Agenda

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting: Transportation Policy Alternatives Committee (TPAC) Workshop
Date: Wednesday, July 13, 2022
Time: 9:00 a.m. to 12:00 p.m.
Place: Virtual meeting held via Zoom
Connect with Zoom
Passcode: 515676
Phone: 888-475-4499 (Toll Free)

9:00 a.m.	**Call meeting to order and Introductions** • Committee input on creating a Safe Space at TPAC	Chair Kloster
9:15 a.m.	**Committee & Public communications on agenda items**	
9:20 a.m.	**Consideration of TPAC workshop summary, May 11, 2022** • Edits/corrections sent to Marie Miller	Chair Kloster
9:25 a.m.	**2023 Regional Transportation Plan (RTP): Needs Assessment Approach** Purpose: Discuss the proposed approach to updating the Needs Assessment for the 2023 RTP.	Eliot Rose, Metro
9:55 a.m.	**Regional Transportation Plan (RTP) Congestion Pricing Policy Development (Metro) and Oregon Highway Plan Tolling Policy Amendment and Low Income Toll Report (ODOT)** Purpose: Discuss revised draft 2023 RTP congestion pricing policy language, draft Oregon Highway Tolling Policy Amendment, and draft Low Income Toll Report for consideration and input.	Alex Oreschak, Metro Garet Prior, ODOT
11:25 a.m.	**Introduction to the High Capacity Transit Strategy Update for 2023 Regional Transportation Plan (RTP)** Purpose: Provide an introduction on the work plan and how it fits in with past, current, and upcoming work by Metro and partners. Provide feedback on the developing engagement strategy, issues to address in the policy framework, and additional outcomes members would like to see from this work. Preview the core criteria for identifying and evaluating new high capacity transit corridors and next steps for updating the network vision.	Ally Holmqvist, Metro
11:55 a.m.	**Committee comments on creating a safe space at TPAC**	Chair Kloster
12:00 p.m.	**Adjournment**	Chair Kloster

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បើលោកអ្នកត្រូវការអ្នកបកប្រែភាសានៅពេលអង្គប្រជុំសាធារណៈ សូមទូរស័ព្ទមកលេខ 503-797-1700 (ម៉ោង 8 ព្រឹកដល់ម៉ោង 5 ល្ងាច ថ្ងៃធ្វើការ) ប្រាំពីរថ្ងៃ ថ្ងៃធ្វើការ មុនថ្ងៃប្រជុំដើម្បីអាចឲ្យគេសម្រួលតាមសំណើរបស់លោកអ្នក ។

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2022 TPAC Work Program

As of 6/30/2022

NOTE: *Items in* ***italics*** *are tentative;* ***bold*** *denotes required items*

	<u>July 8, 2022</u> 9:00 am – noon Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) • TSMO Program Project Solicitation update (Caleb Winter) • Regional Mobility Policy Practitioner Forum update (Kim Ellis) • Summary of housekeeping changes to the RTP network maps (John Mermin) **Agenda Items:** • Regional Flexible Funds Allocation (RFFA)/ Trails Bond: Risk Assessment, Public Comment reports (Dan Kaempff, Metro, 45 min) • Safe and Healthy Urban Arterials (John Mermin/ Lake McTighe, Metro; 20 min) • Enhanced Transit Concepts / Better Bus update (Matt Bihn, Metro, 40 min) • Multnomah County Earthquake Ready Burnside Bridge Update (Shane Phelps & Megan Neill, Mult. County/ Alex Oreschak, Metro, 40 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)
<u>July 13, 2022 – TPAC Workshop</u> **9:00 am – noon** **Agenda Items:** • 2023 Regional Transportation Plan (RTP): Needs Assessment Approach (Eliot Rose, Metro, 30 min) • RTP Congestion Pricing Policy Development (Metro) and Oregon Highway Plan Tolling Policy Amendment and Low Income Toll Report (ODOT) (Alex Oreschak, Metro/ Garet Prior, ODOT, 1 ½ hr) • Introduction to the High Capacity Transit Strategy Update for 2023 RTP (Ally Holmqvist, Metro, 30 min)	**<u>July 14, 2022 – TPAC Workshop</u>** **10:00 am – noon** **Agenda Items:** • Regional Flexible Funds Allocation (RFFA)/ Trails Bond (Dan Kaempff/ Robert Spurlock, Metro; 2 hours)

<u>August 5, 2022</u> 9:00 am –noon Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) • 2018 RTP Completed Projects (Kim Ellis) **Agenda Items:** • **Multnomah County Earthquake Ready Burnside Bridge Resolution to add project to 2023 RTP** <u>Recommendation to JPACT</u> (Shane Phelps & Megan Neill, Mult. County/ Alex Oreschak, Metro, 30 min) • Regional Flexible Funds Allocation (RFFA) refined draft staff recommendations, with CCC priorities (Dan Kaempff, Metro, 45 min) • Vision, Goals & Objectives for 2023 RTP (Kim Ellis, Metro; 30 min) • Region 1 draft 100% project list for the 2024-27 STIP (Chris Ford, 20 min) • 2024-2027 MTIP Performance Evaluation – Approach & Methods (Grace Cho, 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>August 17, 2022 – MTAC/TPAC Workshop</u>** **9:00 am – noon** **Agenda Items:** • Regional Mobility Policy: Draft Recommendations (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susie Wright, Kittelson & Associates; 2 hours) • Climate Smart Strategy Monitoring Preliminary Results, Findings and Policy Considerations (Kim Ellis, Metro and Thaya Patton, Metro; 60 min)
<u>September 2, 2022</u> 9:00 am – noon Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) **Agenda Items:** • **Regional Flexible Funds Allocation (RFFA) Final Project Selection** <u>Recommendation to JPACT</u> (Dan Kaempff, Metro; 45 min) • RTP Needs Assessment Findings (Eliot Rose, Metro 30 min) • RTP Congestion Pricing Policy Development (Metro) and Oregon Highway Plan Tolling Policy Amendment and Low Income Toll Report (ODOT) (Alex Oreschak, Metro/ Garet Prior, ODOT, 60 min) • Regional Mobility Policy: Draft Recommendations (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susie Wright, Kittelson & Associates; 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>September 14, 2022 – TPAC Workshop</u>** **9:00 am – noon** **Agenda Items:** • 2023 RTP Financial Plan and Equitable Funding (Leybold, McTighe, 45 min) • High Capacity Transit Strategy Update: Network Vision (Ally Holmqvist, Metro, 45 min)

October 7, 2022 9:00 am – noon Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (K. Lobeck) • Fatal crashes update (Lake McTighe) **Agenda Items:** • **MTIP Formal Amendment 21-****** Recommendation to JPACT (Lobeck, 15 min) • **Regional Mobility Policy Update: Recommended Policy and Action Plan** Recommendation to JPACT (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susie Wright, Kittelson & Associates; 45 min) • Safe and Healthy Urban Arterials (John Mermin, Lake McTighe (45 min) • 2023 RTP Financial Plan and Equitable Funding (Leybold, McTighe, 45 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**October 19, 2022 – MTAC/TPAC Workshop 9:00 am – noon** **Agenda Items:** • Climate Smart Strategy Update (Kim Ellis, Metro; 60 min.) • Regional Freight Delay & Commodities Movement Study (Tim Collins/Kyle Hauger, Metro; 60 min)
November 4, 2022 9:00 am – noon Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) **Agenda Items:** • **MTIP Formal Amendment 21-****** Recommendation to JPACT (Lobeck, 15 min) • RTP Call for Projects Approach (Kim Ellis, Metro; 60 min.) • RTP Project Assessment: pilot test results (Eliot Rose; 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**November 9, 2022 – TPAC Workshop 9:00 am – noon** **Agenda Items:** • 2019-2021 Regional Flexible Fund – Local Agency Project Fund Exchanges Update (Grace Cho, 15 min) • *82nd Avenue Project update (Elizabeth Mros- O'Hara, Metro/ City of Portland TBD; 30 min)*
December 2, 2022 9:00 am – noon Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) **Agenda Items:** • **MTIP Formal Amendment 21-****** Recommendation to JPACT (Lobeck, 15 min) • RTP Call for Projects Update (Kim Ellis, Metro; 45 min.) • Climate Smart Strategy Update (Kim Ellis, Metro; 45 min.) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**December 21, 2022 – MTAC/TPAC Workshop 9:00 am – noon** **Agenda Items:** • *2024 Growth Management Decision Work Program (Ted Reid, 60 min)*

Parking Lot: Future Topics/Periodic Updates

- Columbia Connects Project
- Best Practices and Data to Support Natural Resources Protection
- Better Bus Program (Matt Bihn)
- Regional Emergency Transportation Routes Update Phase 2 (John Mermin, Metro & Carol Chang, RDPO)
- Cost Increase & Inflation Impacts on Projects
- DLCD Climate Friendly & Equitable Communities Rulemaking (Kim Ellis, Metro)
- Ride Connection Program Report (Julie Wilcke)
- Get There Oregon Program Update (Marne Duke)
- RTO Updates (Dan Kaempff)
- Update on SW Corridor Transit

Agenda and schedule information E-mail: marie.miller@oregonmetro.gov or call 503-797-1766.
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Meeting minutes

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting: **Transportation Policy Alternatives Committee (TPAC) Workshop**

Date/time: Wednesday May 11, 2022 | 9:30 a.m. to 12:00 p.m.

Place: Virtual online meeting via Web/Conference call (Zoom)

Members Attending	**Affiliate**
Tom Kloster, Chair	Metro
Allison Boyd	Multnomah County
Lynda David	SW Washington Regional Transportation Council
Eric Hesse	City of Portland
Jaimie Lorenzini	City of Happy Valley & Cities of Clackamas County
Jay Higgins	City of Gresham and Cities of Multnomah County
Don Odermott	City of Hillsboro and Cities of Washington County
Tara O'Brien	TriMet
Laurie Lebowsky	Washington State Department of Transportation
Idris Ibrahim	Community Representative
Katherine Kelly	City of Vancouver

Alternates Attending	**Affiliate**
Steve Williams	Clackamas County
Jessica Berry	Multnomah County
Erin Wardell	Washington County
Mark Lear	City of Portland
Dayna Webb	City of Oregon City and Cities of Clackamas County
Glen Bolen	Oregon Department of Transportation

Members Excused	**Affiliate**
Karen Buehrig	Clackamas County
Chris Deffebach	Washington County
Chris Ford	Oregon Department of Transportation
Karen Williams	Oregon Department of Environmental Quality
Lewis Lem	Port of Portland
Rachael Tupica	Federal Highway Administration
Rob Klug	Clark County
Shawn M. Donaghy	C-Tran System
Jeremy Borrego	Federal Transit Administration
Rich Doenges	Washington Department of Ecology

Guests Attending	**Affiliate**
Jean Senechal Biggs	City of Beaverton
Cody Field	City of Tualatin
Laura Edmonds	North Clackamas Chamber of Commerce
Cindy Dauer	Tualatin Hills Park & Recreation District

Gary Pagenstecher	City of Tigard
Dave Roth	City of Tigard
Grant O'Connell	TriMet
Michael Weston	City of King City
Tiffany Hamilton	Oregon Department of Transportation
Vanessa Vissar	Oregon Department of Transportation
Tom Armstrong	City of Portland
Marianne Fitzgerald	

Metro Staff Attending

Kim Ellis, Principal Transportation Planner	Ted Leybold, Resource & Dev. Manager
Lake McTighe, Senior Transportation Planner	Grace Cho, Senior Transportation Planner
John Mermin, Senior Transportation Planner	Dan Kaempff, Principal Transportation Planner
Eliot Rose, Tech Strategic Planner	Grace Stainback, Associate Transportation Planner
Ally Holmqvist, Senior Transportation Planner	Matthew Hampton, Senior Transportation Planner
Andrea Pastor, Senior Regional Planner	Caleb Winter, Senior Transportation Planner
Chris Johnson, Research Center Manager	Clint Chiavarini, Senior GIS Specialist
Patrick McLaughlin, Senior Regional Planner	Robert Spurlock, Senior Regional Planner
Thaya Patton, Principal Researcher & Modeler	Marie Miller, TPAC Recorder

Call to Order and Introductions

Chair Kloster called the meeting to order at 9:30 a.m. Introductions were made. Reminders where Zoom features were found online was reviewed. Chair Kloster noted the all attendees would be listed as panelists for full viewing and participation for this workshop meeting. The link for providing 'safe space' at the meeting was shared in the chat area.

Committee and Public Communications on Agenda Items - none

Consideration of TPAC workshop summary, March 9, 2022 (Chair Kloster) For edits or corrections on the March 9, 2022 workshop the committee may send them to Marie Miller for updating. No edits/corrections were received.

Regional Flexible Funds Allocation (RFFA) Outcomes Evaluation Review (Dan Kaempff, Metro) The presentation began with the program direction in the region to invest in a manner consistent with the policy outcomes and investment priorities as defined in the 2018 Regional Transportation Plan (RTP), and through following the regional transportation finance approach in use since 2009.

There is an estimated total of $67.35 million available for projects in this funding cycle. The 2025-2027 RFFA Program Direction estimated that approximately $41.25 million in federal transportation funds would be available for capital project investments (Step 2 of the RFFA funding framework). As discussed and approved at JPACT in April 2022, this amount has subsequently been increased to $47.35 million due to an increased level of regional transportation funding through the federal Infrastructure Investments and Jobs Act (IIJA).

Additional funding is available in this RFFA cycle for regional trails projects. Up to $20 million will be awarded from the voter-approved 2019 Metro Parks and Nature measure. Trails projects that meet RFFA eligibility requirements may be funded through either or both sources of available funding. Applicants were given the opportunity to indicate if they wished for their trails project to be considered for either source of funds.

Sixteen jurisdictions submitted a total of 29 applications.
Breakdown of applications and funding requests

Funding category	# of applications	Amount requested
RFFA	14	$79,642,888
Trails Bond	7	$9,611,010
Either	8	$26,526,615
Total	**29**	**$115,780,513**

The Outcomes Evaluation report is structured to provide details on how the projects advance the region's transportation investment priorities – Equity, Safety, Climate, Congestion Relief – as defined in the 2018 RTP, and through the 2019 Parks and Nature bond measure. The criteria for evaluating the 29 project proposals were adopted through the 2025-2027 RFFA Program Direction and the 2019 Parks and Nature bond. The performance measures are based on these criteria and were developed with input from a work group comprised of TPAC representatives, agency staff and community organization representatives. None of the criteria areas are weighted higher than the others.

In order to create a meaningful comparison, the projects have been grouped into four categories:
• Projects seeking Trails Bond funds for Planning and Project Development
• Projects seeking Trails Bond funds for Construction
• Projects seeking RFFA funds for Planning and Project Development
• Projects seeking RFFA funds for Construction

Further information was provided on project ratings, outcome evaluations, how projects performed in the four RFFA criteria areas and the Trails Bond criteria (if applicable), and a means of comparing trails projects requesting funding from either source. Mr. Kaempff noted the Outcomes Evaluation report is the first of four sources of information to be used in developing a package of projects for Metro Council approval. This also includes Risk Assessment, Public Comment and Coordinating Committee Prioritization. Determining funding sources between RFFA and Trails Bond and full listing of schedule and timeline was noted in the packet memo.

Comments from the committee:

- Jaimie Lorenzini asked if applicants would be eligible to request reconsideration of a technical score; would that be included as part of the public comment period? Mr. Kaempff noted they won't be doing a rescore but applicants have the opportunity to add more information about their project. Staff recognizes the technical evaluation won't capture all the benefits of the project. It was noted that the points in the excel spreadsheet were rounded, recognizing that not all the same projects have the same benefits, but total up for each criteria area, which avoids any specific criteria being weighted.
- Jessica Berry asked about the measures used in the criteria, especially regarding the Sandy Blvd. project that scored low in equity. She was surprise by the data around equity only mattered if this was a high injury corridor, and the transportation funding measure that failed was also listed as a criteria of an equity score. Mr. Kaempff noted the workgroups and discussion groups held to form performance measures and criteria used in the evaluation.

Sadly, Sandy Blvd. project report was noted as not an equity focus area but served a great number of low-income housing areas and connections to jobs. Full information provides an understanding of the ratings and what the projects are. More lessons are learned with further development in criteria and evaluation.

- Michael Weston noted interest in the questions brought forward by Ms. Berry and had similar clarification questions. He requested Mr. Kaempff sharing his email in chat for contact offline.
- Mark Lear noted the Get Moving transportation measure as part of the equity criteria. Noted it makes sense, it also gives thought to the measure that took massive funding efforts for corridors and program areas that would have paid for projects that are at the level of a bunch of these RFFA projects. It was not clear if this lens was used as a priority in looking at equity criteria. Asked about the timing and coordination with the coordinating committees, would they be informed by the public comments? When can we expect to get that summary? Mr. Kaempff noted the deadline for public comments is June 21. Turnaround after the public comment period is closed will produce a draft summary by the end of June. July 22 the list of project priorities will be compiled.
- Steve Williams noted that with past project evaluations, extended project focus was a consideration, recognizing some of the bike/ped projects are lengthy and expensive and not possible to fund in 2 or 3 grant cycles. Was there consideration given to taking this into account with the criteria? Mr. Kaempff noted there is not a hard, fast policy direction on this. If TPAC feels it's important to consider in putting the recommendations together staff can make that available.
- Gary Pagenstecher noted it seems more work needs to be done with the risk assessment area. Specific information was asked on how projects may qualify for further rounds of consideration. Mr. Kaempff noted that for projects that are still having questions about scope and budget we have a limited amount of funds we can support, but further discussion on project development can be done offline.

Mr. Kaempff noted the next TPAC meeting in June where more details would be presented and encouraged the committee to reach out to him with questions. He also noted he'd be happy to co-present this material at the county coordinating committee meetings.

Transit-Oriented Development (TOD) Program Strategic and Work Plan update (Andrea Pastor & Patrick McLaughlin, Metro) Mr. McLaughlin began the presentation with an overview of the Transit-Oriented Development (TOD) program, which strategically invests to help more people live, work and shop in neighborhoods served by high-quality transit. Metro also acquires and owns properties in transit-served areas and solicits proposals from qualified developers to create transit-oriented communities in these places.

The core program activity is providing funding to stimulate private development of higher-density, affordable and mixed-use projects near transit. In addition, the program invests in "urban living infrastructure" like grocery stores and other amenities, and provides technical assistance to communities and developers.

Over the twenty-one years since its inception in 1998, the TOD program has invested or committed over $35 million in land and projects. Regional partners have allocated federal transportation funds to support the TOD program as part of the Metropolitan Transportation Improvement Program planning process. MTIP funds, currently $3.2 million annually, are then exchanged to provide local funding for project investments and program operations. Other funding sources included rental income from undeveloped TOD program holdings and interest on fund balances held to support future development.

Ms. Pastor presented information on the TOD Strategic Plan, created in 2011 and updated in 2016. Eligible areas for funding include ½ mile of MAX, ¼ mile frequent service bus, and 2040 Centers. Investments are guided by market strength and transit-orientation. Areas to explore with the TOD plan update were described for implementing Metro's racial equity strategies and furthering Metro's climate mitigation and resilience goals. Stakeholder engagements planned and process timeline with this update were provided.

Comments from the committee:

- Laurie Lebowsky asked, in regard to the 2040 centers, would this also apply to 2040 centers in Washington? Mr. McLaughlin believed it did not, but would look into this. It was asked if it would apply to light rail that goes to Vancouver BRT and frequent transit service. This will also be looked into.
- Katherine Kelly noted frequent transit service criteria, C-Tran provides BRT and local bus frequent service beyond what is provided by TriMet in OR and potentially soon to be provided in Downtown Vancouver via the IBR Program.
- Steve Williams asked if the program was incorporating income, particularly low-income measures that identify populations that would benefit from this equity approach in their areas. Mr. McLaughlin noted they do as far as they equate to the project eligibility. Metro's research has data that equates low-income to usage with transit. Ms. Pastor added we have historically tracked the market strength as indicators, useful with affordable housing projects. Mr. Williams noted the past focus on lower income challenges to accessible transit shows an important indicator of the need for transit oriented development.
- Don Odermott asked if the funding for High Corridor Transit or frequent service needed to be in a town center or regional center to be eligible. Ms. McLaughlin noted transit is the trigger element with project funding that reaches goals of the program with development.
- Mark Lear noted of the importance of getting housing along our transit routes. It was asked if new federal funding dollars, such as pilot programs and new development was linked to the program. Mr. McLaughlin noted the federal TOD dollars have been focused around TOD planning, for the most part. TriMet has been successful in grant awards that help us develop around their transit station routes.

  Tara O'Brien noted the coordination between Metro and TriMet that has allowed the new pilot program more money, but extended the eligibility for implementing, not just planning, and for site comprehensive development. This program allowed TriMet to leverage other funding grants and add to capital investments because of the strong TOD program.

- It was asked to elaborate on the e-islands, mitigation and green street designs mentioned. Ms. Pastor noted planning that includes tree canopy and design strategies that lower temperatures around areas, and how new development is demanding more of this focus works into the program. Metro is not in control of what projects come forward, but is trying to incorporate as many good strategies as possible.

TriMet Forward Together Service Alternatives Planning Project (Grant O'Connell & Tara O'Brien, TriMet) Grant O'Connell presented information on TriMet's Forward Together program; A Comprehensive Analysis of TriMet Service. A brief overview was provided on the past 10-year TriMet service where following the Great Recession, TriMet developed the Service Enhancement Plans (SEPs) to guide the growth of service. House Bill 2017 created new funding for transit and accelerated the growth of service guided by the SEPs. In March 2020 the COVID-19 pandemic, associated recession, and subsequent labor shortage paused expansion plans and forced a reduction in service.

The reason for a Comprehensive Service Analysis (CSA) was due to COVID changing everything:
• Spotlight on needs of essential workers and transit dependent
• More people telecommuting
• Companies have relocated
• Demographics have changed

The approach to the CSA was through a market study and engagement, with data presented for change in ridership, service and ridership by time of day, and an equity index showing 10 measures. Alternative Analysis & Continued Engagement, moving forward, was defined as:
• Develop service alternatives
• Take alternatives out to the public for feedback
• Refine a preferred scenario for implementation and approval by the Board
The timeline for the program was shown for 2022.

Comments from the committee:

- Jean Senechal Biggs noted the great maps. It was asked how they compare to the centers and corridors in the 2040 Growth Concept. Any notable gaps? Mr. O'Connell noted the overlays were not all known at this time and would be interested in finding out this information as well.
- Tara O'Brien added the graph showing the ridership drop was now changing to an upward trend. Over a million rides this week were provided, which shows how looking at the numbers from a historic data perspective helps.
- Eric Hesse appreciate the sensitivity around individual data to reach important access data, and how other connections with privacy can be understood for methodology. Mr. O'Connell noted TriMet would be happy to share the methodology for replication.
- Allison Boyd thought it would be interesting to compare real data on transit systems when looking at equity focus areas.
- Don Odermott asked if this information would be given to the Washington County Coordinating Committee again. Mr. O'Connell confirmed they would be talking this staff once they have some alternates refined, and then again with the broader engagement in July/August.
- Matthew Hampton asked about the areas analyzed, if included with urban growth boundary area or constrained to TriMet service area. Mr. O'Connell noted this was constrained to within their service area. The planning assumption for this program is for the next year. It was done in response to shifts and trends in ridership. While this program is for near-term focus, it will create a new base line, allowing for a refresh for longer-term planning.
- Ally Holmqvist noted that with the 2040 Growth Concept study on centers and corridors, this is something we'll be working with TriMet on to look at as part of the High Capacity Transit Strategy Update- more on that soon! This will also be presented at the July 13 TPAC workshop.

Committee comments on creating a safe space at TPAC – One comment was received asking for incorporating live closed captioning at meetings. Chair Kloster noted this would be researched and reported back to the committee.

Adjournment
There being no further business, workshop meeting was adjourned by Chair Kloster at 11:20 a.m.
Respectfully submitted,
Marie Miller, TPAC Recorder

Item	Document Type	Document Date	Document Description	Document No.
1	Agenda	5/11/2022	5/11/2022 TPAC Workshop Agenda	051122T-01
2	TPAC Work Program	5/04/2022	TPAC Work Program as of 5/04/2022	051122T-02
3	Minutes	03/09/2022	Minutes for TPAC workshop, 03/09/2022	051122T-03
4	Memo	05/06/2022	TO: TPAC and interested parties From: Dan Kaempff, Principal Transportation Planner RE: 2025-2027 Regional Funding Allocation Project Outcomes Evaluation	051122T-04
5	Handout	N/A	25-27 RFFA/Trails Bond Project Applications	051122T-05
6	Report	May 2022	Regional Funding Allocation: Outcomes Evaluation Report 2025-2027 Regional Flexible Funds Parks & Nature Trails Bond funding May	051122T-06
7	Presentation	05/11/2022	2025-2027 Regional Funding (RFFA + Trails Bond) Outcomes Evaluation Report	051122T-07
8	Presentation	05/11/2022	Transit-Oriented Development Program Strategic & Work Plan Update	051122T-08
9	Presentation	05/11/2022	Forward Together: A Comprehensive Analysis of TriMet Service	051122T-09

Memo

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Date: July 13th, 2022
To: Metro Transportation Policy Advisory Committee (TPAC)
From: Eliot Rose, Senior Transportation Planner
Subject: Proposed approach to the 2018 Regional Transportation Needs Assessment

Purpose

This memorandum describes the proposed draft approach to updating the Needs Assessment for the 2023 Regional Transportation Plan for discussion and feedback by the Transportation Policy Alternatives Committee (TPAC). Metro staff will refine the proposed approach to address TPAC feedback as staff continue to develop the Needs Assessment and prepare to present draft findings to Metro Council and regional technical and policy committees in Fall 2023.

Introduction

A major update to the Regional Transportation Plan (RTP) is underway. The plan guides investments in all forms of travel – motor vehicle, transit, bicycle and walking – and the movement of goods and freight throughout greater Portland. The RTP is a key tool for implementing the 2040 Growth Plan and Climate Smart Strategy and for connecting people to their jobs, families, school and other important destinations in the region. The current RTP establishes four overarching priorities – equity, safety, climate and mobility – and eleven goals and supporting objectives and policies that together guide planning and investment priorities to meet current and future needs of our growing and changing region.

The Needs Assessment in Chapter 4 of the Regional Transportation Plan provides a snapshot of current conditions and trends within the Portland region and highlights key regional transportation challenges and needs for the plan to address. Each update to the RTP begins with updating the goals of the plan, followed by updating the Needs Assessment based on the latest data available to ensure that the policies and the projects in the RTP address the needs of the region now and in the future based on the updated regional goals.[1] Metro Council and JPACT are currently reviewing the RTP vision and goals as Metro staff start initial work on the Needs Assessment; the vision and goals will be updated before the needs assessment is completed. Once the Needs Assessment is finalized, jurisdictional partners will submit projects through the call for projects, and then Metro staff will evaluate how the transportation system performs in the future by using the regional travel model and other tools. The goal is to have the projects and programs in the RTP meet the needs identified in the Needs Assessment and thereby achieve the RTP vision, goals and objectives. Table 1 below summarizes this process, including the information used and key outputs produced at each stage of the RTP process.

[1] As with many elements of the RTP, Metro's established practice is shaped by the Federal regulations that govern the RTP process, which require regional planning agencies to "confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends."

Table 1: Summary of key results and information used, by RTP phase

RTP Phase	Key results of this phase	Information used during this phase
Update vision, goals, objectives and policies	• Updates to RTP vision, goals and policies	• Input from Metro Council, Metro policy/technical committees, agency partners, and community outreach • 2023 RTP scoping engagement • Background research and reports (Emerging Trends, Mobility Policy, Congestion Pricing Policy, Urban Arterials etc.) • Current transportation/land use data • Off-model analyses
Needs assessment	• Updated analyses of current regional transportation needs • Updated policy maps (e.g., equity focus areas, high injury corridors) • Identify performance measures and confirm targets	• Current transportation/land use data • Off-model analyses • Base-year travel model analysis • Results and feedback from the 2018 RTP • 2023 RTP scoping engagement • Federal performance reporting results • Input from Metro Council, Metro policy/technical committees, agency partners, and community outreach • Updated RTP vision, goals and policies • Background research and reports (Emerging Trends, Mobility Policy, Congestion Pricing Policy, Urban Arterials etc.)
Call for projects	• Draft RTP project list	• Updated RTP vision, goals and policies • Needs Assessment • Project information submitted by leads • Metro staff analysis of projects • Input from Metro Council, Metro policy/technical committees, agency partners, and community outreach • Background research and reports
Evaluation	• Performance results • Refinements to RTP project list	• Updated RTP vision, goals and policies • Needs Assessment • Policy maps • Base- and future-year travel model analysis • Off-model analysis • Project information submitted by leads • Stakeholder and community outreach

As the region's transportation needs evolve, so does the structure and focus of the Needs Assessment. Throughout each RTP process, Metro engages elected officials, agency staff, business and community partners, and the public to hear about how transportation needs and priorities have changed since the last update. Metro has heard suggestions about how the RTP can more effectively address long-standing needs, including ideas about how the information in the Needs Assessment can better support decision-making. Through this process, the RTP Needs Assessment continues to evolve from an inventory of multimodal infrastructure needs to a broader focus on transportation's contribution to systemic issues like climate, equity, safety and mobility (i.e., the currently adopted RTP priorities).

Proposed approach for the 2023 RTP Needs Assessment

Over the past several years, people from across greater Portland have shared what they need and their priorities for the transportation system. Most recently, during the scoping phase of the 2023 RTP update, Metro Council, JPACT, transportation and land use policy and technical committees, and agency and community partners provided feedback about what priorities are important for this RTP to address and ideas for how the RTP process should evolve during this update to address those priorities. Table 2 below summarizes this feedback and how it is shaping our proposed approach to the Needs Assessment.

Table 2: Summary of how RTP scoping feedback shapes the draft proposed approach to the Needs Assessment

What we heard	What it means for the Needs Assessment
Stakeholders **confirmed safety, equity, and climate as urgent and important priorities** for the RTP.	We will **organize the needs assessment around RTP priorities** including safety, equity, climate, and others identified through updates to the RTP goals.
Stakeholders acknowledged that the priorities above are often interrelated and expressed a desire to **focus on achievable actions that address multiple priorities**.	Where possible, we will **use consistent maps and analyses to examine needs related to different priorities**, so that we can highlight opportunities for RTP policies, projects and programs to address multiple priorities.
The RTP contains a significant amount of information, and the challenge is to **present that information in a way that is clearer and more actionable** in order to support decision-making.	Be clear about how the definitions and analyses used in the needs assessment are **rooted in RTP priorities, goals and policies**.

Much of the feedback discussed above echoes what Metro has heard from thousands of community members and decision makers about their transportation priorities during the 2018 RTP update and over the last several years. The 2023 RTP update will carry forward and build upon this important input.

Proposed approach to assessing RTP priority needs

This section describes the proposed approach to the assessing transportation needs during the 2023 RTP update. Metro is proposing to organize the Needs Assessment around the four adopted 2018 RTP priorities: safety, equity, mobility, and climate. For each of these priorities, we discuss:

- Key elements of the 2023 RTP Needs Assessment and lessons learned from the 2018 RTP update
- Completed updates to key maps and data used in the 2018 RTP
- Proposed elements of the Needs Assessment

Safety

Key elements of the 2018 Needs Assessment

The 2018 safety assessment analyzed ODOT crash data from 2011-15[2] to compare crashes by mode, location, and demographics of the people involved. This analysis found that:

- Traffic deaths are increasing and are disproportionately impacting people of color, people with low incomes and people over age 65.
- Traffic deaths are disproportionately impacting people who are walking.
- A majority of traffic deaths are occurring on a subset of arterial roadways.

This last finding led Metro to map the region's high injury corridors, which are the corridors where 60% of the region's fatal and serious crashes occur. Metro used these corridors to define "safety projects" – projects that make a significant investment in proven safety countermeasures on high-injury corridors – and reported back on the percent of the RTP budget spent on these projects as part of the system-level evaluation.

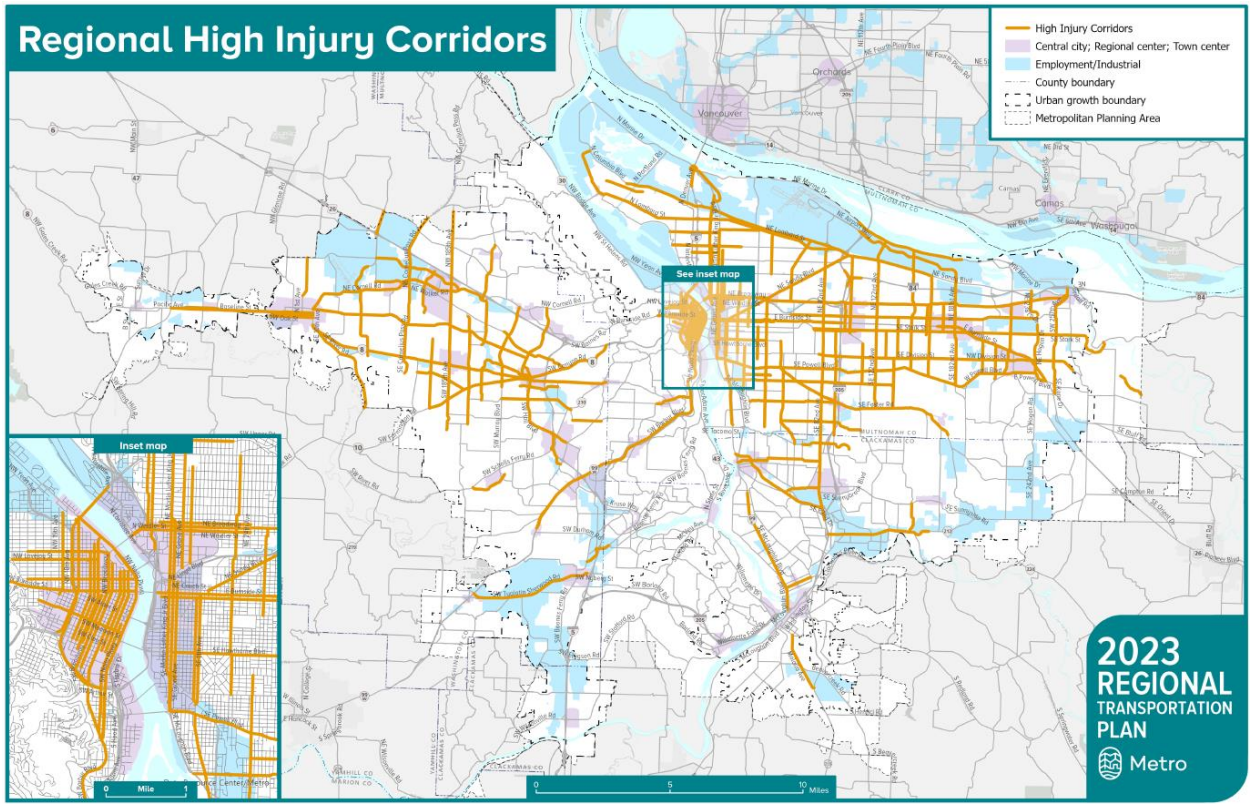
Completed updates to maps and data

Since the 2018 RTP update, Metro and partners have continued to use high injury corridors to prioritize investments and evaluate the safety impacts of projects and programs. Metro also produced federal transportation safety performance reports in 2020 and 2021 and will complete one for 2016-2020 data this summer. These reports describe progress made towards regional transportation safety targets. In 2021, Metro completed a 2-year Progress Report on the Regional Transportation Safety Strategy, providing updated data on serious crashes, highlighting inequities in safety outcomes and identifying needs to address safety.

For consistency, Metro staff propose to use the updated corridors to assess safety needs in the 2023 RTP update as well. Metro has updated the high injury corridors – using the same definition and methodology as was used in the 2018 RTP – with the most recent five years of data available from ODOT, 2016-2020. This time the analysis includes local and collector roads, some of which are identified as HICs. Figure 1 shows the draft updated map, and Appendix A describes the data and methodology used to create this map in detail. The 2016-2020 High Injury Corridors mapping tool can be accessed and explored online here: https://experience.arcgis.com/experience/6b5ae16aad814e6e81546bcc4ffdf964.

[2] It is common practice to use multiple years of crash data in detailed safety analysis. The number of crashes in any given location can vary from year to year, and using multiple years of data helps to control for these variations and highlight places where there are significant recurrent safety issues.

Figure 1: Draft 2023 RTP High Injury Corridors (2016-2020)



Proposed elements of the 2023 Needs Assessment

The 2016-2020 high injury corridors (HICs) will be used to illustrate the roadways with the highest number of serious crashes. Additional analysis for the Needs Assessment will include:

- **Serious crashes by mode in Equity Focus Areas**, in order to assess whether crashes are disproportionately impacting people of color, people with low incomes, and people with limited English proficiency.
- **A list of corridors with the highest injury scores**, to help target safety projects toward the corridors where they are most needed.
- **An analysis of crashes by mode**, including number of serious crashes by mode and designation of high injury corridors for people walking, bicycling and driving, to identify what type of safety improvements will be most beneficial in different corridors.
- **Identifying overlaps between HICs and other transportation facilities**, such as bus routes and Safe Routes to School sites. This will highlight areas where safety might be hampering progress toward reaching RTP goals or implementing RTP programs, such as improving transit speeds and reliability and expanding Safe Routes to School.
- **An analysis of current progress toward regional safety targets**, including analysis of how key indicators like crash rates are changing over time.

Equity

Compared to previous RTP updates, the 2018 RTP update had an expanded focus on equity. It included equity policies and implementing actions for the first time, and these policies called for regional partners to prioritize investments in the communities where people of color, people with low income, and people with limited English proficiency live. In order to support the implementation of these policies, Metro mapped communities of marginalized people in the region. The mapped areas are called Equity Focus Areas. During the 2023 RTP, there are opportunities to continue to apply these Equity Focus Areas in the Needs Assessment while also updating the equity assessment to build on what Metro and partners have learned from implementing the policies in the 2018 RTP.

Key elements of the 2018 Needs Assessment

The Equity section of the Needs Assessment in the 2018 RTP included the following elements:

- Historical information on how racial exclusion and bias have shaped policy in Oregon and transportation decisions in the Portland region.
- A map of Equity Focus Areas (EFAs), which are Census tracts where (1) the percentage of people of color, people with low incomes, and/or people with limited English proficiency is above the regional average, and (2) population density is more than double the regional average. This map was based on 2011-15 data from the American Community Survey
- Regional information on how homeownership and access to jobs varies by race.
- A map showing patterns of displacement for people of color in the Portland region for the period of time between 1990 and 2010.

The Equity Focus Areas (EFAs) were used throughout the 2018 RTP and continue to be used to inform planning, engagement activities and investment decisions in the region. Metro developed the definition of EFAs through an extensive consultation process with community and agency partners that tested several different ways of examining equity, which is documented in Appendix E of the RTP.[3] Metro and its partners defined EFAs in the RTP as described above because:

- **The region is growing and changing**. Our population is increasing, people of color account for a growing share of the population, and many people of color and people with low incomes are being displaced or moving from communities at the center of the region to communities closer to its edges. Defining EFAs relative to regional averages maintains a focus on the communities with the highest concentrations of people of color, people with low incomes, and people with limited English proficiency, even as those communities move around within the region.
- **Investments in equity should benefit as many people in need as possible**. Metro includes density in the EFA definition so that Metro and its partners can focus our efforts on the communities where underserved people are concentrated, and because investments in affordable and sustainable transportation generally produce greater benefits in areas with greater concentration of people.

