisan St	SR-224	7.4	AM	3,805	4,401	310	14.04	0.00	14.04	0.30	336.1
						PM	4,453	5,488	165	13.81	0.00	13.81	0.29	363.3
I-205	24	SB	SR-224	Main St	4.0	AM	3,413	3,922	241	7.14	0.00	7.14	0.38	171.9
						PM	4,536	5,548	132	7.70	0.00	7.70	0.38	264.1
I-205	25	SB	Main St	Sunset Ave	1.3	AM	3,974	4,515	262	1.27	0.00	1.27	0.36	33.3
						PM	4,699	5,680	154	1.14	0.00	1.14	0.23	27.9
I-205	26	SB	Sunset Ave	10th St	1.9	AM	3,840	4,353	250	4.52	0.00	4.52	0.39	130.0
						PM	4,609	5,559	157	3.87	0.00	3.87	0.19	100.3
I-205	27	SB	10th St	Stafford Rd	3.3	AM	3,843	4,358	247	5.35	0.00	5.35	0.37	117.7
						PM	4,342	5,221	161	4.09	0.00	4.09	0.17	36.1
I-205	28	SB	Stafford Rd	I-5	2.3	AM	3,797	4,299	266	2.77	0.00	2.77	0.37	49.8
						PM	3,881	4,637	160	2.24	0.00	2.24	0.14	13.7



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Most Favorable Least Favorable

Round 2 Concept A: HOV/GP to Priced Lane (I-5)

Corridor	Segment ID	Direction	From	To	Length (Miles)	Peak Hour	Traffic Operations on I-5 & I-205														Safety Impacts	Safety Impact Score	Trip Length Distribution	Trip Length Distribution Score					
							Peak-Hour Vehicle Throughput	Peak-Hour Vehicle Throughput Score	Peak-Hour Person Throughput	Peak-Hour Person Throughput Score	Peak-Hour Freight Truck Throughput	Peak-Hour Freight Truck Throughput Score	Peak-Hour GP Travel Time	Peak-Hour GP Travel Time Score	Peak-Hour ML Travel Time	Peak-Hour ML Travel Time Score	Peak-Hour Freight Truck Travel Time	Peak-Hour Freight Truck Travel Time Score	Chance of Hyper-Congestion	Chance of Hyper-Congestion Score					Hours of Delay on Priced Facility	Hours of Delay on Priced Facility Score			
I-5	2	NB	I-205	OR-217	3.6	AM	2	1.0	6	1.0	0	0.0	-0.01	1.0	0.00		-0.01	1.0	0.00	2.5	-0.77	2.5	Moderate	2.5	Moderate	2.5			
						PM	-2	0.0	-2	0.0	2	1.0	0.01	0.0	0.00		0.01	0.0	0.00	0.00	0.48	0.0	0.00	2.5	0.0	Moderate	2.5	Moderate	2.5
I-5	3	NB	OR-217	Capitol Hwy	2.7	AM	1	1.0	6	1.0	-1	0.0	1.0	0.00		0.00	1.0	0.00	0.0	-0.28	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5	
						PM	-4	0.0	-3	0.0	2	1.0	0.00	1.0	0.00		0.00	1.0	0.00	0.00	-0.19	2.5	0.00	0.00	2.5	0.00	Moderate	2.5	Moderate
I-5	4	NB	Capitol Hwy	Ross Island Bridge	4.9	AM	2	1.0	4	1.0	-1	0.0	1.0	0.00		0.00	1.0	0.00	2.5	-0.14	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5	
						PM	-2	0.0	0	0.0	2	1.0	0.02	0.0	0.00		0.02	0.0	0.00	0.00	0.97	0.0	0.00	2.5	0.00	Moderate	2.5	Moderate	2.5
I-5	5	NB	Ross Island Bridge	I-84	1.9	AM	17	1.0	47	1.0	-10	0.0	-0.02	1.0	0.00		-0.02	1.0	0.00	2.5	-0.69	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	-2	0.0	3	1.0	2	1.0	-0.01	1.0	0.00		-0.01	1.0	0.00	0.00	2.5	-0.27	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate
I-5	6	NB	I-84	N Skidmore St.	2.2	AM	2	1.0	179	1.0	-3	0.0	-0.24	3.0	0.00		-0.24	3.0	-0.05	5.0	-14.05	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	-3	0.0	5	1.0	2	1.0	0.00	0.0	0.00		0.00	0.0	0.00	0.00	0.14	0.0	0.00	2.5	0.00	Moderate	2.5	Moderate	2.5
I-5	7	NB	N Skidmore St.	Interstate Bridge	3.6	AM	-111	0.0	-909	0.0	-1	0.0	-0.44	3.0	-1.34	3.0	-0.44	3.0	-0.09	5.0	-31.99	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	-3	0.0	9	1.0	2	1.0	-1.80	5.0	-3.20	5.0	-1.80	5.0	0.00	0.00	-116.45	2.5	0.00	0.00	2.5	0.00	Moderate	2.5	Moderate
I-5	8	SB	Interstate Bridge	N Skidmore St.	3.6	AM	155	1.0	558	5.0	-45	0.0	0.05	0.0	-3.05	5.0	0.05	0.0	-0.07	5.0	-48.30	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	-47	0.0	124	1.0	-4	0.0	0.16	0.0	-1.47	3.0	0.16	0.0	-0.04	5.0	-20.51	2.5	0.00	0.00	2.5	0.00	Moderate	2.5	Moderate
I-5	9	SB	N Skidmore St.	I-84	2.2	AM	92	1.0	392	5.0	-56	0.0	-0.06	1.0	0.00		-0.06	1.0	-0.02	2.5	-2.54	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	6	1.0	135	1.0	-5	0.0	-0.03	1.0	0.00		-0.03	1.0	0.00	-0.01	2.5	-2.10	2.5	0.00	0.00	2.5	0.00	Moderate	2.5
I-5	10	SB	I-84	Ross Island Bridge	1.9	AM	61	1.0	93	1.0	-36	0.0	-0.03	1.0	0.00		-0.03	1.0	-0.01	2.5	-0.06	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	2	1.0	13	1.0	-2	0.0	-0.01	1.0	0.00		-0.01	1.0	0.00	0.00	2.5	-0.37	2.5	0.00	0.00	2.5	0.00	Moderate	2.5
I-5	11	SB	Ross Island Bridge	Capitol Hwy	4.5	AM	68	1.0	86	1.0	-39	0.0	-0.04	1.0	0.00		-0.04	1.0	0.00	2.5	-0.74	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	0	1.0	3	1.0	0	0.0	0.00	1.0	0.00		0.00	1.0	0.00	0.00	2.5	-0.24	2.5	0.00	0.00	2.5	0.00	Moderate	2.5
I-5	12	SB	Capitol Hwy	OR-217	3.0	AM	70	1.0	89	1.0	-44	0.0	-0.02	1.0	0.00		-0.02	1.0	0.00	0.0	-0.77	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	0	1.0	5	1.0	0	0.0	0.00	1.0	0.00		0.00	1.0	0.00	0.00	2.5	-0.13	2.5	0.00	0.00	2.5	0.00	Moderate	2.5
I-5	13	SB	OR-217	I-205	3.7	AM	68	1.0	87	1.0	-43	0.0	-0.04	1.0	0.00		-0.04	1.0	-0.01	2.5	-2.29	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	-1	0.0	4	1.0	0	0.0	-0.01	1.0	0.00		-0.01	1.0	0.00	0.00	2.5	-1.10	2.5	0.00	0.00	2.5	0.00	Moderate	2.5
I-205	15	NB	I-5	Stafford Rd	2.0	AM	3	1.0	1	1.0	2	1.0	0.01	0.0	0.00		0.01	0.0	0.01	0.0	0.50	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	4	1.0	4	1.0	-2	0.0	0.00	0.0	0.00		0.00	0.0	0.00	0.00	0.00	0.11	0.0	0.00	2.5	0.00	Moderate	2.5	Moderate
I-205	16	NB	Stafford Rd	10th St	3.3	AM	0	1.0	-3	0.0	2	1.0	0.02	0.0	0.00		0.02	0.0	0.00	0.0	1.08	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	2	1.0	3	1.0	-1	0.0	0.00	0.0	0.00		0.00	0.0	0.00	0.00	0.13	0.0	0.00	2.5	0.00	Moderate	2.5	Moderate	2.5
I-205	17	NB	10th St	Sunset Ave	1.9	AM	-3	0.0	-9	0.0	2	1.0	0.01	0.0	0.00		0.01	0.0	0.00	0.0	0.55	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	2	1.0	3	1.0	-1	0.0	0.00	1.0	0.00		0.00	1.0	0.00	0.00	-0.17	2.5	0.00	0.00	2.5	0.00	Moderate	2.5	Moderate
I-205	18	NB	Sunset Ave	Main St	1.2	AM	-3	0.0	-9	0.0	2	1.0	0.00	0.0	0.00		0.00	0.0	0.00	0.0	0.17	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	2	1.0	3	1.0	-1	0.0	0.00	1.0	0.00		0.00	1.0	0.00	0.00	-0.03	2.5	0.00	0.00	2.5	0.00	Moderate	2.5	Moderate
I-205	19	NB	Main St	SR-224	4.1	AM	-2	0.0	-10	0.0	1	1.0	0.01	0.0	0.00		0.01	0.0	0.00	0.0	0.34	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	2	1.0	3	1.0	-1	0.0	0.00	1.0	0.00		0.00	1.0	0.00	0.00	-0.25	2.5	0.00	0.00	2.5	0.00	Moderate	2.5	Moderate
I-205	20	NB	SR-224	NE Glisan St	7.7	AM	-1	0.0	-12	0.0	1	1.0	0.00	0.0	0.00		0.00	0.0	0.00	0.0	0.08	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	3	1.0	4	1.0	-2	0.0	0.00	1.0	0.00		0.00	1.0	0.00	0.00	-0.22	2.5	0.00	0.00	2.5	0.00	Moderate	2.5	Moderate
I-205	21	NB	NE Glisan St	Jackson Bridge	3.6	AM	74	1.0	40	1.0	5	1.0	0.07	0.0	0.00		0.07	0.0	0.02	0.0	3.93	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	1	1.0	4	1.0	-1	0.0	-0.03	1.0	0.00		-0.03	1.0	0.00	0.00	2.5	-2.47	2.5	0.00	0.00	2.5	0.00	Moderate	2.5
I-205	22	SB	Jackson Bridge	NE Glisan St	3.9	AM	-81	0.0	-243	0.0	37	5.0	0.17	0.0	0.00		0.17	0.0	0.01	0.0	9.87	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	26	1.0	-14	0.0	2	1.0	0.03	0.0	0.00		0.03	0.0	-0.01	5.0	2.36	0.0	0.00	2.5	0.00	Moderate	2.5	Moderate	2.5
I-205	23	SB	NE Glisan St	SR-224	7.4	AM	-75	0.0	-110	0.0	46	5.0	0.04	0.0	0.00		0.04	0.0	0.00	0.0	0.14	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	0	1.0	-9	0.0	1	1.0	0.02	0.0	0.00		0.02	0.0	0.00	0.0	1.18	0.0	0.00	2.5	0.00	Moderate	2.5	Moderate	2.5
I-205	24	SB	SR-224	Main St	4.0	AM	-65	0.0	-86	0.0	37	5.0	0.03	0.0	0.00		0.03	0.0	0.00	0.0	0.30	0.0	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	-1	0.0	-6	0.0	0	1.0	0.01	0.0	0.00		0.01	0.0	0.00	0.00	0.42	0.0	0.00	2.5	0.00	Moderate	2.5	Moderate	2.5
I-205	25	SB	Main St	Sunset Ave	1.3	AM	-74	0.0	-95	0.0	43	5.0	0.00	0.0	0.00		0.00	0.0	0.00	0.0	-0.13	2.5	0.00	0.00	2.5	Moderate	2.5	Moderate	2.5
						PM	0	1.0	-4	0.0	1	1.0	0.00	0.0	0.00		0.00	0.0	0.00	0.00	0.08	0.0	0.00	2.5	0.00	Moderate			



Round 2 Concept B: Price All Lanes (I-5: Downtown)



Table with columns: Corridor, Segment ID, Direction, From, To, Length (Miles), Peak Hour, and Traffic Operations on I-5 & I-205 (including Peak-Hour Vehicle Throughput, Peak-Hour Freight Truck Throughput, Peak-Hour GP Travel Time, etc.).