[3] https://www.oregonmetro.gov/sites/default/files/2018/06/29/RTP-Appendix_E_2018_RTP_Transportation_Equity_Evaluation_with_attachments.pdf

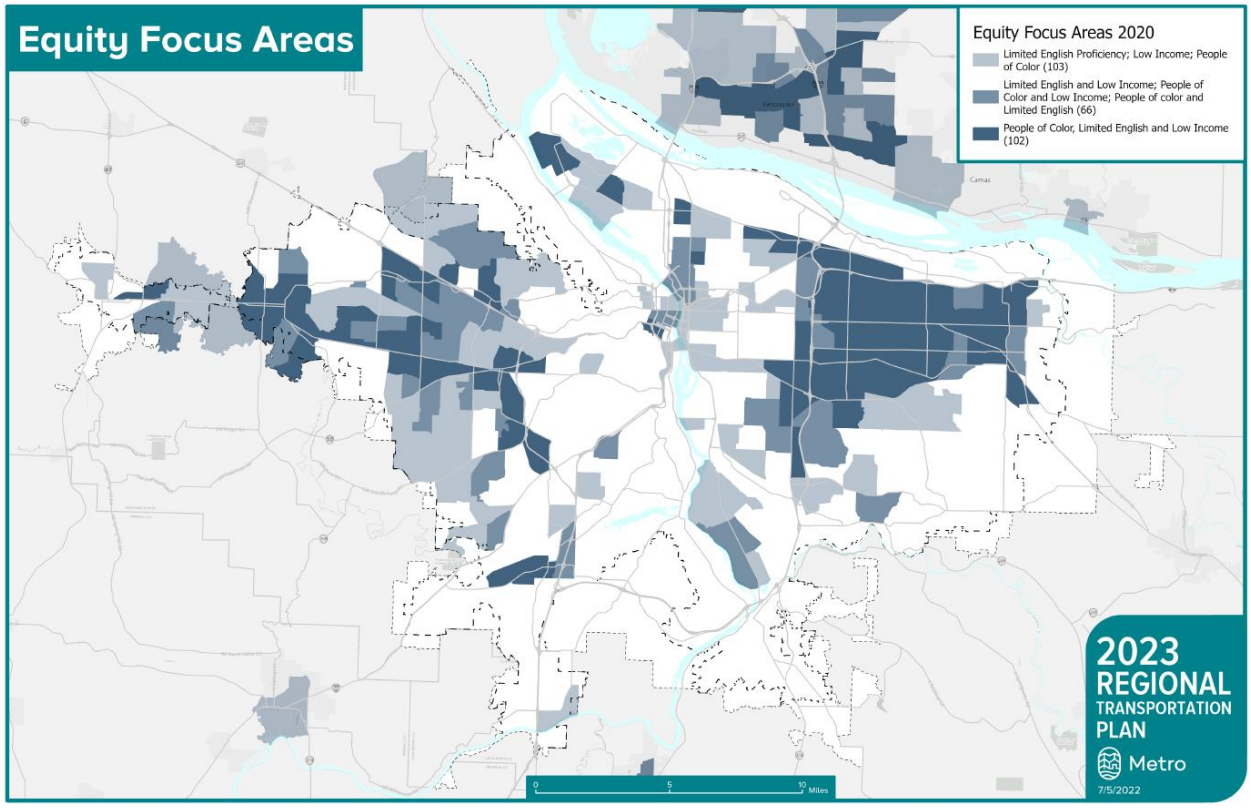
- **The EFA definition captures a variety of equity-related needs**. During the process of developing EFAs, Metro and its partners tested alternate ways of defining EFAs that included other groups commonly used in equity analysis, such as carless households, renters, and people with disabilities. Communities with high concentrations of people of color, people with low incomes, and people with limited English proficiency typically also have high concentrations of many of these other groups.

The other information in the 2018 Needs Assessment provided useful background on racial and other disparities in the region, but was not as widely used in RTP decision-making because it was not very detailed, and in many cases was not specific to transportation or to the Portland region. In the 2023 Needs Assessment there are opportunities to better focus the equity assessment on the transportation needs of people of color, people with disabilities, people with low income, and people with limited English proficiency based on lessons have learned through extensive outreach to these communities during the 2018 RTP update and subsequent engagement conducted to inform development of a regional funding measure and during the scoping phase of the 2023 RTP update.

Completed updates to maps and data

EFAs were first used in the 2018 RTP, and were based on 2011-15 American Community Survey data. Since then, Metro has updated the EFAs, continuing to use the same definition, methodology and data, which is described in more detail in Appendix B. Figure 2 shows the draft update to the Equity Focus Areas for use in the 2023 RTP, distinguishing between areas that have one, two or three of the overlapping characteristics that Metro uses in defining EFAs. These EFAs are based on 2016-20 American Community Survey data (for income and English proficiency) and 2020 Census data (for race). Appendix B provides more detail on the data sources and calculations used to create and update EFAs.

Figure 2: Draft 2023 Equity Focus Areas



Though the majority of EFAs in this updated version overlap with the EFAs that were used and adopted in the 2018 RTP, several Census tracts in the region have lost or gained EFA status. This shows that EFAs are changing as the region's population grows and changes, just as Metro and partners intended when they were adopted into the RTP in 2018. However, EFAs can also change due to nuances in the underlying Census and American Community Survey data – which, though imperfect, are the most comprehensive, consistent, and detailed sources of demographic data available.

Here are some of the reasons why the EFA status of a census tract may have changed:

Conditions have changed in the tract. Census tracts have anywhere from 1,200 to 8,000 people, with an average of roughly 4,000. At this scale, a relatively small change – such as a new affordable housing development or the movement of several large households – can cause a tract to gain or lose EFA status. A new 100-unit affordable housing development in a tract where residents are otherwise mostly white and affluent could even potentially make that tract an EFA. More of these type of changes could be occurring as the region funds more affordable housing developments. Also, because of the 5-year averages used in the ACS data used in defining the EFAs, updates to the EFAs capture change over a broad time span. Though the 2023 and 2018 RTP updates are only five years apart, there is a nine-year difference between 2011 (the earliest year of data used in the 2018 RTP EFAs) and 2020 (the latest year of data used in the 2023 EFAs).

Example: In the average Census tract in the Portland region, 15% of people are living on low incomes. According to the data used for the 2018 RTP, Census Tract X had 1,000 people total, 5% of whom were living on low incomes, so it was not identified as an EFA. Since then, it built a new 100-unit deed-restricted low-income housing development with 150 people. The updated data for the 2023 RTP now shows that 17% of the people living in the tract are now people with low incomes, which is above the regional average. Tract X is now an EFA.

Conditions have changed in the region. The regional averages that are used in defining EFAs also change. This is currently happening with race; the share of people of color in the Portland region is growing. This means that the EFA status of a Census tract can change even of the percentage of people of color, people with low incomes, and people with limited English proficiency stays the same; a rising regional average could cause that tract to lose EFA status, and a falling average could cause that tract to gain EFA status.

Example: According to the data used for the 2018 RTP, 11% of the people living in Census Tract X are people of color, whereas 10% of the people in the average Census tract were people of color, so Tract X was an EFA. According to the updated data, the share of people of color living in Tract X is still 11%, but the regional average has increased to 12%. Tract X is no longer an EFA.

The data have changed. The survey questions that the Census uses to collect the data used by Metro to define EFAs sometimes change. For example, there was a slight change in how the Census question asking about race was presented between the 2010 and 2020 Census that may have led to an increase in how many respondents identified as members of two or more races, and potentially also the percentage of people that are counted as people of color when defining EFAs.

The data have margins of error. The American Community Survey is the data source that is most critical to defining EFAs. The ACS estimates the socioeconomic profile of an area based on a limited survey sample of people who live in that area. These estimates are not perfectly accurate, and the Census Bureau presents them with margins of error that represent the uncertainty associated with each estimate. For example, in a tract where the share of people with low incomes is estimated at 12% with a margin of error of 2%, anywhere from 10% to 14% of the population could have low incomes. Metro uses the estimates in identifying EFAs because they are the best data available, but there are many cases where tract values are within the margins of error of the averages used to define EFAs. These tracts may gain or lose EFA status based on the underlying uncertainty in the data.

Example: According to the data used for the 2018 RTP, 6% of the people living in Census Tract X have limited English proficiency – with a margin of error of 3% - whereas 5% of the people in the average Census tract have limited English proficiency, so Tract X was an EFA. According to the updated data, 4% of the people living in Tract X have limited English proficiency, and the tract margin of error and regional average haven't changed. This causes Tract X to lose its EFA status, even though in both cases it is within the margin of error of the average.

Typically a combination of these factors is responsible for tracts gaining or losing EFA status, and it is rarely possible to distinguish whether one specific factor is leading to a change in status for a given Census tract. The Census data are the most comprehensive and detailed source of demographic data available, and Metro does not have a similarly detailed and reliable, but independent, data source to compare them to. This lack of ground truth makes it challenging to distinguish changes due to data issues like revised survey questions and margins of error from changing conditions in the region and its communities.

Proposed elements of the 2023 Needs Assessment

Focus on the transportation needs that are important to people of color, people with low incomes, and other underserved groups. The equity policies adopted in the 2018 RTP direct Metro and partner agencies to both learn more about marginalized people's transportation needs[4] and also to act on what they learn.[5] Since the 2018 RTP update, Metro has conducted extensive outreach to people of color, people with low incomes, and other marginalized people to better understand their transportation needs through the development of the 2020 regional transportation funding measure, the Regional Mobility Policy update, and other processes.[6] Metro has consistently heard that these communities need safer and more accessible travel options – specifically better transit service and safer streets for bicycling and walking, including:

- More fast, frequent and reliable transit service for all types of trips (including at off-peak travel times)
- More affordable transit that connects people to the places and things they need to thrive.
- Better conditions for walking and biking, including adequate street lighting, protected crossings and crossing signals, particularly to improve access to transit.
- Connected and separated walking and biking infrastructure.

The 2018 RTP included several maps and performance measures related to these needs, and there are several opportunities to reflect this feedback and sharpen the focus on equity when presenting this information in the 2023 RTP Needs Assessment, potentially including:

Identifying gaps in the bike, pedestrian, trail, and transit systems that are within EFAs. As discussed in the Mobility section, the Needs Assessment typically identifies gaps in the transportation system by comparing the planned RTP system to current facilities. These maps can be overlaid with EFAs to highlight those gaps that most impact underserved communities.

[4] Policy 5: "Use engagement and other methods to collect and assess data to understand the transportation-related disparities, barriers, needs and priorities of communities of color, people with low income and other historically marginalized communities."

[5] Policy 3: "Prioritize transportation investments that eliminate transportation-related disparities and barriers for historically marginalized communities, with a focus on communities of color and people with low income."

[6] This feedback is collected in the Summary of input from historically marginalized communities on transportation priorities for Greater Portland that was shared with Metro

Including maps of access to destinations via transit in the needs assessment, and highlight opportunities to improve access in EFAs. Marginalized communities not only need better transit service within their communities, they need better connections to jobs, services and other destinations they need to reach on a daily basis. Stakeholders requested that Metro use access to destinations, particularly via transit, as an equity performance measure in the 2018 RTP. The 2018 RTP measured in aggregate how access to jobs and community destinations varies between EFAs and other areas of the region. In the 2023 RTP update, there is an opportunity to highlight where there are opportunities to improve transit accessibility within the region by including a map that compares access to destinations via transit with transit-supportive land use characteristics like concentrations of jobs and housing and with EFAs. Areas that are EFAs and have high levels of transit-supportive land uses, but have low levels of transit accessibility, represent opportunities to improve transit access to destinations for EFA residents.

Using EFAs as an overlay with a variety of maps to highlight opportunities to advance equity and other priorities simultaneously. For example, the 2018 RTP overlaid EFAs with high injury corridors to highlight opportunities to address both safety and equity. There may be similar opportunities to overlay EFAs with other maps shown of the Needs Assessment, including some of those discussed below.

Mobility

The 2023 RTP update will include an updated Regional Mobility Policy, which is a significant and long-awaited milestone for the RTP that will shape how Metro defines and measures mobility throughout the plan, including in the Needs Assessment. The 20-year old interim mobility policy in the 2018 RTP focused on measures of vehicle congestion, setting volume-to-capacity threshold for roadways in the region. The mobility policy update aims to significantly broaden the policy to address a greater variety of modes (including transit, active transportation, and driving) and outcomes (including safety, equity, access, efficiency, reliability, and options). The new, more comprehensive mobility policy will specify a new set of performance measures and targets that Metro and its agency partners will use to assess whether system plan updates, plan amendments, and land use decisions meet the requirements of the policy. Metro, ODOT and agency partners are currently considering a combination of three new performance measures to include in the policy that will be applied at the system planning level:

- Vehicle miles traveled (VMT) per capita
- System completeness
- Travel speed on throughways[7]
- Comparisons of all measure results between equity focus areas and non-equity focus areas (to examine whether impacts of plans and projects are equitable)

The 2023 RTP Needs Assessment will be consistent with the updated Regional Mobility Policy by weaving together the variety of information that the Needs Assessment provides

[7] This measure is also used by Metro as part of the region's federally-required transportation performance reporting. The next report is due in October 2023 and will inform the 2023 RTP Needs Assessment.

on different aspects of mobility and by providing base year information on the performance measures used in the policy.

Key elements of the 2018 Needs Assessment

Information about mobility is spread throughout the 2018 RTP Needs Assessment in Chapter 4. The "How the system is working" section includes information on congestion, transit reliability, and gaps in the bicycle and pedestrian system. The "How we get around" section includes information on mode shares, vehicle miles traveled, and other key indicators of multimodal transportation. The "How we get around" section also includes information on freight movement. The Needs Assessment includes information on several of the potential Regional Mobility performance measures listed above:

- **Travel speeds, hours of congestion and reliability** are discussed in Section 4.6.4 (Congestion and Reliability), which includes a map and table from ODOT identifying congested stretches of freeway (based on analyses of speeds), and a map of transit reliability from TriMet data.
- **System completeness** is discussed in Section 4.6.7 (Gaps in Transit, Biking and Walking Connections), which includes maps that show the current regional bicycle, pedestrian, transit and trail networks; gaps in the bicycle, pedestrian, transit and trail networks that show where regionally-planned facilities have not yet been built; and the level of sidewalk completion in the region.
- **Access to destinations** is discussed in Section 4.6.9 (Housing and Transportation Affordability and Displacement), which includes a chart comparing access to jobs by race. Access to destinations is also used as a performance measure in Chapter 7, which includes tables showing access to jobs and community places by mode and for Equity Focus Areas vs. other areas of the region.
- **VMT per capita** is discussed in Section 4.3.1 (Travel), which shows charts of historical average regional VMT per capita and comparisons of VMT per capita between the Portland region and other regions. Regional VMT per capita is also used as a performance measure in Chapter 7.

Completed updates to maps and data

Metro, ODOT and agency partners are still determining which performance measures will be used in the updated mobility policy. However, stakeholder discussions so far have emphasized the importance of **system completeness** in assessing multimodal mobility. The motor vehicle network map and the bicycle and pedestrian gap maps in the 2018 RTP highlight key locations where the system is incomplete by comparing the regional visions (i.e., planned systems) for these networks – which are based in extensive coordination with stakeholders and analysis of transportation and land use data – to the facilities that are on the ground today. Metro has used these gaps to evaluate active transportation projects through the Regional Flexible Funds Allocation process, and found them useful in prioritizing projects that complete the system. However, in order to identify projects that complete the transit system,[8] Metro has created a new map of transit gaps, based on the

[8] Metro also has policies to complete the region's arterial, collector and local street networks. However, Metro staff are not proposing to add a map of gaps in collector and local street networks to the Needs Assessment in the 2023 RTP update. The needs assessment will identify new connections identified in the regional motor

2020 transit network, by comparing planned transit service to existing service, similar to how other network gaps in the RTP are identified. Though this map is technically new to the RTP, it is derived from on the transit network vision (i.e., planned system) that was adopted in the 2018 RTP.

Figure 3 shows the draft transit network gap maps. The map distinguishes between gaps in the frequent- and regular-service transit networks, since completing the frequent transit network is critical to meeting the region's climate goals, and between gaps in service that are based on the financially-constrained network (i.e., gaps that the region currently has identified funding to complete) and those that are based on the network vision (i.e., gaps that the region has not yet identified funding to complete). Metro is still updating the motor vehicle network and pedestrian, bicycle and trail network gap maps based on recent updates submitted by agency partners, but Figure 4, Figure 4: 2018 RTP regional motor vehicle network map (dashed lines indicate gaps)

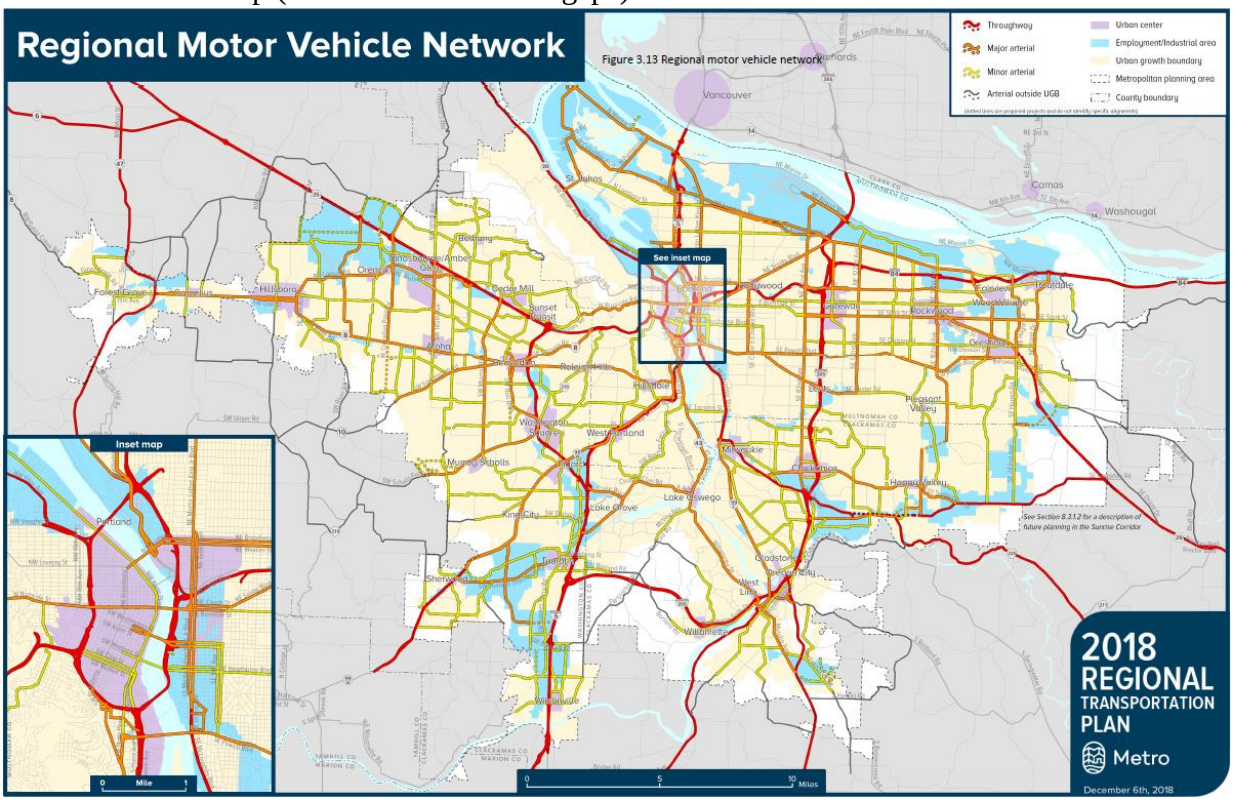


Figure 5, Figure 6, and Figure 7 show the versions of those maps that were published in the 2018 RTP for reference.

vehicle network map. There are relatively few gaps in the motor vehicle network – roughly 15 of them, with the majority less than two miles long, out of over 7,000 current and planned road-miles in the region – whereas significant portions of the transit and active transportation networks remain incomplete.

Figure 3: Draft regional transit network gap maps

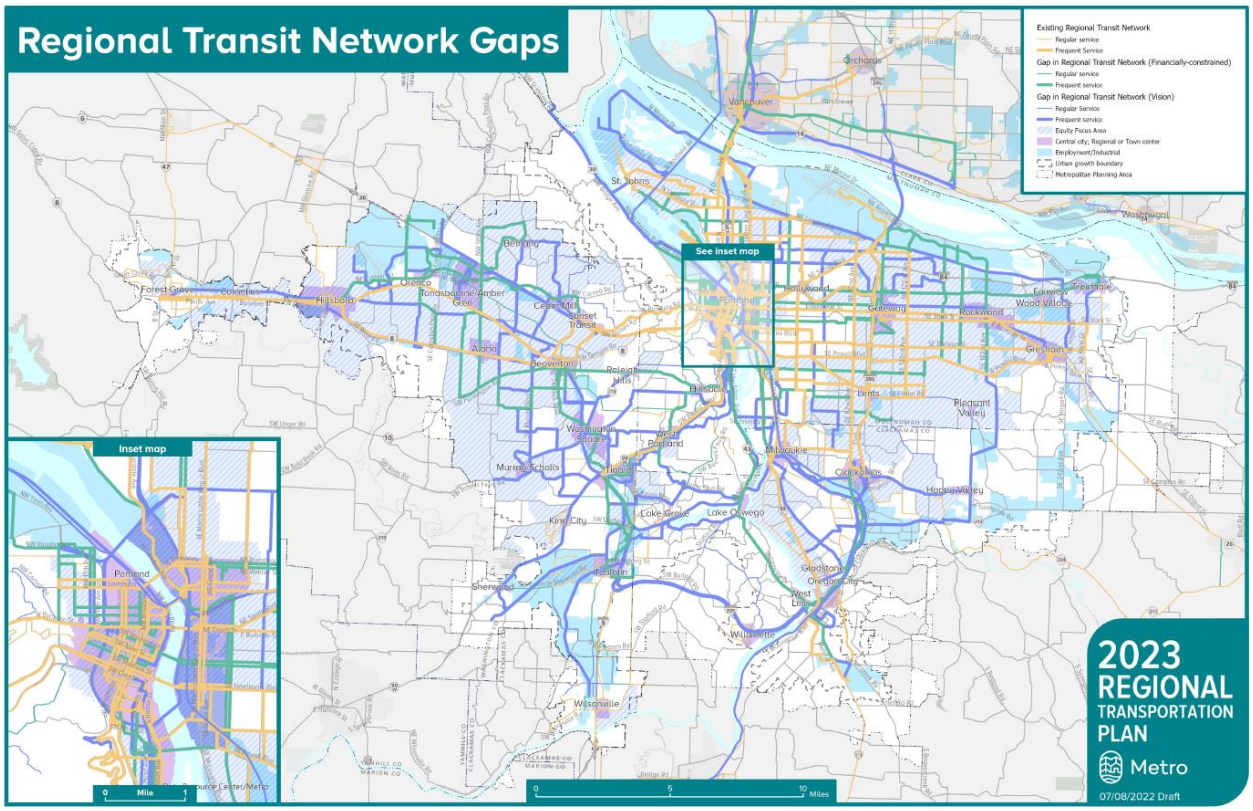


Figure 4: 2018 RTP regional motor vehicle network map (dashed lines indicate gaps)

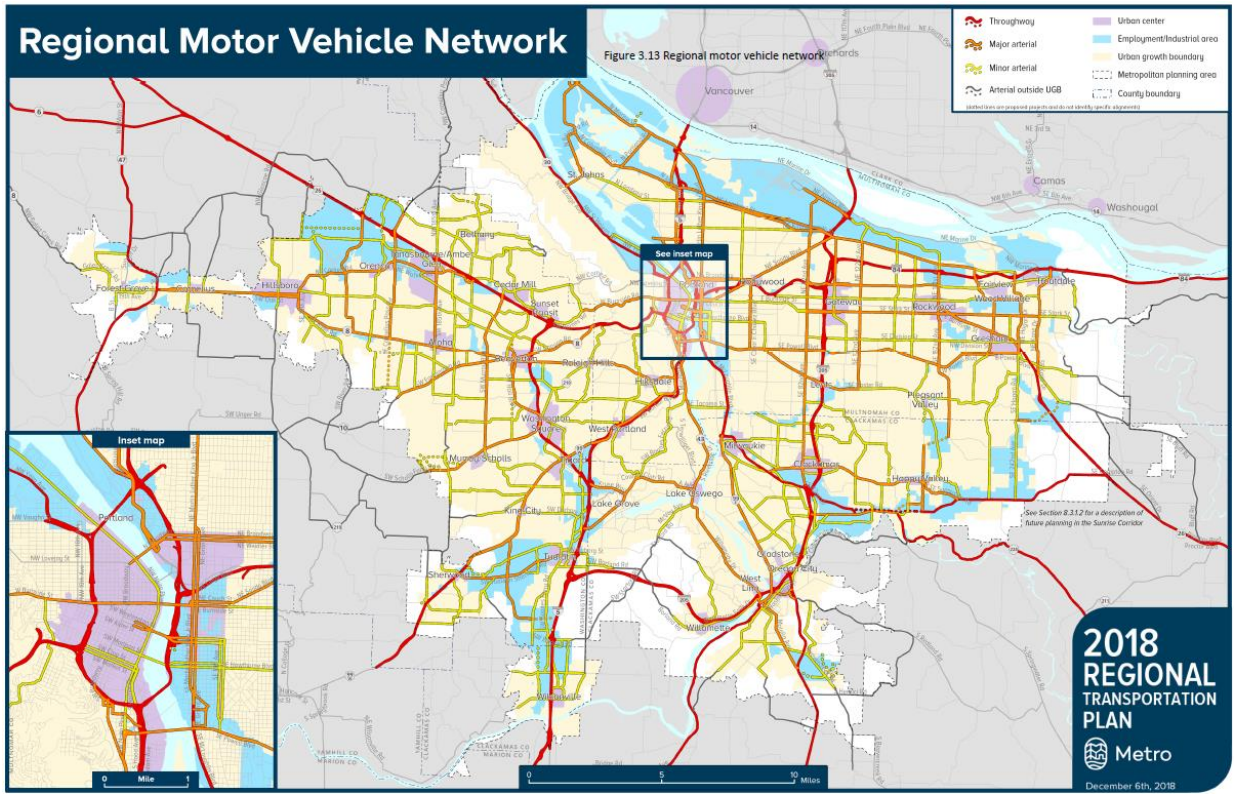


Figure 5: 2018 RTP map of regional pedestrian network gaps

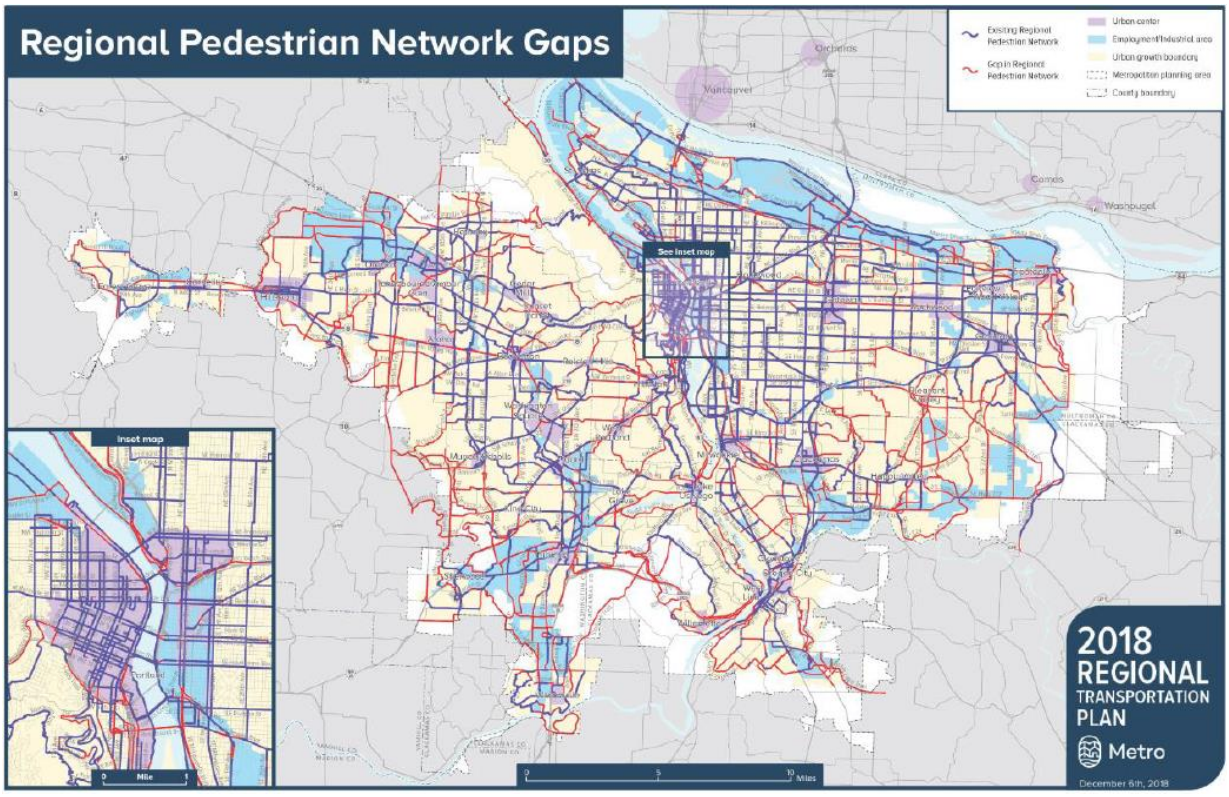


Figure 6: 2018 RTP map of regional bicycle network gaps

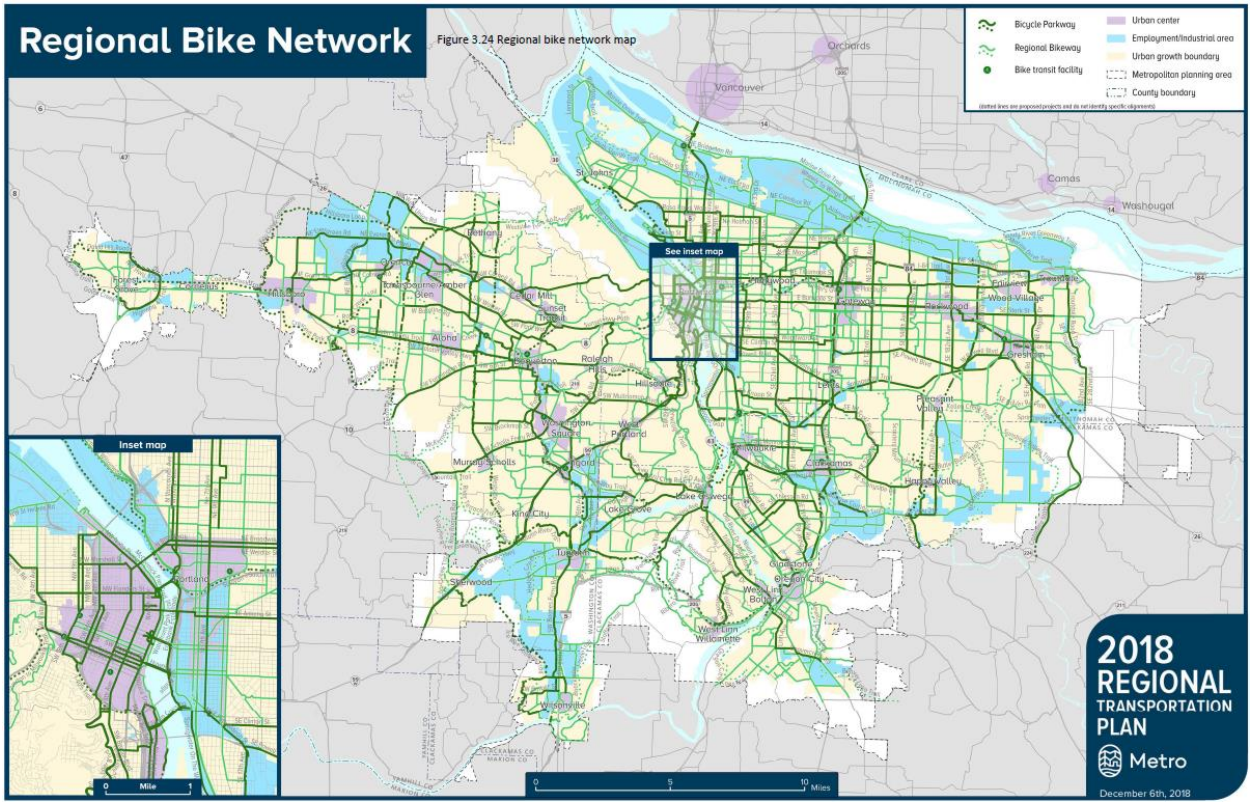
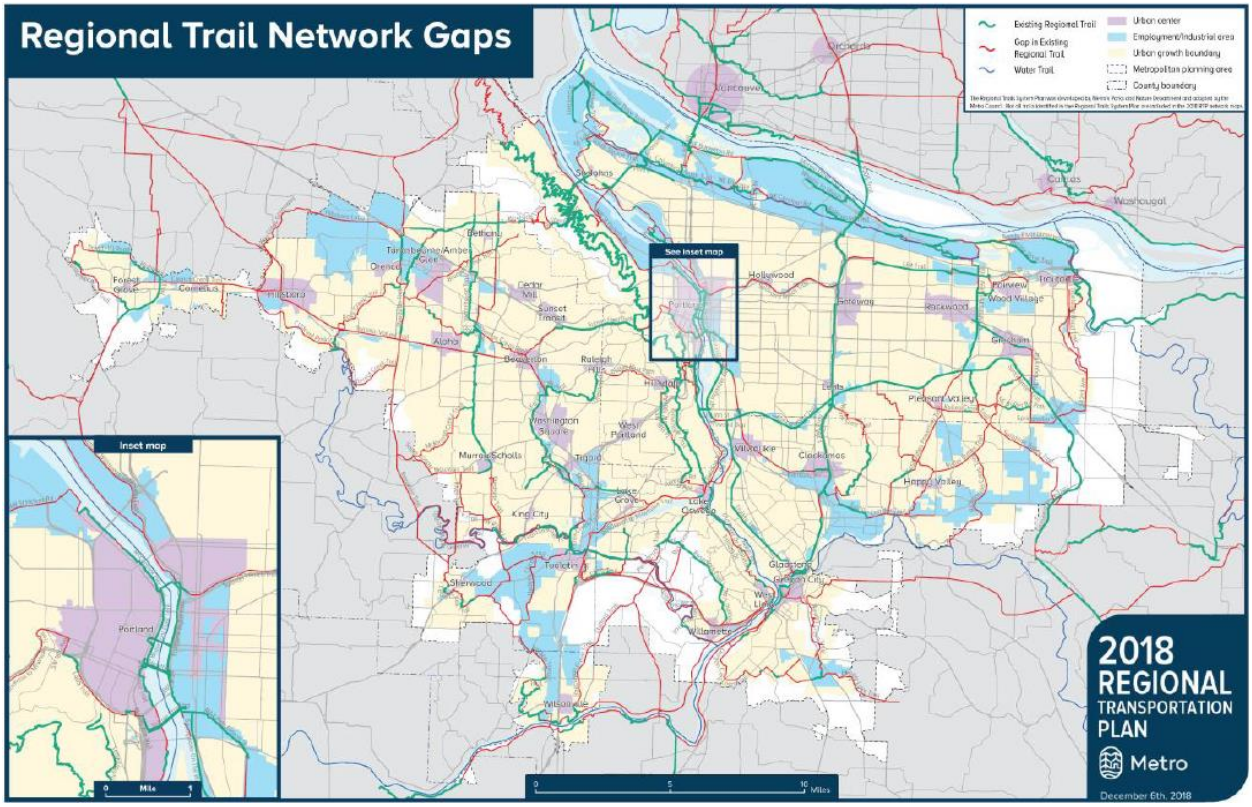


Figure 7: 2018 RTP map of regional trail network gaps



Proposed elements of the 2023 Needs Assessment

System completeness is emerging as a priority measure for the Regional Mobility Policy Update, and Metro has a longstanding method to analyze system completeness by mapping network gaps. Other aspects of the mobility policy are not supported by this same level of consensus and experience. Pending JPACT and Metro Council support to apply the updated Regional Mobility Policy in the RTP update in November 2022, the Needs Assessment will be updated for consistency, potentially including the following updates:

Combine all relevant information into a single section on Mobility. The Updated Mobility Policy Vision aims for a region where "people and businesses can safely, affordably, and efficiently reach the goods, services, places, and opportunities they need to thrive *by a variety of seamless and well-connected travel options and services* that are welcoming, convenient, comfortable, and reliable."[9] Instead of dividing people up into drivers, transit riders, pedestrians, and cyclists, it recognizes that people take an integrated view of their travel options and choose the one that best fits their needs for a given trip. To the extent possible the RTP should reflect this perspective as well, and present comprehensive multimodal mobility information in a single section instead of discreetly analyzing individual modal needs.

Include base year information for Mobility Policy performance measures. Once JPACT and the Metro Council agree on a recommended set of performance measures for the updated Regional Mobility Policy, information on RTP base year (2020) conditions will be included for these measures. This information will provide a baseline against which partner agencies can measure changes in mobility and implement the policy, and help regional stakeholders identify high-priority mobility needs to address in the 2023 RTP update. Though there is still some uncertainty surrounding the final set of Regional Mobility Policy measures, two of the potential measures overlap with performance measures and data that are discussed in other sections of the Needs Assessment, as well as elsewhere in this memorandum. VMT per capita is also discussed in the Climate section, and access to destinations is also discussed in the Equity section.

- VMT per capita (discussed under Climate)
- Access to destinations (discussed under Equity)
- Comparisons of all measure results between equity focus areas and non-equity focus areas (to examine whether impacts of plans and projects are equitable)

Climate

The region's efforts to address climate change are guided by the Climate Smart Strategy, which was adopted in 2014. Approved by the Land Conservation and Development Commission in 2015 and incorporated in the RTP in 2018, the strategy was created in response to State legislation and supporting administrative rules that set greenhouse gas reduction targets for the Portland region and required Metro to adopt and implement a plan to meet these targets. The strategy identifies a wide-range of greenhouse gas emissions reduction policies, strategies and near-term actions to guide climate action in the

[9] https://www.oregonmetro.gov/sites/default/files/2022/03/17/Discussion%20Draft%20Mobility%20Policy%20Draft%20Options%20Report%2001%2020%202022.pdf

RTP and other ongoing efforts. The strategies are categorized by potential impact reducing greenhouse gas emissions. High potential impact strategies include congestion pricing, 2040 Growth Plan implementation, coordinated investment in compact, mixed-use areas served by transit, walking and biking connections, and expanding transit coverage and high-frequency service.[10] Moderate potential impact strategies include investing in active transportation connections, travel information and incentives, and system management and operations strategies.

Key elements of the 2018 Needs Assessment

The 2018 RTP Needs Assessment included a high-level overview of the background and focus of the region's climate strategies. 2018 RTP Appendix J, Climate Smart Strategy implementation and monitoring, included more detailed information on the region's progress in meeting its greenhouse gas (GHG) reduction targets.[11] It found that the 2018 RTP was on track to meet State targets to reduce per capita greenhouse gas emissions from passenger vehicles by 25 percent by 2040, as well as targets set for interim years. It also found that the region was on track to implement many of the actions the Climate Smart Strategy relies upon to reduce greenhouse gas emissions, such as increasing transit service and locating new housing in mixed-use communities. However, the region was not on track to meet its target for reducing vehicle miles traveled (VMT) per capita – which is closely related to reducing greenhouse gas emissions – nor for completing the regional active transportation network by 2035 (a target identified in the 2018 RTP). Furthermore, since the 2018 RTP was adopted, statewide rulemaking resulted in new VMT per capita reduction targets for the region that will need to be met through the 2023 RTP.

Completed updates to maps and data

There are currently several ongoing developments that will have a significant influence on regional greenhouse gas emissions and climate policies, described in more detail below. Because of these ongoing developments, Metro staff do not currently have specific updates to the climate needs assessment to share, but have started to develop a progress report on Climate Smart Strategy implementation that will inform updates to Appendix J and the 2023 RTP Needs Assessment. Available information will be reported to TPAC and MTAC at an upcoming joint workshop this summer. JPACT and Metro Council will be discussing potential updates to the Climate Smart Strategy at a workshop this fall.

Metro continues to explore opportunities to evolve and enhance its capabilities to and approach to forecasting greenhouse gas emissions and monitoring progress implementing the Climate Smart Strategy. Most recently, Metro convened a transportation and climate expert panel on June 22, 2022 consisting of senior staff from transportation agencies around the country that are working to implement climate policies and analyze the greenhouse gas impacts of transportation decisions. The panel highlighted the variety of

[10] The Climate Smart Strategy also identifies investing in clean vehicles and fuels as a high-impact strategy, but progress in implementing this strategy does not count as progress toward meeting the region's climate goals. Under Oregon's climate policy the State is responsible for accelerating the adoption of clean vehicles and fuels, and regions are responsible for VMT-related greenhouse reductions.

[11] Metro, Climate Smart Strategy implementation and monitoring, 2018 Regional Transportation Plan Appendix J, December 6, 2018. https://www.oregonmetro.gov/sites/default/files/2019/04/02/RTP-Appendix_J_Climate_Smart_Strategy_Monitoring181206.pdf

tools and approaches that are available to assess transportation projects and policies at different levels of detail and/or stages in the project development process. [12]

Based on the lessons from this panel, along with development of new and updated analysis tools (including VisionEval, which is the tool that the State uses to set the greenhouse gas targets used in the RTP), Metro staff will recommend an updated approach for assessing progress toward meeting the region's greenhouse gas targets and identifying climate needs for the 2023 RTP.

Proposed elements of the 2023 Needs Assessment

Since 2018, there have been several important developments related to the State's greenhouse gas reduction targets and our region's progress in implementing them.

Studies have found that **changes to the climate are stronger and are happening more rapidly than expected, and that emissions need to fall dramatically by 2030** to prevent irreversible global damage.[13] Oregon did not meet its 2020 goal to reduce emissions to 10 percent below 1990 levels; at last count emissions were roughly 10 percent above 1990 levels.[14] Though our region demonstrated it was on track to meet our greenhouse gas reduction targets in 2018, the global pandemic and other urgent challenges suggest the region may now be falling behind implementing some of the policies and investments called for in the Climate Smart Strategy. In addition, the region is contemplating new and updated policies that should be considered for inclusion in an updated Climate Smart Strategy. These developments lend new urgency to meeting our region's climate goals.

Since 2018, the Land Conservation and Development Commission adopted new rules through the **Climate Friendly and Equitable Communities rulemaking** process. These rules require cities and counties in Oregon's eight metropolitan areas to designate higher density, mixed use communities that are served by transit and other sustainable transportation options, and to demonstrate that land use and transportation system plan updates reduce vehicle miles traveled and greenhouse gas emissions. As part of this Rulemaking, the State clarified that regional GHG reduction targets are intended to be equivalent to household-based VMT per capita reduction targets. These targets reflect additional greenhouse gas emissions reductions needed beyond what was expected to be achieved through State-level policies and actions identified in the Statewide Transportation Strategy (STS) that aim to advance Oregon's transition to cleaner, low-carbon fuels and zero and low-carbon emissions vehicles.

[12] A video and summary of the panel discussion, background materials and lessons learned will be posted on Metro's website at https://www.oregonmetro.gov/events/climate-and-transportation-expert-panel/2022-06-22 .

[13] Intergovernmental Panel on Climate Change (IPCC), Climate Change 2021: The Physical Science Basis, Summary for Policymakers, October 2021. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf

[14] Oregon Department of Environmental Quality, Oregon Greenhouse Gas Sector-Based Inventory Data. https://www.oregon.gov/deq/aq/programs/Pages/GHG-Inventory.aspx

In addition, Metro, ODOT, and City of Portland have all **made progress on planning for congestion pricing**, and Metro has committed to including an updated regional congestion pricing policy in the 2023 RTP. Development of the updated policy is underway. This represents significant progress on one of the most effective greenhouse gas reduction strategies included in the Climate Smart Strategy.

The State has adopted **new policies and programs to support the transition to cleaner, low carbon vehicles and fuels**, and is in the process of revising its projections of vehicle efficiency and use of alternative fuels.

Finally, the COVID-19 pandemic disrupted travel in the region, demonstrating that telework has significant potential to reduce commute trips and that people can make significant changes to adapt how they travel when circumstances demand it. It also led to significant loss of transit riders and major cuts in service, which have been exacerbated by an ongoing shortage of transit drivers. **These cuts call into question whether the region is on track to increase transit service as envisioned in the Climate Smart Strategy and 2018 RTP**.

Metro staff are proposing several updates to the Climate section of the Needs Assessment that address these developments:

Provide a high-level progress report on Climate Smart implementation this summer. In order to meet our regional greenhouse gas reduction targets, Metro and its partners need to understand whether the strategies that the region has relied upon so far are working, and to understand the impact of the developments called out above. This progress report will be provided so that partners and decision-makers have clarity on whether and how much the RTP needs to be updated to meet the region's mandated GHG reduction targets.

Include a map showing how VMT per capita varies throughout the region: In order to comply with the new Climate Friendly and Equitable Communities rulemaking, agencies in the region need to plan to increase development in communities where people can drive less and still meet their daily needs, and also to demonstrate that plans reduce VMT per capita. Mapping VMT per capita at as fine a scale as Metro's planning tools allow will help agency partners identify areas of the region with low rates of driving and provide baseline data against which to measure projected changes in VMT per capita. As discussed in the Mobility section, VMT per capita is also a recommended Regional Mobility Policy performance measure, so including a VMT per capita map could also support local and regional implementation of the updated Mobility Policy and CFEC rules.

Map opportunities to increase transit ridership in the region. This would involve comparing access to destinations via transit with transit-supportive land use characteristics like concentrations of jobs and housing. Areas that have higher densities of people and jobs and/or a mix of homes and destinations but have low levels of transit accessibility, represent opportunities to improve transit access in a way that attracts more riders. As discussed in the Equity section, transit access to destinations is an important

equity performance measure, and overlaying this map with Equity Focus Areas can highlight opportunities to provide better options for the people in our region who need them most.

Other information to be included in the needs assessment

Re-organizing the needs assessment around our regional priorities should provide more clarity on how the RTP can best address those priorities. However, some of the information that is required to be included or has traditionally been included in the Needs Assessment does not align neatly with these priorities. In addition to the four sections discussed above on Safety, Equity, Mobility, and Climate, the needs assessment will also include sections that describe:

- **General changes in regional population, employment and transportation patterns since 2018**: This information has traditionally been included in the Needs Assessment, and provides important context on how the region is growing and changing.
- **Freight and goods movement:** Many of the priorities discussed above involve freight and goods movement. For example, the Regional Mobility Policy Update envisions moving people and goods safely and efficiently through the region. However, most of the travel in the region is by passenger vehicles, and the data and tools that Metro uses to develop the RTP capture passenger vehicles much better than they do freight. In addition, Metro is conducting a Regional Freight Delay and Commodities Movement Study, which will identify the growing impacts of e-commerce on goods movement and identify freight-related strategies that support the region's goals. Because this is such a significant study, and because freight movement patterns are very different from passenger vehicle travel patterns, freight and goods movement merits its own section within the Needs Assessment.
- **Infrastructure conditions in the region:** this is a required Federal performance measure and important information in understanding whether the transportation system is in a state of good repair, including the region's bridges, roadways and transit systems.

Next steps

An update on the Needs Assessment will be provided to TPAC in September for discussion of:

- the draft results and findings of the assessment of climate, safety, equity and mobility needs (addressing feedback received during today's discussion)
- draft results and findings from other components of the needs assessment

Appendix A: High Injury Corridors data and methodology

Part 1: Streets

Create dissolved corridors

Corridors are derived from RLIS streets by creating a standard corridor name for the entire length of the roadway (a dissolved corridor). A data dictionary was created to provide the HIC corridor names for highways (e.g. Hwy 8) and streets (e.g. Division). For highways, add the highway number for numbered roadways as the road name to dissolve on. For example, Hwy 8 is dissolved from Canyon Road and Tualatin Valley Highway. For other roads, use that name, suffix, road type, and direction to dissolve. For unnamed roads, replace null values with 'Unknown' as a base name. All dissolved roads are given an ID. Unknown roads are kept distinct by adding the ID to the name (eg. Unknown00001). There are few unnamed roads in RLIS, and no HICs are unnamed roads. All streets in the region are included in the analysis regardless if they are on the regional network.

Break dissolved corridors into corridors for scoring

After the dissolved corridors are created they are then broken into corridors between 1 and 5 miles in length, with the goal to have longer rather than shorter corridors. Freeways and non-freeways are treated separately (since freeways don't intersect with other roads except for ramps, and other intersections are over/underpasses). For each, the dissolved corridors are first broken at each intersection into segments; these segments are later used to ensure that no corridor is divided at an intersection. Each dissolved corridor length is then measured. If a dissolved corridor (e.g. Hwy 8) is longer than 5 miles, it is divided into shorter corridors. For example, if a dissolved corridor is 6 miles it would be broken into two 3 mile corridors. When breaking a dissolved corridor into shorter corridors, breakpoints are added mid-segment, rather than at an intersection. This ensures that intersection crashes, which are frequent, are not double counted on two corridors. For final scoring, a scored corridor must be at least 1 mile long.

The relevant RTP network (identified on the RTP motor-vehicle, freight, transit, bicycle and pedestrian network maps) is buffered, and line segments that fall within the buffer are noted as on-network line segments. This is used to assess if a HIC is on the RTP network. Most HICs are, but there are some local roads that are HICs.

- The first iteration of the HICs used location of crashes on a corridor to determine breakpoints for scoring. Since crashes happen in random places, this made it difficult to compare a given road segment of two different time periods (because they would aggregate differently between time periods). For the current method, long corridors are broken consistently at the same point through time.

Create intersections and segment midpoints

From the corridors, midpoints and intersections are derived, so that crashes can be snapped to these points (Part 2 below). All segments are converted to start, end, and midpoints. Points are buffered to 80 feet and dissolved, and assigned an ID based on unique buffer polygons. This ensures the end of one segment is assigned the same ID as the start of the next, and lets short mis-alignments or dual-lane roads to be given the same

Junction ID at near-coincident intersections. Points are classified into the categories in Table 1.

Table 1.

Point type categories	Description
Intersection	Three or more converging line segments
2-point intersection	Two converging line segments
Dead end	Single line endpoint
Midpoint	Midpoint of a line segment
Corridor breakpoint	Breakpoint for a corridor (was a midpoint of a line segment, no crashes snap to this point type)

Part 2: Crashes

Add fields to crashes and calculate

The crashes used in the analysis are ODOT crashes that Metro copies and keeps locally for analysis as part of RLIS. The crashes are copied from RLIS and the following crash type fields are added to create the HIC crash data. The crash types in Table 2 are identified in sequence using the queries listed. The crashes are identified in sequence, and once a crash is given a type it is not considered for subsequent types (a crash can only have one type assigned). Once crashes are given a type, then an nScore is calculated. An nScore is a weighted score, based on the weights in the table below; nScores are calculated for each crash, then aggregated up to intersections and midpoints and then to corridors (see Part 3 below).

Calculate severity weights (using flagged types of injuries) based on the State of Safety Report (2012):
"A regional arterial safety program to focus on corridors with large numbers of **serious crashes, pedestrian crashes,** and **bicycle crashes**." (page 4 or iii)

- Since 2015, ODOT crash data does not have bike/ped PDO crashes. The scripting functions fine even though it doesn't find any of these crash types to classify. The script has not been modified to remove the PDO classification for re-running analysis from previous years.

Table 2.

Crash type fields	**Query**	**Weight**
Auto_FA	TOT_MOTOR_FATAL > 0 OR TOT_MOTOR_INJ_A > 0	10
Ped_FA	TOT_PED_FATAL_CNT > 0 OR TOT_PED_INJ_A_CNT > 0	10
Bike_FA	TOT_PEDCYCL_FATAL_CNT > 0 OR TOT_PEDCYCL_INJ_A_CNT > 0	10
Ped_BC	CRASH_SVRTY_CD = '4' AND TOT_PED_INJ_CNT>0	3
Bike_BC	CRASH_SVRTY_CD = '4' AND TOT_PEDCYCL_CNT>0 AND TOT_INJ_CNT>0	3

Score	**Crash types used in scoring (weighted)**

nScore_All	['Auto_FA','Ped_FA','Bike_FA','Ped_BC','Bike_BC']
nScore_Auto	['Auto_FA']
nScore_Bike	['Bike_FA','Bike_BC']
nScore_Ped	['Ped_FA','Ped_BC']

Snap crashes to intersections or midpoints

1. Spatial join the crashes to the nearest roadway
2. For each crash, measure distance to the start and endpoint of that line segment. If the crash is within 70 feet of an intersection (start or end) then move that crash to that intersection.
3. Otherwise, move that crash to the midpoint of the line segment.

Part 3: Score corridors

Score crashes

For each intersection and corridor (from attributes of each crash), sum the nScores of all crashes. Crashes may be counted more than once in this process, as intersections are relevant to the score of both (or many) intersecting roads (all intersection crashes are counted once when scoring the intersection, but counted again when scoring each intersecting cross street). Calculate severity score for each corridor and intersections as sum of crashes (frequency * weight)

Formula:
nScore = (# FAx10) + (# Ped/Bike BCx3)
After scoring, total scores of corridors are normalized by length of the corridor.

Formula:
Normalization (Severity score) = nScore * 10,000 / Length of corridor (feet)

Rank and calculate percentiles for each mode of crash types

Intersections are ranked by descending nScore. All on-network intersections are counted, and the top 1% and 5% of intersections (highest nScores) are identified.

For final scoring of corridors, the ranking method in the following table is used.
Table 3.

HIC type	**Sort field**	**Fatal and injury A crash type**	**Percentile threshold**
All	nScore_all_Normalized	Total_FA_in_period	60
Auto	nScore_Auto_Normalized	Auto_FA	50
Bike	nScore_Bike_Normalized	Bike_FA	50
Ped	nScore_Ped_Normalized	Ped_FA	50

For each HIC type, totals of FA crashes of relevant type are first summed. Corridors are then sorted by descending relevant Severity score. Cumulative sum of FA crashes is calculated along with percentile rank. Corridors with a percentile rank less than 60 are

considered a High Injury Corridor. For the Auto-only, Bike-only and Ped-only HICs, corridors with a percentile rank of 50 or less are included.

Appendix B: Equity Focus Area data sources and definitions

Equity Focus Areas

Census tracts in the Metro region that exceed the regional rates and two times the regional density rates for BIPOC, LEP, and LI populations.
Source: Census 2020 Redistricting Data; ACS 2016-2020 5-Year Estimates, Tables C16001 and C17002

Definitions and Sources

- ACS: Published by the Census Bureau, the American Community Survey (ACS) is a primary source for detailed population and housing information about the United States.
- BIPOC: Black, Indigenous, and People of Color (BIPOC), which includes persons that self-identify on the Census as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Some Other Race, or Two or More Races.
  Source: Census 2020 redistricting data.
- LEP: Limited English proficiency (LEP), which includes persons 5 and over that speak English less than "very well."
  Source: ACS 2016-2020 5-Year Estimates, Table C16001.
- LI: Low income, which includes persons making less than 200% of the federal poverty level, which is based on family size, composition, and age.
  Source: ACS 2016-2020 5-Year Estimates, Table C17002.
- Metro Region: Oregon Census tracts that intersect the Metropolitan Planning Area.

Schema Field	Description
BIPOC_FLAG	1 = above regional rate and 2x regional density rate for BIPOC
LEP_FLAG	1 = above regional rate and 2x regional density rate for LEP
LI_FLAG	1 = above regional rate and 2x regional density rate for LI
EFA_FLAG	1 = meeting conditions for BIPOC_FLAG, LEP_FLAG, or LI_FLAG

Regional Rates

	Percent	Per acre
BIPOC	34%	0.69
LEP	7.4%	0.14
LI	23.6%	0.47

Date: July 6, 2022
To: Transportation Policy Alternatives Committee and Interested Parties
From: Alex Oreschak, Senior Transportation Planner
Subject: 2023 Regional Transportation Plan Policy Brief – Congestion Pricing Policy Development

Purpose

This meeting is to:

1. Discuss with and receive feedback from TPAC on revised proposed congestion pricing policy language for the 2023 Regional Transportation Plan (RTP)
2. Discuss with and receive feedback from TPAC on ODOT's Oregon Highway Plan tolling policy amendment and low-income toll report.

Request to TPAC

Provide input and comment on the proposed congestion pricing policy language for the 2023 RTP update.

2023 RTP Draft Congestion Pricing Policy Development and Timeline

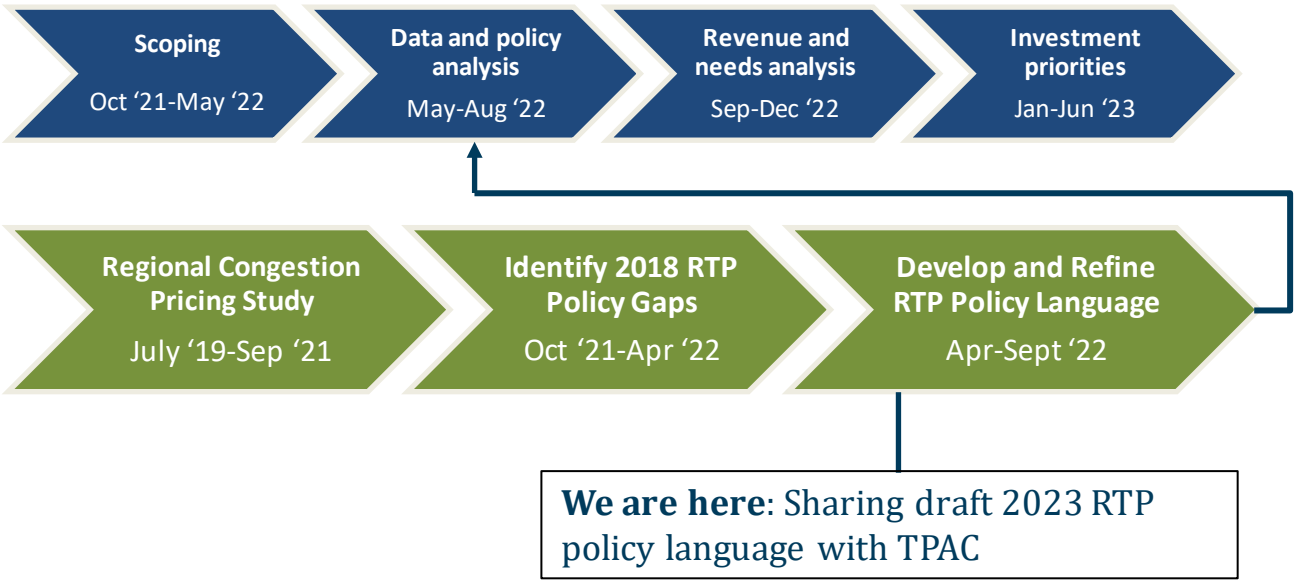
In September 2021, Metro Council passed a resolution accepting the findings and recommendations in the Regional Congestion Pricing Study (RCPS) report, and directing staff to build upon existing policy in the 2018 RTP by incorporating the findings and recommendations from the study in the 2023 RTP update. On April 20, 2022, Metro staff presented to TPAC and MTAC on congestion pricing policies in the 2018 RTP, intersections with the findings and recommendations from the RCPS, and other supportive language from both the RCPS and the Expert Review Panel that convened in April 2021. Metro staff worked with a consultant team (Nelson\Nygaard) to review TPAC and MTAC feedback following that meeting and develop draft congestion pricing policy language for the 2023 RTP, which was presented to TPAC on June 3, 2022.

Since that meeting, TPAC members have provided feedback on the draft congestion pricing policy language. Metro staff and the consultant team have revised that draft language to reflect that feedback; the revised draft language is documented in **Attachment 1: Metro Regional Transportation Plan – Revised Draft Congestion Pricing Policy Language July 2022**.

Staff is requesting feedback from TPAC members on the revised draft congestion pricing policy language. This feedback will help guide further refinement of the draft language for consideration by TPAC and other Metro Committees for eventual inclusion in the 2023 RTP. The timing for this work is part of the data and policy analysis for the 2023 RTP update, as shown below.

Summary of TPAC Feedback on 2018 RTP Congestion Pricing Policy

At the June 3, 2022 TPAC meeting, Metro staff shared a presentation on congestion pricing policies in the 2018 RTP and requested feedback from committee members by June 17, 2022. Written feedback was received from eight partner agencies and is documented in **Attachment 2: Feedback from June 2022 TPAC Meeting**. Attachment 2 also includes a high-level summary of the feedback received, identifying key themes and how Metro staff has or will address those themes. This information was used to help revise the 2023 RTP congestion pricing policy recommendations identified above.



2023 RTP Update Relationship to Oregon Highway Plan Tolling Policy Amendment

Concurrently with the 2023 RTP update process, the Oregon Department of Transportation's (ODOT) Office of Urban Mobility is preparing an amendment to the Oregon Highway Plan (OHP) which would update the plan's toll policies, which are primarily located in Goal 6 of the OHP. Amendments to the OHP are reviewed and adopted by the Oregon Transportation Commission. No action is required from TPAC, JPACT, or Metro Council for the OHP amendment.

Metro staff and ODOT staff are coordinating on the two efforts, and have identified opportunities to comparatively evaluate policy development, including providing updates and opportunities for feedback on the OHP amendment to TPAC and other committees concurrently with updates on the 2023 RTP congestion pricing policy development.

A draft of the OHP amendment was released by ODOT on June 13, 2022, with a public comment period open through August 1, 2022. A public hearing will be held on July 20, 2022. The draft amendment is included in this packet as **Attachment 3: Draft OHP Toll Policy Amendment June 2022** and is also available at https://www.oregon.gov/odot/Planning/Pages/Oregon-Highway-Plan-Update.aspx.

ODOT Low Income Toll Report

As part of its effort to evaluate tolling and advance equity, the Oregon Department of Transportation (ODOT) has drafted a Low-Income Toll Report, developed in response to input from local and statewide voices. This report is just one part of ODOT's larger statewide strategy and informs the agency's approach to implement low-income toll benefits before tolling would begin, currently planned for 2024. The report shares proposed options for income eligibility, types of benefits, ways to design an inclusive program, and initiating and monitoring of a low-income toll program. The draft report is included in this packet as **Attachment 4: Draft Low Income Toll Report June 2022** and is also available at https://www.oregon.gov/odot/tolling/Documents/Draft%20Low-Income%20Toll%20Policy%20Report.pdf.

Feedback on the draft is requested by July 18, 2022 by emailing oregontolling@odot.oregon.gov and including "Low-Income Toll Report" in the subject line. Feedback will help further refine the options for consideration and implementation practices presented in the final report. The report is due to the Oregon Transportation Commission (OTC) and the Oregon Legislature in September 2022.

Next Steps – Refined Congestion Pricing Policy Options

Metro staff requests that TPAC provide feedback on the draft congestion pricing policy recommendations by **Friday, July 29**. Staff will consider TPAC feedback as part of further refining the draft congestion pricing policy recommendations. Staff will also present the revised congestion pricing policy options identified in this packet to MPAC and at a joint Metro Council/JPACT workshop in July 2022.

Following those meetings, staff will further refine the draft congestion pricing policy recommendations and present a memo outlining final proposed congestion pricing policy language to TPAC, JPACT, and Metro Council in September 2022.

Questions for TPAC

- Are there still gaps in the revised congestion pricing policy that you would like to see addressed?
- What specific changes would you like to see to improve the revised policy language?

Attachments:

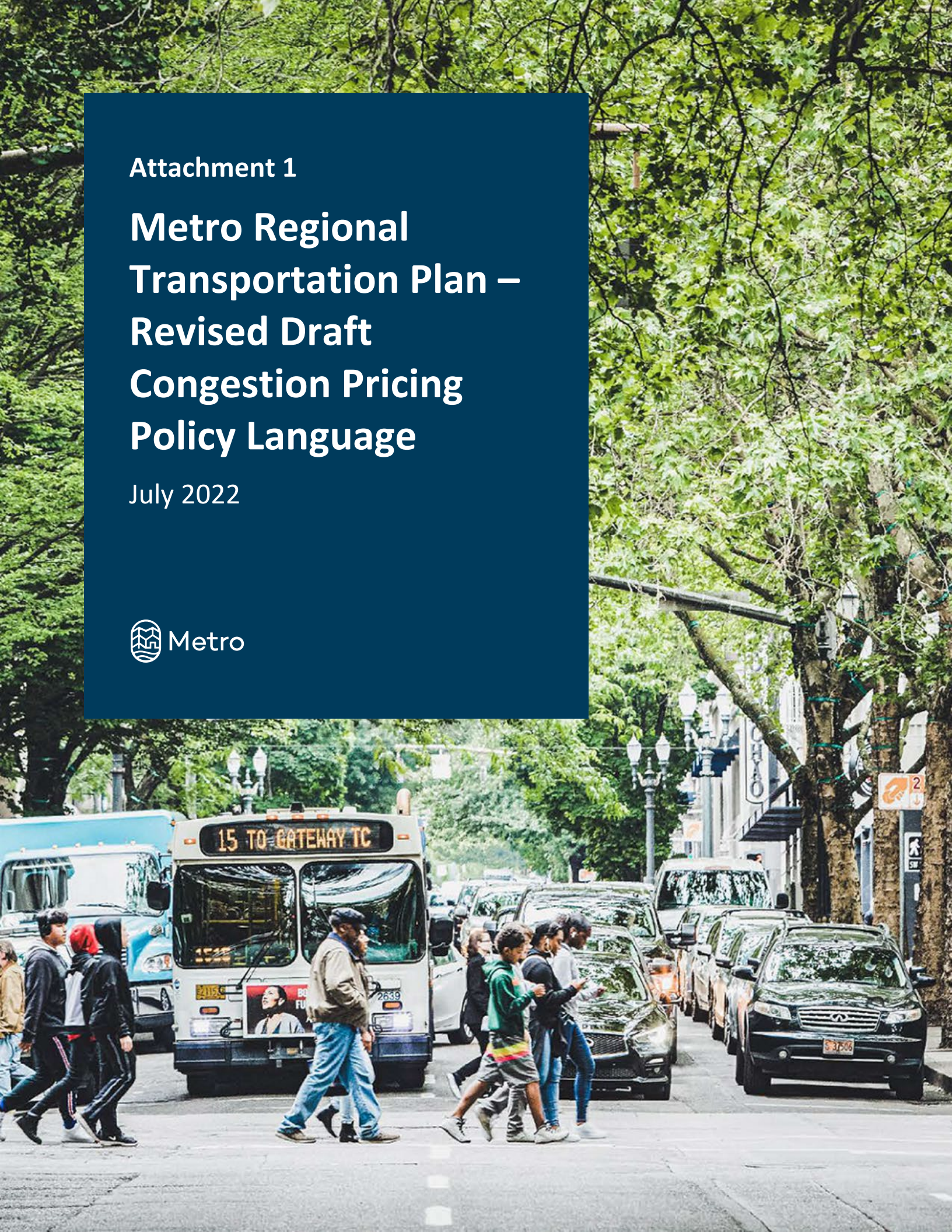
Attachment 1: Metro Regional Transportation Plan – Revised Draft Congestion Pricing Policy Language July 2022
Attachment 2: Feedback from June 2022 TPAC Meeting
Attachment 3: Draft OHP Toll Policy Amendment June 2022
Attachment 4: Draft Low Income Toll Report June 2022

Attachment 1

Metro Regional Transportation Plan – Revised Draft Congestion Pricing Policy Language

July 2022

Metro



3.2.5 Congestion pricing policies

Placeholder for Congestion Pricing Background and Context

This section will include an overview of congestion pricing, including an overview of pricing strategies or projects currently under consideration in the region, an overview of federal pricing programs, a brief summary of the Regional Congestion Pricing Study, descriptions of HB 2017 and HB 3055 tolling policies, potential revenue opportunities and limitations under Article IX, section 3A of the Oregon Constitution, and impacts to freight and the economy from pricing.

3.2.5.1 Congestion Pricing Policies

The draft congestion pricing policies are provided below.

Congestion Pricing Policies

Policy 1	**Mobility**: Improve reliability and efficiency by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.
Policy 2	**Equity**: Integrate equity and affordability into pricing programs and projects from the outset.
Policy 3	**Safety**: Ensure that pricing programs and projects reduce overall automobile trips and address traffic safety and the safety of users of all modes, both on and off the priced system.
Policy 4	**Diversion**: Minimize diversion impacts before, during, and after pricing programs and projects are implemented, especially when diversion is expected on the regional high injury corridors.
Policy 5	**Climate**: Reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options when implementing a pricing program or project.
Policy 6	**Emerging Technologies**: Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.

Congestion Pricing Policy 1. Mobility: Improve reliability and efficiency by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.

Action Items:

- Set rates for congestion pricing at a level that will manage congestion and reduce VMT on the priced facility while limiting diversion to nearby unpriced facilities, including arterial, collector, and local streets in the project area.
- Collaborate with regional and local agencies and communities when setting, evaluating, and adjusting mobility goals.
- Reinvest a portion of net revenues from congestion pricing in modal alternatives both on and off the priced facility that encourage mode shift and VMT reduction, including transit improvements as well as bicycle and pedestrian improvements and improvements to local circulation.
- Identify opportunities to partner with other agencies to fund or construct modal alternatives. Work with transit agencies and other local partners, including coordination with the High Capacity Transit Strategy, to determine additional revenue needs and pursue funding needed to develop transit-supportive elements, expand access to transit, and to ensure equitable investments, particularly in cases where such improvements cannot be funded directly by congestion pricing revenues due to revenue restrictions.
- Consider non-infrastructure opportunities to encourage mode shift and reduce VMT, including commuter credits, funding for transit passes, bikeshare and/or micromobility subsidies, partnerships with employer commuter programs, and carpooling and vanpooling. Consider higher benefits, subsidies, or discounts for people with low-income and people of color.

Congestion Pricing Policy 2. Equity: Integrate equity and affordability into pricing programs and projects from the outset.

Action Items:

- Conduct general public engagement in a variety of formats, including formats that accommodate all abilities and levels of access to technology. Begin engagement at an early stage and re-engage the public in a meaningful manner at multiple points throughout the process.
- Engage equity groups, people with low-income, and people of color (equity groups to be defined through the 2023 RTP update) in a co-creation process, beginning at an early stage, to help shape goals, outcomes, performance metrics, and reinvestment of revenues.
- Use a consistent definition of equity and equity areas, such as Equity Focus Areas. A consistent methodology for documenting benefits and burdens of pricing for equity groups, people with low-income, people of color, and Equity Focus Areas should be established across agencies. The methodology should consider a variety of factors, such as costs to the user, travel options, travel time, transit reliability and access, diversion and safety, economic impacts to businesses, noise, access to opportunity, localized impacts to emissions, water and air quality, and visual impacts.

- Establish feedback mechanisms, a communication plan, and recurring regular engagement over time with equity groups that were involved in the co-creation process.
- Provide a progressive fee structure which includes exemptions or discounts for qualified users. Base eligibility on inclusion in one or more population categories, such as low-income or identifying as a person of color, and minimize barriers to qualification by building on existing programs or partnerships where applicable
- Create varied and accessible means of payment and enrollment, including options for people without access to the internet or banking services.
- Reinvest a portion of net revenues from congestion pricing into communities with high proportions of people with low-income and people of color, and/or in Equity Focus Areas. Examples include commuter credits and free or discounted transit passes, or improved transit facilities, stops, passenger amenities, and transit priority treatments.

Congestion Pricing Policy 3. <u>Safety:</u> Ensure that pricing programs and projects reduce overall automobile trips and address traffic safety and the safety of users of all modes, both on and off the priced system.

Action Items:

- Collaborate with regional and local agencies and communities when identifying traffic safety impacts and mitigations.
- Use a data-driven approach to identify potential traffic safety impacts on local streets both during and after implementation of pricing projects; monitor with real-time data after implementation.
- Monitoring and evaluation programs should be on-going and transparent. Establish feedback mechanisms and a communication plan in advance for the community and decision makers.
- Adjust safety strategies based on monitoring and evaluation findings.
- Reinvest a portion of net revenues into areas in or near the area being priced to manage safety issues caused by pricing projects.
- Develop plans or contingencies for severe weather operations, evacuations during disaster, and construction detours.
- Pricing programs or projects should strive to reduce fatalities and serious injuries by aligning with the RTP's safety and security policies identified in Section 3.2.1.4
- Evaluate and mitigate for impacts from pricing on high injury corridors, including changes in VMT from diversion and opportunities to improve safety on high injury corridors through investments in modal alternatives and other safety investments.

Congestion Pricing Policy 4. <u>Diversion:</u> Minimize diversion impacts before, during, and after pricing programs and projects are implemented, especially when diversion is expected on the regional high injury corridors.

Action Items:

- Collaborate with regional and local agencies and communities when identifying diversion impacts and mitigations.

- Use a data-driven approach to identify potential diversion impacts on local streets both during and after implementation of pricing projects; monitor with real-time data after implementation.
- Evaluate localized impacts of diversion including factors such as VMT on local streets, VMT in defined equity areas, noise, economic impacts to businesses, and localized emissions, water quality, and air quality.
- Monitoring and evaluation programs should be on-going and transparent. Establish feedback mechanisms and a communication plan in advance for the community and decision makers.
- Adjust mitigation strategies based on monitoring and evaluation findings. Areas impacted may change as the pricing program is implemented and diversion mitigation strategies are put into place.
- Reinvest a portion of net revenues into areas in or near the area being priced to manage diversion caused by pricing projects.

Congestion Pricing Policy 5. Climate: Reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options when implementing a pricing program or project.

Action Items:

- Set rates for congestion pricing at a level that will reduce emissions by managing congestion and reducing VMT on the priced facility while limiting diversion to nearby unpriced facilities, including arterial, collector, and local streets in the project area.
- Consider localized emissions impacts resulting from diversion or other changes in travel patterns.
- Reinvest a portion of net revenues from congestion pricing in modal alternatives both on and off the priced facility that can reduce emissions by encouraging mode shift and VMT reduction, including transit improvements as well as bicycle and pedestrian improvements and improvements to local circulation.
- Identify how congestion pricing can address and support the RTP's climate leadership goals and objectives and Climate Smart Strategy policies.

Congestion Pricing Policy 6. Emerging Technologies: Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.

Action Items:

- Coordinate with other existing and proposed pricing programs and emerging technologies for payment systems to reduce burdens on the user and manage the system efficiently, including setting rates, identifying tolling technology and payment systems, and establishing discounts and exemptions.
- Create varied and accessible means of payment and enrollment, including options for people without access to the internet or banking services.
- Consider the upfront costs of technology investment balanced with long-term operational and replacement costs compared with expected revenue generation.

- Weigh existing and emerging equipment and technological advancements when making technology choices, balancing what is time-tested versus what may become obsolete soon. Technology and programs which do not require users to opt-in or track miles manually, for instance, are more likely to see greater compliance.
- Review existing laws and regulations to confirm the ability and authority to enforce the selected program and install the selected technology. Technology and enforcement methods must not be in violation of existing laws or city codes, such as prohibition of certain equipment on sidewalks or within city boundaries.

3.2.5.2 Defining Key Terms

Key terms will be included in the RTP glossary.

Congestion Pricing: Motorists pay directly for driving on a particular roadway or for driving or parking in a particular area. Congestion Pricing includes pricing different locations using different rate types, such as variable or dynamic pricing (higher prices under congested conditions and lower prices at less congested times and conditions), amongst other methods. Congestion pricing has been demonstrated to be effective in encouraging drivers to change their behaviors by driving at different times, driving less, or taking other modes. As a result, congestion pricing can reduce VMT and greenhouse gas emissions if there are other transportation options available or alternatives to taking the trip. Congestion pricing within the Portland metropolitan context includes the following methods and pricing strategies. Methods and strategies can be combined in different ways, such as variable cordon pricing or dynamic roadway pricing. Different types of congestion pricing can be implemented in coordination with each other to provide greater systemwide benefits. Congestion pricing can be implemented at the state, regional, or local level.

- Types of Congestion Pricing
    - Cordon
    - Parking
    - Road User Charge / VMT Fee / Mileage Based User Fee
    - Roadway
- Rate Types
    - Flat
    - Variable
    - Dynamic

Road User Charge / VMT Fee / Mileage Based User Fee: Motorists are charged for each mile driven. A road user charge is often discussed as an alternative to federal, state, and local gas taxes which have become less relevant to the user-pays principle as more drivers switch to fuel efficient or electric vehicles. Road user charges are most often implemented as flat or variable rate fees.

Cordon Pricing: Motorists are charged to enter a congested area, usually a city center or other high activity area well served with non-driving transportation options. Cordon pricing is most often implemented as flat or variable rate fees.

Parking Pricing: Drivers pay to park in certain areas. Parking pricing may include flat, variable, or dynamic fee structures. Dynamic pricing involves periodically adjusting parking fees to match demand, this can be paired with technology which helps drivers find spaces in underused and less costly areas.

Roadway Pricing: Motorists are charged to drive on a particular roadway. Roadway pricing can be implemented as a flat, variable, or dynamic fee. Roadway prices that vary by time of day can follow a set fee schedule (variable), or the fee rate can be continually adjusted based on traffic conditions (dynamic).

Flat Rate Fee (Toll): A flat rate fee, also known as a toll, charged by a toll facility operator in an amount set by the operator for the privilege of traveling on said toll facility. Tolling is a user fee system for specific infrastructure such a bridges and tunnels. Toll revenues are used for costs associated with the tolled infrastructures. This tool is used to raise funds for construction, operations, maintenance, and administration of specific infrastructure. Flat Rate Tolling can also serve as a method for congestion management, though it is not responsive to changing conditions or time of day.

Variable Rate Fee: With this type of pricing, a variable fee schedule is set so that the fee is higher during peak travel hours and lower during off-peak or shoulder hours. This encourages motorists to use the facility or drive less during less congested periods and allows traffic to flow more freely during peak times. Peak fee rates may be high enough to usually ensure that traffic flow will not break down, thus offering motorists a reliable and less congested trip in exchange for the higher peak fee. The current price is often displayed on electronic signs prior to the beginning of the priced facility.

Dynamic Rate Fee: Fee rates are continually adjusted according to traffic conditions to better achieve a free-flowing level of traffic. Under this system, fee rates increase when the priced facilities get relatively full and decrease when the priced facilities get less full. This system is more complex and less predictable than using a flat or variable rate fee structure, but its flexibility helps to better achieve the optimal traffic flow by reflecting changes in travel demand. Motorists are usually guaranteed that they will not be charged more than a pre-set maximum price under any circumstances. The current price is often displayed on electronic signs prior to the beginning of the priced facility.

Section 129: Section 129 of Title 23 of the U.S. Code provides the ability to toll Federal-aid highways in conjunction with construction, reconstruction, or other capital improvements. Flat rate tolling and variable pricing strategies are authorized for Section 129 facilities. There are some limitations to what facilities may be included. See https://uscode.house.gov/view.xhtml?req=(title:23%20section:129%20edition:prelim) for more detail.

Section 166: Section 166 of Title 23 of the U.S. Code provides the ability to create high-occupancy vehicle (HOV) lanes on Federal-aid highways. Public authorities which have jurisdiction over an HOV facility have the authority to establish occupancy requirements of vehicles using the facility, but the minimum is no fewer than two. Certain exceptions are allowed such as motorcycles and bicycles, public transit vehicles, and low emission vehicles. See https://uscode.house.gov/view.xhtml?req=(title:23%20section:166%20edition:prelim) for more detail.

Value Pricing Pilot Program: Oregon is a participant in the FHWA Value Pricing Pilot Program (VPPP). The VPPP was established in 1991 (as the Congestion Pricing Pilot Program) to encourage implementation and evaluation of value pricing pilot projects to manage congestion on highways through tolling and other pricing mechanisms. The program also wanted to test the impact of pricing on driver behavior, traffic volumes, transit ridership, air quality, and availability of funds for transportation programs. While the program no longer actively solicits projects, it can still provide tolling authority to State, regional or local governments to implement congestion pricing applications. See https://ops.fhwa.dot.gov/congestionpricing/value_pricing/ for more detail.

Low-carbon travel options: Low-carbon travel options include walking, rolling, biking, transit, and electric vehicles.

Transit-supportive elements: Transit-supportive elements include programs, policies, capital investments and incentives such as Travel Demand Management and physical improvements such as sidewalks, crossings, and complementary land uses.

Diversion: Diversion is the movement of automobile trips from one facility to another because of pricing implementation. All trips that change their route in response to pricing are considered diversion, regardless of length or location of the trip.

Update other RTP Goals and Objectives, and Chapter 3 sections to include congestion pricing

The following goals, objectives, and Chapter 3 sections have been identified by Metro staff and members of TPAC and MTAC. Specific changes have been identified for a subset of these goals, objectives, and sections; the remaining identified areas will be documented and shared with Metro RTP staff to update as appropriate to better reflect congestion pricing policy language in the new section in Chapter 3. Proposed changes are identified below; proposed additions are underlined and in orange text, while deletions are struck through and in red text.

- **Goal 4: Reliability and Efficiency, Objective 4.6 Pricing –** Expand the use of pricing strategies to improve reliability and efficiency and support additional development in 2040 growth areas by increasing transportation options, managing congestion, and reducing VMT consistent with regional VMT reduction targets. ~~manage vehicle congestion and encourage shared trips and use of transit.~~
- **Climate Smart Strategy policies (3.2.3.2)**
  - **Policy 5.** Use technology and congestion pricing to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared trips and other Climate Smart Strategy policy and strategies.
- **Safety and Security Policies (3.2.1.4)**
  - **Policy 4**. Increase safety for all modes of travel for all people through the planning, design, construction, operation, pricing and maintenance of the transportation system, with a focus on reducing vehicle speeds on local roadways and minimizing diversion from priced facilities.
- **Transportation Demand Management Policies (3.11)**
  - **Policy 1** – Expand use of pricing strategies to improve reliability and efficiency by managing congestion, reducing VMT, and increasing transportation options through

investments in transit-supportive elements and increased access to transit and other modal alternatives. ~~manage travel demand on the transportation system in combination with adequate transit service options.~~

- Remove definition of pricing strategies and discussion of ODOT work on congestion pricing.

- **Regional Motor Vehicle Network Policies (3.5)**
  - **Policy 6** – ~~In combination with increased transit service, consider~~ If new capacity is being added after completing analysis under Policy 12, evaluate use of ~~value~~ pricing and increased transit service in conjunction with the new capacity to manage traffic congestion and reduce VMT ~~and raise revenue when one or more lanes are being added to throughways~~.
  - **Policy 12** – Prior to adding new motor vehicle capacity ~~beyond the planned system of motor vehicle through lanes~~, demonstrate that system and demand management strategies, including access management, transit and freight priority, ~~and value~~ congestion pricing, and transit service and multimodal connectivity improvements cannot meet regional mobility, safety, climate, and equity policies ~~adequately address arterial or throughway deficiencies and bottlenecks~~.
  - **Table 3.7 Toolbox of strategies to address congestion in the region**
    - ***Congestion pricing strategies***
      - *Roadway Pricing, including:*
        - ~~*Peak period*~~ *Variable rate or time of day pricing*
        - *Managed lanes*
        - *High occupancy toll (HOT) lanes*
      - *Road User Charge (or Vehicle Miles Traveled Fee or Mileage Based User Fee)*
      - *Parking Pricing and Management*
      - *Cordon Pricing*

2018 Regional Transportation Plan

Chapter 3

System Policies to Achieve Our Vision

December 6, 2018

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FIGURES

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INTRODUCTION

Purpose

Find out more about the 2018 RTP at **oregonmetro.gov/rtp**.

Transportation shapes our communities and our daily lives, allowing us to reach our jobs and recreational opportunities, access goods and services, and meet daily needs. This chapter defines a broad range of policies for safety, transportation equity, climate, and emerging technology as well as a vision and supporting policies for each component of the regional transportation system – motor vehicle, transit, freight, bike and pedestrian – and management and operations of the system.