Appendix C Regional transportation demand model findings

Metro's regional travel demand model plays a key role in concept evaluations. One of the benefits of a regional model is its ability to show regional impacts on the overall transportation system, including freeways and surface streets. These include the following:

- Vehicle hours of travel (VHT), which totals the travel time of all vehicle trips made within the model area. VHT can be a good indicator of network efficiency and the impact of a particular alternative.
- Vehicle miles of travel (VMT), which is the total of all vehicle miles driven in the model area. VMT is also a measure of network efficiency. A reduction in VMT when the number of trips is held constant, as it is in the regional model, can indicate a more efficient network.
- Mode share, which is the breakdown of daily person trips by mode (single-occupant vehicle [SOV], high-occupancy vehicle [HOV], public transportation, bicycle, pedestrian) and how the share of any particular mode choice changes under each concept. Reported percentage changes may not appear to be high but can still represent a large number of total trips changed.

These regional impacts had a significant bearing on the evaluation and implications for the recommendations contained within this technical memorandum. Key data points are summarized in subsequent sections.

VHT summary

Observations and conclusions:

- All tolling concepts indicate a net reduction in regional VHT.
- Concepts A and D have minimal impact on regional VHT. The most significant impact is seen in the AM peak hour.
- Concept B has a small impact on regional VHT. The benefit is relatively consistent throughout the day, though also highest in the AM peak hour.
- Concept C would produce the most significant decreases in regional VHT, a daily decrease of ~5.0 percent.

Table B1. Vehicle Hours Traveled (VHT) by time period by concept – difference from baseline

Reporting Period	Concept A	Concept B	Concept C	Concept D
AM Peak Hour	(1,600)	(3,200)	(16,100)	(2,100)
PM Peak Hour	(100)	(1,500)	(8,600)	(700)
Morning	(2,600)	(6,400)	(34,200)	(3,600)
Midday	(600)	(3,700)	(17,200)	(700)
Afternoon	(400)	(4,600)	(23,500)	(1,900)
24 hour Total	(3,600)	(15,500)	(79,000)	(6,400)

Source: Metro regional travel demand model



Table B2. Vehicle Hours Traveled (VHT) by time period by concept – percent difference

Reporting Period	Concept A	Concept B	Concept C	Concept D
AM Peak Hour	-1.2%	-2.3%	-11.4%	-1.5%
PM Peak Hour	-0.1%	-1.2%	-6.9%	-0.6%
Morning	-0.6%	-1.6%	-8.5%	-0.9%
Midday	-0.1%	-0.8%	-3.5%	-0.2%
Afternoon	-0.1%	-1.0%	-5.3%	-0.4%
24 hour Total	-0.2%	-1.0%	-5.0%	-0.4%

Source: Metro regional travel demand model

VHT sensitivity testing

Model sensitivity testing with less perceived benefit of improved freeway travel time indicated lower overall benefits in daily VHT savings. These results indicate smaller reductions in daily VHT for Concept A (0.0%), Concept B (-0.6%), and Concept C (-3.1%), and a small increase in VHT for Concept D (+0.1%)

Observations and conclusions:

- Concepts A and D would have minimal impact on regional VHT. There is some potential for a small increase or decrease, depending on model sensitivity assumptions.
- Concept B also has a small impact on regional VHT but shows consistent savings throughout the day. Reduction in VHT is between 0.5 and 1 percent depending on model capacity assumptions/methods.
- Concept C would produce most significant decreases to regional VHT, between 3 and 5 percent depending on model sensitivity assumptions.
- The greatest VHT benefits are generally experienced in the AM peak period.

VMT summary

Observations and conclusions:

- Overall, concepts A and D have minimal impact on regional VMT. Concept A model results indicate small decreases in VMT, while Concept D results indicate small increases in VMT. Neither concept would be expected to produce a significant change in total VMT.
- The potential increases in Concept D are likely due to the out-of-direction travel necessary to use the southern section of I-205.
- Concept B has a greater impact on VMT than Concept A or D but the reduction is also a small percentage of total VMT.
- Concept C could produce significant decreases to regional VMT, a daily decrease of 2 percent.
- Changes to VMT are generally consistent for all time periods.



Table B3. Vehicle Miles Traveled by time period by concept – difference from baseline

Reporting Period	Concept A	Concept B	Concept C	Concept D
AM Peak Hour	(1,000)	(9,200)	(79,400)	3,100
PM Peak Hour	(600)	(8,300)	(77,200)	2,300
Morning	(2,200)	(28,300)	(249,300)	5,600
Midday	(5,700)	(21,100)	(385,800)	1,200
Afternoon	(2,800)	(30,300)	(286,000)	5,300
24 hour Total	(14,800)	(98,400)	(1,091,100)	10,100

Source: Metro regional travel demand model

Table B4. Vehicle Miles Traveled by time period by concept – percent difference

Reporting Period	Concept A	Concept B	Concept C	Concept D
AM Peak Hour	0.0%	-0.3%	-2.2%	0.1%
PM Peak Hour	0.0%	-0.2%	-2.1%	0.1%
Morning	0.0%	-0.2%	-2.1%	0.0%
Midday	0.0%	-0.1%	-2.2%	0.0%
Afternoon	0.0%	-0.2%	-2.1%	0.0%
24 hour Total	0.0%	-0.2%	-2.1%	0.0%

Source: Metro regional travel demand model

VMT sensitivity testing

Model sensitivity testing with less perceived benefit of improved freeway travel time indicated similar overall benefits in daily VMT changes. These results indicate potential reductions in daily VMT, as follows: Concept A (0.0%), Concept B (-0.2%), Concept C (-2.2%), and Concept D (-0.1%)

Observations and conclusions:

- Concept A shows small daily VMT reduction with a similar overall daily impact, regardless of model sensitivity assumptions.
- Concept D shows a potential to slightly increase or decrease VMT, depending on model sensitivity assumptions. This is most likely due the out-of-direction travel associated with using the southern segment of I-205 and how attractive the freeway is to travelers. In either approach, the overall change to VMT is small.
- Concept B shows similar VMT savings, regardless of model sensitivity assumptions.
- Concept C would produce the most significant decreases to regional VMT. The daily decrease in VMT is very similar regardless of model sensitivity assumptions.

Mode share summary

Observations and conclusions:

- Concepts A and D have minimal impact on regional mode share. There is some potential to shift SOV to HOV trips.
- Concept B has minimal impact on regional mode share. There is some potential to discourage some SOV trips, with shifts to HOV primarily but also active transportation modes.
- Concept C could produce significant changes to regional mode share, although the total change still reflects less than half of one percent of regional trips. There is potential to discourage some SOV trips, with shifts to HOV primarily but also active transportation modes.



Table B5. Mode share shift relative to 2027 baseline (Daily Person Trips)

Reporting Period	Concept A	Concept B	Concept C	Concept D
SOV	0.0%	-0.1%	-0.5%	0.0%
HOV	0.0%	0.0%	0.3%	0.0%
Transit /Bus	0.0%	0.0%	0.1%	0.0%
Bike/Walk	0.0%	0.0%	0.0%	0.0%

Source: Metro regional travel demand model

Table B6. Change in daily person trips

Reporting Period	Concept A	Concept B	Concept C	Concept D
SOV	-2,000	-7,000	-50,000	-2,000
HOV	2,000	4,000	31,000	2,000
Transit/Bus	0	2,000	11,000	0
Bike/Walk	0	1,000	8,000	0

Source: Metro regional travel demand model

Note: Values rounded to nearest 1,000.

Note: Mode share changes may be overstated to some degree due to limitations of the analysis approach in fully accounting for potential freeway travel time savings in the model's mode choice estimation.



Appendix D Toll Optimization Model (TOM) inputs and assumptions

Toll Optimization Modeling

Inputs, Policy Assumptions, and Options

Portland Value Pricing
Feasibility Analysis

Modeling Coordination

March 8, 2018

- ECONorthwest's Toll Optimization Model© (TOM) is a special suite of models designed to determine equilibrium lane volumes, toll levels, revenues, and associated travel times for tolled highway facilities.
- ECONorthwest has been operating traffic and revenue models with benefit-cost features for over two decades.
- These tools allow “pivoting” or “extrapolating” performance of an existing project to a much wider range of conditions and business rules.
- The tools are supplied with demand forecasts to test future performance of toll facilities.
- Tolls, traffic and revenues can be optimized under a variety of tolling objectives. The models also can be used to evaluate non-tolled (HOV) managed lane facilities.
- In complex modeling settings (e.g. dynamic pricing) the models provide over 150 output variables per facility segment or link.

- Efficient pricing requires variability in prices at various times and under various circumstances. This is because the costs imposed by a user's vehicle vary with the nature of and conditions on the roadway, and the characteristics of the vehicles using of the roadway.
- Policy makers benefit from having a means that allows them to quickly determine whether or not a project offers the prospect of meaningful net benefits and revenues that support toll operations.
- This exercise is made complex by the number of factors that contribute to a successful managed lanes facility design and operation.
- Many of these factors are explicitly represented in the TOM model as policy assumptions that can be established by the end user.

■ Corridor Volumes

- Some express lanes have been developed in relatively lightly-used corridors, while others have been developed in corridors that have heavy corridor volumes.
- While not strictly a policy assumption, the demand volumes provided to the TOM model may have some uncertainty associated with them. Test can be performed using variations in volume to determine the influence on project feasibility

- **Demographic Conditions**
- Express Lanes have generally, but not always, been implemented in settings where incomes and values of time are high. Others are in corridors with a high share of recreational or other on-work traffic.
- Again modeling tests can be made regarding uncertainty associated with demographics and growth.

■ Value of Time

- Different users of potential managed lanes will have levels of willingness to pay for travel time savings. This is known as a user's value of time (VOT) savings.
- The TOM model typically makes use of any locally available information on VOT, such as mean values from a travel demand model. The TOM model then applies a distribution (log-normal distribution) around those mean values.
- Modeling tests can be made with alternative VOT in order to help determine project financial risk and feasibility.

- **Traffic Composition**

- Corridors can differ in the share of traffic comprised by SOVs, HOVs, and trucks. This affects the ease of traffic movements between the express and general-purpose lanes, and the value of travel time savings or losses.
- The TOM model typically inherits the composition of traffic from a validated travel demand model.

- **Facility Geometry**
- Facilities with express lanes vary in the number of express lanes and their share of total cross-sectional capacity. They also differ in the number of ingress and egress points and whether "hard" or "soft" barriers separate express from general purpose lanes.
- The nature of the planned project determines the characterization of lanes and any limits on express lane access. In the case of limited access special procedures are implemented in the TOM model to properly represent the demand for express lane usage.

- Hours of Operation
- Some express lanes operate only in the AM and/or PM peak periods of workdays while others operate 'round the clock and on weekends.
- The TOM model can represent every five minutes of the day and hours of operation can be set to meet desired operating rules.

- **Carpool Policies**
- In some express lane implementations policy makers have seen fit to continue allowing 2+ person carpools to travel free in the tolled lanes, while other projects have raised the carpool occupancy requirement. In other settings all vehicles pay for access to the managed lanes.
- The TOM model permits the selection of which vehicle classes pay a toll for express lane use and which are exempt. These assumptions can also be varied by time of day.

- Tolling Objectives
- The tolling objective is manifest in the procedures used to vary tolls. In some cases, the toll is varied with the sole purpose of maintaining a **minimum level of service** in the express lane, while in other cases, the objective is to **minimize the costs** to users of the corridor or, alternatively, to **maximize the revenue** generated by the facility.
- In a typical TOM model run both **cost min.** and **rev. max.** are analyzed. These objectives can also be subject to other policy constraints. More below...