The policies, if implemented, will help the region make progress toward the overall vision, goals and objectives for the regional transportation system defined in Chapter 2 and address key regional priorities identified during development of the plan – equity, safety, Climate Smart implementation and congestion. They aim to integrate transportation and land use efforts to sustain the region's economic prosperity and quality of life and create a seamless and safe, reliable, healthy and affordable transportation system for all communities.

Together the network visions and policies in this chapter will guide the development and implementation of the regional transportation system, informing transportation planning and investment decisions made by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council as well as state and local partners.

Chapter organization

This chapter is organized into the following sections:

3.1 Regional transportation system components: This section defines the components of the regional transportation system.

3.2 Overarching system policies: This section defines overarching policies for the regional transportation system related to safety, transportation equity, climate leadership, ~~, and~~ technology and congestion pricing.

3.3 Regional network visions, concepts and policies: This section describes the vision (as defined in each network concept and functional classification map) and supporting policies to guide planning and investment in each part of the regional transportation system. The network concepts establish a vision and supporting policies for design and all types of travel – motor vehicles, transit, walking and bicycling – as well as the movement of goods and freight by road, air, water and rail.

3.1 REGIONAL TRANSPORTATION SYSTEM COMPONENTS

Regional multimodal transportation facilities and services are defined both by the function they serve and by where they are located. Facilities and services are included in the regional transportation system based on their function within the regional transportation system rather than their geometric design, ownership or physical characteristics.

A facility or service is part of the regional transportation system if it provides access to any activities crucial to the social or economic health of the greater Portland region, including connecting the region to other parts of the state and Pacific Northwest or provides access to and within 2040 Growth Concept centers, main streets, corridors and industrial and employment areas, as described below.

Facilities that connect different parts of the region together are crucial to the regional transportation system. Any link that provides access to or within a major regional activity center such as an airport or 2040 target area is also a crucial element of the regional transportation system.

Regional Transportation System Components

Regional multimodal transportation facilities and services include the following:

1. Regional System Design and Placemaking
2. Regional Motor Vehicle Network
3. Regional Transit Network
4. Regional Freight Network
5. Regional Bicycle Network
6. Regional Pedestrian Network
7. Regional System Management & Operations which includes demand management

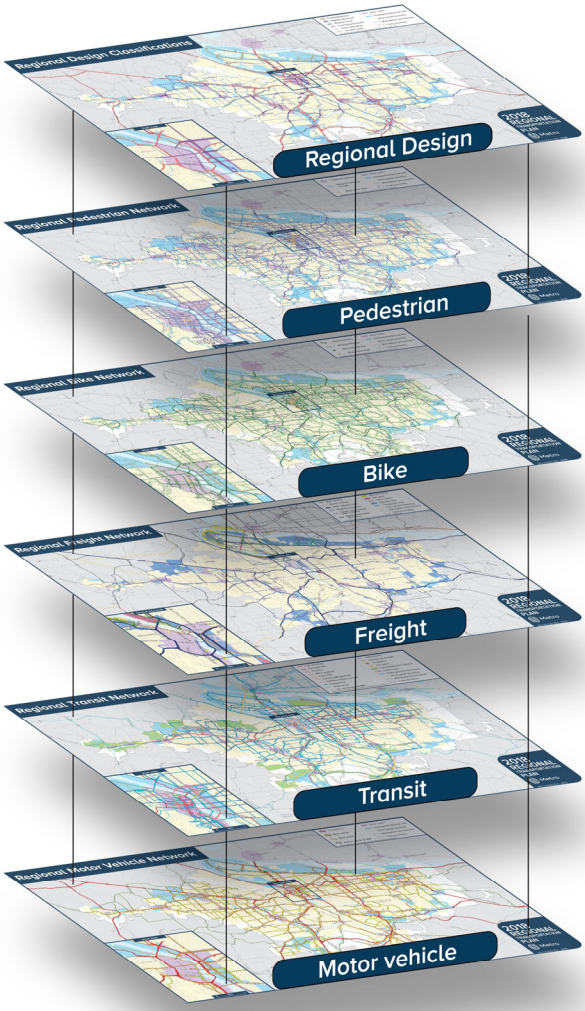
As a result, the regional transportation system is defined as:

1. All regional motor vehicle network facilities shown on the regional motor vehicle network map, including:
    - All state-owned transportation facilities (including interstate, statewide, regional and district highways and their bridges, overcrossings and ramps).
    - All city- or county-owned arterial facilities and their bridges.
2. Transportation facilities, including bicycle and pedestrian facilities, within designated 2040 centers, corridors, industrial areas, employment areas, main streets and station communities.
3. All high capacity transit and regional transit network facilities and their bridges shown on the regional transit network map.
4. All regional bicycle and pedestrian facilities and their bridges, including regional trails shown on the regional pedestrian and bicycle network maps.
5. All bridges that cross the Willamette, Columbia, Clackamas, Tualatin or Sandy rivers.
6. All freight and passenger intermodal facilities, airports, rail facilities and marine transportation facilities and their bridges shown on the regional freight network map.
7. Any other transportation facility, service or strategy that is determined by JPACT and the Metro Council to be of regional interest because it has a regional need or impact (e.g. transit-

oriented development, transportation system management and demand management strategies, local street connectivity and culverts that serve as barriers to fish passage).

These facilities are designated on the network maps in this chapter. Together, these facilities and services constitute an integrated and interconnected system that supports planned land uses and provides travel options to achieve the goals, objectives and policies of the RTP.

Regional Transportation System Components



Click on 2018 RTP Regional Network Maps for an online zoomable version of each map.

Visions, concepts, functional classification designations and supporting policies are described for each component in the next section.

3.2 OVERARCHING SYSTEM POLICIES

This section defines regional transportation system policies related to safety, transportation equity, climate protection and emerging technology.

3.2.1 Safety and security policies

Eliminating traffic related deaths and life changing injuries and increasing the safety and security of the transportation system is a top priority of the Regional Transportation Plan, as is prioritizing safety for people of color, people with low incomes, people with disabilities, people walking, bicycling, and using motorcycles, youth and older adults.

"Serious crashes" are Fatal and Severe Injury crashes combined

Preventing traffic related deaths and severe injuries is a critical public health and equity issue in the greater Portland region. Between 2011 and 2015, there were more than 116,000 traffic crashes resulting in 311 deaths and 2,102 people severely injured. On average, 62 people die each year on the region's roadways and 420 people experience a life changing injury.

Traffic deaths and life changing injuries impact the lives of our families, friends, neighbors and community members. They also have a major economic cost – estimated at $1 billion a year for the region. While the greater Portland region has one of the lowest crash rates in the country, the Regional Transportation Safety Strategy has adopted a Vision Zero target because no loss of life on our roadways is acceptable.

Transportation safety is protection from death or bodily injury form a motor-vehicle crash while engaged in travel.

Individual and public transportation security is protection from intentional criminal or antisocial acts while engaged in trip making.

Individual and public security while traveling is an important part of transportation safety. Unlike serious traffic crashes, the problem of individual and public security is less well documented. However, fears for personal security are often raised by community members in the region. The greater Portland region has the highest reported number of hate crimes in the United States and the tragic, racially motivated attack on a MAX train in 2017 have highlighted that not all people in the region are equally safe and secure while traveling. People walking, bicycling and taking public transit can feel and be especially vulnerable.

3.2.1.1 Regional Transportation Safety Strategy (2018)

The Regional Transportation Safety Strategy ("Safety Strategy") identifies data-driven strategies and actions to address the most common types of crashes and contributing factors.[1] Key findings from the analysis of crash data from 2011-2015 can be found in Chapter 1 of the RTP.[2] More detailed findings are in the 2018 Metro State of Safety Report and the Safety Strategy.[3]

The Safety Strategy recommends **six strategies** to support achieving the region's adopted Vision Zero target for 2035, shown in **Figure 3.1**. Each strategy includes specific actions. The strategies and actions are evidence-based and were identified in response to analysis of crash data in the 2018 Metro State of Safety Report and other sources. Refer to the Regional Transportation Safety Strategy for detailed information on each of the strategies and specific actions.

Figure 3.1 Regional transportation safety strategies

[1] The Regional Transportation Safety Strategy, adopted in December 2018, is a topical plan and appendix of the Regional Transportation Plan.
[2] Oregon Department of Transportation crash data.
[3] The Regional Transportation Safety Strategy is a topical plan of the Regional Transportation Plan. The 2018 Metro State of Safety Report is an appendix of the Safety Strategy.

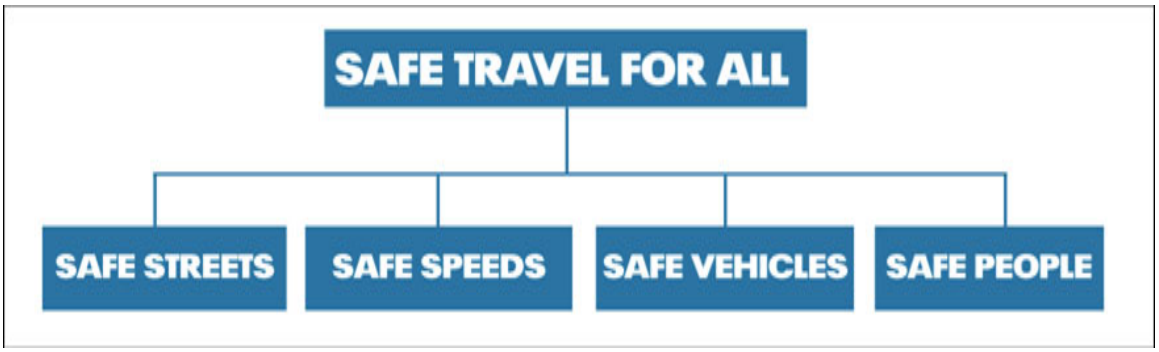
3.2.1.2 Using the Safe System approach

The Safety Strategy employs a Safe System approach with the goal of zero fatal and severe injury traffic deaths. The Safe System approach originated in Sweden and now other countries and many U.S. cities are using the framework. Similar frameworks are Vision Zero (Sweden), Toward Zero Deaths (U.S.), Road to Zero Coalition (National Safety Council), Safe System (New Zealand), and Sustainable Safety (Denmark).

The Safe System approach involves a holistic view of the transportation system and the interactions among travel speeds, vehicles, road users and the road itself. It is an inclusive approach that prioritizes safety for all user groups of the transportation system - drivers, motorcyclists, passengers, pedestrians, bicyclists, and commercial and heavy vehicle drivers.

Consistent with the region's long-term safety vision, it acknowledges that people will make mistakes and may have road crashes—but the system should be designed so that those crashes should not result in death or serious injury. Design emphasizes separation – between people walking and bicycling and motor-vehicles, access management and median separation of traffic – and survivable speeds.

Figure 3.2 Components of the Safe System approach



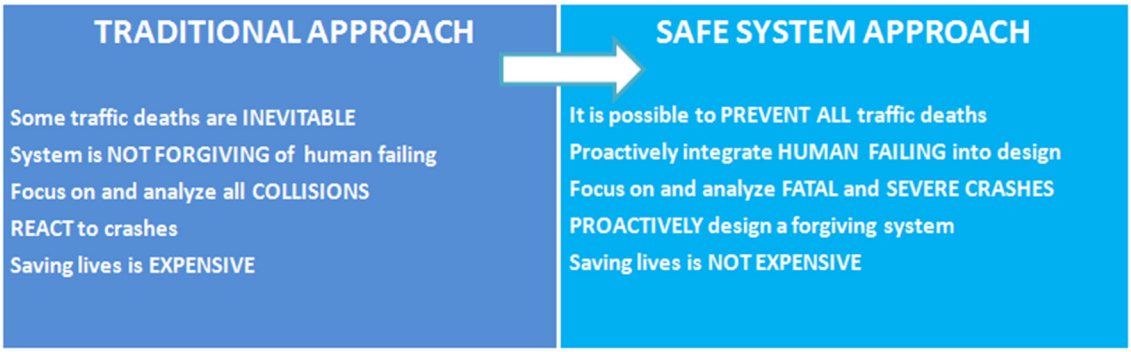
Source: Vision Zero Network

The Safe System approach is focused on preventing all fatal and severe injury crashes. It recognizes that the responsibility for crash prevention resides not only with roadway users but with transportation professionals and decision makers. The Safe System approach has been shown to be more effective in reducing traffic deaths and severe injuries than more traditional approaches that focus on all crashes.[4]

The Safe System approach focuses on the following key guiding principles that shape how transportation safety is addressed.

[4] Sustainable and Safe: A Vision and Guidance for Zero Road Deaths, World Resources Institute, Global Road Safety Facility (2017)

Figure 3.3 Guiding principles of the Safe System approach



Source: Metro

Refer to the Regional Transportation Safety Strategy for detailed information on the Safe System approach.

3.2.1.3 Regional high injury corridors and intersections

Analysis in the 2018 Metro State of Safety Report found that a majority of serious crashes occurred on arterial roadways. Metro developed a methodology to identify which roadways in the region had the highest number of serious crashes (acknowledging that not all arterial roadways are designed the same and some roadways will have more safety issues than others). Refer to the Glossary for a description of the methodology used to identify the regional high injury corridors and intersections.

The analysis found that sixty percent of fatal and severe injury crashes occur on just six percent of the region's roadways. These roadways are identified as regional high injury corridors and intersections. They are also where we tend to travel the most, where we run to catch the bus, cross the street to get to schools and shops, ride our bikes or drive.

A majority of the high injury corridors and intersections – and a majority of pedestrian deaths and severe injuries – are in areas with higher concentrations of people of color, people with low incomes and English language learners. Implementing policies and actions to increase transportation safety and personal security for these community members, along with other vulnerable users, such as people walking and bicycling, will make the transportation system safer for all users.

Figure 3.4 shows the map of regional high injury corridors overlapping with communities of color, English language learners, and lower-income communities. The regional high injury corridors and intersections are identified to help prioritize safety near term investments. Metro will update this map every five years. In the interim, other safety investments may be identified that warrant priority based on other data and analysis.

Figure 3.4 Regional high injury corridors and intersections

3.2.1.4 Safety and security policies

Regional Transportation Safety and Security Policies reflect the policy framework of the Regional Transportation Safety Strategy. Implementation of the policies supports achieving the regional Vision Zero target for 2035 and making travel in the region safer and more secure for all people.

Regional Safety and Security Policies

Policy 1	Focus safety efforts on eliminating traffic deaths and severe injury crashes to achieve Vision Zero.
Policy 2	Prioritize safety investments, education and equitable enforcement on high injury and high risk corridors and intersections, with a focus on reducing speeds and speeding.
Policy 3	Prioritize investments that benefit people with higher risk of being involved in a serious crash, including people of color, people with low incomes, people with disabilities, people walking, bicycling, and using motorcycles, people working in the right-of-way, youth and older adults.
Policy 4	Increase safety for all modes of travel and for all people through the planning, design, construction, operation, pricing and maintenance of the transportation system, with a focus on reducing vehicle speeds on local roadways and minimizing diversion from priced facilities.
Policy 5	Make safety a key consideration in all transportation projects, and avoid replicating or exacerbating a known safety problem with any project or program.
Policy 6	Employ a Safe System approach and use data and analysis tools and performance monitoring to support data-driven decision-making.
Policy 7	Utilize safety and engineering best practices to identify low-cost and effective treatments that can be implemented systematically in shorter timeframes than large capital projects.
Policy 8	Prioritize investments, education and enforcement that increase individual and public security while traveling by reducing intentional crime, such as harassment, targeting, and terrorist acts, and prioritize efforts that benefit people of color, people with low incomes, people with disabilities, women and people walking, bicycling and taking transit.
Policy 9	Make safety a key consideration when defining system adequacy (or deficiency) for the purposes of planning or traffic impact analysis.

Safety Policy 1. Focus safety efforts on eliminating traffic deaths and severe injury crashes to achieve Vision Zero.

To reach the goal of eliminating deaths and severe injuries from traffic crashes, this policy directs safety related efforts to focus on fatal and severe injury crashes, as opposed to all crashes. Focusing on serious crashes is a key tenant of the Safe System approach. It entails identifying where serious crashes occur and focusing on those locations, identifying the risk factors involved in serious crashes and addressing and eliminating those risks, focusing enforcement and education on high risk behaviors that lead to serious crashes and less or no enforcement or education on low risk behaviors. When enforcement is used precautions must be implemented to ensure equitable actions and outcomes.

Safety Policy 2. Prioritize safety investments, education and equitable enforcement on high injury and high risk corridors and intersections, with a focus on reducing speeds and speeding.

This policy directs safety investments, education and equitable enforcement to be prioritized on the corridors where the most serious crashes have occurred or have a risk of occurring (due to identified risk factors such as lack of roadway separation or excessive speeding). This policy approach, prioritizing corridors where deadly crashes are or could occur, more effectively uses limited resources where the most serious issues are. Additionally, this policy emphasizes the systemic approach to safety to addresses known safety risk factors corridor wide to prevent serious crashes from occurring in the future.

Safety Policy 3. Prioritize investments that benefit people with higher risk of being involved in a serious crash, including people of color, people with low incomes, people with disabilities, people walking, bicycling, and using motorcycles, people working in the right-of-way, youth and older adults.

This policy is based on the Safe System approach of prioritizing safety efforts on people with the highest risk of dying in a traffic crash as a key strategy to eliminating serious crashes overall. This policy also helps implement Metro's Strategic Plan for Advancing Equity, Diversity and Inclusion.

Safety Policy 4. Increase safety for all modes of travel and for all people through the planning, design, construction, operation, pricing and maintenance of the transportation system, with a focus on reducing vehicle speeds on local roadways and minimizing diversion from priced facilities.

This policy requires that transportation safety be integrated into every aspect of the transportation system. It is a key element of the Safe System approach which takes a systemic and holistic approach. Safe travel speeds is a core element of achieving Vision Zero. Speed limits in Safe System approach are based on aiding crash avoidance and a human body's limit for physical trauma. An unprotected pedestrian hit at over 20mph has a significant risk of death or life-changing injury. A car in a side-on collision can protect its occupants up to around 30mph; a car in a head-on collision up to around 40mph. Establishing survivable speeds on streets where people using different modes at variable speeds and with different levels of physical protection are essential. Additionally, a diversity of users must be taken into account as the system is developed.

For example, people of color, older adults and children may have different needs that must be addressed at every phase.

Safety Policy 5. Make safety a key consideration in all transportation projects, and avoid replicating or exacerbating a known safety problem with any project or program.

While most policies are proactively focused on improving safety, this policy requires that transportation projects and programs clearly evaluate the impacts on all users of the transportation system and do not negatively impact any of those users by either replicating something which has been shown to increase safety problems for roadway users or making a current safety issue worse.

Safety Policy 6. Employ a Safe System approach and use data and analysis tools and performance monitoring to support data-driven decision-making.

The Safe System approach is proven to reduce serious crashes. The approach is based on data driven strategies and actions. Collecting, maintaining and analyzing data on a regular basis is critical to focusing investments where they will be most effective. Additionally, monitoring progress and assessing the outcome of investments in safety is crucial to learning from the past and improving in the future.

Safety Policy 7. Utilize safety and engineering best practices to identify low-cost and effective treatments that can be implemented systematically in shorter timeframes than large capital projects.

Many solutions to improve safety are inexpensive. This policy prioritizes addressing safety problems on a corridor level sooner rather than later to prevent serious crashes from occurring in the future. Rather than postponing safety interventions until a larger and more expensive project can be funded this policy directs that low-cost and effective treatments be implemented first.

Safety Policy 8. Prioritize investments, education and equitable enforcement that increase individual and public security while traveling by reducing intentional crime, such as harassment, targeting, and terrorist acts, and prioritize efforts that benefit people of color, people with low incomes, people with disabilities, women and people walking, bicycling and taking transit.

Individual and personal security while traveling has an important relationship to transportation safety, especially for people of color. Fear of harassment or being targeted can deter people of color from walking, bicycling or using transit and may increase the use of motor-vehicle transportation. Though individual and public security can be challenging to address, a variety of approaches are needed to create a safe and welcoming transportation system, including: collecting data, utilizing crime prevention through environmental design, taking into account a diversity of users when developing and operating the transportation system, educating people to look out for and care for one another, designing security into projects (such as street lighting, visibility, call boxes), equity training for public safety and transportation professionals, and including a wide range of groups in design and decision making.

Safety Policy 9. Make safety a key consideration when defining system adequacy (or deficiency) for the purposes of planning or traffic impact analysis.

This policy specifies that safety data, analytical tools and metrics must be part of the evaluation when defining the adequacy of capacity on the transportation system.

3.2.2 Transportation equity policies

Oregon has a long and unfortunate history rooted in racial bias and exclusion, which has contributed to the greater Portland region having less racial diversity than many other metropolitan regions. As early as 1844, when Oregon was a territory of the United States, acts to exclude Blacks and Mulattoes from Oregon were passed, including the infamous "Lash Law." This law required that Blacks in Oregon be whipped twice a year until he or she left the territory. In 1857, exclusionary laws were voted into the Oregon territory's Bill of Rights. Then in 1859, when Oregon became a part of the union, it was the only state with a racial exclusion law written into a state's constitution. The law, while no longer enforced, remained in the state constitution until 2000.

Through the 1940s, government policies prevented people of color from buying or renting homes outside of designated neighborhoods, while Japanese residents were relocated to internment camps during World War II. Through the 1960s and 70s – or later – real estate agents would discourage non-White clients from homes in White neighborhoods, and banks would often refuse loans for those properties when requested by a person of color. Meanwhile, banks would declare investments in homes in African American neighborhoods or other communities of color too risky and refuse loans for those properties.

Implicit and explicit practices of racial exclusion and bias extended to the development of the transportation system. People of color in Oregon had to pay additional surcharges on car insurance up until 1951. When Interstate 5 opened in the 1960s, the new freeway cut a swath through Portland's established African American neighborhoods, destroying at least 50 square blocks of homes and creating a barrier that still exists today.

Defining terms

Historically marginalized communities
Groups who have been denied access and/or suffered past institutional or structural discrimination in the United States, including: people of color, people with low English proficiency, people with low income, youth, older adults and people living with disabilities

Transportation equity
The removal of barriers to eliminate transportation-related disparities faced by and improve equitable outcomes for historically marginalized communities, especially communities of color

Racial equity
The removal of barriers with a specific focus on eliminating disparities faced by and improving equitable outcomes for communities of color – the foundation of Metro's adopted equity strategy with the intent of also effectively identifying solutions and removing barriers for other disadvantaged groups

Equity focus areas
Census tracts where the rate of people of color, people in poverty and people with low English proficiency is greater than the regional average and double the density of one or more of these populations

Today, communities of color continue to point to issues of racial bias and inequity in enforcement of traffic laws and transit fares. Studies have also shown that drivers in the greater Portland region are significantly less likely to stop to allow an African American pedestrian to safely cross the street. Additionally, people of color are more likely to be victims of traffic fatalities and severe injuries.

The RTP reflects a regional commitment to plan and invest in the region's transportation system to reduce transportation-related disparities and barriers faced by communities of color and other historically marginalized communities, regardless of race, language proficiency, income, age or ability.

The policies in this section provide direction as to how Metro, working in partnership with marginalized communities, jurisdictions and other partners, will prioritize racial and transportation equity in regional transportation planning and decision-making. These policies informed development of the 2018 RTP, including the safety and modal network policies in this chapter, the plan's project priorities in Chapter 6 and implementation activities described in Chapter 8.

Why is a Focus on Racial Equity Important?

The goal of a racial equity focus is to reach a time when race can no longer be used to predict life outcomes and outcomes for all groups are improved. In the transportation context, this means addressing and closing the disparities gap for historically marginalized communities, with emphasis on people of color, English language learners, and people with low-incomes, in areas identified by these communities as priorities for the regional transportation system. These priorities include, but are not limited to: accessibility, mobility, safety, affordability and environmental health.

Like most of the nation, communities in the greater Portland region today are more diverse than in previous generations and, by the year 2045, communities of color are projected to be the majority. Unfortunately, most communities of color in the greater Portland region currently experience the worst economic and social outcomes of any demographic group, due to a long history of persistent, exclusionary and discriminatory policies which have barred communities of color – regardless of income, education, language proficiency or age – from the opportunities extended to many White residents. As a result, the region struggles with racial disparities across nearly every measure of well-being and prosperity, including housing, transportation, access to nature, education and health.

In order for the greater Portland region to be environmentally sustainable and economically prosperous, the region must proactively address racial disparities and tackle the most pervasive challenges not allowing members of the greater Portland region to thrive. Focusing on racial disparities and barriers will help develop and maintain sustainable economic growth by fostering greater racial inclusion and smaller racial income gaps.[5] This, in turn, will allow communities

[5] Treuhaft, S., Blackwell, A.G., & Pastor, M. (2012). America's Tomorrow: Equity is the Superior Growth Model. Retrieved January 2016: www.policylink.org/sites/default/files/SUMMIT_FRAMING_WEB_20120110.PDF

facing the greatest barriers opportunities to flourish, build generational wealth and, ultimately, succeed. Policies, projects and strategies that address these disparities will help other marginalized groups, including lower-income White households, older adults, youth and people with disabilities prosper and flourish.

The greater Portland region's economic prosperity and quality of life depend on an equitable transportation system that provides every person and business in the region with access to safe, efficient, reliable, affordable and healthy travel options and have the fair opportunity to thrive, regardless of their race or ethnicity. Investment in the region's transportation system is one important tool in reducing disparities and barriers experienced by communities of color. But the tool must be intentional and deployed with focus to be successful in reducing racial disparities rather than exacerbating disparities.

With a transportation system focused on mobility and access that addresses the transportation disparities and barriers faced by communities of color, the region's transportation system has the ability to open opportunities that can dramatically improve outcomes for all historically marginalized communities. While on the surface, a focus on racial equity may seem exclusionary, by addressing the most challenging shared barriers faced by those communities, outcomes for other marginalized communities will improve as well.[6]

Metro's Strategic Plan to Advance Racial Equity, Diversity, and Inclusion (Strategic Plan) is a major milestone in the agency's efforts to define, implement and measure equity in the greater Portland region.

3.2.2.1 Metro's Strategic Plan to Advance Racial Equity, Diversity, and Inclusion (2016)

In 2010, the Metro Council adopted equity as one of the region's six desired outcomes. Adopted by the Metro Council in June 2016, Metro's *Strategic Plan to Advance Racial Equity, Diversity, and Inclusion* (Strategic Plan) is a major milestone in the agency's efforts to define, implement and measure equity in the greater Portland region.

The Strategic Plan's purpose is to provide a strategic approach to incorporating equity into policy, decision-making and programs. The Strategic Plan provides clarity and direction to Metro's different lines of business related to integrating and approaching equity in planning, operations, and services.

[6] To learn more about racial equity as an inclusionary strategy to help other marginalized groups (i.e. low-income households, people with disabilities, older adults), see resources, including: Metro's Strategic Plan to Advance Racial Equity, Diversity, and Inclusion or PolicyLink.

The key aspect of the Strategic Plan is its focus and emphasis on deliberately tackling inequities based on race and ethnicity. The Strategic Plan is organized around five long-term goals.

The goals are:

A. Metro convenes and supports regional partners to advance racial equity;

B. Metro meaningfully engages communities of color;

C. Metro hires, trains and promotes a racially diverse workforce;

D. Metro creates safe and welcoming services, programs and destinations; and

E. Metro's resource allocation advances racial equity.

Each goal area has specific objectives and implementation actions associated to each goal some of which are internally focused on Metro practices and some of which are externally focused on how Metro considers and serves the needs of communities of color and will require collaborative effort with partners.

The Strategic Plan builds on the extensive equity work that Metro departments and venues have been conducting for a number of years, including the 2014 Regional Transportation Plan. In developing the 2018 RTP, the region looked for opportunities to further align the goals areas of the Strategic Plan with the goals, objectives, policies, strategies and projects of the region's long-range transportation plan.

3.2.2.2 Transportation equity and the Regional Transportation Plan

In previously adopted RTPs, the focus on transportation equity was primarily limited to:

- looking at where marginalized groups are living in the Portland metropolitan region; and
- looking at how much investment was being made in these aggregated historically marginalized communities in comparison to other parts of the region.

Through the direction from Metro's *Strategic Plan to Advance Racial Equity, Diversity, and Inclusion*, as well as feedback and input provided by community leaders, advocates, and elected officials, and direction from the Metro Council, the role and consideration of equity has been expanded in the RTP. As a result, development of the 2018 RTP included a more extensive transportation equity system evaluation of the long-range financially constrained transportation investment strategy and conducted refinements and added new sections to the 2018 RTP goals, objectives, policies, and implementation actions.

Moving forward, the Strategic Plan provides unified strategic direction to have the RTP place an additional focus on race for the crucial equity work currently underway at Metro, but not at the exclusion of income disparities regardless of race and ethnicity.

The RTP reflects a regional commitment to plan and invest in the region's transportation system to reduce transportation-related disparities and barriers faced by communities of color and other historically marginalized communities, regardless of race, language proficiency, income, age or ability.

3.2.2.3 Regional Transportation Plan equity focus areas

Informed through discussions of the transportation equity work group, regional advisory committees – TPAC, MTAC, JPACT and MPAC – and four Regional Leadership Forums, and direction from the Metro Council, the Regional Transportation Plan focuses on three historically marginalized communities:

- People of Color - Persons who identify as non-White.
- English Language Learners - Persons who identify as unable "to speak English very well."
- People with Lower Income – Persons with incomes equal to or less than 200% of the Federal Poverty Level (2016)

These three communities are the emphasis and focus for the Regional Transportation Plan, but not with exclusivity to the needs of other marginalized communities, including young people, older adults and people living with disabilities.

Figure 3.5 illustrates where different historically marginalized communities reside in the region, based on the best available U.S. Census Bureau and Oregon Department of Education data at the start of the 2018 RTP. The map reflects where there is a significant regional concentration of people of color, people with limited english proficiency and people with lower incomes.

Figure 3.5 RTP equity focus areas

3.1.2.4 Transportation equity policies

The Transportation Equity policies in this section aim to eliminate transportation-related disparities and barriers[7] identified by historically marginalized communities as priorities to address through the RTP and regional transportation planning and decision-making processes. The policies provide direction as to how Metro, working in partnership with marginalized communities, jurisdictions and other partners, will prioritize transportation equity in regional transportation planning and decision-making.

Regional Transportation Equity Policies	
Policy 1	Embed equity into the planning and implementation of transportation projects, programs, policies and strategies to comprehensively consider the benefits and impacts of transportation and eliminate disparities and barriers experienced by historically marginalized communities, particularly communities of color and people with low income.
Policy 2	Ensure investments in the transportation system anticipate and minimize the effects of displacement and other affordability impacts on historically marginalized communities, with a focus on communities of color and people with low income.
Policy 3	Prioritize transportation investments that eliminate transportation-related disparities and barriers for historically marginalized communities, with a focus on communities of color and people with low income.
Policy 4	Use inclusive decision-making processes that provide meaningful opportunities for communities of color, people with low income and other historically marginalized communities to engage and participate in the development and implementation of transportation plans, projects and programs.
Policy 5	Use engagement and other methods to collect and assess data to understand the transportation-related disparities, barriers, needs and priorities of communities of color, people with low income and other historically marginalized communities.
Policy 6	Evaluate transportation plans, policies, programs and investments to understand how they address transportation-related disparities and barriers experienced by communities of color, people with low income and other historically marginalized communities and the extent disparities are being eliminated.
Policy 7	Support family-wage job opportunities and a diverse construction workforce through inclusive hiring practices and contracting opportunities for investments in the transportation system.

[7] Transportation-related disparities and barriers identified by historically marginalized communities as priorities to address include safety, access, affordability and community health.

Because the Regional Transportation Equity Policies do not have a separate topical plan, specific implementing actions have been included for each transportation equity policy.

Transportation Equity Policy 1. Embed equity into the planning and implementation of transportation projects, programs, policies and strategies to comprehensively consider the benefits and impacts of transportation and eliminate disparities and barriers experienced by historically marginalized communities, particularly communities of color and people with low income.

Research nationally, statewide and locally demonstrate historically marginalized communities, particularly communities of color, experience a number of transportation-related disparities which creates additional barriers preventing these communities from thriving. These include the following:

- Pedestrian fatality rates for African Americans are 60 percent higher than for non-Hispanic Whites, and 43 percent higher for Hispanics than Whites.
- Nearly 20 percent of African-American households, 14 percent of Latino households, and 13 percent of Asian households live without a car.
- Racial minorities are four times more likely than Whites to rely on transit for their work commute.[8]

Transportation, as a vehicle for mobility and accessibility, plays a significant intersectional role in reducing the disparities gap, but historically, its development and operation has contributed to the disparities gap. The history of using transportation infrastructure projects as an urban renewal mechanism led to the destruction of thriving communities, particularly communities of color across the nation. In Portland, this is no different, where the development of the interstate freeway system displaced communities of color and lower-income homes, most notably the African American community.

To achieve the RTP goal of equitable transportation, embedding equity considerations are essential to each step of the planning and implementation process for transportation projects, programs, policies and strategies.

Since the asphalt and concrete was poured, the lessons learned from the generational impacts of the interstate system on marginalized communities necessitates that to achieve the RTP goal of equitable transportation, embedding equity considerations are essential to each step of the planning and implementation process for transportation projects, programs, policies and strategies. The equity considerations must reflect the priorities these marginalized communities

[8] Statistics from PolicyLink and the Transportation Equity Caucus.

voiced for the transportation, which may include, but not limited to: accessibility, safety, community health, and affordability. To embed equity into planning and implementation requires a paradigm shift as to how transportation is currently planned, built and operated. This includes bringing in unheard voices from project or policy inception all the way through construction to understand the perspective of potential benefits or impacts.

Additionally, transportation investments must consider the different ways in which it can advance equity and not narrow the purview to one dimension. A transportation investment has the ability to provide greater access to support marginalized communities reach educational facilities or new job opportunities, but a transportation investment also offers contracting and hiring opportunities. By embedding equity into transportation comprehensively, a full view and consideration of the benefits and impacts of transportation can be understood and weighed.

Actions to implement Transportation Equity Policy 1:

- Integrate consideration of equity in the planning and implementation of transportation projects, policies and programs by:
    - Formally acknowledging transportation-related disparities experienced by historically marginalized communities in the greater Portland region. This would also acknowledge the history and effect (past and present) of the region's built environment, including the capital construction of the roadway system, has played a role in widening of the disparities gap.
    - Acknowledge and recognize the intersectional role of transportation in alleviating the disparities gap for historically marginalized communities.
- Look closely at different opportunities for how equity considerations can be brought into the transportation discussion, with a focus on outcomes.
- Commit to looking at equity and finding different ways to integrate equity in each step of the transportation planning and implementation process.
    - Continually assess equity impacts at every stage of the process. As the process begins, and throughout, ask who will benefit, who will pay and who will decide; and adjust decisions and policies as needed to ensure equitable impacts.
- Bring in voices from marginalized communities to add perspective and help guide how equity can be embedded in the planning and decision-making process. Also see Transportation Equity Policy 4.

Transportation Equity Policy 2. Ensure investments in the transportation system anticipate and minimize the effects of displacement and other affordability impacts on historically marginalized communities, with a focus on communities of color and people with low income.

A trend observed across many western U.S. cities is that with a severe deficit of housing supply, particularly affordable units, the addition of an economic trigger such as a major transportation investment gentrifies and changes communities. Historically marginalized communities are finding themselves further away from neighborhoods with better transportation options as well as access to numerous jobs and community places. The result has created further stress on the

transportation system to serve displaced historically marginalized communities. Portland is not immune to these trends. Over time, former ethnic and new immigrant neighborhoods near the region's core with great access have gentrified, displacing a number of communities which have an established a history associated with these places. The 2040 growth centers, as appealing and desirable, are not keeping pace with a mix of affordable housing to keep existing residents while transportation investments are being made. Ultimately this creates a vicious cycle of increased transportation access to those who have the financial means to afford travel options and the benefits not born to the existing community.

The success, sustainability and prosperity of the region relies on how well the region manages issue of displacement as infrastructure investments are made. But too often the silos of transportation and land use prevent coming to agreement on creative solutions which can mitigate and proactively address displacement. The greater Portland region is renowned for breaking down the transportation and land use silo, but displacement is a pervasive challenge that requires further collaboration across disciplines and acknowledgement by all transportation professionals that they are part of the solution and not an outside observer. To ensure investment in the transportation system anticipate, affordability impacts and the effects of displacement, planning and implementation of transportation investments must be coordinated with the surrounding land use, take extra care and consideration of the demographic factors in the surrounding area in evaluating the displacement risk, implement land use strategies prior to the transportation investment, engage the historically marginalized communities at risk, and imbed funding commitments.

Actions to implement Transportation Equity Policy 2:

- Focus on capital transportation investments that have proactively developed a compendium of strategies to avoid and minimize involuntary displacement.
    - Demonstrate how intersectional issues of housing affordability and displacement are being addressed proactively in plans and programs prior to capital investment in transportation infrastructure.
    - In compendium, look at the land use solutions and survey what is necessary in land use policy to avoid and mitigate involuntary displacement.
- Collect data and build analysis tools that can assess and monitor transportation and housing affordability issues and share the information to partners in order to help inform capital investment decisions.
- Increase the number of units of regulated affordable housing in proximity to frequent transit service and in 2040 growth centers as well as communities with rich access to travel options, jobs, and community places.[1]

Transportation Equity Policy 3. Prioritize transportation investments that eliminate transportation-related disparities and barriers for historically marginalized communities, with a focus on communities of color and people with low income.

To achieve the RTP goal of equitable transportation, efforts to close the gap marginalized communities experience relative to outcomes the transportation system contributes to is vital.

Transportation outcomes identified as priorities by historically marginalized communities include affordability, safety, access and environmental health. In focusing on reducing the disparities gap, the most progress can be made and resources be deployed more effectively. To focus on eliminating disparities is a paradigm shift in current practices of transportation and means approaching transportation plans, programs, policies and investments under the lens of fairness rather than equality.

In focusing on eliminating the disparities brought on by the transportation system's development and operation, not only will historically marginalized communities see the benefits, but the region will see benefits spread across all communities.

While there is a desire to see the benefits and impacts of transportation distributed equally across everyone, an approach which does not intentionally focus on equitable outcomes does not help close the disparities gap caused by a pervasive system which erected barriers and separated the level of benefit for certain communities over others. Eliminating the disparities gap is also a long-term commitment and significant undertaking as no one project can undo system-wide disparities which have been compounded over years. Nonetheless, in focusing on eliminating the disparities brought on by the transportation system's development and operation, not only will historically marginalized communities see the benefits, but the region will see benefits spread across all communities.

To begin to focus on the disparities gap, it is imperative for marginalized communities to provide the direction and prioritization of which disparities to tackle first and the best methods to do so. Through the development of the 2018 RTP, engagement with historically marginalized communities and a retrospective process of previous engagement efforts elevated the need for the transportation system to provide greater accessibility, be safer for all users, be more affordable for users, and finally not detriment the health and well-being of all communities, but particularly historically marginalized communities as they have shouldered the brunt of environmental impacts.

As a starting point and a way to begin focusing on addressing the disparities gap immediately, an intentional focus is necessary with the prioritization of the allocation of resources to focus on those outcomes that marginalized communities have identified as the priorities for their communities and within their communities in the near- and the long-term. This should also be done with continued engagement through implementation and future prioritization processes to reflect new priorities or other unforeseen issues. *Also see Transportation Equity Policies 4 through 6*.

Actions to implement Transportation Equity Policy 3:

- Commit to and focus on addressing the disparities gap for historically marginalized communities systematically to understand the progress in which transportation alleviates.
  - Define a way of measuring and tracking progress to understand how effectively disparities are being addressed.
- Actively question how the plan, program, policies, strategies, or action being undertaken contributes to reducing and eliminating the disparities gap.
- Actively recognize and put aside implicit partialities and biases.
- More specifically for the outcomes of safety, access, affordability and public health, prioritize the following:
  - Among the multiple priorities for the region's transportation system, prioritize and advance the equity elements of the priority. For example, in looking at a transportation investment focused on safety, advance the element that would benefit communities of color over a general safety benefit.
  - Prioritize building out the active transportation infrastructure network in areas where there are gaps and deficiencies. Focus on completing gaps in communities of color as a means of prioritizing equity. This includes advancing the completion of access to transit in historically marginalized communities.
  - Implement the Regional Travel Options Strategy, including the new Safe Routes to School program, with emphasis to support new partnerships with organizations that serve historically marginalized communities.
  - Prioritize the safety of the transportation system, especially in historically marginalized communities, but focus on addressing the systemic safety issues on high injury corridors which historically marginalized communities traverse. Focus on increasing safety in high-risk locations and on high injury corridors that coincide with higher residential concentrations of historically marginalized communities.
  - Prioritize and focus on increasing active transportation and transit access to jobs and community places (e.g., libraries, pharmacies, grocery stores, schools, etc.) and services for historically marginalized communities. Place an emphasis on connecting historically marginalized communities to middle-wage employment opportunities.
- Focus on different transit solutions transit that serve historically marginalized communities.
  - This may include creative solutions such as community and job connector shuttle services.
  - Focus increase in service on transit routes that serve a significant portion of historically marginalized communities.
  - While not the most productive and efficient from a strict transit management view, consider coverage transit service routes to support historically marginalized communities as they navigate the shifting housing affordability dynamics.
  - Support special needs transportation providers.
- Complement affordable housing and transit-oriented development to support the integration of land use and transportation where historically marginalized communities have the ability to benefit.
  - Ensure the long-term sustainability of programs that make transportation affordable, including the adult low-income fare and student pass programs on transit.
  - Complement and cross-implement the strategies in the *Coordinated Transportation Plan for Seniors and People with Disabilities* in Appendix G.
- Document existing disparities in exposure to transportation related air pollutants and evaluate whether projects reduce or exacerbate disparities.

Transportation Equity Policy 4. Use inclusive decision-making processes that provide meaningful opportunities for communities of color and other historically marginalized communities to engage in the development and implementation of transportation plans, projects and programs.

To achieve an equitable transportation system that eliminates the disparities gaps and barriers experienced by marginalized communities, a meaningful and inclusive decision-making process is critical to understand the perspectives and experiences of historically marginalized communities and build plans, projects, and programs to address these perspectives and experiences.

Meaningful and inclusive engagement takes a significant effort and relies on building relationships and trust with members of marginalized communities, which is a significant change from the conventional practices of public involvement in the transportation sector, which places barriers to being involved. Engagement and inclusion is part of embedding equity by allowing for marginalized communities to be seen, heard and considered, and allow for their needs and priorities to influence the planning and decision-making process.

Actions to implement Transportation Equity Policy 4:

- Shift the burden of outreach and engagement away from marginalized communities to reduce the barriers to participation in public processes for these communities.
    - Transportation professionals should look to reduce the barriers for marginalized communities to participate (e.g. go out into the community, offer language translation and childcare services, provide food and incentives) and reach out to marginalized communities in meaningful ways (e.g. engaging through a community liaison, allowing communities to lead the discussion) and at opportunities to shape and influence transportation plans, policies and program (e.g. not at a perfunctory time).
- Consider resourcing an on-call contract of community outreach liaisons who are trusted members of historically marginalized communities and to help facilitate relationship-building, conversations, and meaningful engagement.
- Set aside resources specifically for meaningfully engaging historically marginalized communities in planning and decision-making processes.

Transportation Equity Policy 5. Use engagement and other methods to collect and assess data to understand the transportation-related disparities, barriers, needs and priorities of communities of color and other historically marginalized communities.

Appendix E documents the transoirtation equity evaluation conducted for the 2018 Regional Transportation Plan – focusing on priority outcomes identified by historically marginalized communities during the engagement process.

To understand the transportation disparities, needs, gaps, and priorities of historically marginalized communities, particularly communities of color, conventional practices of data collection and analysis does not capture and articulate the nature of disparities experienced by different marginalized communities. While national datasets or statewide statistics are able to provide the picture of disparities, to address the disparities gap fully, the lacking data and information gaps at a localized level impacts the ability to assess the performance of transportation plans, programs, and policies on the outcomes and priorities identified historically marginalized communities.

The need to collect more disaggregated data with confidence at a localized scale gives the ability to look in-depth at localized conditions on key transportation outcomes identified as priorities by historically marginalized communities – affordability, safety, access, and environmental health – is necessary to understand the current level of disparities and establish an appropriate baseline. Until the data need is fulfilled, it is imperative to supplement data collection and assessment with engagement to gather the qualitative information directly from historically marginalized communities. The information collected helps to better represent and articulate the disparities experienced and needs of historically marginalized communities to help bring focus.

Additionally, in supplementing engagement as part of data collection, the process helps to confirm needs, gaps, and deficiencies which may have already been identified. In facilitating greater attention to data collection and assessment focused on the needs and priorities of historically marginalized communities, particular communities of color, transportation professionals have further ability and information to plan, program, and implement strategies or actions which can better address the priorities and needs.

Actions to implement Transportation Equity Policy 5:

- Collect data in a manner that facilitates looking at outcomes with an equity lens.
    - Collect localized disaggregated data.
    - Emphasize collecting as much qualitative data as quantitative data.
    - Collect data that is meaningful to historically marginalized communities.
- Appropriately resource data collection and assessment to focus on outcomes with an equity lens.
    - Acknowledge and recognize data collection and assessment methods will be unfamiliar and new for many project managers and likely to be a necessary, but challenging to break convention.
- Appropriately resource the development of a disparities baseline looking at measures of affordability, safety, access, and environmental health to understand the disparities gap between historically marginalized communities, in particular people of color.
- Conduct meaningful engagement with historically marginalized communities to supplement and ground truth data and technical analysis findings.

Conventional practices of data collection and analysis does not capture and articulate the transportation-related disparities, barriers, needs and priorities of communities of color and other historically marginalized communities. Engagement and other methods should be used to supplement and ground truth data and technical analysis findings.

Transportation Equity Policy 6. Evaluate transportation plans, policies, programs and investments to understand the extent to which transportation-related disparities and barriers experienced by communities of color and other historically marginalized communities are being eliminated.

To know and to be accountable to whether transportation plans, programs, policies and strategies are making progress towards eliminating the disparities gap, particularly in access, safety, affordability, community health and any other transportation-related priority identified by historically marginalized communities, evaluation under the lens of what disparities the plans, policies, programs and strategies address is just as crucial as engagement, prioritization and mitigation. The assessment process helps to understand effectiveness, progression, monitoring and accountability in achieving the equitable transportation and other associations RTP goals and objectives. Evaluation also provides transparency towards what to expect as a result.

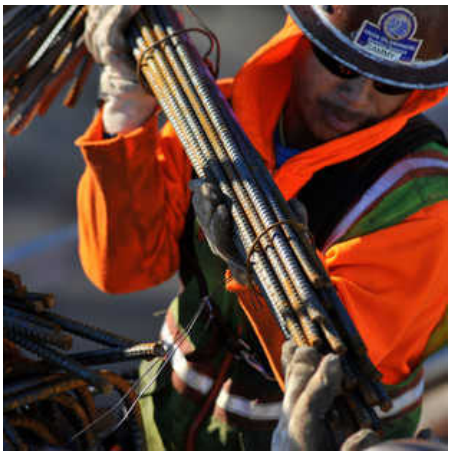
Actions to implement Transportation Equity Policy 6:

- Resource evaluation methodology development appropriately.
    - Recognize the potential and the necessity to disaggregate and evaluate system-wide as well as by individual project, program or community.
    - Let the evaluation be led, guided and verified by historically marginalized communities and their lived experiences.
    - Ground truth evaluation results through engagement.
- Be willing to use non-standard forms of evaluation.
    - Clearly state assumptions and recognize what the method may be testing and the limitations of the evaluation.
- Set up a long-term feedback loop of evaluation and monitoring.
    - Evaluate at each stage and monitor whether projected outcomes are coming to fruition and/or whether plans, policies, programs and strategies may need additional mitigations or a course correction.

Transportation Equity Policy 7. Support living-wage job opportunities and a diverse construction workforce through inclusive hiring practices and contracting opportunities for investments in the transportation system.

The construction industry has seen tremendous growth in the last ten years and is one of the fastest-growing industries in recent years, outpacing the rest of the economy. The median wage for construction occupations is higher than the median wage across all sectors in the greater Portland region. It is one of the remaining sectors where workers can make a living-wage income without a higher education degree. Yet the industry has an aging workforce and with continued growth, this creates an opportunity to link the region's unemployed and underemployed to apprenticeship programs that lead to careers in the industry.

Construction has historically been a racially homogenous industry, yet labor market data indicates a shortage in skilled talent. Diversifying the construction workforce will not only help create a stronger supply of needed workers for the industry, it will also directly address issues of poverty and economic mobility within communities of color and working families in the region.



Transportation infrastructure projects, in particular, can have a big impact on promoting equitable growth in the region's economy by providing job opportunities for people of color in the construction trades

Transportation infrastructure projects, in particular, can have a big impact on promoting equitable growth in the region's economy by providing job opportunities for people of color in the construction trades. While federal and state laws have provisions which facilitate greater access for minority, women-owned and disadvantaged businesses (MWDBE) to be part of these contracting and construction opportunities, the construction industry has a workforce which is not reflective of demographics. Yet it remains a sector that provides access to living-wage careers for historically marginalized communities, particularly communities of color.

The RTP, is a long-range transportation blueprint for the capital investments needed to accommodate existing needs and future populations and employment growth. An emphasis on the construction workforce is relevant to building out the transportation system equitably and making progress towards reducing the disparities seen among historically marginalized communities in terms of living-wage career opportunities and longer-term income stability and affordability. By focusing public investments to advance contracting and workforce equity in the construction trades, transportation infrastructure projects can help mitigate wealth disparity gaps experienced by historically marginalized communities.

Actions to implement Transportation Equity Policy 7:

- Formalize reporting of minority, women-owned and disadvantaged businesses construction contracts and workforce diversity utilization on all Metro-funded transportation projects.
- For transportation investments programmed within the MTIP, particularly as part of the construction phases, request from partners information about minority, women-owned and disadvantaged business contracting and workforce diversity utilization.
- Through partnership with Metro's Diversity, Equity and Inclusion program, provide information and resources to partners on ways to support and advance equity in contracting and workforce.
- Develop mechanisms to incentivize partners to pursue recruitment and retention strategies on transportation projects that help grow and diversify the construction workforce.
- Encourage apprenticeships with historically marginalized communities as part of contracts.
- Partner with workforce development organizations to improve outreach, share information and leverage resources that support and grow a diverse construction workforce and contracting community.

3.2.3 Climate leadership policies

Climate change may be the defining challenge of this century. Global climate change poses a growing threat to our communities, our environment and our economy, creating uncertainties for the agricultural, forestry and fishing industries as well as winter recreation. The planet is warming and we have less and less time to act. Documented effects include warmer temperatures and sea levels, shrinking glaciers, shifting rainfall patterns and changes to growing seasons and the distribution of plants and animals.

The 2018 Regional Transportation Plan is a key tool for the greater Portland region to implement the adopted Climate Smart Strategy.

For more information, visit www.oregonmetro.gov/climatesmart

Warmer temperatures will affect the service life of transportation infrastructure, and the more severe storms that are predicted will increase the frequency of landslides and flooding. Consequent damage to roads and rail infrastructure will compromise system safety, disrupt mobility and hurt the region's economic competitiveness and quality of life. Our ability to respond will have unprecedented impacts on our lives and our survival.

Transportation sources account for 34 percent of greenhouse gas emissions in Oregon, largely made up of carbon dioxide (CO_2). Since 2006, the state of Oregon has initiated a number of actions to respond including directing the greater Portland region to develop and implement a strategy for reducing greenhouse gas emissions from cars and small trucks.

3.2.3.1 Climate Smart Strategy (2014)

The Regional Transportation Plan is a key tool for the greater Portland region to implement the adopted Climate Smart Strategy and achieve greenhouse gas emissions reduction targets adopted by the Land Conservation and Development Commission in 2012 and 2017.

As directed by the Oregon Legislature in 2009, the Metro Council and the Joint Policy Advisory Committee on Transportation (JPACT) developed and adopted a regional strategy to reduce per capita greenhouse gas emissions from cars and small trucks by 2035 to meet state targets. Adopted in December 2014 with broad support from community, business and elected leaders, the Climate Smart Strategy relies on policies and investments that have already been identified as local priorities in communities across the greater Portland region. Adoption of the strategy affirmed the region's shared commitment to provide more transportation choices, keep our air clean, build healthy and equitable communities, and grow our economy – all while reducing greenhouse gas emissions.

The analysis of the adopted strategy demonstrated that with an increase in transportation funding for all modes, particularly transit operations, the region can provide more safe and reliable transportation choices, keep our air clean, build healthy and equitable communities and grow our economy while reducing greenhouse gas emissions from light-duty vehicles as directed by the Legislature. It also showed that a lack of investment in needed transportation infrastructure will result in falling short of our greenhouse gas emissions reduction goal and other desired outcomes. The Land Conservation and Development Commission approved the region's strategy in May 2015.

3.2.3.2 Climate Smart Strategy policies

The Climate Smart Strategy is built around nine policies to demonstrate climate leadership by reducing greenhouse gas emissions from cars and small trucks while making our transportation system safe, reliable, healthy and affordable. The policies listed below complement other RTP policies related to transit, biking and walking, use of technology and system and demand management strategies.

Climate Smart Policies

Policy 1	Implement adopted local and regional land use plans.
Policy 2	Make transit convenient, frequent, accessible and affordable.
Policy 3	Make biking and walking safe and convenient.
Policy 4	Make streets and highways safe, reliable and connected.
Policy 5	Use technology and congestion pricing to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared trips and other Climate Smart Strategy policies and strategies.
Policy 6	Provide information and incentives to expand the use of travel options.
Policy 7	Make efficient use of vehicle parking spaces through parking management and reducing the amount of land dedicated to parking
Policy 8	Support Oregon's transition to cleaner fuels and more fuel-efficient vehicles in recognition of the external impacts of carbon and other vehicle emissions.
Policy 9	Secure adequate funding for transportation investments that support the RTP climate leadership goal and objectives.

3.2.3.3 Climate Smart Strategy toolbox of potential actions

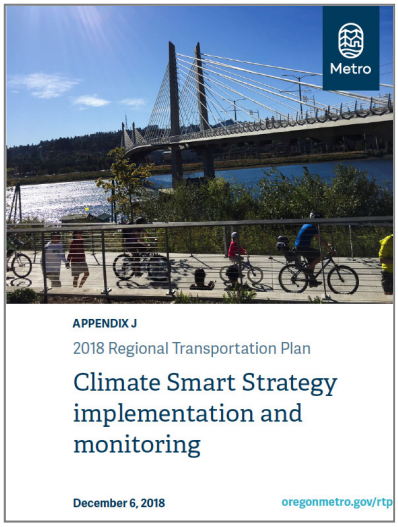
The responsibility of implementation of these policies and the Climate Smart Strategy does not rest solely with Metro. Continued partnerships, collaboration and increased funding from all levels of government will be essential. To that end, the Climate Smart Strategy also identified a comprehensive toolbox of more than 200 specific actions that can be taken by the state of Oregon,

Metro, cities, counties, transit providers and others to support implementation. These supporting actions are summarized in the *Toolbox of Possible Actions (2015-2020)* adopted as part of the Climate Smart Strategy. The actions support implementation of adopted local and regional plans and, if taken, will reduce greenhouse gas emissions and minimize the region's contribution to climate change in ways that support community and economic development goals. The Climate Smart Strategy's *Toolbox of Possible Actions* was developed with the recognition that existing city and county plans for creating great communities are the foundation for reaching the state target and that some tools and actions may work better in some locations than others. As such, the toolbox does not mandate adoption of any particular policy or action. Instead, it emphasizes the need for many diverse partners to work together to begin implementation of the strategy while retaining the flexibility and discretion to pursue the actions most appropriate to local needs and conditions.

Local, state and regional partners are encouraged to review the toolbox and identify actions they have already taken and any new actions they are willing to consider or commit to in the future. Updates to local comprehensive plans and development regulations, transit agency plans, port district plans and regional growth management and transportation plans present ongoing opportunities to consider implementing the actions recommended in locally tailored ways.

3.2.3.4 Climate Smart Strategy monitoring

The Climate Smart Strategy also contained performance measures and performance monitoring targets for tracking implementation and progrss. The purpose of the performance measures and targets is to monitor and assess whether key elements or actions that make up the strategy are being implemented, and whether the strategy is achieving expected outcomes. If an assessment finds the region is deviating significantly from the Climate Smart Strategy performance monitoring targets, then Metro will work with local, regional and state partners to consider the revision or replacement of policies and actions to ensure the region remains on track with meeting adopted targets for reducing greenhouse gas emissions.



Appendix J reports on implementation progress since 2014. The analysis found the 2018 RTP makes satisfactory progress towards implementing the Climate Smart Strategy, but more investment, actions and resources are needed to ensure the region achieves mandated greenhouse gas emissions reductions.

Appendix J reports on implementation progress since 2014, and found the 2018 Regional Transportation Plan makes satisfactory progress towards implementing the Climate Smart Strategy and, if fully funded and implemented, can reasonably be expected to meet the state-mandated targets for reducing per capita greenhouse gas emissions from passenger cars and small trucks (light-duty vehicles) for 2035 and 2040.

The analysis also found that more investment, actions and resources will be needed to ensure the region achieves the mandated greenhouse gas emissions reductions defined in OAR 660-044-0060. In particular, additional funding and prioritization of Climate Smart Strategy investments and policies that substantially reduce greenhouse gas emissions will be needed.

3.2.3.5 Transportation preparedness and resilience

The topic of preparedness and resilience has broad implications across all sectors of the economy and communities throughout the region. Natural disaster can happen anytime, affecting multiple jurisdictions simultaneously. The region needs to be prepared to respond quickly, collaboratively and equitably, and the transportation system needs to be prepared to withstand these events and to provide needed transport for fuel, essential supplies and medical transport. Advance planning for post-disaster recovery is also critical to ensure that communities and the region recover and rebuild important physical structures, infrastructure and services, including transportation – it can make communities and the region stronger, healthier, safer and more equitable.

What are the risks we face?

Climate change, natural disasters, such as earthquakes, urban wildfires and hazardous incidents, and extreme weather events present significant and growing risks to the safety, reliability,

effectiveness and sustainability of the region's transportation infrastructure and services. Flooding, extreme heat, wildfires and severe storm events endanger the long-term investments that federal, state, and local governments have made in transportation infrastructure. Changes in climate have intensified the magnitude, duration and frequency of these events for many regions in the United States, a trend that is projected to continue. There is much work going on locally, regionally, statewide and across the country to address these risks.

Regional collaboration and disaster preparedness

The Regional Disaster Preparedness Organization (RDPO) is a partnership of government agencies, non-governmental organizations, and private-sector stakeholders in the Portland metropolitan area collaborating to increase the region's resilience to disasters. RDPO's efforts span across Clackamas, Columbia, Multnomah, and Washington counties in Oregon and Clark County in Washington.

According to the 2013 Oregon Resilience Plan, Oregon's buildings and lifelines (transportation, energy, telecommunications, and water/ wastewater systems) would be damaged so severely that it would take three months to a year to restore full service in areas such as the Portland region. More recently, a 2018 report from the Oregon Department of Geology and Mineral Industries (DOGAMI) on the Portland region describes significant casualties, economic losses and disruption in the event of a large magnitude Cascadia subduction zone earthquake.

The Regional Disaster Preparedness Organization (RDPO) is a partnership of government agencies, non-governmental organizations, and private-sector stakeholders in the Portland metropolitan area collaborating to increase the region's resilience to disasters. For more information, visit www.rdpo.net.

While transportation infrastructure is designed to handle a broad range of impacts based on historic climate patterns, more planning and preparation for climate change, earthquakes and other natural disasters and extreme weather events is critical to protecting the integrity of the transportation system and improving resilience for future hazards.

Potential opportunities for future regional collaboration in support of transportation preparedness and resilience include:

- Partner with the RDPO to update the region's designated Emergency Transportation Routes (ETRs) for the five-county area, which were last updated in 2006. These routes are designated to facilitate all-hazards emergency response activities, including those of medical, fire, law enforcement and disaster debris removal in the immediate aftermath of an earthquake or other major event. The project will use data from the DOGAMI study to apply a seismic lens to determine whether the routes have a high likelihood of being damaged or cut-off during an earthquake and determine whether other routes may be better suited to prioritize as ETRs as a result. Some considerations for emergency recovery will also be incorporated into the updated ETR criteria and recommendations for future work. See Chapter 8 (Section 8.2.3.10) for more information.
- Consider climate and other natural hazard-related risks during transportation planning, project development, design and management processes.
- Conduct a vulnerability assessment for the region, documenting climate and other natural hazard-related risks to the region's transportation system and vulnerable populations, and potential investments, strategies and actions that the region can implement to reduce the vulnerability of the existing transportation system and proactively increase the transportation system's resiliency.

- Optimize operations and maintenance practices that can help lessen impacts on transportation from extreme weather events and natural disasters. Examples include more frequent cleaning of storm drains, improved plans for weather emergencies, closures and rerouting, traveler information systems, debris removal, early warning systems, damage repairs and performance monitoring.
- Integrate green infrastructure into the transportation network when practicable to avoid, minimize and mitigate negative environmental impacts of climate change, natural disasters and extreme weather events.
- Protection and avoidance of natural areas and high value natural resource sites, especially the urban tree canopy and other green infrastructure, in slowing growth in carbon emissions from paved streets, parking lots and carbon sequestration and addressing the impacts of climate change and extreme weather events, such as urban heat island effects and increased flooding.
- Avoidance of transportation-related development in hazard areas such as steep slopes and floodplains that provide landscape resiliency and which are also likely to increase in hazard potential as the impacts of climate change increase.

3.2.4 Emerging technology policies

What is Emerging Technology?

Over the past decade, a number of new developments in technology have begun to reshape the way that people travel. Over three-quarters of adults now own a smartphone, often including apps that provide instant access to information on travel choices. A number of new services combine smartphones with social networking, online payment, and global positioning systems to connect people with vehicles and rides. Most auto manufacturers now offer hybrid or electric vehicles, and the cost of these vehicles has been falling, giving more people access to clean transportation options. Soon, vehicles that drive themselves will hit our streets, which could dramatically transform our relationship with cars.

There are so many new technologies shaping transportation that we need a new vocabulary to describe them. We use the blanket term **emerging technology** to encompass all of these new developments, including:

- Advances in vehicle technology, such as **automated vehicles (AVs)** that operate independently of any input from a human driver, **connected vehicles (CVs)** that communicate with each other or with traffic signals and other infrastructure, and **electric vehicles (EVs)** that use electric motors instead of or in addition to gasoline-powered motors.
- **New mobility services** that use smartphones and other new technologies to connect people with vehicles and rides. These services include **ridehailing companies** like Uber and Lyft that connect passengers with drivers who provide rides in their personal vehicles; **car share** services such as Car2Go, ReachNow, ZipCar, and Turo that allow people to rent a nearby vehicle for short trips, **bike share** systems like BIKETOWN that make fleets of bicycles (or electric bikes or scooters) available for short-term rental; and **microtransit** services that tailor schedules and routes to customers' travel needs and operate vans or small buses.

- **Traveler information and payment** services that help people compare different ways of getting around (such as moovel and Google Maps), get detailed information on their mode of choice (TransitApp, Ride Report, Waze), track and share their trips (Strava, MapMyWalk), and pay for trips (TriMet's Tickets app).

Why is it important to plan for emerging technology?

Technology is already transforming how we travel in the greater Portland region. Uber and Lyft, which began serving several cities in the region in 2014, have spurred some of the most visible changes. In the city of Portland, these services now carry far more people in Portland than taxis do, and provided over 10 million rides in 2017. Across the region, 36 percent of the region's residents have used ridehailing, mostly for occasional recreational trips or travel to the airport, but there are signs that Uber and Lyft are becoming increasingly critical modes of transportation. Since Metro last asked people about their travel choices in 2014, the percentage of regular car commuters who say they would take Uber, Lyft, or a taxi to work if they didn't have a car has quintupled, rising from 3 to 16 percent. Meanwhile, the percentage of those who say they would ride transit, carpool, bike, walk or take car share instead of driving fell—particularly for transit, which dropped from 47 to 29 percent.

Other new mobility services are growing as well. Car share services now operate over 1,000 vehicles in the region, and the City of Portland's bike share system, BIKETOWN, launched in July 2016, and carried over 300,000 trips in its first year. There are also over 18,000 electric vehicles registered in the state, with the majority located in the Portland region. The rapid growth of these new options is only a prelude to the transformative changes that will occur when automated vehicles arrive on our streets.

3.2.4.1 Emerging Technology Strategy (2018)

The Emerging Technology Strategy identifies steps that Metro and our partners can take to harness new developments in transportation technology—including automated, connected and electric vehicles; new mobility services like car share, bike share and ride-hailing; and the increasing amount of data available to both travelers and planners—to create a more equitable and livable greater Portland region and meet the goals in the 2018 Regional Transportation Plan.

We can already see how technology is impacting our communities, sometimes for better and sometimes for worse. Many of us now enjoy access to convenient new options, but communities of color and other historically marginalized communities are not getting their fair share of the benefits of innovation. Many people face barriers to using new mobility services, including lack of access to the internet or a bank account, cultural or linguistic barriers, challenges finding wheelchair accessible vehicles, high costs, and discrimination from drivers or companies. A growing body of research also finds that some new mobility services draw people away from transit, and that ride-hailing increases vehicle miles traveled and congestion. This affects everyone who is struggling to get where they need to go on our increasingly congested streets. Metro and our partners need to engage with emerging technologies to make sure that new services create better options for everyone throughout the region.

Even more importantly, we need to prepare for sweeping changes to come. Within the next five years—and potentially even the next two years—the first generation of AVs will hit our streets, likely deployed by ride-hailing and freight companies. Ride-hailing and other new mobility services will likely become more popular in smaller cities and suburban areas, and could be widely-used for everyday trips in regional centers. Over the longer term, emerging technologies stand to affect every one of our regional goals, both for better and worse, as summarized in **Table 3.1.**

Table 3.1 How emerging technologies could impact our regional goals

Goal	Promise	Peril
Vibrant communities	We have more space for people instead of vehicles, particularly in regional centers, because vehicles no longer need parking and use less space on the road..	We prioritize moving automated vehicles efficiently over creating space for people. The increased convenience of driving creates less development in regional centers and more in communities outside of the metropolitan area.
Prosperity	New mobility companies bring new jobs to the region, and people are able to spend more time working or at home with families and friends instead of sitting in traffic.	Automation eliminates thousands of jobs, and productivity only increases for people who can do their work from a vehicle.
Choices	Transit becomes more efficient and new mobility services make carpooling the norm.	Driving alone becomes more convenient and new services draw riders away from transit, walking and bicycling.
Reliability	Technology helps to reduce congestion as automated vehicles use roadway space more efficiently, carpooling becomes easier and transit becomes more efficient.	Technoloy increases congestion as driving becomes more convenient, vehicles travel more to move fewer people, there are more conflicts in high-demand areas and delivery vehicles clog local streets.
Safety and security	Autonomous vehicles eliminate crashes due to human error.	More pickups and drop-offs create curbside conflicts and the transportation system is vulnerable to cyberattacks.
Environment	Vehicles become cleaner and more efficient.	Vehicle miles traveled increase, offsetting the benefits of cleaner vehicles, and increased sprawl places pressure on farmland and natural areas.
Health	Cleaner vehicles mean less pollution and better air quality, and bike share provides another active transportation option.	People live more sedentary lifestyles as driving becomes more convenient.
Equity	People who cannot or do not drive have more choices, and new options become more affordable as technology advances.	New services focus on affluent customers, while others face barriers to accessing new technology and services.
Fiscal stewardship	Technology enables more cost-effective pricing, management and operation of the transportation system.	The gas tax and other key sources of transportation revenue dwindle.

Goal	Promise	Peril
Transparency and accountability	Collecting transportation data becomes more efficient.	Private companies withhold data from public agencies and resist oversight.

Source: Emerging Technology Strategy, Metro (2018)

The Emerging Technology Strategy policy framework guides Metro and its partners in navigating sweeping and unpredictable change while focusing on the near-term steps we need to take to address the most pressing issues presented by technology. It includes:

2018 Regional Transportation Plan

Emerging Technology Strategy

A strategy for guiding innovation to support the greater Portland region's goals

December 6, 2018

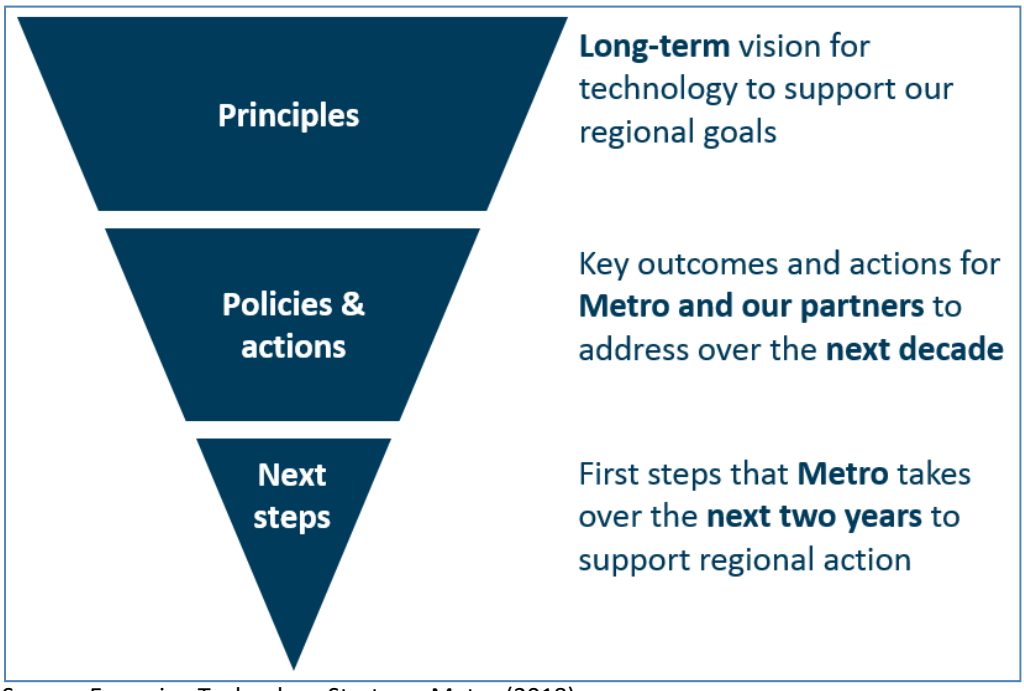
oregonmetro.gov/rtp

Principles that outline a long-term vision for how emerging technologies can support our regional transportation goals. Principles guide Metro and its partners in planning for and working with emerging technology as it continues to evolve, as well as in identifying companies that share common goals when developing partnerships and pilot projects.

Policies and actions focus on the technology-related issues that Metro and its public agency partners have identified as the most pressing to address over the next decade. Policies describe the outcomes that we want to achieve; actions are steps that we can take to achieve those outcomes.

Next steps, which are in the Implementation chapter of the Emerging Technology Strategy and the Chapter 8 of the Regional Transportation Plan, outline the actions that Metro will take in the next two years to help advance the region's work on emerging technologies.

Figure 3.6 Emerging Technology Strategy policy framework



Source: Emerging Technology Strategy, Metro (2018)

3.2.4.2 Emerging technology principles

The principles below articulate a long-term **vision** for how technology should support the goals of the Regional Transportation Plan. These principles, summarized in **Table 3.2**, guide Metro and its partners in planning for and working with emerging technology as it continues to evolve, as well as in identifying companies that share common goals when developing partnerships and pilot projects.

Table 3.2 RTP goals and corresponding emerging technology principles

RTP goal	Emerging technology principle
Vibrant communities	Emerging technology should support our regional land use vision and enable communities to devote more space to places for people.
Prosperity	Workers whose jobs are impacted by automation should be able to find new opportunities, and emerging technology should create more efficient ways to meet the transportation needs of local businesses and workers.
Choices	Emerging technology should improve transit service or provide shared travel options and support transit, bicycling and walking.
Reliability	Emerging technology should help to manage congestion by promoting shared trips, decreasing vehicle miles traveled and minimizing conflicts between modes.
Safety and security	Emerging technology should reduce the risk of crashes for everyone and protect users from data breaches and cyberattacks.
Environment	New mobility services should use vehicles that run on clean or renewable energy.
Equity	New mobility services should be accessible, affordable and available for all and meet the transportation needs of communities of color and historically marginalized communities.
Fiscal stewardship	Emerging technology companies and users should contribute their fair share of the cost of operating, maintainingand building the transportation system, and new technology should make it possible to collect transportation revenues efficiently and equitably. Public agencies should test new ideas and technologies before commiting to them in order to get the best return on public investments.
Transparency and accountability	Companies and public agencies should collaborate and share data to help make the transportation system better for everyone.

3.2.4.3 Emerging technology policies

This section defines emerging technology policies. Implementation actions can be found in the Emerging Technology Strategy.

Emerging Technology Policies	
Policy 1	Make emerging technology accessible, available and affordable to all, and use technology to create more equitable communities.
Policy 2	Use emerging technology to improve transit service, provide shared travel options throughout the region and support transit, bicycling and walking.
Policy 3	Use the best available data to empower travelers to make travel choices and to plan and manage the transportation system.
Policy 4	Advance the public interest by anticipating, learning from and adapting to new developments in technology.

Emerging Technology Policy 1. Equity
Make emerging technology accessible, available and affordable to all, and use technology to create more equitable communities.

Metro and its partners are responsible for ensuring that the transportation system serves all people, particularly those in the greatest need. New mobility services have the potential to bring more flexible transportation options to historically marginalized communities, but not everyone can access these services. Communities of color face the threat of discrimination from drivers or companies, some older adults and people who speak limited English aren't able to use apps, many low-income people cannot afford costly data plans or lack access to bank accounts and people in wheelchairs often struggle to find accessible shared vehicles. If we can remove these barriers, we can bring better transportation choices to communities of color, night shift workers, people with disabilities, people living in areas that lack frequent transit service and others. We will use new mobility services to create a more just transportation system while helping transportation workers who see their jobs threatened transition to new roles.

What happens if we act	What happens if we don't
• It is easier for historically marginalized people to get where they need to go, especially when other options aren't available. • Transit, which is the most affordable and accessible way to travel, thrives. • Transportation workers find jobs in the new transportation system.	• There are more choices for those who can afford them. • Transit dwindles, especially in the communities that need it the most. • Historically marginalized communities are left behind as technology develops.

Emerging Technology Policy 2. Choices
Use emerging technology to improve transit service, provide shared travel options throughout the region and support transit, bicycling and walking.

Emerging technology has already given people in our region new ways to get around, whether by taking car or bike share, hailing a ride, or simply making it easier for people to learn about and pay for public transportation. However, new mobility services are concentrated in communities where it is already easy to take transit, walk and bike, which creates more congestion and pollution by attracting people away from more efficient modes and clogging streets with vehicles looking for passengers. In order to make the most of emerging technology's potential to reduce congestion and pollution, improve safety and support vibrant communities, we need to use technology to help people to connect to transit, share trips with other travelers or leave their cars at home. We will prioritize and invest in the modes that move people most efficiently and continue to improve convenience and safety for transit riders, pedestrians and bicyclists. This is part of a broader effort, reflected throughout the 2018 update to the Regional Transportation Plan, to improve transit service and create safer, better facilities for bicyclists and pedestrians.

What happens if we act	What happens if we don't
• New mobility services thrive side-by-side with transit, bicycling, and walking. • We move more people in fewer vehicles. • Emerging technology helps to reduce congestion and emissions. • The entire region enjoys new ways to travel.	• New mobility services compete and create conflicts with transit, bicycling, and walking. • Vehicles travel more miles to move fewer people. • Emerging technology increases congestion and emissions. • New options are concentrated in urban areas.

Emerging Technology Policy 3. Information
Use the best data available to empower people to make travel choices and to plan and manage the transportation system.

In today's transportation system, data is as important as infrastructure. Smartphones enable people to instantly book a transit trip or find a new route when they run into traffic, and new mobility companies use real-time data to balance supply and demand. Metro and our partners want high-quality information to be available on all transportation options in the region, and to be presented in a way that allows travelers to seamlessly plan and book trips. We will also develop the data that we need to plan the transportation system – including better data on transit, bicycling and walking as well as on new mobility options – and create systems that allow us to share data among public agencies and better manage and price travel. As we collect better data, we will also develop new policies around how we manage and use data so that we protect personal and competitive information and safeguard this increasingly valuable public resource.

What happens if we act	What happens if we don't
• People can easily compare travel options and pick the one that best meets their needs. • We know how emerging technology is changing transportation patterns. • We can manage congestion as it happens. • We get the best value out of public agency data.	• People rely only on the options that they know or that offer flashy apps. • We have limited insight into how our transportation system is changing. • We are slower to respond to collisions and incidents. • Public agencies waste resources on collecting and sharing data.

Emerging Technology Policy 4. Innovation
Advance the public interest by anticipating, learning from and adapting to new developments in technology.

Planning for a changing transportation system begins with changing how we plan. Our current planning process is designed around infrastructure projects designed to last for 50 years and an unchanging set of transportation services. It can take decades to plan and build a project, and once it is built there is little room for change. This time-intensive, risk-averse approach continues to make sense for major transportation investments, but in order to effectively plan for emerging technology we need to give ourselves opportunities to try new approaches, learn from our experience and adapt so that we can keep up with the pace at which technology is evolving. We will also actively engage new mobility companies alongside large employers, academics and community groups working in the technology arena, to identify opportunities to collaborate and test new ideas and turn our region into a hub for innovation.

What happens if we act	What happens if we don't
• We adapt to changes in technology. • We work together with all stakeholders to identify mutually beneficial policies and projects. • We try new ideas and learn from the results.	• We commit to processes, plans and projects that are increasingly out of date. • We confront big changes with limited resources and partnerships. • We sit on our hands because we feel like we don't know enough to act.

3.2.5 Congestion pricing policies

Placeholder for Congestion Pricing Background and Context

This section will include an overview of congestion pricing, including an overview of pricing strategies or projects currently under consideration in the region, an overview of federal pricing programs, a brief summary of the Regional Congestion Pricing Study, descriptions of HB 2017 and HB 3055 tolling policies, potential revenue opportunities and limitations under Article IX, section 3A of the Oregon Constitution, and impacts to freight and the economy from pricing.

3.2.5.1 Congestion Pricing Policies

The draft congestion pricing policies are provided below.

Congestion Pricing Policies

Policy 1	**Mobility**: Improve reliability and efficiency by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.
Policy 2	**Equity**: Integrate equity and affordability into pricing programs and projects from the outset.
Policy 3	**Safety**: Ensure that pricing programs and projects reduce overall automobile trips and address traffic safety and the safety of users of all modes, both on and off the priced system.
Policy 4	**Diversion**: Minimize diversion impacts before, during, and after pricing programs and projects are implemented, especially when diversion is expected on the regional high injury corridors.
Policy 5	**Climate**: Reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options when implementing a pricing program or project.
Policy 6	**Emerging Technologies**: Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.

Congestion Pricing Policy 1. Mobility: **Improve reliability and efficiency by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.**

Action Items:

- Set rates for congestion pricing at a level that will manage congestion and reduce VMT on the priced facility while limiting diversion to nearby unpriced facilities, including arterial, collector, and local streets in the project area.
- Collaborate with regional and local agencies and communities when setting, evaluating, and adjusting mobility goals.
- Reinvest a portion of net revenues from congestion pricing in modal alternatives both on and off the priced facility that encourage mode shift and VMT reduction, including transit

improvements as well as bicycle and pedestrian improvements and improvements to local circulation.

- Identify opportunities to partner with other agencies to fund or construct modal alternatives. Work with transit agencies and other local partners, including coordination with the High Capacity Transit Strategy, to determine additional revenue needs and pursue funding needed to develop transit-supportive elements, expand access to transit, and to ensure equitable investments, particularly in cases where such improvements cannot be funded directly by congestion pricing revenues due to revenue restrictions.
- Consider non-infrastructure opportunities to encourage mode shift and reduce VMT, including commuter credits, funding for transit passes, bikeshare and/or micromobility subsidies, partnerships with employer commuter programs, and carpooling and vanpooling. Consider higher benefits, subsidies, or discounts for people with low-income and people of color.

Congestion Pricing Policy 2. Equity**: Integrate equity and affordability into pricing programs and projects from the outset.**

Action Items:

- Conduct general public engagement in a variety of formats, including formats that accommodate all abilities and levels of access to technology. Begin engagement at an early stage and re-engage the public in a meaningful manner at multiple points throughout the process.
- Engage equity groups, people with low-income, and people of color (equity groups to be defined through the 2023 RTP update) in a co-creation process, beginning at an early stage, to help shape goals, outcomes, performance metrics, and reinvestment of revenues.
- Use a consistent definition of equity and equity areas, such as Equity Focus Areas. A consistent methodology for documenting benefits and burdens of pricing for equity groups, people with low-income, people of color, and Equity Focus Areas should be established across agencies. The methodology should consider a variety of factors, such as costs to the user, travel options, travel time, transit reliability and access, diversion and safety, economic impacts to businesses, noise, access to opportunity, localized impacts to emissions, water and air quality, and visual impacts.
- Establish feedback mechanisms, a communication plan, and recurring regular engagement over time with equity groups that were involved in the co-creation process.
- Provide a progressive fee structure which includes exemptions or discounts for qualified users. Base eligibility on inclusion in one or more population categories, such as low-income or identifying as a person of color, and minimize barriers to qualification by building on existing programs or partnerships where applicable
- Create varied and accessible means of payment and enrollment, including options for people without access to the internet or banking services.
- Reinvest a portion of net revenues from congestion pricing into communities with high proportions of people with low-income and people of color, and/or in Equity Focus Areas. Examples include commuter credits and free or discounted transit passes, or improved transit facilities, stops, passenger amenities, and transit priority treatments.

Congestion Pricing Policy 3. Safety: Ensure that pricing programs and projects reduce overall automobile trips and address traffic safety and the safety of users of all modes, both on and off the priced system.