- **Minimum and Maximum Tolls**
- Some facility operators will impose constraints on a toll objective such as minimum or maximum toll rates. Minimum tolls may ensure that toll transaction costs are recovered. Maximum tolls may provide users a price guarantee.
- Minimum and maximum constraints can be impose on any other toll objective. Each will have implications for both revenue and facility performance.

- **Toll Discounts**

- It is sometimes desired to offer toll discounts to certain vehicle classes such as HOV2+ vehicles or electric vehicles.
- The TOM model allows any vehicle class that is modeled to be provided a discount toll rate. Discounts can vary by time of day and can be combined with any other toll objective. Toll discounts will influence both revenue and facility performance.

- **Level of Service Violations**
- Some facilities are required to maintain a minimum level-of-service, often this is a minimum speed (45 m.p.h.) during much of the facilities operation.
- The TOM model permits the establishment of a minimum level-of-service. In this case when the express lane speeds drop below this threshold the lane reverts to HOV operations and no tolls are imposed until speeds recover.

- Pricing Frequency
 - Some facilities implement variable pricing via a table of fixed rates that varies by day of week and time of day. Others employ so-called dynamic pricing, wherein the toll varies in real time with the facility volume.
 - The TOM model can represent either “static” or “dynamic” toll rate setting. Dynamic pricing allows for re-pricing every five minutes and draws from traffic distributions across many days of “operation”.

- **Feedback to Regional Model**
- Express toll lanes are a lane choice for users of a corridor. Typically these facilities will not significantly influence the choice of travel mode. But conversion from HOV operations can have some influence of carpool formation.
- The TOM model is a micro-assignment model and inherits demand from a regional model. To test mode choice implications of toll policy a feedback step must be implemented between TOM and the regional model.

- **Treatment of Hyper-Congestion**
- Many corridors with express lanes experience hyper-congestion during some point during one or both peak periods of operations. These conditions present unique challenges in modeling facility performance and toll implementations.
- The TOM model has special features to properly handle the hyper-congested state. TOM makes use of high frequency and high resolution data on historical corridor performance (when available) to customize the implementation of these procedures.

- **Modeling of the Spreading of the Peak**
- As demand in a corridor grows the peak period of operations typically expands. Conversely, as capacity is added to a corridor the peaks may shorten.
- The TOM model has an optional feature that models the lengthening/shortening of the peak. This feature makes use of high frequency and high resolution data on current traffic volumes (when available), and changes in future demand and facility capacity.



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Appendix E Discussion on revenue and cost metrics

Estimated revenue leakage

For all of the evaluated concepts, facility users are assumed to be required to have a tag/transponder in their vehicle that is linked to a pre-established account to use the tolled lanes. The use of photo toll equipment for image capture and toll bill processing is not assumed in any of the concepts, although photo enforcement equipment may be installed to deter people from avoiding toll equipment by switching lanes before and after toll gantries or in shoulder lanes, as well as for identification of vehicles traveling in the toll lanes without a valid transponder.

The modeled transaction and revenue values do not account for penetration rates for transponder accounts or the percentage of through trips and out of state/country trips that likely would not be associated to a registered transponder account in the state of Oregon. As adjustments for transponder usage rates were not made in the traffic modeling, the leakage or revenue loss factors provided assume that a certain number of transactions will divert to alternative routes or general purpose lanes, in the case of express toll lanes or HOT lanes, to avoid fines and fees associated with violation.

Additional leakage attributed to equipment read errors of transponders is assumed to be less than 0.5 percent and consistent across concepts. Transponder accounts linked to expired credit and debit cards and accounts with insufficient balances are assumed to be 4 percent and consistent across concepts.

Estimated toll collection operations and maintenance / rehabilitation and reconstruction costs

For all concepts, routine operations and maintenance costs and periodic rehabilitation and reconstruction costs are assumed and estimated using existing toll agency experience on other comparable toll facilities in the U.S. All concepts assume costs associated to credit card fees, state/agency costs, back office customer service center vendor contract(s), lane-side equipment and vendor costs, enforcement costs for state highway patrol, and periodic replacement of lane-side toll equipment and procurement of back office and lane-side toll vendors.

- Credit card fees are anticipated to be comprised of a fixed base cost and percentage cost based on the value of the transaction. The overall percentage rate is assumed to be 2.3 percent consistent with typical credit card fee processing rates, including a factor for account refunds.
- The state or toll agency is assumed to be responsible for general management, vendor oversight, marketing, information technology, accounting and finance, and enforcement/violations. In addition to administrative costs attributed to rent, computer equipment and other general overhead, other agency costs also include items for consultant fees, including personal services contracts and forecasting activities
- The customer service center vendor(s) is (are) responsible for processing toll transactions, collecting toll revenue, maintaining customer accounts, interfacing with customers via telephone and potential retail walk-in centers and providing



software applications to enable these functions. Either a single vendor or multiple vendors will be responsible for providing both the software systems that process electronic toll transactions for payment and the operations to provide customer service. Expenditures for vendor services are incurred on a contract basis that can be based on either a fixed monthly amount, a transactional fee, or combination of the two.

- Roadway toll systems costs include all lane equipment, hardware and software required to identify a toll transaction and transmit data about that transaction to the customer service center for payment processing. Sometimes referred to as "lane systems," this equipment includes transponder readers, cameras, and communications network equipment that need regular maintenance and/or replacement to ensure the system is functioning properly. For all of the concepts, it is assumed the toll systems vendor operate under a 10-year fixed-fee contract that is procured under the same timeline with a full set of equipment replacement at the beginning of each vendor contract cycle. Lane side equipment costs primarily cover transponder readers and cameras used for video enforcement.
- Enforcement costs are assumed to be incurred through interagency agreements with law enforcement, typically state patrol, for both HOV occupancy declaration enforcement and to confirm vehicles are traveling through the facility with a valid and correctly installed transponder. In all concepts, enforcement is budgeted during toll service hours with additional enforcement during peak travel times. Current methods of enforcement are not foolproof and there are still challenges in enforcing the entire length of the facility as well as accurately determining occupancy levels in backseats of passenger vehicles. Typically, enforcement officers will be able to identify carpool declaration through a beacon signal on the gantry when a vehicle declared as a HOV passes through or through the back of a switchable transponder set to carpool declaration mode, which is identified by a red background on the back of the transponder facing the windshield. Similar to vehicle occupancy detection, a gantry beacon may alert enforcement officers to vehicles without valid transponders.

The following assumptions relate to specific concepts:



Concept A

The following cost factors, based on industry best practices and the judgment of the evaluation team, were accounted for in the generation of revenue estimates for Concept A:

- Concepts facility users are assumed to be required to have a tag/transponder in their vehicle that is linked to a pre-established account to use the tolled lanes.
- Carpools (HOV 3+) are assumed to be exempt from paying tolls. These vehicles would self-declare using a switchable transponder that allows them to switch to HOV status, which tend to be more expensive than a sticker tag. False carpool declaration is estimated to be more than 25 percent of declared carpool trips on U.S. express lane toll facilities. However, rates decline with the presence of law enforcement. This evaluation assumed enforcement levels are adequate for coverage during operating hours, with higher levels during peak periods, with revenue loss of 20 percent.
- The use of photo toll equipment for image capture and toll bill processing is not assumed in any of the concepts.
- The modeling assumes that 30 percent potential transactions will divert to the general purpose lanes or alternative routes to avoid fines and fees associated to being a violator.
- Drivers using the lanes without a transponder is expected to be 5 percent, the lowest of the tolling concepts. Lower rates are expected due to the presence of law enforcement to monitor HOV declaration.
- Equipment read errors of transponders were assumed to account for less than 0.5 percent, which was consistent across all concepts.
- Transponder accounts linked to expired credit and debit cards and accounts with insufficient balances are assumed to be 4 percent, and consistent across concepts.
- Credit card fees are anticipated to be comprised of a fixed base cost and percentage cost based on the value of the transaction. The overall percentage rate is assumed to be 2.3 percent consistent with typical credit card fee processing rates including a factor for account refunds. With lower revenue generation in comparison to the other concepts, Concept A is expected to incur low overall costs attributed to credit card fees.
- The state or toll agency is assumed to be responsible for general management, vendor oversight, marketing, information technology, accounting and finance, and enforcement/violations. In addition to administrative costs attributed to rent, computer equipment, and other general overhead, other agency costs also include items for consultant fees, including personal services contracts and forecasting activities.
- The customer service center vendor(s) is (are) responsible for processing toll transactions, collecting toll revenue, maintaining customer accounts, interfacing with customers via telephone and potential retail walk-in centers and providing software applications to enable these functions. For Concept A it was assumed, due to the limited number of transactions and reduced potential for economies of scale in procuring a back-office vendor(s) directly, that back functions would be contracted through another agency at a cost premium to account for



periodic vendor procurement. Periodic costs associated to vendor procurement, implementation, and testing are not assumed in Concept A.

- Roadway toll systems costs include all lane equipment, hardware, and software required to identify a toll transaction and transmit data about that transaction to the customer service center for payment processing. For all of the concepts it is assumed the toll systems vendor operate under a 10-year fixed fee contract that is procured under the same timeline with a full set of equipment replacement at the beginning of each vendor contract cycle. In Concept A multiple single lane toll points are assumed in both the north and south travel directions.
- Enforcement costs are assumed to be incurred through interagency agreements with law enforcement, typically state patrol, for both HOV occupancy declaration enforcement and to confirm vehicles are traveling through the facility with a valid and correctly installed transponder. In all concepts enforcement is budgeted during toll service hours with additional enforcement during peak travel times. Concept A assumes higher levels of enforcement for both occupancy and registered transponder detection.

Concept B

The following cost factors, based on industry best practices and the judgment of the evaluation team, were accounted for in the generation of revenue estimates for Concept B:

- Concepts facility users are assumed to be required to have a tag/transponder in their vehicle that is linked to a pre-established account to use the tolled lanes.
- Carpools (HOV 3+) are assumed to pay tolls. As such, there is no revenue loss associated with false HOV declaration.
- The use of photo toll equipment for image capture and toll bill processing is not assumed in any of the concepts.
- The modeling assumes that 20 percent potential transactions will divert to the general purpose lanes or alternative routes to avoid fines and fees associated to being a violator.
- Drivers using the lanes without a transponder is expected to be 10 percent.
- Equipment read errors of transponders were assumed to account for less than 0.5 percent, which was consistent across all concepts.
- Transponder accounts linked to expired credit and debit cards and accounts with insufficient balances are assumed to be 4 percent, and consistent across concepts.
- Credit card fees are anticipated to be comprised of a fixed base cost and percentage cost based on the value of the transaction. The overall percentage rate is assumed to be 2.3 percent consistent with typical credit card fee processing rates including a factor for account refunds. With lower revenue generation in comparison to the other concepts, Concept B, with the lowest average toll rates is expected to incur lower overall costs attributed to credit card fees.
- The state or toll agency is assumed to be responsible for general management, vendor oversight, marketing, information technology, accounting and finance, and enforcement/violations. In addition to administrative costs attributed to rent, computer equipment, and other general overhead, other agency costs also



include items for consultant fees, including personal services contracts and forecasting activities.

- The customer service center vendor(s) is (are) responsible for processing toll transactions, collecting toll revenue, maintaining customer accounts, interfacing with customers via telephone and potential retail walk-in centers and providing software applications to enable these functions. Concept B it is assumed that customer service center vendor(s) will be procured to process tolls and manage customer accounts and walk-in centers. Periodic costs associated to vendor procurement, implementation, and testing are typically contracted for 6-10 year periods for systems functions and 3-8 years for operations functions (assuming bifurcated vendor contracts), in Concept B vendors are assumed to be procured on 8 year cycles.
- Roadway toll systems costs include all lane equipment, hardware, and software required to identify a toll transaction and transmit data about that transaction to the customer service center for payment processing. For all of the concepts it is assumed the toll systems vendor operate under a 10-year fixed fee contract that is procured under the same timeline with a full set of equipment replacement at the beginning of each vendor contract cycle. In Concept B a single toll point is assumed in all lanes and shoulders in both the north and south travel directions and entry ramps.
- Enforcement costs are assumed to be incurred through interagency agreements with law enforcement, typically state patrol, to confirm vehicles are traveling through the facility with a valid and correctly installed transponder. In all concepts enforcement is budgeted during toll service hours with additional enforcement during peak travel times. Concept B assumes base levels of enforcement for registered transponder detection.