Action Items:

- Collaborate with regional and local agencies and communities when identifying traffic safety impacts and mitigations.
- Use a data-driven approach to identify potential traffic safety impacts on local streets both during and after implementation of pricing projects; monitor with real-time data after implementation.
- Monitoring and evaluation programs should be on-going and transparent. Establish feedback mechanisms and a communication plan in advance for the community and decision makers.
- Adjust safety strategies based on monitoring and evaluation findings.
- Reinvest a portion of net revenues into areas in or near the area being priced to manage safety issues caused by pricing projects.
- Develop plans or contingencies for severe weather operations, evacuations during disaster, and construction detours.
- Pricing programs or projects should strive to reduce fatalities and serious injuries by aligning with the RTP's safety and security policies identified in Section 3.2.1.4
- Evaluate and mitigate for impacts from pricing on high injury corridors, including changes in VMT from diversion and opportunities to improve safety on high injury corridors through investments in modal alternatives and other safety investments.

Congestion Pricing Policy 4. Diversion: Minimize diversion impacts before, during, and after pricing programs and projects are implemented, especially when diversion is expected on the regional high injury corridors.

Action Items:

- Collaborate with regional and local agencies and communities when identifying diversion impacts and mitigations.
- Use a data-driven approach to identify potential diversion impacts on local streets both during and after implementation of pricing projects; monitor with real-time data after implementation.
- Evaluate localized impacts of diversion including factors such as VMT on local streets, VMT in defined equity areas, noise, economic impacts to businesses, and localized emissions, water quality, and air quality.
- Monitoring and evaluation programs should be on-going and transparent. Establish feedback mechanisms and a communication plan in advance for the community and decision makers.
- Adjust mitigation strategies based on monitoring and evaluation findings. Areas impacted may change as the pricing program is implemented and diversion mitigation strategies are put into place.
- Reinvest a portion of net revenues into areas in or near the area being priced to manage diversion caused by pricing projects.

Congestion Pricing Policy 5. Climate: Reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options when implementing a pricing program or project.

Action Items:

- Set rates for congestion pricing at a level that will reduce emissions by managing congestion and reducing VMT on the priced facility while limiting diversion to nearby unpriced facilities, including arterial, collector, and local streets in the project area.
- Consider localized emissions impacts resulting from diversion or other changes in travel patterns.
- Reinvest a portion of net revenues from congestion pricing in modal alternatives both on and off the priced facility that can reduce emissions by encouraging mode shift and VMT reduction, including transit improvements as well as bicycle and pedestrian improvements and improvements to local circulation.
- Identify how congestion pricing can address and support the RTP's climate leadership goals and objectives and Climate Smart Strategy policies.

Congestion Pricing Policy 6. Emerging Technologies: Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.

Action Items:

- Coordinate with other existing and proposed pricing programs and emerging technologies for payment systems to reduce burdens on the user and manage the system efficiently, including setting rates, identifying tolling technology and payment systems, and establishing discounts and exemptions.
- Create varied and accessible means of payment and enrollment, including options for people without access to the internet or banking services.
- Consider the upfront costs of technology investment balanced with long-term operational and replacement costs compared with expected revenue generation.
- Weigh existing and emerging equipment and technological advancements when making technology choices, balancing what is time-tested versus what may become obsolete soon. Technology and programs which do not require users to opt-in or track miles manually, for instance, are more likely to see greater compliance.
- Review existing laws and regulations to confirm the ability and authority to enforce the selected program and install the selected technology. Technology and enforcement methods must not be in violation of existing laws or city codes, such as prohibition of certain equipment on sidewalks or within city boundaries.

3.2.5.2 Defining Key Terms

Key terms will be included in the RTP glossary.

Congestion Pricing: Motorists pay directly for driving on a particular roadway or for driving or parking in a particular area. Congestion Pricing includes pricing different locations using different rate types, such as variable or dynamic pricing (higher prices under congested conditions and lower prices at less congested times and conditions), amongst other methods. Congestion pricing has been demonstrated to be effective in encouraging drivers to change their behaviors by driving at different times, driving less, or taking other modes. As a result, congestion pricing can reduce VMT and greenhouse gas emissions if there are other transportation options available or alternatives to taking the trip. Congestion pricing within the Portland metropolitan context includes the following methods and pricing strategies. Methods and strategies can be combined in different ways, such as variable cordon pricing or dynamic roadway pricing. Different types of congestion pricing can be implemented in coordination with each other to provide greater systemwide benefits. Congestion pricing can be implemented at the state, regional, or local level.

- Types of Congestion Pricing
  - Cordon
  - Parking
  - Road User Charge / VMT Fee / Mileage Based User Fee
  - Roadway
- Rate Types
  - Flat
  - Variable
  - Dynamic

Road User Charge / VMT Fee / Mileage Based User Fee: Motorists are charged for each mile driven. A road user charge is often discussed as an alternative to federal, state, and local gas taxes which have become less relevant to the user-pays principle as more drivers switch to fuel efficient or electric vehicles. Road user charges are most often implemented as flat or variable rate fees.

Cordon Pricing: Motorists are charged to enter a congested area, usually a city center or other high activity area well served with non-driving transportation options. Cordon pricing is most often implemented as flat or variable rate fees.

Parking Pricing: Drivers pay to park in certain areas. Parking pricing may include flat, variable, or dynamic fee structures. Dynamic pricing involves periodically adjusting parking fees to match demand, this can be paired with technology which helps drivers find spaces in underused and less costly areas.

Roadway Pricing: Motorists are charged to drive on a particular roadway. Roadway pricing can be implemented as a flat, variable, or dynamic fee. Roadway prices that vary by time of day can follow a set fee schedule (variable), or the fee rate can be continually adjusted based on traffic conditions (dynamic).

Flat Rate Fee (Toll): A flat rate fee, also known as a toll, charged by a toll facility operator in an amount set by the operator for the privilege of traveling on said toll facility. Tolling is a user fee system for specific infrastructure such a bridges and tunnels. Toll revenues are used for costs associated with the tolled infrastructures. This tool is used to raise funds for construction, operations, maintenance, and administration of specific infrastructure. Flat Rate Tolling can also serve as a method for congestion management, though it is not responsive to changing conditions or time of day.

Variable Rate Fee: With this type of pricing, a variable fee schedule is set so that the fee is higher during peak travel hours and lower during off-peak or shoulder hours. This encourages motorists to use the facility or drive less during less congested periods and allows traffic to flow more freely during peak times. Peak fee rates may be high enough to usually ensure that traffic flow will not break down, thus offering motorists a reliable and less congested trip in exchange for the higher peak fee. The current price is often displayed on electronic signs prior to the beginning of the priced facility.

Dynamic Rate Fee: Fee rates are continually adjusted according to traffic conditions to better achieve a free-flowing level of traffic. Under this system, fee rates increase when the priced facilities get relatively full and decrease when the priced facilities get less full. This system is more complex and less predictable than using a flat or variable rate fee structure, but its flexibility helps to better achieve the optimal traffic flow by reflecting changes in travel demand. Motorists are usually guaranteed that they will not be charged more than a pre-set maximum price under any circumstances. The current price is often displayed on electronic signs prior to the beginning of the priced facility.

Section 129: Section 129 of Title 23 of the U.S. Code provides the ability to toll Federal-aid highways in conjunction with construction, reconstruction, or other capital improvements. Flat rate tolling and variable pricing strategies are authorized for Section 129 facilities. There are some limitations to what facilities may be included. See https://uscode.house.gov/view.xhtml?req=(title:23%20section:129%20edition:prelim) for more detail.

Section 166: Section 166 of Title 23 of the U.S. Code provides the ability to create high-occupancy vehicle (HOV) lanes on Federal-aid highways. Public authorities which have jurisdiction over an HOV facility have the authority to establish occupancy requirements of vehicles using the facility, but the minimum is no fewer than two. Certain exceptions are allowed such as motorcycles and bicycles, public transit vehicles, and low emission vehicles. See https://uscode.house.gov/view.xhtml?req=(title:23%20section:166%20edition:prelim) for more detail.

Value Pricing Pilot Program: Oregon is a participant in the FHWA Value Pricing Pilot Program (VPPP). The VPPP was established in 1991 (as the Congestion Pricing Pilot Program) to encourage implementation and evaluation of value pricing pilot projects to manage congestion on highways through tolling and other pricing mechanisms. The program also wanted to test the impact of pricing on driver behavior, traffic volumes, transit ridership, air quality, and availability of funds for transportation programs. While the program no longer actively solicits projects, it can still provide tolling authority to State, regional or local governments to implement congestion pricing applications. See https://ops.fhwa.dot.gov/congestionpricing/value_pricing/ for more detail.

Low-carbon travel options: Low-carbon travel options include walking, rolling, biking, transit, and electric vehicles.

Transit-supportive elements: Transit-supportive elements include programs, policies, capital investments and incentives such as Travel Demand Management and physical improvements such as sidewalks, crossings, and complementary land uses.

Diversion: Diversion is the movement of automobile trips from one facility to another because of pricing implementation. All trips that change their route in response to pricing are considered diversion, regardless of length or location of the trip.

3.3 REGIONAL DESIGN AND PLACEMAKING VISION AND POLICIES

The regional transportation system design, placemaking concept and related policies in this section address federal, state and regional transportation planning mandates with roadway design concepts that support regional and local implementation of the 2040 Growth Concept. The transportation system design and placemaking concept establishes design classifications for the regional throughway and arterial system and design guidelines for the regional transportation system to foster livable communities throughout the region and encourage walking, bicycling and use of transit.

Sustainable, context sensitive and performance-based design of transportation facilities is critical to achieving regional goals and objectives, including Vision Zero, increased transportation options, efficient and reliable travel for all modes, healthy people and environment, security, addressing climate change, sustainable economic prosperity, racial and income equity, vibrant communities, resiliency and fiscal stewardship.

Land use planning determines where homes, schools, work, shopping, and other activities are located and can profoundly affect the way in which we move around the region and within our communities. The 2040 Growth Concept supports land use that encourages shorter and fewer trips made by driving. Transportation system design should support the goal of reducing vehicle miles traveled by building and operating streets that are sensitive to the adjacent land use context, the roadway's functional classifications and the different needs and abilities of people traveling.

3.3.1 Streets serve many functions

The transportation system design and placemaking concept acknowledges that streets can serve many, sometimes conflicting functions. Land use context informs some of the functions of streets, for example streets in dense urban centers will look and function differently than streets serving freight intermodal facilities, or streets connecting centers. Highways designed for longer trips and higher motor-vehicle speeds will function differently than streets with many destinations and places.

Regional street and trail design guidelines provide tools to help reconcile conflicts for the safety of all modes of travel and achieve adopted policies and desired outcomes. Trade-offs in street design should be driven by a performance based design approach and consistency with adopted policies.

Functions of streets on the regional transportation system

- Pedestrian access and mobility for people walking and people using a mobility device
- Bicycle access and mobility for people riding bicycles
- Transit access and mobility for people accessing and using transit
- Truck freight access and mobility for moving goods, deliveries and e-commerce

- Auto access and mobility for people driving, ridesharing, automated and driverless vehicles/connected vehicles
- Placemaking and public space
- Nature corridors and stormwater management
- Utility corridors
- Flex zone for auto and bicycle parking, transit stops and stations, ride hailing, loading zones, benches/seating
- Physical activity
- Emergency response

3.3.2 Regional design classifications

Each of the regional modal networks (Pedestrian, Bicycle, Transit, Freight and Motor Vehicle) has a Network Vision Map which identifies the functional classifications for that mode. Functional classifications are hierarchical and describe the volume and type of trips most suited for that facility.

Regional design classifications are assigned to regional streets with the functional classification of throughway or arterial as shown on the RTP Motor Vehicle Network Map. Design classifications are only applied to streets within the metropolitan planning area.

Design classifications provide an overall approach to design for a facility based on its functional classification and adjacent land use context. Refer to **Table 3.3** Regional Design Classifications for an illustration of the concepts associated with each design classification and **Figure 3.7** Regional Design Classification Map to see which design classifications are assigned to arterials and throughways designated on the regional motor vehicle network.

The regional design classifications serve multiple modes of travel in a manner that supports the specific needs of the 2040 land use components they serve.

- **Freeways and Highways Design Classification:** The Freeways and Highways design classifications are applied to completely grade-separated limited-access facilities and primarily limited-access facilities with some at-grade intersections. This design classification is assigned to facilities with the functional classification of throughway. The essential function is throughput and mobility for motor vehicle travel, travel speeds are higher and they serve as main roadway freight routes. These facilities typically have six through lanes plus auxiliary lanes in some places and parking is prohibited. These facilities cross all types of land use components and buildings are rarely oriented towards the facility. Noise and pollution barriers are necessary. Pedestrian and bicycle travel is supported with parallel completely separated multi-use paths within the corridor. Providing for connectivity across these facilities for multi-modal travel is essential. Desirable green infrastrucutre designs to protecct and enhance the natural environment, such as filter and retain stormwater, minimize light pollution and allow wildlife crossings and fish passage.

- **Regional and Community Boulevards Design Classification:** The Boulevard design classification is applied to the segments of major and minor arterials in areas identified with the 2040 land use types of central city, center, station communtiy or main street. The essential function of these streets is transit, bicycle and pedestrian travel and access while balancing motor-vehicle travel and the many other functions of intensely developed areas. Segments that are also designated as freight roadway connectors are designed to serve freight access and movement. These facilities typically have two to four lanes with turn lanes for minor arterials and up to four lanes with turn lanes for major arterials. Medians and access management increase safety for pedestrians and all modes. Speeds are low to moderate. This design classification is applied in the central city, regional centers, station communities, some main streets and town centers. Buildings are oriented towards the street. Connectivity and access are enhanced with medians, roundabouts and protected crossings. Sidewalks are wide and buffered and bikeways are protected. Include green infrastrucuture designs to protecct and enhance the natural environment, such as filter and retain stormwater, minimize light pollution and allow wildlife crossings and fish passage.
- **Regional and Community Streets Design Classification:** The Streets design classification is applied to major and minor arterials that serve as commercial corridors and connect regional and town centers, employment, industrial areas and activity centers, including those identifed on the 2040 land use type map as corridors. The essential function is serving transit and providing pedestrian and bicycle permeability and access while balancing motor-vehicle mobility and other functions. Segments that are also designated as freight roadway connectors are designed to serve freight access and movement. These facilities typically have two to four lanes with turn lanes for minor arterials and up to four lanes for major arterials with turn lanes for major arterials. Medians and access management increase safety for pedestrians and all modes. Speeds are moderate to low. This design classification is applied to 2040 corridors, some main streets, neighborhoods, and some employment and industrial areas. Buildings are usually oriented towards the street, especially at intersections and transit stops. Sidewalks are buffered and bikeways are protected, and if not protected a low stress facility is provided on a parallel facility no less than one block over. Include green infrastrucuture designs to protecct and enhance the natural environment, such as filter and retain stormwater, minimize light pollution and allow wildlife crossings and fish passage.
- **Industrial Streets Design Classification:** Industrial Streets design classification is assigned to streets identified as Intermodal Connectors on the Regional Freight System Map and to streets in 2040 industrial areas. The essential function of these streets is freight access to intermodal facilities, while balancing safety and access to transit. Speeds are moderate to low. Intersections have wider turning radii and lane widths are generally wider than the Boulevard or Streets design classifications. Pedestrian and bicycle travel is supported with completely separated parallel multi-use paths, or sidewalks are buffered and bikeways are protected, and if not protected a low stress facility is provided on a parallel facility no less than one block over. Include green infrastrucuture designs to protecct and enhance the natural environment, such as filter and retain stormwater, minimize light pollution and allow wildlife crossings and fish passage.

Figure 3.7 Regional design classifications map

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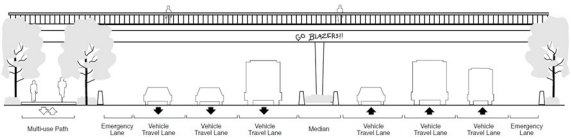
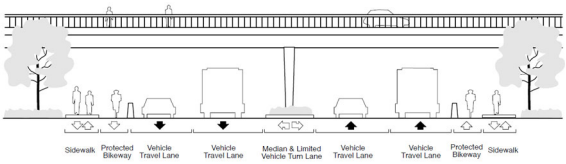
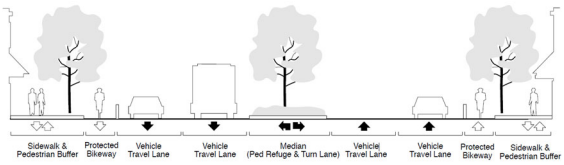
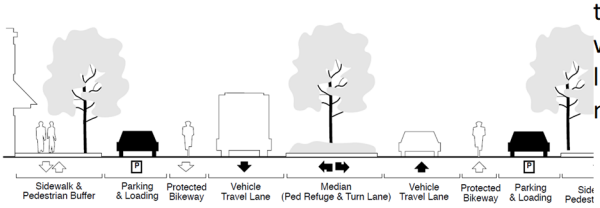
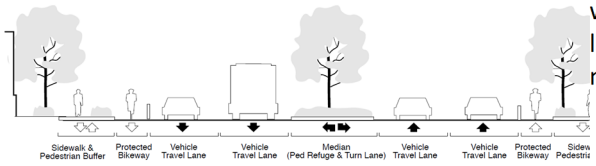
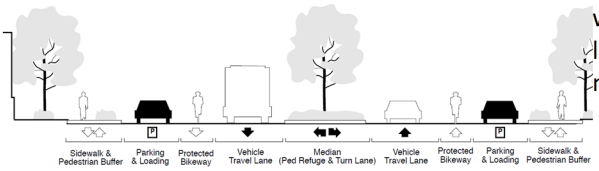
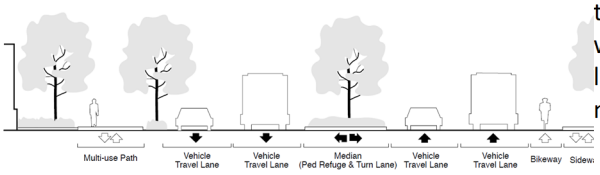
The design concepts promote community livability and reliable travel by balancing all modes of travel and addressing the function and character of adjacent land uses. Linking land use and the physical design of transportation facilities is crucial to achieving state goals to limit reliance on any one mode of travel and to encourage increased walking, bicycling, carpooling, vanpooling and use of transit.

Table 3.3 summarizes design classifications, typical design elements and motor vehicle functions, illustrating how multimodal design elements can be integrated.

Table 3.3 Design classifications for the Regional Motor Vehicle Network

Trip Type(s)	Design Classification 2040 Land Use(s)	Motor Vehicle Functional Classification	Illustrative Design Concept	Typical number of planned travel lanes[9]
Interstate Regional	**Freeway** All	Throughway		6 through lanes (plus auxiliary lanes) with grade separated interchanges
Interstate Regional	**Highway** All	Throughway		Up to 6 through lanes (plus auxiliary lanes) with turn lanes at grade separated intersections
Regional City	**Regional Boulevard** *Central City Regional Center Town Center Station Community Main Street*	Major Arterial		Up to 4 through lanes with turn lanes and median

[9] The number of through lanes may vary based on right-of-way constraints or other factors. Some places in the region may require additional lanes due to a lack of network connectivity. Major and minor arterial streets can either be 2 or 4 lanes with turn lanes as appropriate.

Trip Type(s)	Design Classification 2040 Land Use(s)	Motor Vehicle Functional Classification	Illustrative Design Concept	Typical number of planned travel lanes[9]
City	**Community Boulevard** *Central City* *Regional Center* *Town Center* *Station Community* *Main Street*	Minor Arterial		2 to 4 through lanes with turn lanes and median
Regional City	**Regional Street** *Corridor* *Industrial area* *Employment Area* *Neighborhood*	Major Arterial		Up to 4 through lanes with turn lanes and median
City	**Community Street** *Corridor* *Industrial Area* *Employment Area* *Neighborhood*	Minor Arterial		2 to 4 through lanes with turn lanes and median
City	**Industrial Street** *Industrial Area* *Employment Area* *Intermodal Facility*	Major Arterial Minor Arterial		Up to 4 through lanes with turn lanes and median

Source: Metro (conceptual cross sections in the table are illustrative only)

3.3.3 Designs for safe and healthy transportation for all ages and abilities

Street and facility designs have a significant impact on the health, safety and economic and environmental sustainability of our communities. Throughways serve interregional and interstate trips and are designed to support safe and reliable motor vehicle travel. Regional arterials serve both regional and local trips and must be designed to support health and sustainability while maintaining mobility and access for all modes. **Table 3.4** identifies the design characteristics of arterials that can promote or hinder health.

Table 3.4 Design characteristics of healthy arterials[10]

Health Promoting Design	Unhealthy Design
Neighborhood asset for access and commerce	Physical barrier that divides neighborhoods
Supports neighborhood social and cultural connections	Exhibits neglect and physical decay
Safe travel speeds for all users	Traffic speeds too high to be safe for all users
Comfortable for all users to cross	Difficult to cross because of design and traffic
Link within pedestrian and bicycle networks	Barrier within pedestrian and bicycle networks
Designed to mitigate noise	Source of noise
Designed to mitigate air pollution	Near-roadway air pollution
Accessible to users of all abilities	Inaccessible to users with disabilities
Supports green infrastructure systems	Impervious paving materials, lack of shade
Contributes to revitalization without displacement	Location of residential and business gentrification

Metro's Designing Livable Streets and Trails handbooks provide design guidance depending on the intended functions of the arterial or throughway, the land uses the facility serves and adopted policy. In the design guidance, consideration is given to various arterial designs, designs for freight, trails, pedestrians, bicyclists and transit and the link between street design and stormwater management. Design decisions, especially trade-offs in situations of limited road right-of-way, should use performance-based design and flexibility in design to achieve desired outcomes.

[10] *Understanding and Improving Arterial Roads to Support Public Health and Transportation Goals,* American Journal of Public Health, August 2017.

Figure 3.8 Metro's Designing Livable Streets handbooks

Regional design guidance identifies design elements that support achieving regional goals, objectives and policies, and recommend design elements such as:

- Universal, age-friendly designs that comply with the Americans with Disabilities Act and take into account people's abilities as they transition through various stages of age and ability, particularly older adults, youth and people living with disabilities
- Traffic calming to safe speeds for all modes of travel
- Protected/buffered separation of pedestrians and bicycle riders from motor vehicles, including freight trucks
- Integration of regional trails with the transportation network
- Placemaking designs
- Designs for freight access
- Designs for enhanced transit and accessible bus stops and stations
- Green infrastructure (see next section)

Well-designed sidewalks, benches, lighting, street trees and other urban design elements encourage more walking and provide for safe travel for people of all ages and abilities.

Where appropriate, traffic calming measures such as narrower travel lanes, compact intersections, landscaped buffers and on-street parking can slow vehicle traffic and reduce crashes involving pedestrians, bicyclists, motorcyclists and motorists. Painted crosswalks, appropriate use of signs and signals and median islands make it easier for pedestrians and bicyclists to cross busy roads.

Curb designs, ramps and crossing signals designed for the hearing- and sight-impaired facilitate safe travel for people of all ages and abilities. Facilities and infrastructure such as street lighting, wayfinding, benches, bicycle parking, waste baskets, street trees and kiosks make the environment more attractive and create a sense of community and safety that encourages walking, bicycling and the use of transit.

Design elements currently in use in the region and elsewhere that have been shown to increase the level of walking and bicycling and access to transit are described in the Regional Active Transportation Plan as design guidance. The design elements emphasize the need for separation from traffic, especially on streets with higher traffic volumes and/or speeds or on roadways with heavy volumes of freight traffic, for separation of pedestrians and bicyclists on busy regional trails, and the importance of lighting and crossing treatments to increase safety.

Street designs that separate people walking and biking from motor vehicle traffic also help reduce exposure to and mitigate the impacts of traffic pollution, particularly in heavily traveled corridors and along streets with multi-family housing. Local jurisdictions are encouraged to consider prioritizing electrification of transit and charging infrastrucuture for passenger vehicles and freight as well as best practices in orienting buildings and designing indoor air systems to minimize pollution exposure.

3.3.4 Designs for stormwater management and natural, historic and cultural resource protection

The effect that transportation infrastructure has on the health of the natural environment, particularly urban waterways and habitat connectivity, is well documented. Transporatation infrastrucutre has the potential to degrade water quality, create barriers to corridors for animal travel and increase air, noise and light pollution. Projects also have the potential to negatively impact cultural and historical resources if not planned and implemented carefully.

Projects should be designed to avoid or minimize impact, or if avoidance is not possible, to maximize enhancement, protection and improvement of natural, community and cultural resources.

The combined impervious surfaces of streets, paved trails, parking lots and driveways form the largest impervious surfaces in the urban landscape, accounting for up to 65 percent of the total impervious surface area. A particular challenge is addressing conflicts between transportation facilities and wildlife and riparian corridors, and determining how transportation improvements can be located, designed and constructed with regard for riparian corridor and upland habitat protection plans identified in the Intertwine Regional Conservation Strategy.

Green retrofits can help intercept rainwater thereby mitigating the negative impacts to streams and other waterways.

Existing natural resources inventory data can be used to improve and refine project prioritization and design to improve habitat connectivity, remedy barriers from existing and proposed transportation infrastructure and restore ecological processes.

Impervious surfaces have been linked to flooding and changes in hydrology, the shape of streams, water quality, water temperature and the biological health of waterways. With respect to runoff quality, recent research by the National Marine Fisheries Service and Washington State University points to the high aquatic toxicity of runoff from roadway surfaces. This toxicity is directly proportional to traffic volumes. Stormwater facilities that are vegetated and contain compost-amended soils represent the only currently effective treatment options to address these often unidentified toxic compounds. Such facilities are also required to be prioritized in current National Pollutant Discharge Elimination System (NPDES) municipal stormwater permits across the region.

With respect to runoff quantity, development in the region at increasing density results in less pervious surface available to absorb the combined runoff volumes from transportation surfaces, structures and associated impervious area. Runoff volumes of winter peak flows can more than double from predeveloped conditions in the face of urban development, with associated flow reductions in summer. Climate change is expected to reinforce this pattern. Higher runoff volumes result in channel erosion, aquatic and floodplain habitat degradation, and damage to infrastructure (including transportation infrastructure such as bridges and culverts). Low summer flows reduce the vigor of vegetation that helps stabilize streambanks. Yet more than half of the region, including nearly all of the area west of the Willamette River, has subsurface conditions that do not promote easy infiltration of large volumes of urban runoff.

Regional Green Streets guidelines seek to minimize and mitigate these effects through a combination of retrofits to existing streets and designs for new streets and throughways. This is how the RTP and Metro's Designing Livable Streets and Trails handbooks help ensure protection of salmon and steelhead that were federally protected as endangered species in 1999.

As arterial streets and throughways and other types of transportation infrastructure cut across the landscape, they form barriers to wildlife movement, disrupting migration patterns and population dynamics. When a new structure is built (or an existing one modified) that could damage important wildlife habitat or impede wildlife movement, crossings of all types should be designed appropriately to allow for fish, wildlife, and sometimes people movement at all water levels.

Table 3.5 Examples of gow green infrastructure can help achieve RTP goals

RTP Goal	Examples of how green Infrastrucutre can help achieve RTP goals
Vibrant Communities	Green infrastructure, including trails, parks, street trees, vegetation, and bioswales, contribute to community beautification and public health by connecting people with nature in their daily lives.
Shared Prosperity	Green infrastructure can promote economic growth as a valued public amenity, create construction and maintenance jobs, add to property value, support walkable and bikeable communities, businesses and commercial districts, and lower the costs associated with climate change.
Transportation Choices	Green streets can promote active travel and access to transit by providing enjoyable routes that are shaded and buffered from traffic.
Reliability and Efficiency	Green infrastructure treatments, such as access management and medians with bioswales, can be designed to support reliability and efficiency by reducing crashes and conflicting movements.
Safety and security	Street trees and other green infrastructure can help calm traffic to desired speeds, provide welcoming places that increase security, and improve resiliency and reduce impacts of major storm events.
Healthy Environment	Green infrastructure can enhance and protect the natural environment by supporting clean air and water, filtering stormwater runoff, reducing erosion, protecting, creating and connecting habitat for birds, fish and other wildlife.
Healthy People	Green infrastructure can reduce water, air, noise and light pollution, encourage active lifestyles and link people to trails, parks and nature that enhance human health and well-being.
Climate Leadership	Trees and green infrastructure can support climate adaptation by cooling streets, parking lots and buildings, better managing stormwater and reducing the urban heat island effect. Trees and vegetation can be managed to sequester greenhouse gases to help mitigate climate change.
Equitable Transportation	Clean air and water and access to nature can be improved and habitat can be preserved and enhanced when green infrastructure is provided in historically marginalized communities.
Fiscal stewardship	Protecting the environment and natural resources today can save money for the future and reduce infrastructure construction and maintenance costs.
Transparency and Accontability	All stakeholders can be represented, including those that cannot speak for themselves – wildlife and the natural environment. Performance-based planning includes considering environmental effects throughout the planning process.

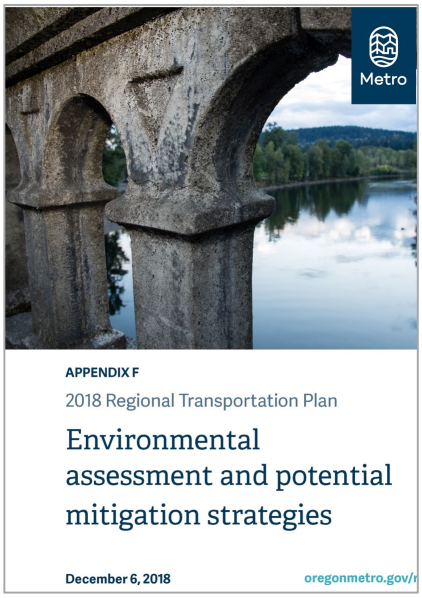
Infrastructure planning and design should first seek to avoid fish and wildlife habitat conservation areas. If that is not practicable, opportunities to minimize or mitigate the effects of transportation infrastructure and services through the application of "green" design treatments should be identified and implemented. Refer to **Appendix F** for examples of mitigation strategies for different environmental resource areas. For example, street trees, vegetated swales and other green street treatments can intercept rainwater and convey stormwater in the public right-of-way, following best practices to minimize light pollution, installing appropriate wildlife crossings, screeing sensitive habitats from noise and light, enhancing vegetation associated with wetlands and waterways for wildlife, limiting fill within wetalnds, constructing bridges or open bottom culverts, creating new wetland areas, and restoring or rehabilitating damaged wetlands and waterways, using pervious materials and preserving, maintaing or enhancing tree canopy. Refer

to Metro's handbooks *Green Streets: Innovative Solutions for Stormwater and Stream Crossings*" and "*Wildlife Crossings: Providing safe passage for urban wildlife* for more information on these designs.

Identification of potential transportation impacts during project development is done using Title 3 and Title 13 resource inventory data as a baseline, with acknowledgement that these inventories may be complemented with other publicly-adopted inventories, and additional data such as the Regional Conservation Strategy high value habitat areas or more recent federal or state resource inventories

The following list identifies the types of resource areas considered during development of RTP update to identify potential resource impacts:

- High value fish and wildlife habitat areas and biodiversity corridors
- Threatened and endangered species, including vertebrate species and plants
- Vegetation and wildlife
- Fisheries
- Wetlands and waterways
- Flood hazard areas/floodplains
- Historic resources
- Tribal lands and legacies
- Air quality and greenhouse gas emissions



Appendix F documents the data and methods used to identify potential RTP project impacts on different resource areas and discusses examples of potential mitigation strategies to "avoid, minimize or mitigate" potential impacts.

The "avoid, minimize or mitigate approach" is known as "sequencing" and involves understanding the affected environment and assessing transportation effects throughout the project development process. The sequencing for projects follow this order:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action or project.
- Compensating for the impact by replacing or providing substitute resources or environments.

Refer to **Appendix F** as a source for more information on potential mitigation strategies specific to resource areas.

3.4 REGIONAL NETWORK VISIONS, CONCEPTS AND POLICIES

This section establishes a network vision, concept and supporting policies for each component of the regional transportation system. The network vision, concepts and policies represent a complete urban transportation system that meets the plan goals and supports local aspirations for growth.

The network visions, concepts and policies provide define a seamless and well-connected regional system of regional throughways and arterial streets, freight networks, transit networks and services and bicycle and pedestrian facilities. The network policies emphasize safety, access, mobility and reliability for people and goods and recognize the community-building and placemaking role of transportation. The network visions, concepts and supporting policies will guide the development, design and management of different components of the regional transportation system.

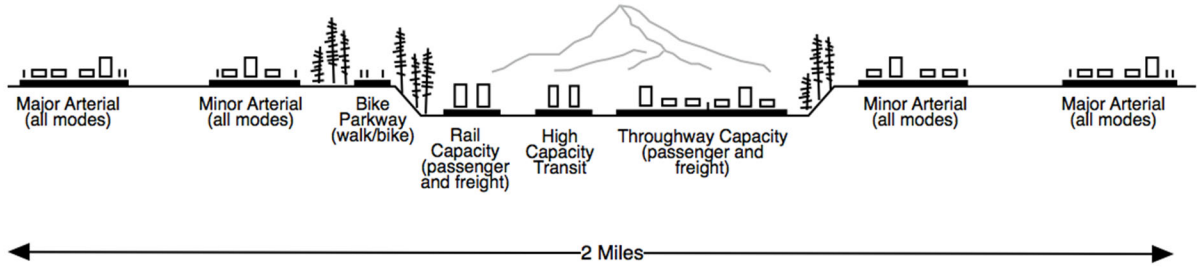
3.4.1 Regional mobility corridor concept

The regional mobility corridor concept integrates throughways, high capacity transit, arterial streets, frequent bus routes, freight/passenger rail and bicycle parkways into subareas of the region that work together to provide for regional, statewide and interstate travel. The function of this system of integrated transportation corridors is metropolitan mobility – moving people and goods between different parts of the region and, in some corridors, connecting the region with the rest of the state and beyond. These transportation corridors also have a significant influence on the development and function of the land uses they serve and are defined by the major centers set forth in the Region 2040 Growth Concept. The regional mobility corridor concept calls for consideration of multiple facilities, modes and land use when identifying needs and most effective mix of land use and transportation solutions to improve mobility within a specific corridor area. The concept of a regional mobility corridor is shown in **Figure 3.9**.

Since the 1980s, regional mobility corridors have had throughway travel supplemented by high capacity transit service that provides an important passenger alternative. Parallel arterial streets, heavy rail, bus service, bicycle parkways and pedestrian/bicycle connections to transit also provide additional capacity in the regional mobility corridors. The full array of regional mobility corridor facilities should be considered in conjunction with the parallel throughways for system evaluation and monitoring, system and demand management and phasing of physical investments in the individual facilities. Bicycle and pedestrian travel and access to transit are also important as we plan and invest in regional throughways and arterial streets. New throughway and arterial facilities, such as freeway interchanges or widened arterial streets, should be designed and constructed in such a manner as to support bicycling, walking and access to transit.

The Mobility Corridor Strategies provided in the Appendix provides a summary of the 24 corridors, describing facilities, functions, land uses, and documenting transportation needs and strategies for addressing them. Updates to these strategies will be informed by the Regional Mobility Policy update described in Chapter 8.

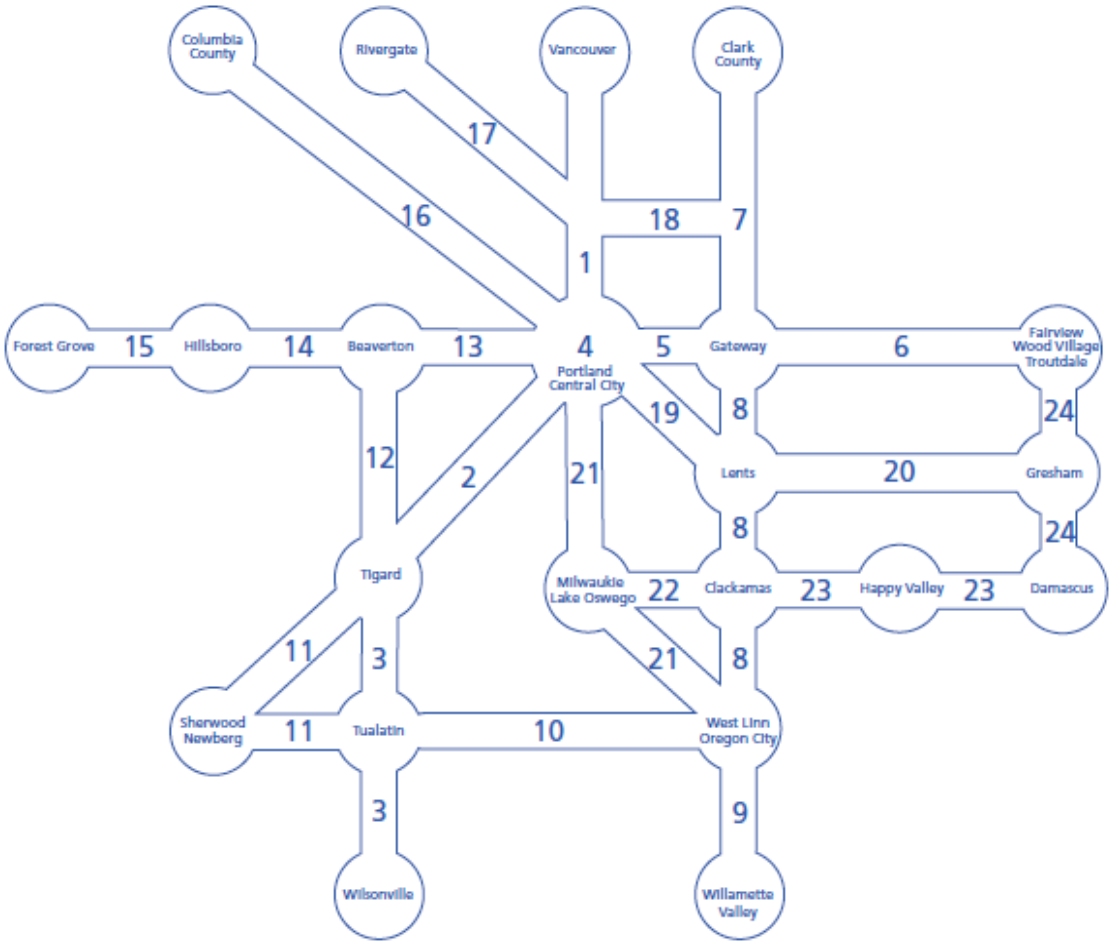
Figure 3.9 Regional mobility corridor concept



Note: Idealized concept for illustrative purposes showing recommended range of system analysis for the evaluation, monitoring, management and phasing of investments to throughways, arterial streets and transit service in the broader corridor. The illustration is modeled after the Banfield corridor that links the Portland central city to the Gateway regional center.

Figure 3.10 shows the general location of mobility corridors in the region.

Figure 3.10 Mobility corridors in the Portland metropolitan region



3.5 REGIONAL MOTOR VEHICLE NETWORK VISION AND POLICIES

3.5.1 Regional motor vehicle network vision

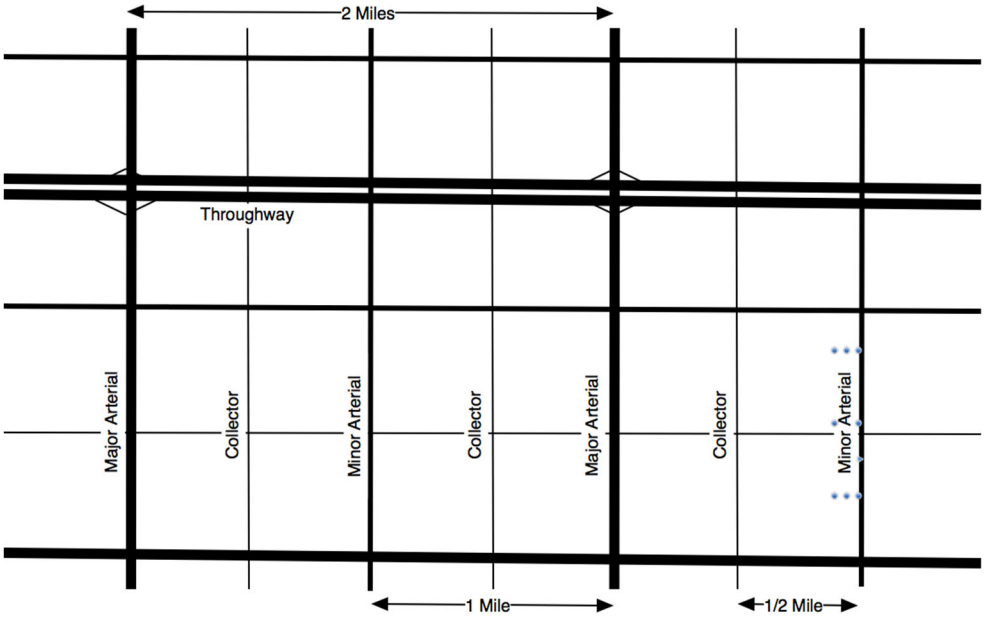
Though our region has changed dramatically over the past century, the shape of the major road network serving our region has not. Most of our regional streets were once farm-to-market roads, established along Donation Land Claim boundaries at half-mile or mile spacing. The region's throughway system evolved from the mid-1930s, when the first highway was built from Portland to Milwaukie, to the completion of I-205 in the early 1980s. Most of the throughway system was built along the same Donation Land Claim grid that shapes the regional street network, with most throughways following older farm-to-market routes or replacing major streets.