Concept C

The following cost factors, based on industry best practices and the judgment of the evaluation team, were accounted for in the generation of revenue estimates for Concept C:

- Concepts facility users are assumed to be required to have a tag/transponder in their vehicle that is linked to a pre-established account to use the tolled lanes.
- Carpools (HOV 3+) are assumed to pay tolls. As such, there is no revenue loss associated with false HOV declaration.
- The use of photo toll equipment for image capture and toll bill processing is not assumed in any of the concepts.
- The modeling assumes that 20 percent potential transactions will divert to the general purpose lanes or alternative routes to avoid fines and fees associated to being a violator.
- Drivers using the lanes without a transponder is expected to be 15 percent.
- Equipment read errors of transponders were assumed to account for less than 0.5 percent, which was consistent across all concepts.
- Transponder accounts linked to expired credit and debit cards and accounts with insufficient balances are assumed to be 4 percent, and consistent across concepts.



- Credit card fees are anticipated to be comprised of a fixed base cost and percentage cost based on the value of the transaction. The overall percentage rate is assumed to be 2.3 percent consistent with typical credit card fee processing rates including a factor for account refunds. With lower revenue generation in comparison to the other concepts, Concept B, with the lowest average toll rates is expected to incur lower overall costs attributed to credit card fees.
- The state or toll agency is assumed to be responsible for general management, vendor oversight, marketing, information technology, accounting and finance, and enforcement/violations. In addition to administrative costs attributed to rent, computer equipment, and other general overhead, other agency costs also include items for consultant fees, including personal services contracts and forecasting activities. Concept C would generate enough annual toll trips to assume that Oregon would establish their own toll agency and back office systems and operations with benefits from economies of scale in regards to state administrative costs per toll transactions.
- The customer service center vendor(s) is (are) responsible for processing toll transactions, collecting toll revenue, maintaining customer accounts, interfacing with customers via telephone and potential retail walk-in centers and providing software applications to enable these functions. For Concept C it was assumed that customer service center vendor(s) will be procured to process tolls and manage customer accounts and walk-in centers. Periodic costs associated to vendor procurement, implementation, and testing are typically contracted for 6-10 year periods for systems functions and 3-8 years for operations functions (assuming bi-furcated vendor contracts), in Concept C vendors are assumed to be procured on 8 year cycles.
- Roadway toll systems costs include all lane equipment, hardware, and software required to identify a toll transaction and transmit data about that transaction to the customer service center for payment processing. For all of the concepts it is assumed the toll systems vendor operate under a 10-year fixed fee contract that is procured under the same timeline with a full set of equipment replacement at the beginning of each vendor contract cycle. In Concept C multiple toll points are assumed in all lanes and shoulders in both the north and south travel directions and entry ramps on both I-5 and I-205, providing significant operations and maintenance and rehabilitation and reconstruction costs.
- Enforcement costs are assumed to be incurred through interagency agreements with law enforcement, typically state patrol, to confirm vehicles are traveling through the facility with a valid and correctly installed transponder. In all concepts enforcement is budgeted during toll service hours with additional enforcement during peak travel times. Concept C assumes base levels of enforcement for registered transponder detection.

Concept D

The following cost factors, based on industry best practices and the judgment of the evaluation team, were accounted for in the generation of revenue estimates for Concept D:



- Concepts facility users are assumed to be required to have a tag/transponder in their vehicle that is linked to a pre-established account to use the tolled lanes.
- Carpools (HOV 3+) are assumed to be exempt from paying tolls. These vehicles would self-declare using a switchable transponder that allows them to switch to HOV status, which tend to be more expensive than a sticker tag. False carpool declaration is estimated to be more than 25 percent of declared carpool trips on U.S. express lane toll facilities. However, rates decline with the presence of law enforcement. This evaluation assumed enforcement levels are adequate for coverage during operating hours, with higher levels during peak periods, with revenue loss of 20 percent.
- The use of photo toll equipment for image capture and toll bill processing is not assumed in any of the concepts.
- The modeling assumes that 30 percent potential transactions will divert to the general purpose lanes or alternative routes to avoid fines and fees associated to being a violator.
- Drivers using the lanes without a transponder are expected to be 5 percent.
- Equipment read errors of transponders were assumed to account for less than 0.5 percent, which was consistent across all concepts.
- Transponder accounts linked to expired credit and debit cards and accounts with insufficient balances are assumed to be 4 percent, and consistent across concepts.
- Credit card fees are anticipated to be comprised of a fixed base cost and percentage cost based on the value of the transaction. The overall percentage rate is assumed to be 2.3 percent consistent with typical credit card fee processing rates including a factor for account refunds. With lower revenue generation in comparison to the other concepts, Concept B, with the lowest average toll rates is expected to incur lower overall costs attributed to credit card fees.
- The state or toll agency is assumed to be responsible for general management, vendor oversight, marketing, information technology, accounting and finance, and enforcement/violations. In addition to administrative costs attributed to rent, computer equipment, and other general overhead, other agency costs also include items for consultant fees, including personal services contracts and forecasting activities. For Concept D it is assumed that, due to the limited number of transactions and reduced potential for economies of scale in procuring a back-office vendor(s) directly, back office functions are assumed to be contracted through another agency at a cost premium to account for periodic vendor procurement.
- The customer service center vendor(s) is (are) responsible for processing toll transactions, collecting toll revenue, maintaining customer accounts, interfacing with customers via telephone and potential retail walk-in centers and providing software applications to enable these functions. For Concept D it was assumed, due to the limited number of transactions and reduced potential for economies of scale in procuring a back-office vendor(s) directly, that back functions would be contracted through another agency at a cost premium to account for periodic vendor procurement. Periodic costs associated to vendor procurement, implementation, and testing are not assumed in Concept D.



- Roadway toll systems costs include all lane equipment, hardware, and software required to identify a toll transaction and transmit data about that transaction to the customer service center for payment processing. For all of the concepts it is assumed the toll systems vendor operate under a 10-year fixed fee contract that is procured under the same timeline with a full set of equipment replacement at the beginning of each vendor contract cycle. In Concept D multiple toll points are assumed in both the east and west travel directions.
- Enforcement costs are assumed to be incurred through interagency agreements with law enforcement, typically state patrol, for both HOV occupancy declaration enforcement and to confirm vehicles are traveling through the facility with a valid and correctly installed transponder. In all concepts enforcement is budgeted during toll service hours with additional enforcement during peak travel times. Concept D assumes higher levels of enforcement for both occupancy and registered transponder detection.



Appendix F Discussion on state and regional laws and policies

The analysis presented in this technical memorandum regarding concept consistency with state and regional laws and policies was conducted using the following documents:

- Oregon Highway Plan (OHP)
- Oregon Transportation Plan (OTP)
- Oregon Revised Statutes (ORS)
- Oregon Constitution
- Oregon Administrative Rules (OAR)
- Metro Regional Transportation Plan (RTP)

It is important to note that this analysis was conducted by applying the methodology that if a concept does not specifically violate applicable state or regional law or policy (i.e., if a concept is not specifically illegal), then the concept receives a top score. State and regional laws and policies contain some standards that any proposed future tolling project must meet. For example, OAR 731-040-0050 – Evaluation and Authorization requires that the OTC cannot “consider authorizing a proposed tollway project for construction until the tollway project has been included as a tollway in the local or regional transportation system plan of jurisdictions in which the project would be located.”¹¹ This means that some level of detail on the proposed tollway would likely need to be included in the Metro RTP at some point.

Other regulations require that the tolling proposal meet certain revenue and cost requirements at a level of detail that is not knowable at the feasibility analysis stage. Still other regulations require that proposed tollways meet certain unspecified parameters that dictate policy considerations (such as traffic operations, diversion of traffic and other considerations similar to those included in this feasibility analysis). This analysis assumes that the specific parameters of the Portland Metro Area Value Pricing Feasibility Analysis, and/or parameters included in future analysis that will be conducted before any tolling proposal is actually implemented, will be accepted as parameters.¹²

Also worth noting is that ORS 383.150 – Traffic congestion relief program, which was established by House Bill 2017, stipulates the following:

- (1) The Oregon Transportation Commission shall establish a traffic congestion relief program.
- (2) No later than December 31, 2018, the commission shall seek approval from the Federal Highway Administration, if required by federal law, to implement value pricing as described in this section.

¹¹ OAR 731-040-0050 (7).

¹² For example, the OHP stipulates that “ODOT will only consider those toll projects ranked ‘medium to high’ under tolling parameters considered by ODOT” and then refers to a 2009 white paper that provided similar parameters to this feasibility analysis (OHP Action 6.A.2). This feasibility analysis assumes that the specific parameters of this feasibility analysis are acceptable and/or that future analysis of an actual tolling proposal will include acceptable parameters. This analysis assumes that the parameters identified in the 2009 white paper are not the only parameters that may be determined acceptable.



- (3) After seeking and receiving approval from the Federal Highway Administration, the commission shall implement value pricing to reduce traffic congestion. Value pricing may include, but is not limited to, variable time-of-day pricing. The commission shall implement value pricing in the following locations:
- (a) On Interstate 205, beginning at the Washington state line and ending where it intersects with Interstate 5 in this state.
 - (b) On Interstate 5, beginning at the Washington state line and ending where it intersects with Interstate 205.

Portland Metro Area Value Pricing – Summary of Relevant Policies

The information below provides a summary of relevant federal, state, and regional plans and policies in support of the Portland Metro Area Value Pricing Feasibility Analysis.

This is not intended to provide a comprehensive history of all tolling or value pricing efforts in Oregon. Further information about these topics can be found at ODOT's website, <http://www.oregon.gov/ODOT/Pages/Value-Pricing.aspx>. Questions about the content of this document can be directed to valuepricinginfo@odot.state.or.us.

Background

In 2017, the legislature made a significant commitment to Oregon's multimodal transportation system by passing House Bill 2017, also known as Keep Oregon Moving. The legislation committed \$5.3 billion for projects aimed at freeway bottlenecks, active transportation needs, and funding for transit operations.

Section 120 of HB 2017 creates the Traffic Congestion Relief Program and directs the Oregon Transportation Commission (OTC) to request approval from the Federal Highway Administration (FHWA) to implement value pricing on Interstate 5 and Interstate 205 in the Portland metropolitan area. The OTC has until December 31, 2018 to seek FHWA's approval. Once Oregon receives that authority, HB 2017 compels the OTC to move forward with value pricing implementation to relieve congestion.

The OTC directed the Oregon Department of Transportation (ODOT) to conduct a feasibility analysis, working with local government officials and stakeholders and seeking public input so that the voice of all those who may be affected can be heard. A Policy Advisory Committee (PAC) was convened to advise the OTC on implementing Section 120, making recommendation(s) regarding:

- Based on the considerations described under Committee Responsibilities, what location(s) on I-5 and/or I-205 are best suited to implement value pricing?
- For the recommended location(s), what type of value pricing should be applied?
- What mitigation strategies should be pursued based on their potential to reduce the impact of value pricing on environmental justice communities or adjacent communities?

The PAC is asked to consider the following factors in evaluating pricing options:

- Revenue and cost



- Traffic operations improvements
- Diversion of traffic
- Adequacy of transit service
- Equity impacts
- Impacts on the community, economy, and environment
- Public input
- Consistency with state and regional law and policy
- Feasibility under federal law
- Project delivery schedules

Oregon plans and policies

HB 2017 and its value pricing directive are not Oregon's first legislative experience with tolling. The Oregon Department of Transportation's (ODOT's) deliberate approach to modern tolling and value pricing policy began in 1995 with the passage of Senate Bill 626. That legislation resulted in much of Oregon Revised Statutes (ORS) Chapter 383 as it exists today, governing tollway project authority, agreements, funding and fee collection. Although lawmakers and ODOT did not move forward any tolling projects at the time, the Traffic Congestion Relief Program provisions of HB 2017 augment this existing statute in ORS Chapter 383.