This inherited network design has proven to be an adequate match for accommodating the changing travel demands of our growing region. The Regional Motor Vehicle Network Concept seeks to apply this proven network design to developing and undeveloped areas in the region, while seeking opportunities to bring existing urban areas closer to this ideal when possible.

3.5.2 Regional motor vehicle network concept

The Regional Motor Vehicle Network Concept shown in **Figure 3.11** illustrates policies for developing a complete and well-connected motor vehicle network that is safe and reliable, provides adequate capacity and supports all modes of travel.

Figure 3.11 Regional motor vehicle network concept



Note: Conceptual network, illustrating multimodal transportation corridors and showing ideal spacing of arterial streets. Most of the region's travel occurs off the throughway network, on a network of multimodal arterial streets. The RTP policy places an emphasis on ensuring that arterial networks are fully developed as the region grows, providing both local circulation and preserving throughway capacity for regional and statewide travel.

3.5.3 Regional motor vehicle network policies

Rather than solely relying on levels of congestion to direct how and where to address bottlenecks and other motor vehicle capacity deficiencies, the regional motor vehicle concept and policies call for implementing a well-connected network design that is tailored to fit local geography, respect existing communities and future development and protect the natural environment. Increased connectivity improves travel reliability through reducing bottlenecks and congestion hotspots and increasing travel options.

The RTP calls for implementing system and demand management strategies and other strategies prior to building new motor vehicle capacity, consistent with the Federal Congestion Management Process (CMP), Oregon Transportation Plan policies (including Oregon Highway Plan Policy 1G) and Section 3.08.220 of the Regional Transportation Functional Plan (RTFP).

Regional motor vehicle network policies

Policy 1	Preserve and maintain the region's motor vehicle network system in a manner that improves safety, security and resiliency while minimizing life cycle cost and impact on the environment.
Policy 2	Use the Congestion Management Process, Regional Mobility Policy, safety and bike and pedestrian network completion data to identify motor vehicle network deficiencies.
Policy 3	Actively manage and optimize capacity on the region's throughway network for longer, regional, statewide and interstate travel.
Policy 4	Actively manage and optimize arterials according to their planned functions to improve reliability and safety, and maintain mobility and accessibility for all modes of travel.
Policy 5	Strategically expand the region's throughway network up to six travel lanes plus auxiliary lanes between interchanges to maintain mobility and accessibility and improve reliability for regional, statewide and interstate travel.
Policy 6	~~In combination with increased transit service~~If new capacity is being added after completing analysis under Policy 12, ~~consider~~ evaluate use of ~~congestion~~ pricing and increased transit service in conjunction with the new capacity to manage traffic congestion and reduce VMT~~and raise revenue when one or more lanes are being added to throughways~~.
Policy 7*	Complete a well-connected network of arterial streets ideally spaced at approximately 1-mile apart and planned for up to four travel lanes to maintain transit and freight mobility and accessibility and prioritize safe pedestrian, bicycle and transit access for all ages and abilities using Complete Street design approaches.
Policy 8	Complete a well-connected network of collector and local streets that provide for local circulation and direct vehicle, bicycle and pedestrian access to adjacent land uses and to transit for all ages and abilities.
Policy 9	Minimize environmental impacts of new or improved facilities using Green Street infrastructure design, street trees, wildlife habitat or waterway crossing improvements and other approaches to the extent practicable.
Policy 10	Address safety needs on the motor vehicle network through coordinated implementation of cost-effective crash reduction engineering measures, education, and enforcement.
Policy 11	Incorporate complete street designs for safe and convenient pedestrian and bicycle access for regional and local roadways.
Policy 12	Prior to adding new throughway capacity ~~beyond the planned system of through lanes~~, demonstrate that system and demand management strategies, including access management, transit and freight priority, ~~and~~ congestion pricing, and transit service and multimodal connectivity improvements cannot ~~adequately address throughway deficiencies and bottlenecks.~~meet regional mobility, safety, climate, and equity policies.

*Note for Policy 7: The number of through lanes may vary based on right-of-way constraints or other factors. Some places in the region may require additional lanes due to a lack of network connectivity. Major and minor arterial streets can either be 2 or 4 lanes with turn lanes as appropriate.

Network connectivity

A well-connected network of complete streets is critical to achieving the 2040 Growth Concept vision. In general, the roadway network should be designed to provide for trips through or across the region on throughways, shorter trips through portions of the region on arterial streets and the shortest trips on collector and local streets.

This approach results in a street hierarchy of:

- throughways (for example, limited-access facilities such as I-84, US 26, I-5, I-205 and I-405)
- arterial streets (for example, Cornell Road in Washington County, 82nd Avenue in the City of Portland and Sunnyside Road in Clackamas County)
- collector streets
- local streets

The traditional street classifications for throughways, arterial streets and other streets are a good starting point for distributing traffic in communities to avoid bottlenecks on overburdened routes or avoid the need to build overly wide streets as a community grows.

Throughways serve only as mobility routes, with little or no property access, and an emphasis on connecting major destinations across the region. Arterial streets provide both mobility, moving traffic, goods, and people within the region, and access to property along the street. The degree to which one of these regional street purposes predominates over the other is determined by the functional classification.

The RTP presumes that building a regional motor vehicle network to accommodate all motor vehicle traffic during peak travel periods is not practical nor would it be desirable considering potential environment and community impacts.

Complete streets is a transportation policy and design approach for roadways that are planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation. Complete Streets allow for safe travel by those walking, bicycling, driving automobiles, riding public transportation or delivering goods.

By developing a well-connected network the region can spread traffic across the entire network, reducing the need to overburden a few facilities. This will help reduce bottlenecks and congestion

hotspots, decreasing the need to widen roads and intersections beyond their typical design. Connectivity also supports transit, biking and walking by making trip distances shorter and more direct and convenient. Improved travel reliability is a key overall outcome of from all of these connectivity-oriented strategies.

Typical spacing and planned capacity for arterial streets

As a result, the regional motor vehicle network concept calls for one-mile spacing of major arterial streets, with minor arterial streets or collector streets at half-mile spacing, recognizing that existing development, streams and other natural features may limit the provision of these connections. Major and minor arterial streets can be either 2 or 4 lanes with turn lanes as appropriate. Streets with 4 or more lanes should include medians, where possible, with appropriate median openings for turning movements and turn lanes. Access management strategies should be used on arterial streets and all streets with 4 or more lanes.

Shown in **Figure 3.12**, the illustrative arterial street network is complemented by a well-connected network of collector streets. This network of arterial and collector streets is multi-modal in design, serving automobiles, motorcycles, trucks, transit, bicycles and pedestrians. The regional arterial street design with median reflects an accepted design that can support safe travel by all of these modes, accommodating urban levels of traffic, while also providing for bicycle and pedestrian travel and safe crossings at major intersections.

Traffic speeds, access and level of street connectivity vary depending on the function of the street. The design of transportation facilities should consider the facility's traffic function, all modes of travel, and community development goals. As identified in the Regional Active Transportation Plan and Metro's livable street design guidelines, traffic speeds, traffic volumes and the volume of heavy trucks should be considered in the design of pedestrian and bicycle facilities on streets on the regional network.

Research and experience have shown that there are optimal street designs for various types of roadways. Street design, combined with connectivity help reduce congested hot spots and improve reliability. Local streets and collectors are planned to consist of 2-lanes with turn lanes where needed, major arterials are planned to consist of up to 4-lanes with medians and with turn lanes and access management strategies, throughways are planned to consist of 6-lanes plus auxiliary lanes with grade separated interchanges or intersections.

Therefore, before adding additional through lanes beyond the planned system, plans and studies must demonstrate that the additional lanes beyond the planned system do not compromise the function of the roadway for all modes and that the planned system of through lanes, transit service, bike, pedestrian and other parallel arterial, operational, system and demand management solutions do not adequately address transportation needs first, prior to considering widening beyond the planned system to address capacity concerns.

Throughways

Throughways generally span several jurisdictions and often are of statewide importance linking the greater Portland area with neighboring cities, other parts of the state, other states and Canada. Throughways are planned to consist of six through lanes, plus auxiliary lanes, with grade–separated interchanges or intersections, and serve as the workhorse for regional, statewide and interstate travel. Additional lanes may be required in some places based on the importance of a facility to regional and state economic performance, excessive demand and limitations or constraints that prevent creation of a well-connected street network due to topography, existing neighborhoods, or natural resource areas. Chapter 8 explores where such conditions may exist and defines the parameters for future corridor refinement planning work specific to each regional mobility corridor.

Throughways currently carry between 50,000 to 100,000 vehicles per day, providing for high-speed travel on longer motor vehicle trips and serving as the primary freight routes, with an emphasis on mobility. Throughways help serve the need to move both freight trucks and autos through the region. Throughways connect major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities.

The Throughway functional classification generally corresponds to the Expressways functional classification in the Oregon Highway Plan. There are two types of Throughway designs as described in **Table 3.3**: Freeways - which are limited-access and completely grade separated and Highways, which include a mix of separate and at-grade access points. Throughway interchanges should be spaced no less than two miles apart.

Throughways accommodate longer-distance regional and state-wide travel and provide important access to the region's major activity centers, such as downtown Portland, and freight access to industrial areas and freight intermodal facilities.

Arterial streets

Arterial streets are intended to provide general mobility for travel within the region and provide important connections to the throughway network. Arterial streets connect major commercial, residential, industrial and institutional centers with each other and link these areas to the throughway network. Arterial streets are usually spaced about one mile apart and are designed to accommodate motor vehicle, truck, bicycle, pedestrian and transit travel.

Arterial streets usually carry between 10,000 and 40,000 vehicles per day and often allow higher speeds than collector and local streets. Major arterial streets accommodate longer-distance through trips and serve more of a regional traffic function. Minor arterial streets serve shorter trips that are localized within a community. As a result, major arterial streets usually carry more traffic than minor arterial streets.

Major arterial streets accommodate longer-distance through trips, while minor arterials serve shorter trips within a community.

Streets designated with an arterial functional classification are shown in **Figure 3.13** and include Boulevard and Streets described in **Table 3.3** and shown in **Figure 3.7**.

Arterial safety

Safety is a primary concern on the regional arterial system, on which approximately 60 percent of the region's fatal and severe injury crashes occur. For this reason, much of the focus for achieving the region's Vision Zero target will fall upon arterial streets. More attention to designs and operational strategies that have been demonstrated to improve the safety of the arterial system could reduce the number of people killed and injured, using national best practices as a guide. Efforts to substantively improve transportation safety in the region must give arterial roadways high priority, with a focus on the region's high injury corridors, and may include:

- proven designs and strategies such as medians, speed management, access management, improved pedestrian crossings and street lighting, replacing intersections with roundabouts, reducing speeds to levels which are safe for pedestrians and road diets;
- enforcement actions targeting high-risk behaviors, such as speeding, aggressive driving, driving under the influence, red-light running, and failure-to-yield at bike and pedestrian crossings; and
- education initiatives intended to promote safer behavior among all users of the transportation system.

The safety targets of the RTP will not be met without a concerted effort to make the region's arterial roadways substantially safer. The development of an objective metric to measure safety

on the region's arterials, regardless of jurisdiction, should be developed to support prioritization of corridor safety efforts.

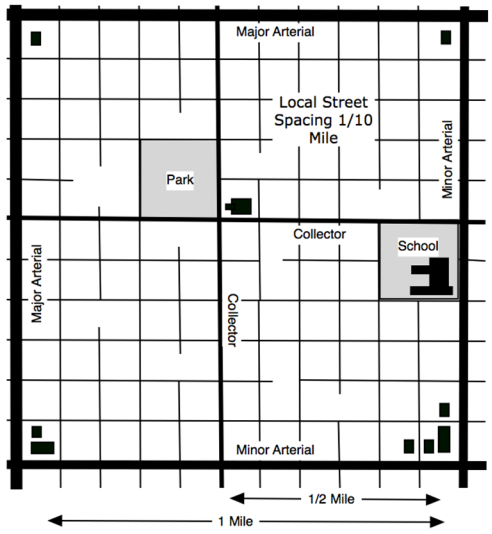
Collector and local street connectivity

Collector and local streets are general access facilities that provide for community and neighborhood circulation. They are not usually part of the regional transportation system except when located within designated 2040 areas as described in **Section 3.4** (or when they are part of the Regional Bicycle Network or Regional Pedestrian Network), they play an important supporting role to the design and optimization of the regional transportation system. When local travel is restricted by a lack of connecting routes, local trips are forced onto the arterial and/or throughway networks, in some cases causing congestion on the regional system.

Local jurisdictions are responsible for defining the network of local and collector streets within the one-mile spacing grid of arterial streets. The Regional Transportation Functional Plan requires local street spacing of no more than 530 feet in new residential and mixed-use areas, and cul-de-sacs are limited to 200 feet in length to distribute vehicle movements and provide direct bicycle and pedestrian routes. More frequent bike and pedestrian connections are required where collector and local streets cannot be constructed due to existing development or other topographic or environmental constraints.

A goal of the requirements is to encourage local traffic to use local and collector streets to minimize local traffic on regional arterial streets. Local street connectivity also benefits emergency response. Designs should retain the neighborhood character and livability along these local routes.

Figure 3.12 Collector and local street network concept



Note: Idealized concept for illustrative purposes showing desired spacing for collectors and local streets in residential and mixed-use areas to serve local circulation, walking and bicycling. The illustration is modeled after neighborhoods in Southeast Portland.

Shown in **Figure 3.12**, the collector and local street network concept provides for bicycle and pedestrian travel and provides for direct access from local street networks to community destinations and transit on regional arterial streets.

Collector streets

Collector streets provide both access and circulation. As such, collectors tend to carry fewer motor vehicles at lower travel speeds than arterial streets. Collectors may serve as freight access routes, providing connections from industrial or commercial areas to the arterial network. Collector streets serve neighborhood traffic. Collectors provide local circulation alternatives to arterial streets. Collectors provide both circulation and access within residential and commercial areas, helping to disperse traffic that might otherwise use the arterial network for local travel.

Collectors may also serve as local bike, pedestrian and freight access routes, providing connections to the arterial and transit network. Collectors usually carry between 1,000 and 10,000 vehicles per day, with volumes varying by jurisdiction. Collector streets are ideally spaced at half-mile intervals, or midway between arterial streets. Auto speeds and volumes on collector streets are moderate.

Local streets

Local streets primarily provide direct access to adjacent land uses, and usually between 200-2,000 vehicles per day, with volumes varying by jurisdiction. Vehicle speeds on local streets are relatively low, which makes them good candidates for bicyclists and walkers traveling within and between centers.

Local streets have lower vehicle speeds and less vehicle traffic, serving an important role of supporting bicycle and pedestrian travel in the region.

While local streets are not intended to serve through traffic, the local street network serves an important role for supporting bicycle and pedestrian travel. As a result, regional local street connectivity policies require communities to develop a connected network of local streets to increase access to designated centers and the regional transit network by non-motorized travelers.

3.5.3 Regional motor vehicle network classifications and map

The Regional Regional Motor Vehicle Network is shown in **Figure 3.13**. Click on 2018 RTP Regional Network Maps for online zoomable version of map.

Figure 3.13 Regional motor vehicle network map

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3.5.4 Interim regional mobility policy

First adopted in 2000 and amended into the Oregon Highway Plan in 2002, the interim regional mobility policy reflects a level of motor vehicle performance in the region that JPACT, the Metro Council and the Oregon Transportation Commission (OTC) deemed acceptable at the time of its adoption. Policymakers recognized the policy as an incremental step toward using a more comprehensive set of measures that consider system performance for all modes, as well as financial, environmental and community impacts. This RTP continues that evolution and has defined a broader set of performance measures that can provide a more comprehensive assessment of transportation system performance as reflected in the performance measures and targets defined in Chapter 2.

The interim regional mobility policy in **Table 3.6** shows the minimum motor vehicle performance desired for transportation facilities designated on the Regional Motor Vehicle Network in **Figure 3.13**. Specifically, Table 3.6 reflects volume-to-capacity targets adopted in the RTP for facilities designated on the Regional Motor Vehicle Network as well as volume-to-capacity targets adopted in the Oregon Highway Plan for state-owned facilities in the urban growth boundary. In effect, the policy is used to evaluate current and future performance of the motor vehicle network, using the ratio of traffic volume (or forecasted demand) to planned capacity of a given roadway, referred to as the volume-to-capacity ratio (v/c ratio) or level-of-service (LOS).

Regional Mobility Policy Update

There has been increasing discussion of the role of motor vehicle LOS as a performance metric. The region and local communities across the region have adopted goals such as improving safety for all roadway users (e.g., pedestrians, bicyclists, freight and transit users) and encouraging infill development to implement the 2040 Growth Concept, which often conflict with meeting LOS thresholds.

The region has committed to updating the interim regional mobility policy to better align with the comprehensive set of goals and desired outcomes identified in the RTP. Chapter 8 (Section 8.2.3.1) describes a proposed work plan for considering measures aimed at system efficiency, including people-moving capacity, person throughput and system completeness.

Traditionally, motor vehicle LOS has been used in transportation system planning, project development and design as well as in operational analyses and traffic analysis conducted during the development review process. As a system plan, the RTP uses the interim regional policy to diagnose the extent of motor vehicle congestion on throughways and arterials during different times of the day and to determine adequacy in meeting the region's needs. LOS is also used to determine consistency of the RTP with the Oregon Highway Plan for state-owned facilities.

Table 3.6 Interim regional mobility policy

Deficiency thresholds for peak hour operating conditions expressed as volume to capacity ratio targets as adopted in the RTP and Oregon Highway Plan.

Locations	Target	Target	
	Mid-day One-Hour Peak [A, B]	**PM Two-Hour Peak [A, B]**	
		1st hour	2nd hour
Central City Regional Centers Town Centers Main Streets Station Communities	.99	1.1	.99
Corridors Industrial Areas Intermodal Facilities Employment Areas Neighborhoods	.90	.99	.99
I-84 (from I-5 to I-205)	.99	1.1	.99
I-5 North (from Marquam Bridge to Interstate Bridge)	.99	1.1	.99
OR 99E (from Lincoln Street to OR 224 interchange)	.99	1.1	.99
US 26 (from I-405 to Sylvan interchange)	.99	1.1	.99
I-405 [C] (from I-5 South to I-5 North)	.99	1.1	.99
Other state-owned routes [D] I-205 [C] I-84 (east of I-205) I-5 (Marquam Bridge to Wilsonville) [C] OR 217 US 26 (west of Sylvan) US 30 OR 8 (Murray Boulevard to Brookwood Avenue) [C, D] OR 47 OR 99W OR 212 [E] OR 224 OR 213 [F]	.90	.99	.99

Table Notes:

A. Unless the Oregon Transportation Commission has adopted an alternative mobility target for the impacted state-owned facility within the urban growth boundary, the mobility targets in this table (and Table 7 of the Oregon Highway Plan) are considered standards for state-owned facilities for purposes of determining compliance with OAR 660-012-0060.

B. The volume-to-capacity ratios in this table (and Table 7 of the Oregon Highway Plan) are for the highest two consecutive hours of weekday traffic volumes. The 2nd hour is defined as the single 60-minute period, either before or after the peak 60-minute period, whichever is highest. See Oregon Highway Plan Action 1.F.1 for additional technical details for state-owned facilities. The mid-day peak hour is the highest 60-minute period between the hours of 9 a.m. and 3 p.m.

C. A corridor refinement plan, which will likely include a tailored mobility policy, is required by the Regional Transportation Plan for this corridor.

D. Two facilities are not designated as principal arterial throughway routes in the RTP, including OR 8 between Murray Boulevard and Brookwood Avenue and portions of 99W, which are proposed to be removed from Table 7 of the Oregon Highway Plan in the next scheduled update.

E. OR 212 is designated as a throughway route in the RTP and is proposed to be amended into Table 7 of the Oregon Highway Plan in the next scheduled update.

F. In October 2018, the OTC approved an alternative mobility target that applies to the intersection of OR 213 and Beavercreek Road such that during the first, second and third hours, a maximum v/c ratio of 1.00 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.

The system analysis described in Chapter 7 finds that the region cannot achieve the mobility policy listed in Table 3.6 of the RTP (and Table 7 of the Oregon Highway Plan) within current funding levels or with the mix of investments included in the analysis. Metro and ODOT have committed to regional partners that they will work together to update the interim regional mobility policy to better align with RTP outcomes and advance beyond this traditional mobility performance measure as described in Chapter 8 (Section 8.2.3.1).

3.5.5 Congestion management process

The RTP calls for implementing system and demand management strategies and other strategies prior to building new motor vehicle capacity, consistent with the Federal Congestion Management Process (CMP), Oregon Transportation Plan policies (including Oregon Highway Plan Policy 1G) and Section 3.08.220 of the Regional Transportation Functional Plan (RTFP). In some parts of the greater Portland region, the transportation system is generally complete, while in other parts of the region, especially those where new development is planned, significant amounts of infrastructure will be added. In both contexts, management strategies have great value. Where the system is already built out, such strategies may be the only ways to manage congestion and achieve other objectives. Where growth is occurring, system and demand management strategies can be integrated before and during development to efficiently balance capacity with demand. New technologies are reducing the cost of demand management and new possibilities are emerging with autonomous and connected vehicles.

One component of Metro's Congestion Management Process is a toolbox of congestion reduction and mobility strategies. This toolbox identifies a suite of strategies to manage congestion and address mobility needs prior to utilizing traditional roadway widening and other capacity projects. Prior to adding single occupant vehicle (SOV) capacity, agencies and jurisdictions should give consideration to the various strategies identified in this section, consistent with FHWA direction and RTP and OTP policies. Usually, multiple strategies are applicable within a corridor, while other strategies are intended to be applied region-wide.

The CMP toolbox strategies were assembled to provide a wide range of strategies that could be used to manage congestion region-wide or within congested mobility corridors. They are arranged so that the strategies are considered in order from first to last. Even with the addition of capacity, many of the strategies can be implemented with the project to ensure the long-term management of a capacity project.

The CMP toolbox of strategies is shown in **Table 7.**

Table 3.7 Toolbox of strategies to address congestion in the region

1		**Community design strategies** • Walkable communities and job centers facilitated by compact land use in combination with walking, biking and transit connections • Mixed-used areas and transit-oriented development • Parking management and pricing
2		**Travel Information and Incentives strategies** • Commuter travel options programs • Household individualized marketing programs • Car-sharing and eco-driving techniques • Safe Routes to School programs • Ridesharing (carpool, vanpool) services
3		**System management and operations strategies** • Real-time variable message signs and speed limits • Signal timing and ramp metering • Transit signal priority, bus-only lanes, bus pull-outs • Incident response detection and clearance • Access management (e.g., turn restrictions, medians)

Emerging		**Congestion pricing strategies**[11]
		• Roadway Pricing, including:
		  ○ Variable rate or time of day pricing
		  ○ Managed lanes
		  ○ High occupancy toll (HOT) lanes
		• Road User Charge (or Vehicle Miles Traveled Fee or Mileage Based User Fee)
		• Parking Pricing and Management
		• Cordon Pricing
		~~• Peak period pricing~~
		~~• Managed lanes~~
		• ~~High occupancy toll (HOT) lanes~~

4		**Active Transportation strategies** • New biking and walking connections to schools, jobs, downtowns and other community places • Bicycle infrastructure (e.g., bicycle racks, lockers and other bicycle amenities at transit stations and other destinations) • Separated pathways and trails
5		**Transit strategies** • High capacity transit • Expanded transit coverage • Expanded frequency of service • Improvements in right-of-way to increase speed and reliability of buses and MAX • Community and job connector shuttles • Park-and-ride lots in combination with transit service

[11] Congestion pricing strategies can be implemented at the state, regional, or local level.

6

Street and throughway capacity strategies

- Local and arterial street connectivity to spread out travel
- Addition of turn lanes at intersections, driveway restrictions and other geometric designs such as roundabouts
- Road widening to add new lane miles of capacity (e.g, adding auxiliary lanes, additional general purpose lanes); pricing is considered when adding new throughway capacity in the region

The intent of the CMP Toolbox follows FHWA's direction to consider all available solutions before recommending additional roadway capacity in transportation system planning, corridor refinement planning and subarea studies. **Appendix L** describes how this information is used in the region's process and RTP updates to identify needs and inform consideration and prioritization of multimodal strategies and investments to address congestion in the region.

3.6 REGIONAL TRANSIT NETWORK VISION AND POLICIES

3.6.1 Regional transit network vision

With continued regional growth, come challenges including more congestion, higher housing prices, and constrained access to employment and daily needs. Residents, elected officials, and community organizations view increased transit service as a critical part of the overall solution to these challenges. To achieve the regional vision in the 2040 Growth Concept and Climate Smart Strategy, the Regional Transit Vision is to make transit more convenient, accessible, affordable and frequent for everyone.

What do frequent, convenient, accessible and affordable mean?

Make transit more frequent by aligning frequency and type of transit service to meet existing and projected demand in support of local and regional land use and transportation visions.

Frequent transit service is defined as service that operates at a maximum of 15 minutes intervals, but this isn't the only type of service. Regional and local transit service provides basic service and ensures that most the region's population has transit service available to them; service span and frequencies vary based on the level of demand for the service. Because of limited resources, it is important to ensure that service meets demand. Frequency therefore means aligning the frequency and type of service to meet existing and/or projected demand for an area.

Make transit more convenient and competitive with driving by improving transit speed and reliability through priority treatments and other strategies. Improve transit rider experience by ensuring seamless connections between various transit providers, including transfers, information, and payment. Additionally, cities and counties who own the roads used by bus transit could partner with the transit agencies to implement transit priorities treatments.

In order for people to choose transit over driving, transit must be convenient and reliable. A transit trip needs to get people to their destination at the projected time, and it must be easy to use. Perhaps most importantly, it needs to be a viable option in regards to travel times. This can be accompanied with strategies that prioritize transit (e.g. signal priority and bus lanes) as well as adopting technology that make transit more predictable and user-friendly (e.g. electronic fare and real-time monitoring systems).

Make transit more accessible by ensuring safe and direct biking and walking routes and crossings that connect to stops, as well as improve accessibility for seniors and persons with disabilities to ensure transit is accessible for everyone. Accessibility could also include park and ride facilities and drop off/pick up areas. Expand the system to improve access to jobs and essential destinations and daily needs.

Accessibility refers to two separate but related aspects of transit. One is to ensure that transit is physically accessible to everyone, regardless of age or ability. All transit users must access transit via biking or walking, even if stops are mere feet away. Complete sidewalks and bike paths

improve safety and enhance the experience of using transit and the accessible stations are essential to making transit work for everyone. The first/last mile connection is also an important part of accessibility, as it often represents the best opportunity for people living in less developed areas, rural towns or outlying areas to access our transit system.

The second component of accessibility is to ensure that schools, particularly high schools and colleges, community places, such as grocery stores and medical services, and jobs are accessible by transit. As the region grows, it's crucial to continue to expand community and regional transit service in order to improve access to these daily needs, and encourage employers to locate on existing transit routes.

Making transit affordable is the cornerstone of the other components of our vision. Frequency, convenience, and accessibility are meaningless if transit is not affordable. Additionally, affordability ensures that the transit system is equitable for low income populations, communities of color and those who rely on transit services rather than private automobiles to meet their daily transportation needs.

3.6.2 Regional transit network concept

The regional street system has carried public transit for more than a century, beginning with the streetcars of the late 1800s and evolving into a combination of vans, buses, streetcars and light rail trains today. The Tri-County Metropolitan Transportation District of Oregon (TriMet) is the primary public transportation provider for the greater Portland region. The South Metro Area Regional Transit (SMART) in Wilsonville also provides regional transit service, connecting Wilsonville to Portland and communities in Washington and Clackamas counties.

TriMet implements the majority of transit service in the RTP in what is called the Transit Investment Plan (TIP). SMART, C-TRAN and other transit providers complement TriMet's service.

Just outside of the greater Portland region, Sandy Area Metro (SAM) and Canby Area Transit (CAT) provide transit service for Sandy and Canby. Bus service in other surrounding areas, all with connections to TriMet and SMART, is also provided by C-TRAN (Clark County, WA), Ride Connection, South Clackamas Transit District (SCTD), Cherriots (Salem, OR), Tillamook County Transportation District (Tillamook, OR), and Yamhill County Transit Area (Yamhill County, OR).

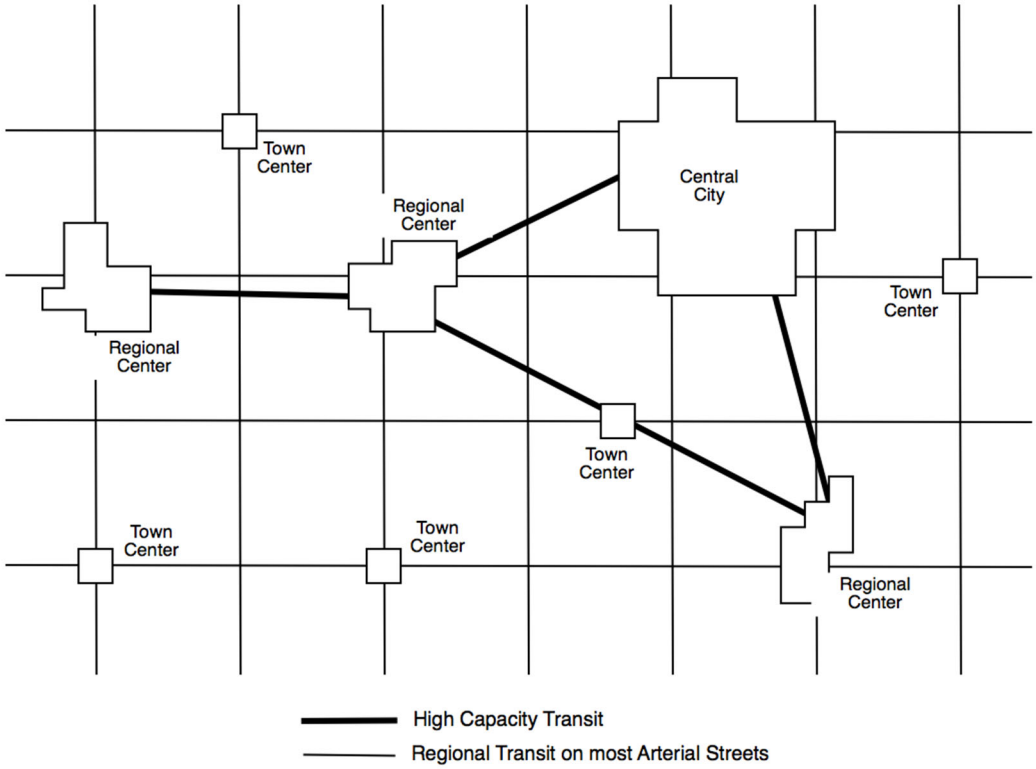
Transit is a partner in supporting the region's 2040 Growth Concept, which calls for focusing future growth in regional and town centers, station communities and 2040 corridors. A regional transit network, coupled with transit-supportive development patterns and policies that support taking transit, biking, and walking, will be necessary to help the region:

- be less dependent on automobiles
- reduce overall transportation and housing costs
- lead healthier lives
- reduce greenhouse gas emissions

As part of the 2040 Growth Concept, transit is critical to connecting centers.

Figure 3.14 shows how the regional transit system concept would connect the 2040 centers.

Figure 3.14 Regional transit network concept



The 2040 Growth Concept sets forth a vision for connecting the central city to regional centers like Gresham, Clackamas and Hillsboro with high capacity transit. The RTP expands this vision to include a complete network of regional transit along most arterial streets to better serve existing and growing communities. Existing land use mixes and future transit-oriented development potential should be considered and incorporated into service and station location decisions.

In order to leverage transit investments, it is important to ensure land uses are transit-supportive and support local and regional land use and transportation plans and visions to leverage and protect transit investments.

Adjacent land uses, block size, street connectivity, and parking management affect the success of transit service. Policies and investments that make transit work best can be found in **Table 3.8**.

Table 3.8 Effects of land use strategies on transit service

Characteristic	Works	Doesn't Work
Density	High	Low
Street layout	Small blocks Grid system	Long, winding streets Cul-de-sacs, dead-end
Mix of uses	Mixed use (e.g., commercial, residential, and office uses)	Single use (e.g., all residential, all industrial)
Pedestrian and bicycle environment	Wide sidewalks Slow moving traffic Street elements (e.g., benches, street trees, pedestrian-scale lighting) Well-marked intersections with signalized crossings Bicycle parking	Narrow or no sidewalks Fast moving traffic Poor lighting No intersection markings and long pedestrian wait times
Site design	Buildings front the street and entrances	Buildings set back from the street and surrounded by surface parking
Parking	Limited Fee-based parking	Abundant Free

Source: TriMet

Transit-supportive development patterns include:

- A compact urban form that places destinations near transit.
- A mix of uses, and a balance of jobs and housing, that creates a place where activity occurs at least 18 hours a day.
- Locating a mix of services near transit, including grocery stores and medical clinics.
- Locating affordable housing options, particularly for older adults, seniors and people with disabilities, near frequent transit.
- Well-designed streets and buildings that encourage pedestrian travel.
- Streets that can accommodate 40-foot buses.
- Safe and efficient multi-modal interactions at transit stops and stations.
- Safe, direct and convenient pedestrian and bicycle access, within communities and to transit stops and stations.
- Street connectivity with good pedestrian and bike connections to extend the effective coverage of bus and rail service.

- Managed on-street and off–street parking.

Areas with low population and/or employment densities, abundant free parking, and with difficult access to transit stops generate fewer riders than areas with transit-supportive development. When fewer riders are generated, it costs more per ride to provide transit service than it does in transit-supportive areas. Ridership productivity is a key criterion in assessing the benefits of service improvements and new transit investments.

3.6.3 Regional transit network functional classifications and map

The Regional Transit Network includes future regional and local bus, enhanced transit concept corridors, high capacity transit and intercity rail, reflecting the region's updated future transit vision. Shown in **Figure 3.16**, the Regional Transit Network map has been updated to include the planned 2009 HCT connections, new enhanced transit concept corridors, streetcar and future transit service as identified by TriMet's Service Enhancement Plans and Wilsonville's Transit Master Plan. The map also highlights areas planned to be served by community-job connector shuttles. Click on 2018 RTP Regional Network Maps for online zoomable version of map.

Our existing and planned system includes a variety of transit modes, each with a special function in the overall system. Local, regional and frequent service bus lines are the backbone of our transit system. The transit providers plan for improving and expanding transit service through service enhancement plans, master plans and through annual service planning.

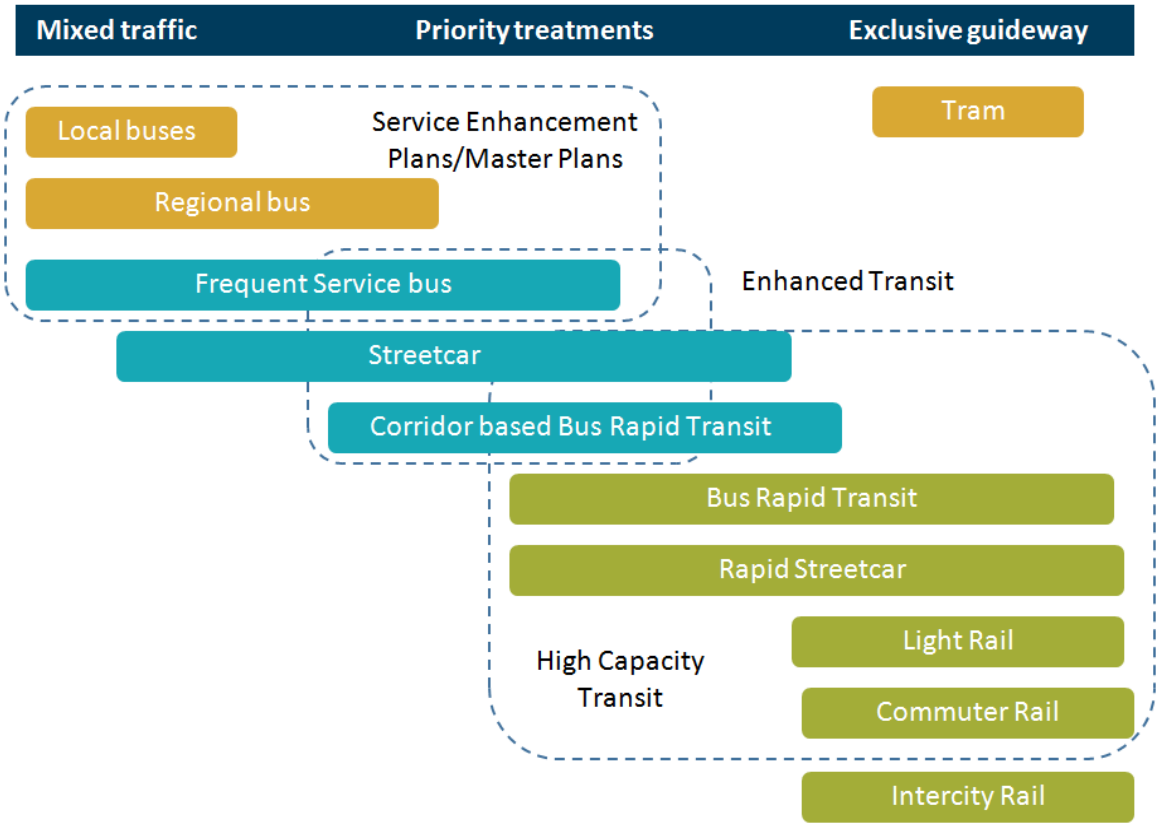
Our bus system operates in mixed traffic and provides service across the region. Alongside our bus system, we have implemented streetcar and corridor-based bus rapid transit (BRT). These services, along with frequent bus service, can and do include a variety of transit priority treatments. These tend to be more frequent and carry more transit riders than the regional and local bus system. The enhanced transit concept program, new to our region, provides that transit priority to help improve transit speed and reliability above the traditional transit service.

The region's high capacity transit system operates with the majority or all of the service in exclusive guideway. The high capacity transit system is meant to connect to regional centers and carry more transit riders than the local, regional and frequent service transit lines.

The region's high capacity transit system operates with the majority of all of the service in exclusive right-of-way, consisting of five lines over a 60 mile network that serves 97 stations in the city of Portland, and the communities of Beaverton, Clackamas, Gresham, Hillsboro, and Milwaukie; and Portland International Airport .

Figure 3.15 shows the broad transit spectrum that exists or is planned for regional transit system.

Figure 3.15 Regional transit spectrum



Many variables impact decisions about what type of transit mode and frequencies are most appropriate, including existing and future land uses, transit demand and opportunities and constraints.

Frequent bus routes, like line 57, provide important regional connections between communities and to jobs, medical services and other destinations, and increase access to safe, reliable transportation throughout the region.

Figure 3.16 Regional transit network map

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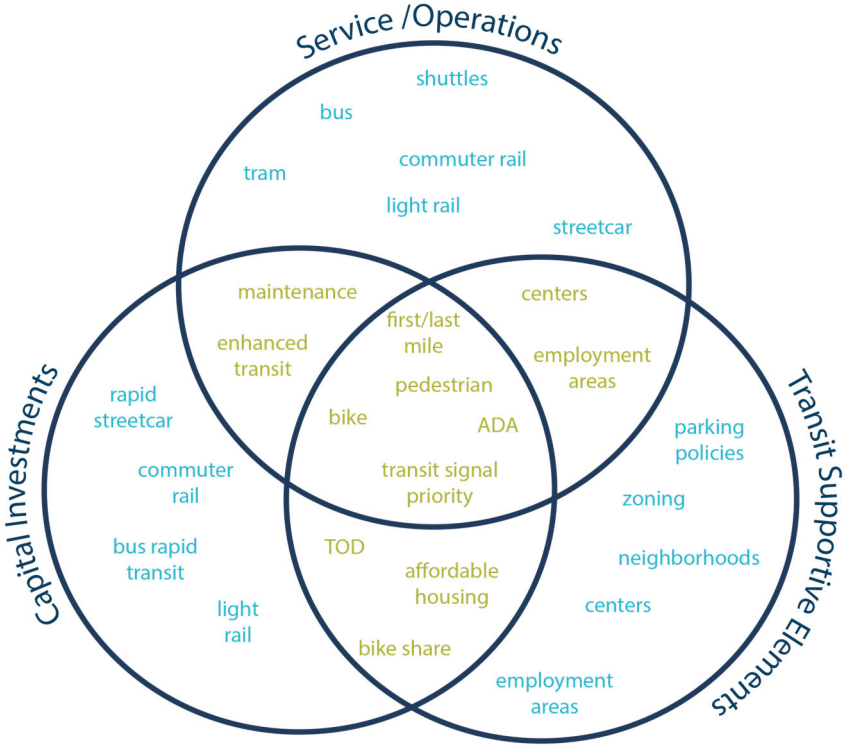
Implementation of the Regional Transit Vision

The Regional Transit Vision will be implemented through improving service, investing in infrastructure, collaborating between transit providers and local jurisdictions and expanding transit supportive elements:

- **Transit service improvements:** local and regional transit service improvements designed to meet current and projected demand in line with local and regional visions and plans.
- **Capital investments in transit:** new enhanced transit strategies such as signal priority, dedicated lanes or high capacity transit options such as bus rapid transit, light rail. commuter rail or high speed rail.
- **Transit supportive elements:** including programs, policies, capital investments and incentives such as Travel Demand Management and physical improvements such as sidewalks, crossings, and complementary land uses.