Oregon Highway Plan Goal 6

Starting in 2006, the OTC adopted policies to support the consideration of tolling in Oregon as a means to improve the capacity and operational efficiency of the state highway system. Following the commission of a series of white papers that investigated many facets of tolling and value pricing, ODOT updated the Oregon Highway Plan (OHP) in 2009 with Goal 6: Tolling and Congestion Pricing. These amendments set the policy for ODOT and the OTC to follow on future value pricing projects. The white papers and resulting policy identified that tolling can accomplish more than just revenue generation. Additional objectives include congestion relief, greenhouse gas/emission reduction, and economic development. OHP Goal 6 also established policies that stipulate tolling project requirements, public engagement and education, and tolling technology and system interoperability (<http://www.oregon.gov/ODOT/Planning/Documents/OHP-Tolling-Pricing-Policy-Amendments.pdf>).

Statewide tolling policy work continued in 2012, with the adoption of many additions to Oregon Administrative Rule (OAR) Chapter 731, Division 40. These rules implement the provisions of ORS Chapter 383 that direct ODOT and OTC to further clarify statute and set the parameters OTC will use when considering toll project proposals. These rules also create a process for reviewing and approving toll rates, reinforce Oregon's commitment to interoperability, establish civil penalties for failure to pay a toll, and set up processes specific to interstate bridge toll projects.

Oregon policy on uses of revenue

HB 2017 dedicates net revenue from value pricing to a newly created Congestion Relief Fund. As a tax or excise levied on the operation or use of a motor vehicle, revenue from value pricing would be subject to the same limitations as the State Highway Fund. The State Highway Fund is bound by the restrictions of Article IX, Section 3a of the Oregon



Constitution, which specifies that funds “shall be used exclusively for the construction, reconstruction, improvement, repair, maintenance, operation and use of public highways, roads, streets and roadside rest areas in this state.”

The Oregon Supreme Court has interpreted this to mean that these funds “must be limited exclusively to expenditures on highways, roads, streets and roadside rest areas themselves and for other projects or purposes within or adjacent to a highway, road, street or roadside rest area right-of-way that primarily and directly facilitate motorized vehicle travel.”

The Oregon Department of Justice (DOJ) has not completed a full analysis of what activities that support public transportation or active transportation may be eligible under Article IX, Section 3a. However, DOJ has provided informal and formal opinions on a range of potential eligible uses of State Highway Fund dollars that may help inform the OTC considerations:

- Park-and-ride lots that connect auto users to bus systems: these must be in or adjacent to the right-of-way and must serve bus routes (and could not solely serve light rail, for example, as it is not “motorized vehicle travel”).
- Construction of shared-purpose lanes that include light rail—although the cost of light rail-only improvements within the lane (such as the rail itself) would not be eligible to be paid with State Highway Fund dollars.
- Bus malls: former public streets that will be closed to all motor vehicle traffic except buses are eligible.
- Bus pullouts on the highway.
- Bicycle and pedestrian facilities that are within the highway, road or street right-of-way are eligible. Off-system paths and trails are not.

The newly created Congestion Relief Fund is a dedicated account to finance congestion relief efforts on the identified tollways, including value pricing administrative and operating costs, new or expanded facilities and ongoing maintenance of the tollways.

While the Congestion Relief Fund is established in statute as a distinct account from the previously established State Tollway Account, the latter may provide insights into future rules for use for the newly created fund. ORS 383.009(2) provides that State Tollway Account funds may be used to finance preliminary studies, acquire right of way, construct, improve or maintain the tollway, operate and administer applicable toll systems, and finance any bonds or other obligations used for such expenses.

Upon passage of HB 2017, the legislature included a “budget note” directing ODOT to dedicate value pricing revenue for funding congestion relief efforts along I-205, particularly the I-205 Stafford Road to Abernethy Bridge projects. The note attached to ODOT's 2017-2019 budget is in effect through the duration of the budgetary biennium, which ends June 30, 2019. Beyond the period of time covered by the budget note, the Oregon Transportation Commission will set policy for where revenue from value pricing should be directed, subject to further direction from the Legislature. The Policy Advisory Committee may choose to make recommendations to the Commission on this topic.



Federal tolling programs

Federal laws pertaining to the collection of tolls on Interstate highways, and the use of federal funds for tolling projects, largely predate the Interstate system itself. Initially, provisions in Title 23 of United State Code (U.S.C.) prohibited the use of federal money for tolling projects on federal-aid highway fund facilities. In 1991, however, the Intermodal Surface Transportation Efficiency Act (ISTEA) opened the door for federally funded tolling projects. ISTEA required that tolling of any existing roads or bridges may only occur after the facility is reconstructed, expanded or otherwise improved. Subsequent congressional action allowed tolling of high-occupancy vehicle lanes and established a pilot project for jurisdictions to experiment with congestion pricing. The following is an overview of relevant tolling regulations and their applicability to the various concepts under consideration by the Portland Metro Area Value Pricing Policy Advisory Committee (PAC).

23 U.S.C. Section 129 – Mainstream Tolling

Title 23 U.S.C. Section 129 provides authority for tolling Federal-aid highways in conjunction with new construction or other improvements to those highways. Public agencies may impose new tolls on federal-aid highways in the following cases:

- Initial construction of a new highway, bridge, or tunnel
- Initial construction of new lanes on highways, bridges, and tunnels (including Interstates), as long as the number of toll-free lanes is not reduced
- Reconstruction or replacement of a bridge or tunnel
- Reconstruction of a highway (other than an Interstate)
- Reconstruction, restoration, or rehabilitation of an Interstate highway, as long as the number of toll-free lanes is not reduced

Prior to October 1, 2012, public authorities were required to execute a tolling agreement with FHWA to impose tolls on a federal-aid highway, but this requirement is no longer required. Although tolling agreements are no longer required under the mainstream tolling programs, State departments of transportation and other public agencies responsible for toll facilities are strongly encouraged to execute a memorandum of understanding (MOU) with their FHWA Division Offices, particularly considering the new requirements for audits and the potential consequences of noncompliance (including the discontinuation of toll collection).

Of the pricing concepts advanced for Round 2 analysis, Concepts D (adding capacity to the southern section of I-205 and pricing those lanes) and E (replacement of the Abernethy Bridge) fall under the jurisdiction of the Title 23 U.S.C. Section 129 provisions.

23 U.S.C. Section 166 – HOV/HOT Lane Program

Under Section 166 of Title 23, existing HOV lanes may be converted to tolled operation provided that tolls are variably priced and collected electronically in order to manage travel demand. The program includes consultation the local metropolitan planning organization (MPO) regarding the placement and amount of tolls on the converted lanes. To implement tolls on an existing high-occupancy vehicle (HOV) lane, project sponsors must demonstrate that the presence of paying vehicles will not cause conditions on the facility to become degraded. Ongoing annual reporting



documenting conditions on the converted lanes is also required, and if the HOV facility becomes degraded the sponsor must bring the facility into compliance either by increasing HOV occupancy requirements, increasing tolls, increasing capacity, or eliminating access to paying motorists.

The following certification provisions apply whenever an HOV lane is converted to HOT operations under Section 166:

- States must certify annual to FHWA that they meet the operational requirements stipulated in Section 166, including vehicle eligibility; enforcement, and operational performance monitoring, evaluation and reporting. The annual certifications must demonstrate that the presence of paying vehicles in the high-occupancy toll (HOT) lane has not cause traffic service to become degraded.
- States must demonstrate that programs are in place to inform motorists how they may enroll and use the managed lane, either in a non-paying HOV vehicle or a paying HOT vehicle.
- States must indicate that they have or will have an automated electronic toll collection system in place on the managed lanes.

While Oregon has only minimally utilized HOV lanes, one option under consideration in Round 2, Concept A, involves conversion of the existing HOV lane on the northbound portion of I-5. Accordingly, Oregon could avail itself to the provisions of 23 U.S.C. Section 166 should this concept continue to move forward.

Value Pricing Pilot Program

The Value Pricing Pilot Program (VPPP) is designed to assess the potential of different value pricing approaches for reducing congestion. Under this program, tolls may be imposed on existing toll-free highways, bridges, and tunnels, so long as variable pricing is used to manage demand. Congress has authorized up to 15 slots under the VPPP, which are allocated to State or local agencies. Seven of these slots have been permanently allocated to States that have executed agreements for tolling projects under the program.

Oregon currently has a VPPP slot, which was used in the past to evaluate tolling on Highway 217 as well as a project by Portland State University regarding peer-to-peer car sharing in Portland. This VPPP could be used for other congestion pricing projects in Oregon. Once an agency holds a slot in the program, it may be used for multiple value pricing projects.

Round 2 Concepts A (southbound I-5 managed lane), B (pricing all lanes of I-5 from Going St. at the northern end to Multnomah Blvd. at the southern end) and C (pricing all lanes of I-5 and I-205, from the Washington state line to the southern terminus of I-205 at I-5) would likely use the VPPP tolling program.

Regional plans and policies

In 2000, the Metro Council and the Joint Policy Advisory Committee on Transportation (JPACT) adopted a peak period pricing policy and policy direction for future corridor refinement plans and studies, as recommended by the Traffic Relief Options (TRO) study led by ODOT and Metro. This action was reflected in a new RTP policy on peak period pricing and specific provisions for pricing to be considered as part of several upcoming



corridor studies, including the Sunrise Highway, I-5-99W Connector, Sunset Highway, I-5, I-205, Highway 99E/224 and Highway 217.

The Transportation System Management and Operations (TSMO) Strategic Plan, which was adopted as part of the RTP in 2010, also identifies value pricing as a potential strategy for future traffic management and calls for the study and implementation of congestion pricing/high occupancy lanes.

The 2014 RTP also made value pricing an objective within the plan's Goal 4, "Emphasize Effective and Efficient Management of the Transportation System." The RTP advances value pricing as one possible strategy to help the region optimize capacity of existing facilities, improve travel conditions for system users, and address complementary goals such as improving air quality and meeting greenhouse gas emission reduction targets.

Chapter 2 of the 2014 RTP includes the following language:

"Value pricing—sometimes called congestion pricing—involves the application of market pricing (through variable tolls, variable priced lanes, area-wide charges or cordon charges) to the use of roadways at different times of day. While this tool has been successfully applied in other parts of the U.S. and internationally, it has not been applied in the Portland metropolitan region to date. In 2008, the Oregon Department of Transportation (ODOT) researched the potential effects of tolling/pricing to determine if and how tolling could be applied in Oregon. ODOT will research the application of this tool in the Portland metropolitan region and identify a pilot project to further test this strategy in response to House Bill 2001, which was adopted by the 2009 Legislature.

"As applied elsewhere, this strategy manages peak use on limited roadway infrastructure by providing an incentive for drivers to select other modes, routes, destinations or times of day for their travels. Reducing discretionary peak hour travel helps the system operate more efficiently improving mobility and reliability of the transportation system while limiting vehicle miles traveled and congestion-related auto emissions. In addition, those drivers who choose to pay tolls can benefit from significant savings in time. Similar variable charges have been utilized for pricing airline tickets, telephone rates and electricity rates to allocate resources during peak usage. In addition, value pricing may generate revenues to help with needed transportation improvements. More work is needed to gain public support for this tool." (2014 RTP, pages 2-86 and 2-87).

Chapter 6 of the RTP, "Implementation," identifies several corridors and facilities that should consider pricing strategies as part of future rehabilitation or capacity expansion projects. Specifically, Tigard to Wilsonville (Mobility Corridor #3, centered on I-5 South), Clark County to I-5 via Gateway, Oregon City and Tualatin (Mobility Corridors # 7, 8, and 9, centered on I-205) and Portland Central City Loop (Mobility Corridor # 4, centered on I-5 and I-405) are all targets of opportunity for future pricing efforts.



Portland Metro Area Value Pricing Feasibility Analysis



Policy Advisory Committee Meeting #5

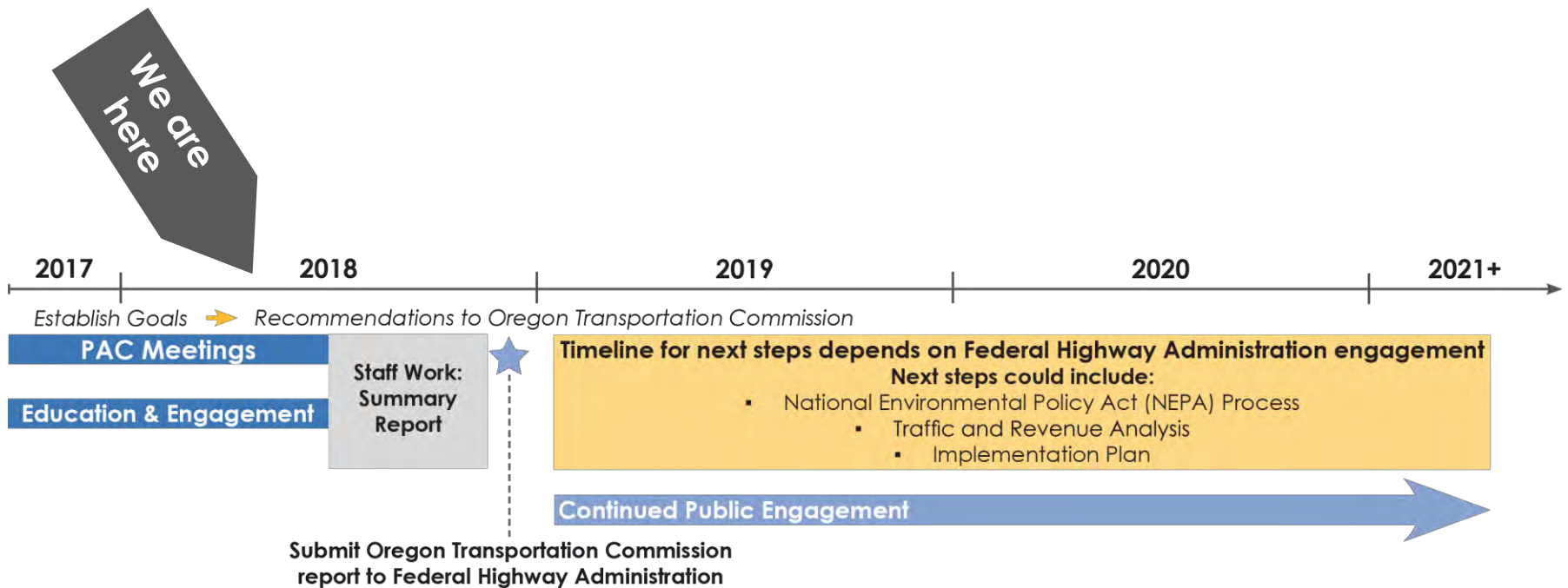
May 14, 2018

Welcome and agenda

9:00	Welcome and agenda review
9:20	Comments from PAC co-chairs
9:25	Public comment
9:45	Public participation update
9:55	Mitigation strategies and priorities
10:15	Key findings from Round 2 concept evaluation
10:45	PAC initial recommendation(s) discussion
11:45	Next steps
Noon	Adjourn



Future process



PAC recommendation process

	PAC 4 April 11	PAC 5 May 14	PAC 6 June 25
Information/ Discussion	Strategies / current policies	<ul style="list-style-type: none"> • Mitigation report • Round 2 evaluation findings 	Refined analysis, as needed.
Outcome	Identify benefits and strategies to address potential impacts	<ul style="list-style-type: none"> • Information • PAC discussion • Understanding 	PAC recommendations



PAC recommendation framework

1. Recommendation context
2. Pricing recommendation(s) (type and location)
3. Priority mitigation strategies for further consideration
4. Other topics important to the PAC
 - System-wide planning and analysis needed
 - Need to plan for new capacity as we grow
 - Priorities about uses of revenue
5. Individual PAC member comments
 - Attached without edits for the OTC



OTC process

Date	Milestone
May 17	OTC meeting/update – PAC members invited to provide comment
June 25	PAC Meeting #6 (final meeting)
July 12	OTC special public comment meeting on PAC recommendation
August	OTC to provide direction on FHWA proposal*
Sept.-Nov.	Proposal writing. Updates posted online/email
Nov. 16	Final OTC review and approval of submission to FHWA*
Dec. 31	Submission due to FHWA

**Tentative; subject to OTC confirmation*



Comments from PAC co-chairs



Public comment

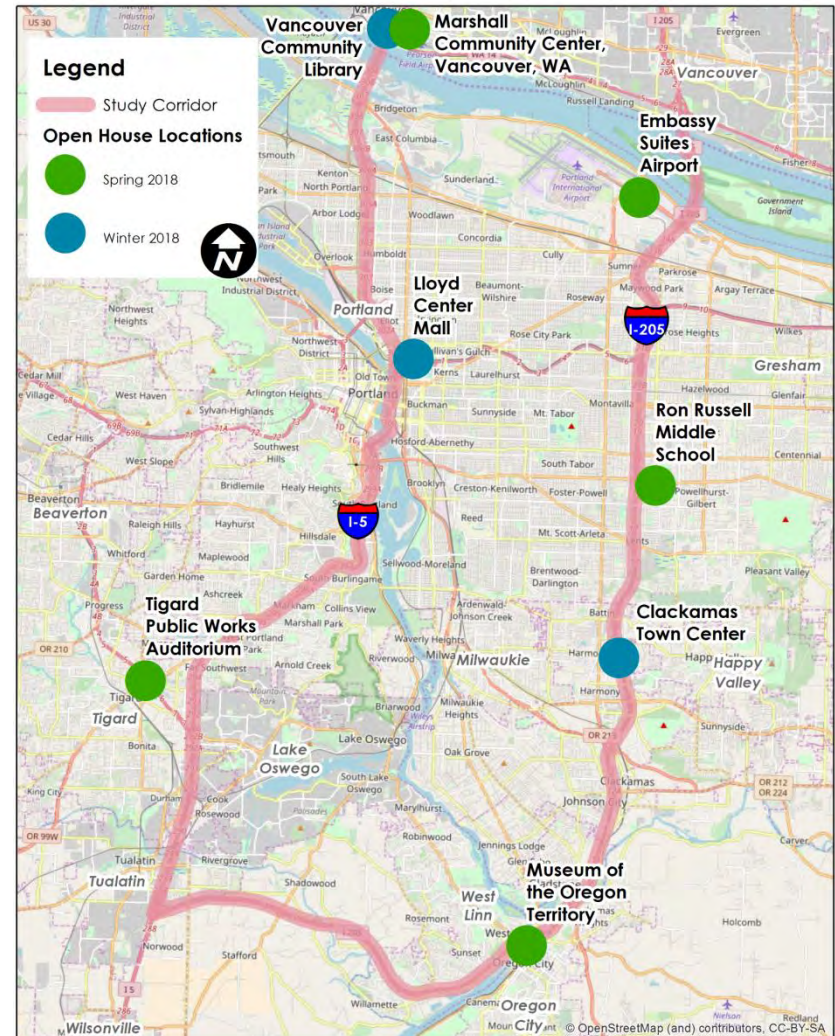


Public participation update



Comprehensive outreach

- Environmental Justice/ Title VI focus groups
- Online open houses and surveys
- In-person community conversations
- Emails and voice mails
- Presentations to community groups
- Discussion groups
- PAC meetings



Outreach by the numbers

	Winter (November through February 5, 2018)	Spring (February 6 through April 2018)
Online open house visitors	6,722	6,538
In-Person Open House attendees	260	186
Completed questionnaires	1,810	776 Including 286 Title VI/EJ
Project Video views	3,406	20,975
Email/voice mail comments	772	454
Focused Outreach		
Title VI/EJ Discussion Group attendees	~	114
DHM Focus Group attendees	37 Including 17 Title VI/EJ	~
Group Presentations (events)	15	25



Resources and reports

- Full comment reports of all input received
 - Winter engagement
 - Title VI/Environmental Justice-focused community engagement
 - Spring engagement

ODOTValuepricing.org



Mitigation strategies and priorities



What we heard from the PAC

- Special provisions for low-income populations
- Improved transit access and availability
- Diversion strategies
- Skepticism – making sure that pricing works
- Other considerations:
 - Connect revenue with congestion relief and transportation system improvements
 - Regional congestion pricing analysis
 - Planning for growth (transit and roadway capacity)
 - Design for use by those with limited-English proficiency



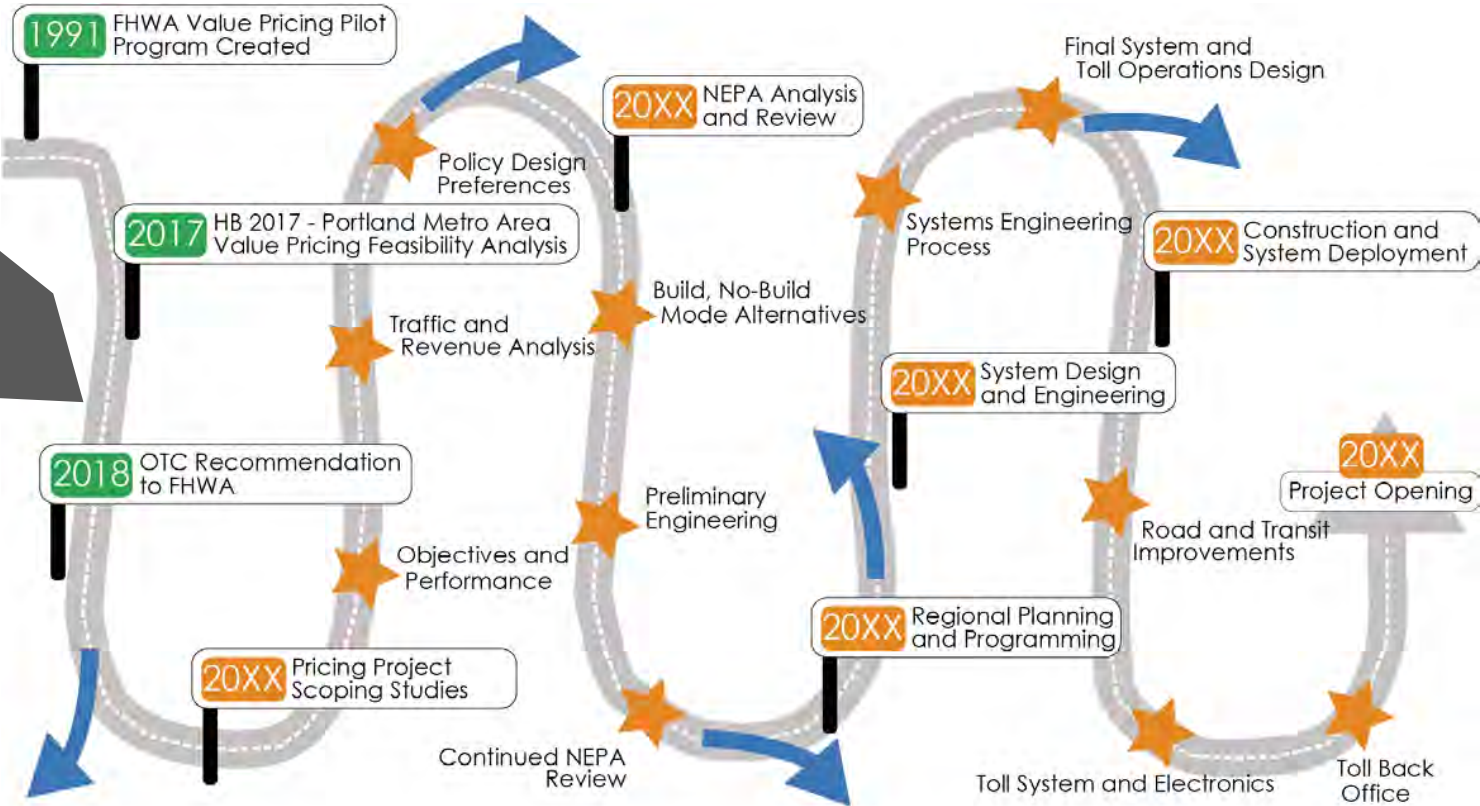
What we heard from the public

- Provisions for low-income communities
- Skepticism about whether pricing works
- Ideas about how and where to spend revenue
- Transportation capacity not keeping up with growth
- Fairness is key



Roadmap

We are here



Legend

- "Off-ramps" from implementing pricing
- Start of major project phase
- Project milestones



Themes and potential options

Theme	Future deployment options	
Special provisions for low-income populations	<ul style="list-style-type: none"><li>■ Discounts, credits, subsidies, and/or rebates on tolls<li>■ Lifeline tolling registration (e.g. tagged to transit validation)<li>■ Universal accounts – provide multimodal benefits<li>■ Cash-based accounts	<p>L.A. Metro ExpressLanes Equity Plan</p> <p>\$25 toll credits for qualifying households (\$49,200 for 4 people)</p> <p>No account maintenance fee</p> <p>Eliminates issue of access to lanes for low income households</p> <p>74% were unable to use transit</p> <p>70% reported substantial travel time benefits</p>



Themes and potential options

Theme	Future deployment options	
Improved transit access and availability	<ul style="list-style-type: none"><li>■ New transit routes / services on priced roads<li>■ New / expanded park & ride locations<li>■ Free HOV2+ or 3+ use<li>■ More frequent bus service<li>■ Transit rewards incentive program<li>■ Benchmark peak period tolls with transit fares<li>■ Universal pass: link toll accounts with TriMet accounts	<p>L.A. Metro ExpressLanes Transit Rewards Program</p> <p>27% increase monthly boards on buses</p> <p>48% of bus riders stated tolling has improved their travel</p> <p>37% SOV → bus use after tolls implemented</p> <p>Over 10,000 accounts</p> <p>Over \$45,000 in toll credits</p> <p>One-stop payment between FasTrak (toll) and TAP card (transit)</p>



Themes and potential options

Theme	Future deployment options	
Diversion strategies	<ul style="list-style-type: none">■ Design to minimize unwanted diversion■ Traffic calming on impacted arterials and neighborhood streets■ Advanced traffic management■ Bans on heavy vehicles from neighborhood streets■ Improvements for pedestrian and bike infrastructure	Colorado \$400M express lanes, bicycle lanes, transit enhancements, active traffic management and flow control



Themes and potential options

Theme	Future deployment options	
Other considerations: Connecting revenue with congestion relief and system improvements	<ul style="list-style-type: none">■ Infrastructure trust fund<ul style="list-style-type: none">— Expand capacity— In-line bus stations— Park & rides— Arterial enhancements— Multi-modal / multi-use— Active traffic control— Demand management— Shared mobility services■ User oriented policies<ul style="list-style-type: none">— Revenue dividends— FAIR Lane distributions	Virginia \$5B+ program of corridor reconstruction, congestion relief, express lanes, and demand management strategies Maryland \$9B+ program for corridor reconstruction & congestion relief



Themes and potential options

Theme	Future deployment options	
Other considerations:	<ul style="list-style-type: none">■ Trial / pilot system■ Performance standards■ Monitoring and reporting■ Partner coordination	Washington state I-405/SR 167: executive advisory group of city, county, agency representatives established to monitor and make decisions
Making sure pricing works		SR 16 Tacoma Narrows Bridge Citizen Advisory Committee: appointed by the Governor to advise on toll rates and discounts for certain users



Round 2 concept evaluation

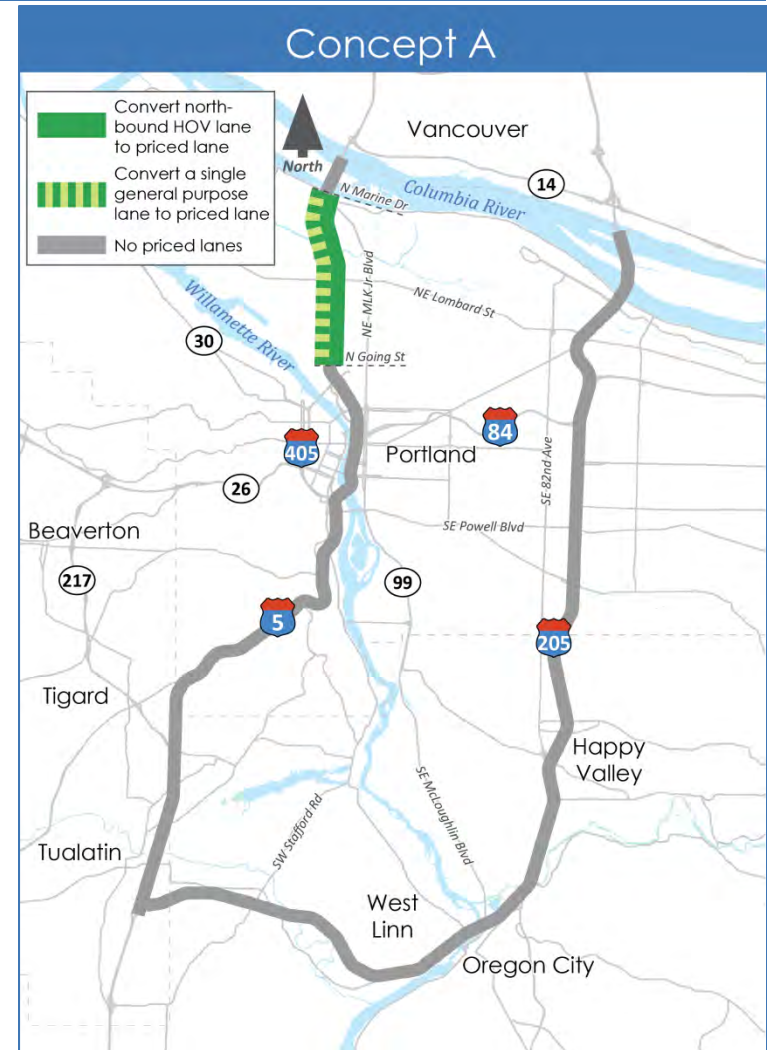


Round 2 evaluation approach



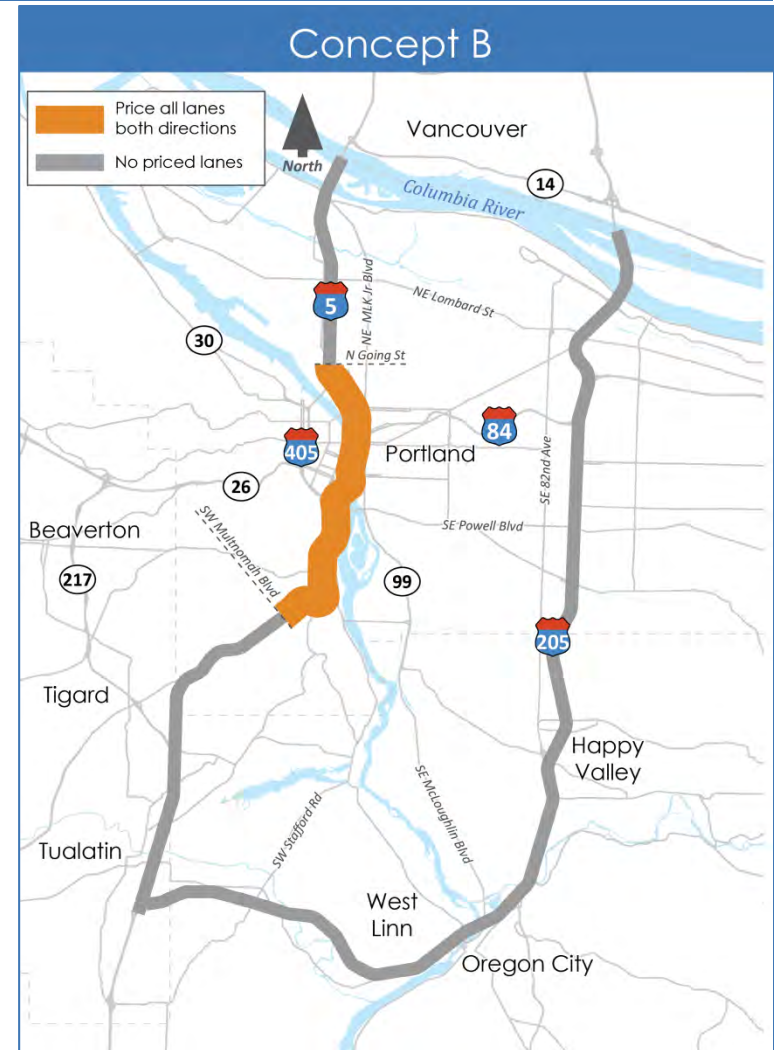
Concept A: Northern I-5 Priced Lanes

- Key findings
 - Minimal congestion reduction
 - Limited diversion
 - Revenue and capital costs relatively low
 - Maintains two unpriced lanes in each direction, but highest toll amount per user
- Considerations
 - Mitigation strategies could be considered for land locked areas
 - Northbound: FHWA HOV/HOT Lane Program
 - Southbound: FHWA Value Pricing Pilot Program



Concept B: I-5 Priced Lanes – Toll All Lanes between Going St./Alberta St. and Multnomah Blvd.

- Key findings
 - Congestion reduction and time savings
 - Travel time savings to area Title VI/Environmental Justice communities
 - Modest diversion with increased vehicles per lane per hour on I-5
 - Dense network of transit and multi-modal facilities
- Considerations
 - Mitigation strategies could include increased transit service, low-income toll rates, other strategies
 - FHWA: Value Pricing Pilot Program



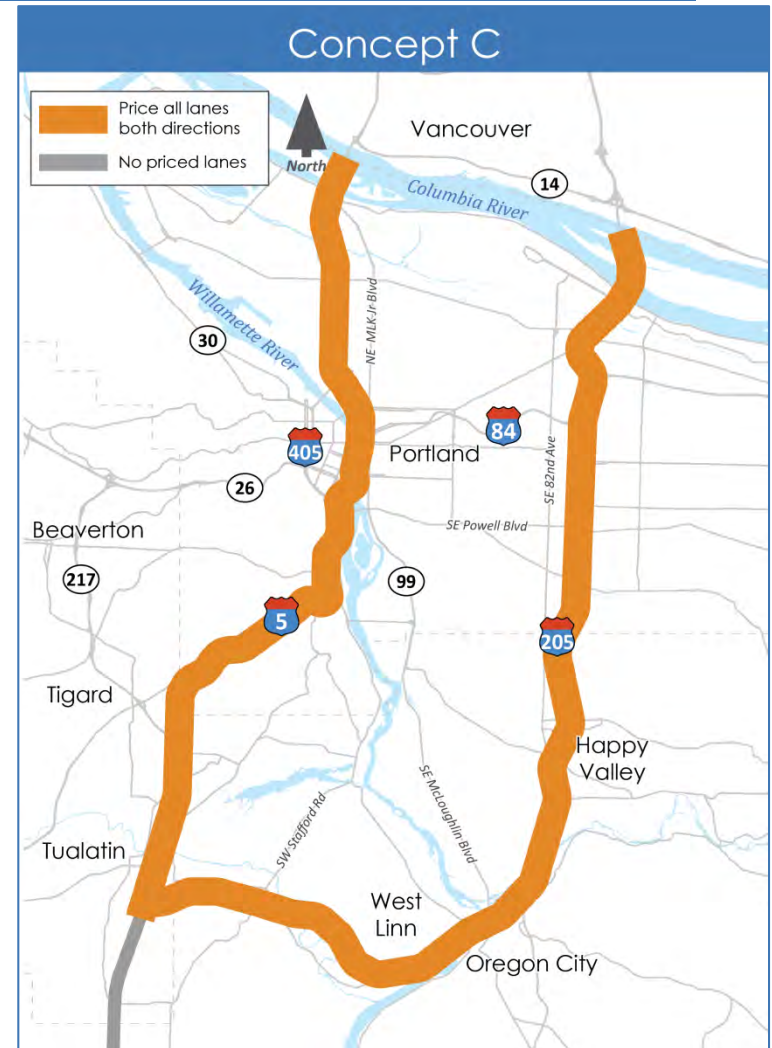
Concept C: I-5 and I-205 Priced Roadway – Toll All Lanes

■ Key Findings

- Greatest regional congestion reduction and travel time savings
- Enhanced jobs access for Title VI/EJ communities
- High probability of diversion; could be minimized with dynamic tolling
- Transit and multi-modal facilities can serve as alternatives, though accessibility varies

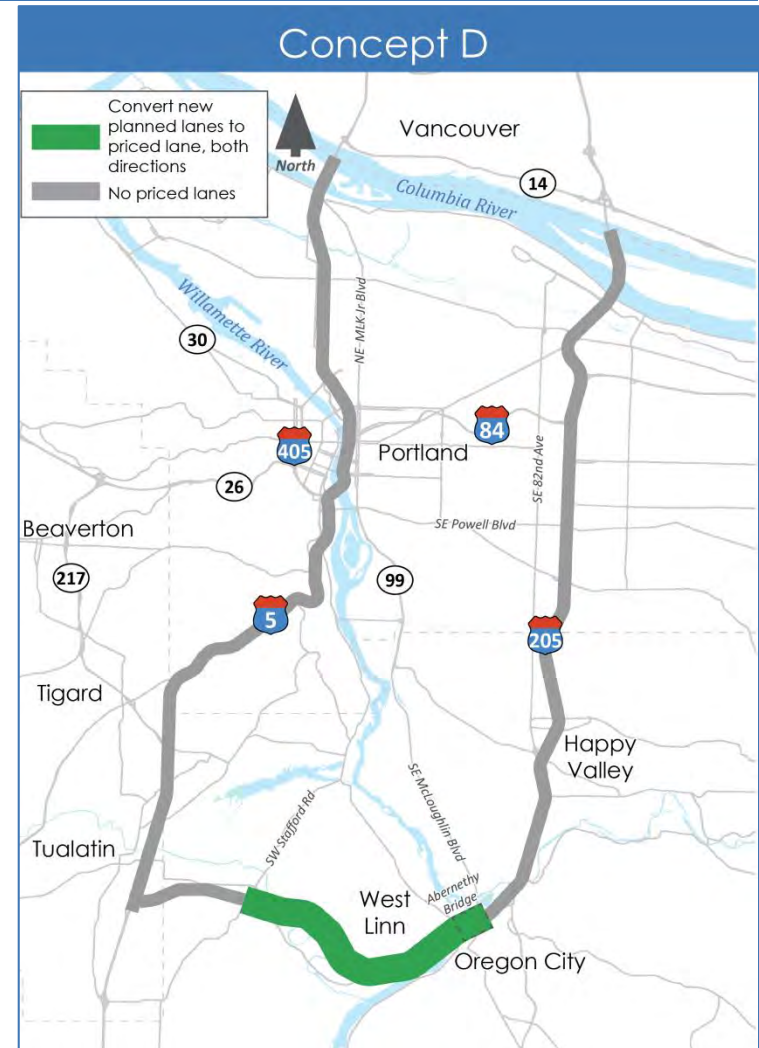
■ Considerations

- Would require phased implementation
- Mitigation strategies could include increased transit service, low-income toll rates, other strategies
- Generates largest amount of revenue compared to other concepts



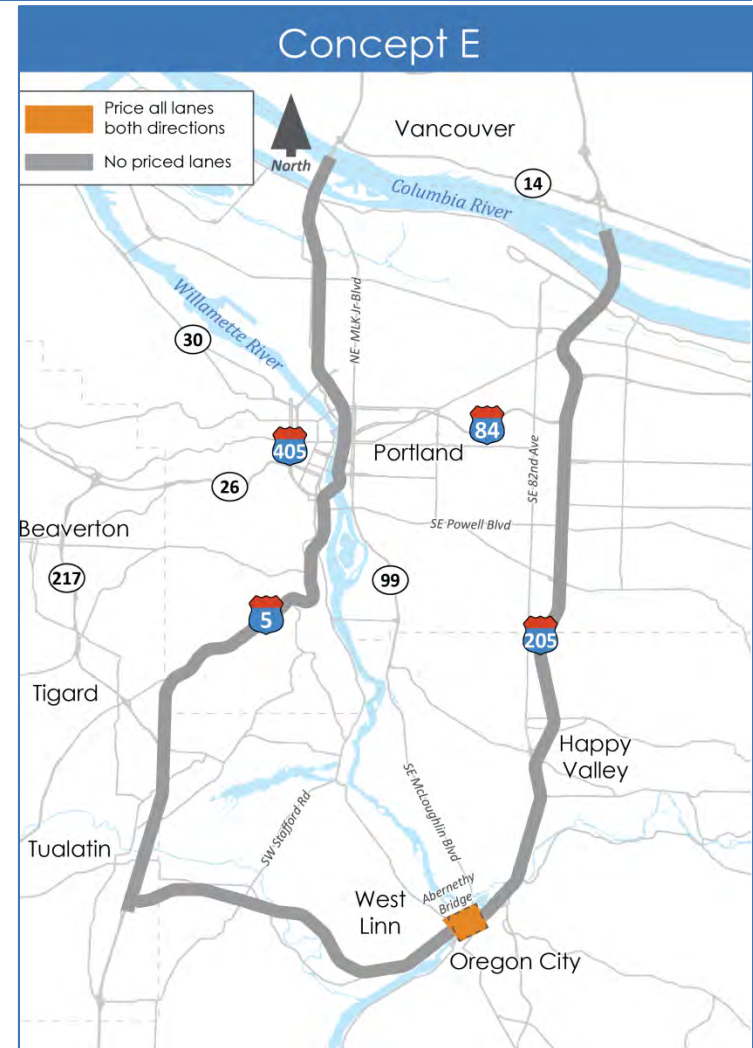
Concept D: I-205 Priced Lane – OR99E to Stafford Road

- Key findings
 - Minimal congestion reduction
 - Minimal diversion
 - Few transit and multimodal travel options
 - Maintains two unpriced lanes in each direction, but toll amount per user would be higher
- Considerations
 - FHWA allows outright due to added capacity



Concept E: Abernethy Bridge Priced Roadway (tested for revenue potential)

- Key findings
 - Congestion reduction and travel time savings for drivers on I-205
 - Some traffic diversion to I-5, particularly freight
 - Probability of diversion to local facilities
- Considerations
 - Mitigation strategies needed, such as increased transit service, low-income toll rates, others
 - Would likely generate sufficient Abernethy Bridget project and a portion of planned third lane on I-205



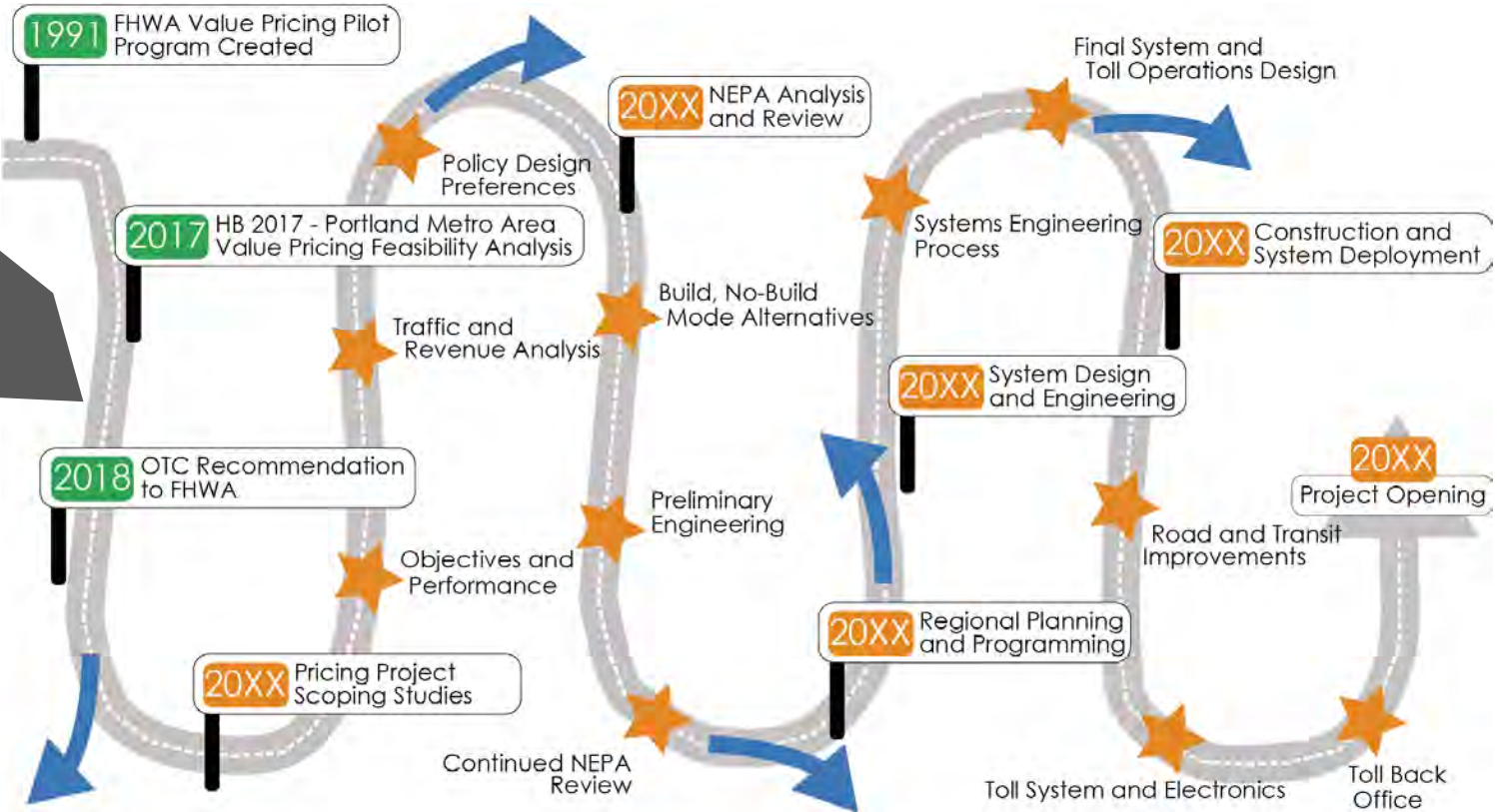
Consultant team recommendation

- Do not implement Concepts A or D
- Initial implementation of Concept B as pilot pricing program, coupled with performance monitoring to evaluate success
- Consider implementation of Concept E concurrent with Concept B
- After assessing performance of initial pricing project (assuming successful evaluation), consider implementation of Concept C in phases with comprehensive system analysis
- Develop mitigation strategies for low-income and adjacent communities



Roadmap

We are here



Legend

- "Off-ramps" from implementing pricing
- Start of major project phase
- Project milestones



PAC initial recommendation(s) discussion



PAC recommendation framework

1. Recommendation context
2. Pricing concept recommendations(s)
3. Priority mitigation strategies for further consideration
4. Other topics important to the PAC
5. Individual PAC member comments



PAC discussion of recommendation

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PAC discussion: other issues important to the PAC

- What we've heard from the PAC:
 - Need for future system-wide pricing analysis
 - Need to add freeway capacity
 - Transit and roadways
 - Uses of revenue should be specified
 - Other topics?



Next steps

PAC Meeting #6:

Monday, June 25, 2018, 9:00 a.m. – noon

OTC Meeting:

Thursday, July 12, 2018



Adjourn



Attachment #6: Oregon Department of Transportation
presentation for Board of County Commissioners
Planning Session

Wednesday, June 20, 9:30 to 11:30 am