Figure 3.17 shows the relationships between these different types of investments.

Figure 3.17 Service improvements, capital investments and transit supportive elements



Public agencies and transit providers must collaborate in prioritizing transit investments throughout the region. With the passing of House Bill 2017, the Oregon Legislature identified transit improvements and service expansion as a priority for the state. With this additional funding, the region will be able to significantly increase and expand transit service. This only highlights the need to collaborate between transit providers.

3.6.4 Regional transit network policies

Regional transit priorities are informed by the following policies which aim to provide transit as an attractive, convenient , accessible and affordable travel option for all people in the greater Portland region, optimize existing transit system operations and ensure transit-supportive land uses are implemented to leverage the region's current and future transit investments.

These policies support multiple RTP goals, including goals for climate leadership and clean air, and are an integral part of implementing the Climate Smart Strategy. Expanding our transit system and use of transit in the region will continue to play a significant role in reducing transportation-related air pollutants, including greenhouse emissions. In addition, ongoing efforts to convert bus fleets to low and zero-emissions vehicles will further reduce emissions in the region.

Regional Transit Network Policies

Policy 1	Provide a seamless, integrated, affordable, safe and accessible transit network that serves people equitably, particularly communities of color and other historically marginalized communities, and people who depend on transit or lack travel options.
Policy 2	Preserve and maintain the region's transit infrastructure in a manner that improves safety, security and resiliency while minimizing life-cycle cost and impact on the environment.
Policy 3	Make transit more reliable and frequent by expanding regional and local frequent service transit and improving local service transit options.
Policy 4	Make transit more convenient by expanding high capacity transit; improving transit speed and reliability through the regional enhanced transit concept.
Policy 5	Evaluate and support expanded commuter rail and intercity transit service to neighboring communities and other destinations outside the region.
Policy 6	Make transit more accessible by improving pedestrian and bicycle access to and bicycle parking at transit stops and stations and using new mobility services to improve connections to high-frequency transit when walking, bicycling or local bus service is not an option.
Policy 7	Use technology to provide better, more efficient transit service – focusing on meeting the needs of people for whom conventional transit is not an option.
Policy 8	Ensure that transit is affordable, especially for people who depend on transit.

Transit Policy 1. Provide a seamless, integrated, affordable, safe and accessible transit network that serves people equitably, particularly communities of color and other historically marginalized communities, and people who depend on transit or lack travel options.

The Portland metropolitan region's economic prosperity and quality of life depend on a transportation system that provides every person and business in the region with equitable access to safe, efficient, reliable, affordable and healthy travel options and have the same opportunity to thrive, regardless of their race or ethnicity. With a transportation system focused on mobility and access that addresses the transportation disparities faced by communities of color, the region's transportation system has the ability to open opportunities which can dramatically improve outcomes for people of color. While on the surface, a focus on racial equity may seem exclusionary, but by addressing the barriers faced by those communities, outcomes for other disadvantaged communities will improve as well.

Frog Ferry Passenger River Taxi Service Study

A non-profit group, Friends of Frog Ferry, is pursuing the study of a passenger river taxi service connecting Vancouver, WA with central Portland. Friends of Frog Ferry has compiled an initial business plan and is working to partner with local jurisdictions to evaluate ridership and land development opportunities. Their proposal envisions a project that provides another transportation option and activates the Willamette River.

More information about the study can be found in Chapter 8 and on the project website at frogferry.com.

FRIENDS OF FROG FERRY

A complete and seamless transit system is based on providing frequent and reliable bus and rail transit service during all times of the day, every day of the week. This goes far beyond the responsibility of the transit agencies; it requires actions on behalf of the region and all the jurisdictions. In order to provide frequent and reliable service, the region needs to partner together to invest in transit priority treatments and high capacity transit to ensure that transit can take people where they need to go on time.

All transit trips begin and end with different modes of access even if stations are mere steps from origins and destinations. Riders access transit via walking, bicycling, bus, rail, carpools, shared mobility (like Uber and Lyft or Biketown) and private automobiles. Safe and comfortable access to the stations is critical to the riders experience and convenience, but also makes transit fully accessible to people of all ages and abilities. Every transit rider is a pedestrian first, whether it is walking to the station, parking their bike and walking to vehicle or walking from the park and ride to the bus or rail.

Typical fixed route transit service may not make sense for everyone throughout the region. People may often rely on demand-response transit or infrequent buses that provide slow service and are costly to operate. New shared mobility models like microtransit could provide better service at lower cost in these situations. As these options continue to mature, agencies should look for opportunities to supplement demand response and underperforming service with shared mobility. This could provide better service for underserved and transit-dependent residents, and also increase resources available to serve high-demand corridors.

Technology is another tool to actively manage the Portland metropolitan region's transit system. This means using intelligent transportation systems and services to help improve the speed and reliability of transit. It also means taking advantage of the growth in personal technology to efficiently communicate information about transit options.

Transit Policy 2. Preserve and maintain the region's transit infrastructure in a manner that improves safety, security and resiliency while minimizing life-cycle cost and impact on the environment.

While our transit system is still relatively new, it will become increasingly important to invest in upkeep as the system ages. It is critical to ensure that it is well-maintained and to replace or improve outdated parts of our transit system to preserve its efficiency. In addition, the Federal Transit Administration's State of Good Repair program is dedicated maintenance of our transit system includes incorporating industry best practices and recommendations related to reliability and safety and supporting TriMet's implementation of its Service Enhancement Plans to help transit agencies maintain bus and rail systems as part of the federal transportation performance management implementation. These grants are distributed to state and local governments to repair and upgrade rail and bus rapid transit systems that are at least seven years old.

Following the Great Recession of 2008, TriMet delayed new bus purchases for four years because of the resulting decrease in income from taxes. Starting in 2012, TriMet began to replace buses on an accelerated schedule and has since moved away from having one of the oldest fleets in the country to an industry-standard average age of eight years. According to the FTA, the average useful life of a bus is 12 years, or 500,000 miles. Another area of investment for TriMet is the MAX system, parts of which are more than 30 years old. While the FTA's assigned life expectancy for rail cars is 25 years, industry experience reports a 30-35 year lifespan in reality. Nevertheless, the TriMet light rail system will soon be in need of repairs and upgrades.

It's also important that to plan for the future capacity needs of our transit system. As our region grows and ridership on our public transportation system is ever increasing, the region is starting to push the limits of what our existing infrastructure can handle. This creates more transit bottlenecks throughout the region, increasing congestion and decreasing the reliability of our transit system. Some lines already have many buses running behind schedule due to heavy traffic, which leads to unpredictable service. Other lines suffer from overcrowding. Popular lines will always have standees, but some trips have such high ridership that at times, riders are unable to board and must wait for another vehicle. In order to make transit more reliable and convenient, these factors must also be addressed.

Some recent maintenance projects and improvements that TriMet has undertaken include:

- Replacing switches and realigning the trackway at the Rose Quarter
- Replacing switches and reconstructing rail at SW 11th Avenue in Downtown Portland
- Completing design for reconstructing MAX trackway over the Steel Bridge
- Beginning a four-year replacement of overhead power contact wire on the original MAX Blue Line between Cleveland Ave in Gresham to Lloyd Center
- Upgrading and repairing platform areas at Gresham City Hall and Washington Park stations

Other improvement projects include planned upgrades to fourteen (14) MAX Blue Line stations between NE 42nd/Hollywood and Cleveland that include safety improvements and electronic display installations. Pedestrian crossings and shelters are being improved; trees on or near the platform are being removed to make space for lighting and improve the line-of-sight for security cameras.

In addition, TriMet began testing clean fuel buses in 2002 with two diesel-electric hybrids and we currently operate eight hybrids that we began to introduce in 2012. While those buses had some advantages, TriMet ultimately didn't see the performance needed to roll them out system-wide. Through a recent federal grant, as well as support from Portland General Electric, TriMet purchased five electric buses that will soon run on Line 62-Murray Blvd in Beaverton. TriMet continues to look for additional resources for additional testing. While on paper electric buses sound great, TriMet needs to make sure they live up to their promise before rolling them out system-wide. Seeing how these buses operate under real-world conditions will help TriMet assess if these battery-electric buses are a viable and economic option for system-wide expansion.

Whether electricity or hydrogen-powered, cleaner alternative fuels are the future of transit. TriMet's efforts to embark on this test that will move our region one step closer to this vision. In addition, TriMet was just awarded federal funds to purchase additional battery electric buses within the next five years. House Bill 2017 provides an opportunity to further invest in these vehicles as one funding alternative.

Transit Policy 3. Make transit more reliable and frequent by expanding regional and local frequent service transit and improving local service transit options.

Expand regional and local frequent service transit

In 2040 corridors, main streets and centers, the RTP recommends supporting transit by providing transit-supportive development and well-connected street systems to allow convenient bicycle and pedestrian access.

As mentioned earlier, frequent service transit is defined as wait times of 15 minutes or less from the early morning to late in the evening, seven days a week. Frequency is especially important for making transit more competitive with driving for riders who take short, local trips, because the time riders spend waiting for a bus to take a short trip is a proportionately larger component of the total travel time than it is for longer trips.

Frequent bus service is appropriate when high ridership demand is demonstrated or projected, the streets are pedestrian-friendly, there are high proportions of transit-dependent residents, the lines connect to existing or proposed HCT corridors, and/or it serves multiple centers and major employers. Exhibiting many of the same service characteristics as frequent bus service, streetcar service functions primarily as a connection within and between 2040 centers and corridors.

Preferential treatments, such as transit signal priority, covered bus shelters, curb extensions, special lighting, enhanced sidewalks, protected crosswalks and bikeways, are all fundamental to making the frequent service bus and streetcars elements of the transit network function at its highest level. In select locations, park-and-ride facilities may provide vehicular access to the frequent service network, especially for areas that cannot be well-served by local transit due to topography, street configuration, or lack of density.

Types of frequent transit services and facilities include:

- Frequent bus
- On-Street Bus Rapid Transit
- Streetcar (Local)
- Express Bus
- Enhanced Transit elements
- Regional transit centers and stops
- Bicycle stations/parking
- Park-and-ride facilities

Key considerations for investments in frequent service are ridership, productivity, and lines that provide historically marginalized communities access to jobs and other community places. Decisions about transit investments should be assessed with an equity lens to ensure transit access for our most vulnerable communities.

Improve local service transit

The local transit network provides basic service and access to local destinations and the frequent and high capacity transit network. Service span and frequencies vary based on the level demand for the service. The local transit network ensures that the majority of the region's population has transit service available to them.

Local transit service is appropriate where there is some transit demand, but not enough to support regional or frequent service. Local transit is designed to provide full transit service coverage to the region. Transit preferential treatments and passenger facilities are appropriate at high ridership locations. Sidewalk connectivity, protected crosswalks and bikeways are all fundamental to making the local transit service elements of the transit network function at its highest level.

Providing community and job connector shuttles increases the convenience of transit, particularly for areas without frequent service transit or where traditional transit service is not viable. **C**ommunity and job connector shuttles also expands the reach of transit service across the region, which improves access to jobs and community places and can help facilitate first/last mile

connections where business and or homes are spread out and regional fixed-route bus service is not cost effective.

Demand responsive services

One foundational support of the regional transportation system in both urban and rural areas is the availability of demand-response services. These services provide access to transportation that "fills in the gaps" where fixed-route transit, complementary paratransit, or deviated fixed-route "last mile" shuttle services are not the appropriate or most cost-effective tool to meet the need of low income individuals, seniors or people with disabilities. Because these services operate in the background, as a coordinated addition to the total transportation system, they often go unnoticed. However, they provide a lifeline of service to low-income people who experience barriers to accessing the transportation system. Each year over 500,000 trips are provided on demand-response services throughout the region, and current service is still not enough to meet the existing demand or projected growth in demand concurrent with the region's growing population.

Types of local transit services include:

- Local bus
- Para-transit
- Deviated "On-Demand" routes
- Community and job connector shuttles
- Employer shuttle service
- Community event shuttles
- Tram

The GroveLink bus serves a greater part of the Forest Grove, helping to link residents with downtown locales as well as with TriMet bus line 57.

In order to reach our regional transit objectives local transit service improvements and expansion should be coordinated with TriMet's Coordinated Transportation Plan for Seniors and Persons with Disabilities and the Special Transportation Funds Advisory Committee (STFAC).

Transit Policy 4. Make transit more convenient by expanding high capacity transit; improving transit speed and reliability through the regional enhanced transit concept.

Expand high capacity transit, to serve transit dependent populations and improve system performance between key destinations

High Capacity Transit (HCT) investments help the region concentrate development and growth in its centers and corridors. The regional transit network concept calls for fast and reliable HCT service between the central city and regional centers. HCT service carries high volumes of passengers quickly and efficiently, and serves a regional travel market with relatively long trip lengths to provide a viable alternative to the automobile in terms of convenience and travel time.

High capacity transit provides greater connections between the Portland Central City, regional centers, and passenger intermodal facilities. It operates on a fixed guideway or within an exclusive right-of-way, to the extent possible. High capacity transit strives for frequencies of 10 minutes or better during the peak hours and 15 minutes during off peak hours. Passenger infrastructure at HCT stations and within station communities often include enhanced amenities, such as real-time schedule information, ticket machines, special lighting, benches, shelters, bicycle parking, civic art and commercial services.

To optimize and leverage transit supportive land uses, alignments and station locations should be oriented towards existing and future high density, mixed-use development. To this end, urban form and connectivity, redevelopment potential, market readiness, public incentives and infrastructure financing should all be considered during the corridor refinement and alternatives analysis phases of project development. High capacity transit investments are informed by the HCT assessment and readiness criteria described in the implementation chapter of the Regional Transit Strategy).

Types of high capacity transit types, facilities and services include:

- Light rail transit (MAX)
- Rapid streetcar (Streetcars running in mostly exclusive right-of-way so that they are able to travel faster safely)
- Bus rapid transit (Majority of service operates in separate and dedicated right of way, defined stations, transit signal priority and short headways)
- On-street bus rapid transit (Substantial transit investment, some separate or dedicated right of way, defined stations, transit signal priority, short headways)
- Commuter rail (WES)
- Interurban passenger rail (e.g., Amtrak or regional rail systems in other regions)
- Intermodal passenger facilities (e.g., Union Station and Greyhound)
- Secure bicycle parking (e.g., bicycle stations or bike & rides)
- Park & ride lots
- Transit centers
- Transit stations

Major infrastructure investments have implications within the communities they are located. Historic data shows that a major HCT investment contributes to both positive and negative outcomes for the communities they serve. It is critical that during the planning for a new HCT investment, a strategy should be developed that considers both the positive and negative impacts of the investment, particularly as it applies to the most at-risk populations. These tend to be people of color, people with lower income, people with limited English proficiency, older adults and youth. Additionally, these populations tend to be our most transit dependent. What this means is that their potential displacement from the economic pressures that the investment

brings, ultimately leads to undermining the long-term effectiveness of the investment. By planning all new HCT lines through an Equitable Development Framework, we can attempt to lessen the negative impacts of the investment, while enhancing the opportunity that these transit-dependent populations benefit from it, by limiting residential and business displacements and gentrification. The framework will vary for each project and should be developed at the time an HCT project is being considered through planning, engineering and construction.

Any HCT planning effort should directly incorporate community in the decision-making process. The process should also be informed and include an assessment of data with an equity lens. Where possible, HCT projects should also enhance the contracting and job training benefits and opportunities for displaced and historically marginalized populations.

The HCT assessment and readiness criteria, described in more detail in Chapter 7 of the Regional Transit Strategy, provides a framework to inform advancing HCT transit projects identified in the RTP and Regional Transit Strategy.

Improve transit speed and reliability through the regional enhanced transit concept

In order to meet the region's environmental, economic, livability and equity goals as we grow over the next several decades, we need to invest more in our transit system, particularly the frequent service bus network. There are many ways to increase transit speed and reliability throughout our system. The region should pursue opportunities as they arise to improve the efficiency of our system to support our transit riders.

The Enhanced Transit Concept (ETC) program is one way to do this, and employs new public partnerships to service treatments that increase capacity and reliability, yet are relatively low-cost to construct, context-sensitive, and able to be deployed quickly throughout the region where needed.

ETC can be implemented through the coordinated investment of multiple partners and has the potential to provide major improvement over existing service or even our region's best frequent service, but less capital-intensive and more quickly implemented than large scale high capacity transit. Investments would serve our many growing mixed-use centers, corridors, and employment areas that demand a higher level of transit service but are not seen as short-term candidates for light-rail, or bus rapid transit.

ETC partnerships could also create more reliable, higher quality transit connections to connect low-income and transit-dependent riders to jobs, school and services. It would allow for a more fine-grained network of higher-quality transit service to complement our high capacity transit investments, relieve transit congestion and grow ridership throughout the region.

Preferential treatments, such as transit signal priority, covered bus shelters, special lighting, enhanced sidewalks, and protected crosswalks are also all fundamental to making the ETC network function at its highest level.

Improving the speed and reliability of our frequent service network could be implemented at the regional scale, along corridors or at "hot spot" locations. **Table 3.9** describes the different types of treatments that have the potential to improve reliability.

Table 3.9 Enhanced transit treatments

Regional	Hotspot
Bus on shoulder	Dedicated bus lane
Transit signal priority and signal improvements	Business access and transit (BAT) lane
Headway management	Intersection queue jump/right turn except bus lane
Corridor	Transit-only aperture
Level boarding	Pro-time (peak period only) transit lane
All door boarding	Multi-modal interactions
Bus stop consolidation	Curb extension at stops/stations
Rolling stock modification	Far-side bus stop placement
Transit signal priority and signal improvements	Street design traffic flow modifications

Transit Policy 5. Evaluate and support expanded commuter rail and intercity transit service to neighboring communities and other destinations outside the region.

Intercity passenger rail and bus service to communities outside of the region provides an important connection to the regional transit network. A high level assessment of potential demand for commuter rail outside of the Portland urban growth boundary was conducted as part of the 2009 High Capacity Transit System Plan.

The demand estimates of ridership potential are highly conceptual and were developed only to determine the order of the magnitude of differences between corridors, not as actual predictions of ridership. The estimates are not based on detailed alignment, station location or service concepts. Rather, they estimate the potential to attract riders based on comparable commuter rail services in operation in the United States and the overall demand for work travel between the major corridor markets.

Key findings from this analysis are summarized below:

- **Potential Intercity Corridor.** A potential future **commuter rail line to Newberg** may be feasible in the long term. Even though the riders per mile analysis looks favorable due to the relatively short distance of the line, the overall population in the rail shed is very low compared to other corridors, and overall ridership is relatively low. Metro, regional partners and corridor communities should consider right-of-way preservation for this corridor and consider land use planning activities that focus on transit-supportive development around potential future commuter rail station areas.
- **Promising Intercity Corridor**. **Salem/Keizer** is the most promising of the corridors evaluated. In addition to the highest market potential, this corridor has a number of favorable aspects: there is existing Amtrak passenger rail service in the corridor, this is a lightly used freight corridor that was evaluated in the 2001 Oregon Rail study as a potential commuter rail corridor, and an alignment could easily tie into the WES commuter rail service now operating

to Wilsonville. If the region or state chose to focus on the development of inter-regional rail service, this alignment should take priority. After coming to a similar conclusion about this corridor, the Oregon State Legislature passed House Bill 2408, which directs ODOT to study the possible extension of commuter rail service from Wilsonville to Salem, which is currently serviced by SMART today.

In addition, the Pacific Northwest Corridor is one of ten corridors shown in **Figure 3.18** identified for potential high-speed rail investments to better connect communities across America,. This corridor provides an important intercity rail connection between Eugene, Oregon and Vancouver, British Columbia.

Figure 3.18 U.S. high speed intercity passenger rail network

Source: U.S. Department of Transportation (April 2016)

More recently, the Oregon Department of Transportation completed its analysis for improved passenger rail service between Eugene-Springfield and Portland – a 125 mile segment of the federally-designated Pacific Northwest Rail Corridor. The results of the study are documented in a Tier 1 Draft Environmental Impact Statement currently under review by the Federal Railroad Administration. Information in the DEIS includes the general rail alignment, communities where stations would be located and service characteristics, such as the number of daily trips, travel time objectives and recommended technologies. In addition, ODOT is looking at ways to improve future commuter rail needs through an update of the Oregon State Rail Plan.

More work is needed to determine what partnerships, infrastructure investments and finance strategies are needed to support improved intercity passenger service to communities outside the

region. More work is needed to determine what partnerships, infrastructure investments and finance strategies are needed to support this level of service. More information about current efforts to support high speed rail are described in Chapter 6 of the Regional Transit Strategy.

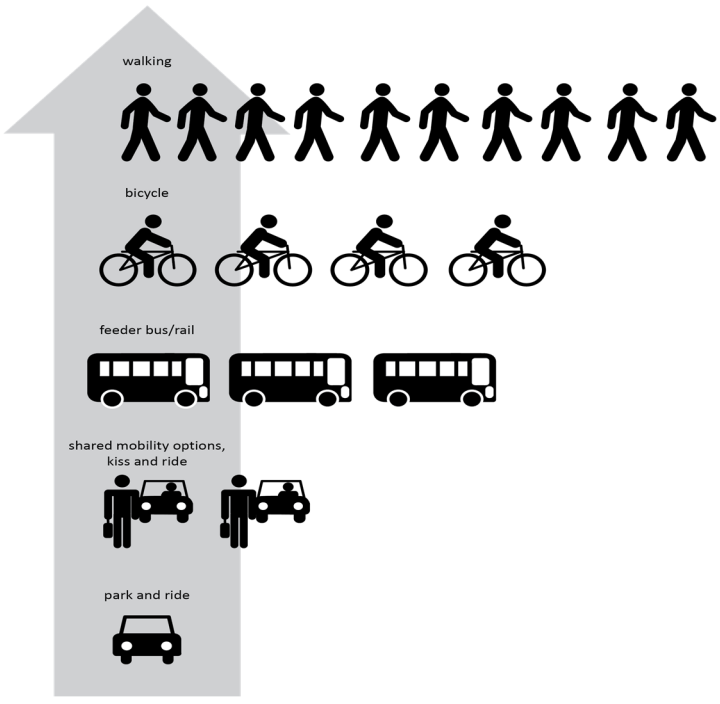
Transit Policy 6. Make transit more accessible by improving pedestrian and bicycle access to and bicycle parking at transit stops and stations and using new mobility services to improve connections to high-frequency transit when walking, bicycling or local bus service is not an option.

Improve pedestrian and bicycle access to and bicycle parking at transit stops and stations

Providing safe and direct walking and biking routes and crossings that connect to transit stops ensures that transit services are fully accessible to people of all ages and abilities. At some point in their trip, all transit riders are pedestrians. The environment where people walk to and from transit facilities is a significant part of the overall transit experience. An unattractive or unsafe walking environment discourages people from using transit, while a safer and more appealing pedestrian environment may increase ridership. Likewise, high quality local and regional bicycle infrastructure extends the reach of the transit network, allowing more people to access transit from longer distances. **Figure 3.19** depicts the region's priorities for providing multi-modal access to the region's transit system. It prioritizes walking and biking to transit and deemphasizes driving to transit.

Establishing pedestrian and bicycle connections to bus and train stations and stops helps extend the reach of the transit network, making trips made by transit feasible and accessible for more people of all ages and abilities, including seniors and people with disabilities. Transit, pedestrian and bicycle travel benefit as improvements are made to each of the modes.

Figure 3.19 Regional transit system access priorities



Improving pedestrian and bicycle access to transit is accomplished through:

- filling sidewalk gaps within a mile of stops and stations;
- filling bicycle and trail network gaps within three miles of stops and stations;
- integrating trail connections with transit;
- providing shelters, transit tracker information and seating at stops and stations;

- providing bicycle amenities at transit centers such as repair stations and lockers;
- providing pedestrian and bicycle protected crossings at stations and stops where appropriate, including secured, covered bicycle parking or Bike and Rides at stations and stops;
- allowing bicycles on board transit and exploring the use of apps to let bicycle riders know if a bus or train has bicycle space available;
- locating transit stops and stations on bicycle and pedestrian maps, integrating biking, walking and transit on tools such as TriMet's Trip Planner and Transit Tracker;
- co-locate bike and car sharing facilities at transit stations to improve active transportation connections and manage parking demand, which helps to create a safer walking and bicycling environment; and
- linking modal systems in regional and local transportation plans.

Explore new ways to improve connections to high frequency transit

Advances in technology have given rise to new transportation options that make it easier for people to share vehicles and rides and provide a potential first/last miles connection. Many of these options are already widely used in our region:

- In the city of Portland, ride-hailing services Uber and Lyft provided an estimated 10 million rides in 2017. We do not know how many of these were first/last mile connections to transit.
- Car sharing services operate over 1,000 vehicles in the region, and though some of these services have been around for a decade, new models have sprung up, including free-floating car sharing companies like ReachNow and Car2Go that allow people to pick up and drop off a car anywhere within a defined service area.
- The City of Portland's bike share system, BIKETOWN, launched in July 2016, and carried over 300,000 trips in its first year. Many of the bikeshare stations are purposefully co-located at transit stations.
- The City of Portland recently launched a four-month pilot for shared electric scooters (also known as dockless scooters or e-scooters) in summer 2018. In the first three weeks of the pilot these scooters carried close to 100,000 trips. Following the pilot, the City will evaluate how e-scooters contribute to its mobility, equity, safety, and climate action goals. Metro and its public agency partners will be coordinating with Portland to understand how e-scooters support regional goals, whether they are effective at providing first/last mile connections to transit, and if so, what steps transportation agencies could take to make scooters available for these connections.

Other innovations are not yet available in our region, but may be soon:

- Shared electric bikes allow riders to take easier or longer-distance trips than they could on a conventional bicycle.
- Microtransit, which refers to services that use smart phones to allow riders to book trips, collect data to tailor routes that meet riders' needs and serve these routes with vehicles that

are smaller than conventional buses, can be a viable model for communities that don't have high enough ridership for conventional transit to pencil to be cost effective.

These new options, along with conventional shared modes like transit, carpools, and vanpools, are often referred to collectively as "shared mobility." Combining transit and other shared modes can provide better service for travelers while creating better environments around stations. People who might otherwise need to drive to can instead use a combination of shared mobility and transit. In these situations, shared mobility provides more convenient connections to stations, but taking transit for the bulk of the trip keeps the journey more affordable. If more people use shared modes to get to transit rather than driving, it can free up space that might otherwise be used for parking for public spaces, bicycle and pedestrian facilities or development. In order to deliver on this potential, Metro and our partners need to improve connections between shared mobility and transit. There are several actions we can take.

- Dedicate space for shared mobility at transit stations. Accommodating bike share stations or pods of car share vehicles at transit stops makes it easy for transit riders to use these options. Setting aside space for pickups and dropoffs near stations can make it more convenient for people to access options to transit, as well as improve safety by reducing conflicts between modes. At stations with parking, reserving premium spaces for carpools or shared vehicles can provide an incentive for travelers to share trips instead of driving alone.
- Coordinate with shared mobility companies to provide shared connections to transit stations. Several communities already support vanpools or operate shuttles to and from transit stations. Similarly, public agencies can partner with microtransit or carsharing, pooled ride-hailing services or dockless bike/scooter sharing companies to provide new connections to transit and promote the use of these services.
- Make it easy to plan and book transit and shared mobility trips. Smartphone apps are now the most common way for people in the Portland region to access information about their transportation options. At a minimum, transit agencies should make schedule and route information available through their own online tools as well as in general transit feed specification format so that it can be incorporated into apps like Google Maps, TransitApp, and moovel. TriMet's Open Trip Planner Shared-use Mobility project will create a platform to integrate data on transit and shared mobility options so that riders can easily plan multimodal trips. The ability to book and pay for multimodal trips on a single platform could make transit-shared mobility connections even more convenient.

There are two important issues to consider when integrating transit and shared mobility data. The first is ensuring that third-party apps use that data in a way that supports transit. No matter how easy-to-use or informative the apps and websites that public agencies develop are, a significant number of people will get data from third-party apps. The companies that develop these apps often monetize transit data by showing advertisements for ride-hailing services that show how much quicker a rider could reach a destination by paying extra for an Uber or Lyft. These advertisements can draw people away from taking transit, and agencies should consider whether they want to place conditions on the use of transit data by third parties.

The second is maintaining access for the many people who can't access apps or make online payments, which can include low-income people, undocumented people, people with disabilities, or people with limited English proficiency—in other words, many of the same travelers who rely on transit. Phone-based concierge services or cash-based payment services at convenient locations, as well as traditional fare media and schedules, can help these people continue to access transit.

Design and manage designated transit streets to prioritize transit and shared travel. Dedicating transit lanes and rights of way and prioritizing buses at signalized intersection are widely used strategies to help transit vehicles move more quickly. As the region explores congestion pricing, we should consider methods of pricing that reduce tolls for higher occupancy vehicles. More ride-hailing services picking people up and dropping them off means that curb space is increasingly valuable, and the use of global positioning systems on ride-hailing vehicles makes it possible to manage where these vehicles drop people off and pick them up. Agencies can manage the curbside to prioritize ride-hailing services carrying more than one passenger and avoid conflicts with transit vehicles.

Transit Policy 7. Use technologies to provide better, more efficient transit service, including focusing on meeting the needs of people for whom conventional transit is not an option.

Advancements in technology provide opportunities for the region to proactively improve transit service and efficiency.and integraate technological advances in transportation and mobility serves that are supportive of and leverage the use of transitOne key way to do this is through the application of technology to serve areas that are more difficult to serve by traditional transit service.

Our region is home to many people with disabilities who require specialized vehicles and point-to-point service, as well as people who depend on transit but live in communities where fixed-route service does not make sense. These people often rely on demand-response transit or infrequent buses that provide slow service and are costly to operate. New shared mobility models like microtransit could provide better service at lower cost in these situations. As these options continue to mature, agencies should look for opportunities to supplement demand response and underperforming service with shared mobility. This not only provides better service for underserved and transit-dependent residents, but also increase resources available to serve high-demand corridors. Over the longer term,

Transit is a critical option for those in need, the most efficient way to move people along crowded streets, and the backbone of many communities. It is difficult to imagine a positive future for the region without it.

In order to make sure that transit thrives, we need to enhance service on high-ridership lines while piloting new ways to provide transit (like microtransit or using new mobility services to connect to stations) in communities that are challenging to serve with large buses traveling on fixed routes.

autonomous vehicle (AV) technologies have the potential to make transit work more efficiently everywhere, and transit agencies should look for opportunities to test these technologies and understand their potential benefits as they become available.

Transit Policy 8. Ensure that transit is affordable, especially for people who depend on transit.

The cost of transportation burdens many households in the metropolitan region Transportation is usually the second largest share of household costs (after housing) and are particularly burdensome for low-income households who often have the longest distances to travel. It is therefore important to ensure that transit is affordable, particularly for the riders that need it the most (i.e. the riders who do not have access to cars). Ensuring that transit is affordable alleviates the cost of owning automobiles; in the greater Portland region, an individual saves an average of $10,477 annually by switching from cars to public transit (APTA, June Transit Savings Report, 2017).

Low-income households, people of color, people with disabilities, children, older adults and people with limited English proficiency are those most affected by transportation costs because they're historically more transit-dependent than others. As our region continues to grow in both population and diversity, embracing this growing diversity means providing service that is equitable. Using equity as a lens to guide decisions ensures that the transit system benefits those who rely on it the most.

Expanded payment options

TriMet also rolled out the Hop Fastpass, a state-of-the-art electronic fare system for TriMet, C-TRAN, and Portland Streetcar. Riders will be able to choose from a variety of payment options, including a transit-only smart card, contactless bank card, and smartphones with contactless technology built in. One benefit of the Hop Fastpass for low-income riders is a daily and monthly cap on fares paid. Riders who use the system for two full-fare trips will be able to ride the rest of the day for free. Similarly, after using the Hop Fastpass for the equivalent cost of a monthly pass, riders will be able to use the transit system for free for the rest of the month. The Hop Fastpass therefore allows riders to buy daily and monthly passes one installment at a time, making discounts available to those who can't afford the cost of a daily or monthly pass up front.

Reduced fare programs

TriMet has already implemented several programs in order to make transit affordable. Reduced fares are available to youths ages 7-17 and students in high school or pursuing a GED, and children 6 and under ride for free with a paying passenger. High school students in the Portland Public School District can ride for free during the

SMART Fare Programs

SMART routes within the City of Wilsonville are free, while other routes running to Canby, Tualatin, Barbur Transit Center, and Salem charge a fee. SMART also offers a reduced half price pass for older adults (60 years and older), persons with disabilities, Medicare card holders and youth riders (5-17 years old or students to 23 years old with valid student ID).

school year as well by showing their student ID. Honored citizens, which include those over 65, those on Medicare, or those with disabilities are also eligible for reduced fares. Access Transit fare programs help low-income riders, including low-income seniors and riders with disabilities. These programs provide fares to non-profit and community-based organizations at lower to no cost, which are then distributed to clients.

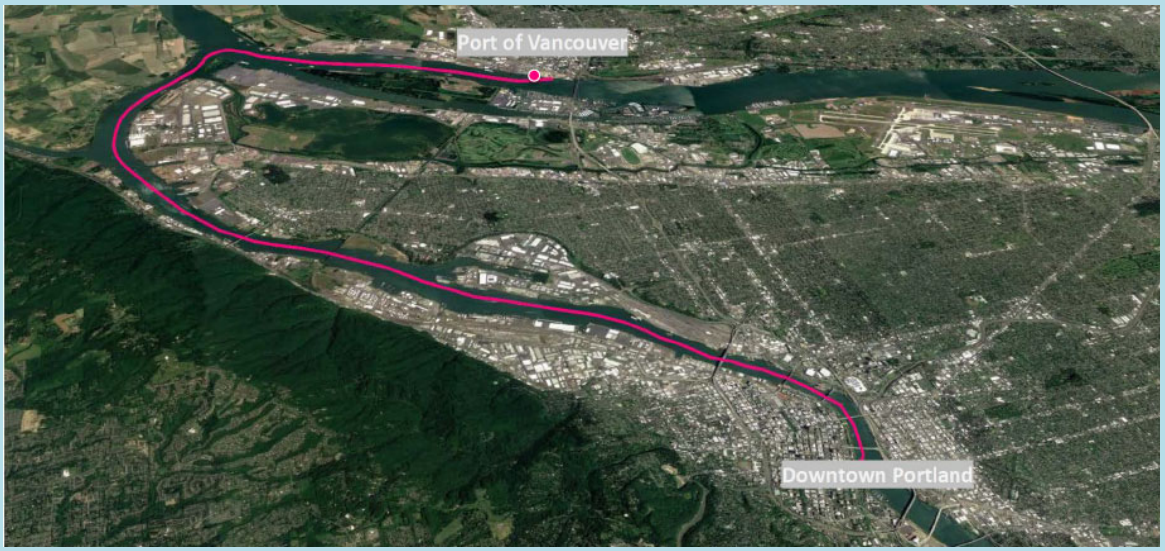
Over the last few years, TriMet has been working toward a reduced fare program for people with limited incomes. A task force of advocates, community members and elected officials recommended a low income fare program where adults at or below 200 percent of the federal poverty level would be eligible for half-priced fare. Implementation of this program means that adults making up to $24,120 a year could take a ride for $1.75, and buy a day pass for $2.50 (the same price as Honored Citizen and Youth fares). Participants would use a reduced fare Hop card similar to an Honored Citizen or Youth card. House Bill 2017 provided the funding to implement the TriMet Low-Income Fare Program.

Partnerships and advocacy

To ensure that transit remains affordable, the region should build partnerships with non-profit and human service providers to support the dissemination of information about these fare programs and to work through ways in which these programs can be more effective. This should also include advocating in the state legislature and to the voters to increase, deepen, and sustain long-term funding for programs which support keeping transit affordable for riders.

Private efforts to study the potential for passenger ferry service

A non-profit group, Friends of Frog Ferry, is pursuing the study of a passenger river taxi service connecting Vancouver, WA with central Portland. Friends of Frog Ferry has compiled an initial business plan and is working to partner with local jurisdictions to evaluate ridership and land development opportunities. Their proposal envisions a project that provides another transportation option and activates the Willamette River.



Source: Friends of Frog Ferry

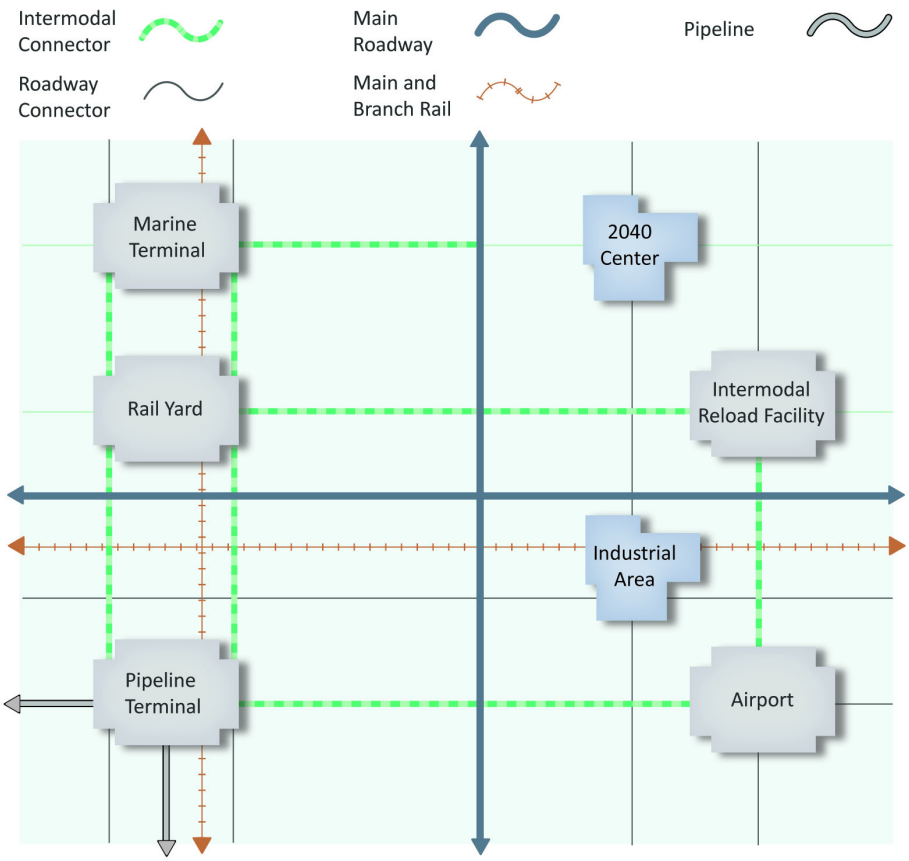
3.7 REGIONAL FREIGHT NETWORK VISION AND POLICIES

Informing the regional framework for freight policy is the understanding that the Portland – Vancouver region is a globally competitive international gateway and domestic hub for commerce. The multimodal freight transportation network is a foundation for economic activities and we must strategically maintain, operate and expand it in a timely manner to ensure a vital and healthy economy.

3.7.1 Regional freight network concept

The Regional Freight Strategy addresses the needs for freight through-traffic as well as regional freight movements, and access to employment and industrial areas, and commercial districts. The Regional Freight Network Concept contains policy and strategy provisions to develop and implement a coordinated and integrated freight network that helps the region's businesses attract new jobs and remain competitive in the global economy. The transport and distribution of freight occurs via the regional freight network, a combination of interconnected publicly and privately owned networks and terminal facilities. The concept in **Figure 3.20** shows the components of the regional freight system and their relationships.

Figure 3.20 Regional freight network concept



Rivers, mainline rail, pipeline, air and truck routes and arterial streets and throughways connect the region to international and domestic markets and suppliers beyond local boundaries. Inside the region, throughways and arterial streets distribute freight moved by truck to air, marine and pipeline terminal facilities, rail yards, industrial areas and commercial centers. Rail branch lines and heavy vehicle corridors connect industrial areas, marine terminals and pipeline terminals to rail yards and truck terminals. Pipelines transport petroleum products to and from terminal facilities.

3.7.2 Regional freight network policies

The Regional Freight Network Policies reflect the policy framework of the Regional Freight Strategy. Specific actions that Metro, in partnership with cities, counties, agencies and other stakeholders can take to implement the policies are identified in Chapter 8 of the Regional Freight Strategy.

Regional Freight Network Policies

Policy 1	Plan and manage our multimodal freight transportation infrastructure using a systems approach, coordinating regional and local decisions to maintain seamless freight movement and access to industrial areas and intermodal facilities.
Policy 2	Manage the region's multimodal freight network to reduce delay, increase reliability and efficiency, improve safety and provide shipping choices.
Policy 3	Better integrate freight issues in regional and local planning and communication **to** Inform the public and decision-makers on the importance of freight and goods movement issues.
Policy 4	Pursue a sustainable multimodal freight transportation system that supports the health of the economy, communities and the environment through clean, green and smart technologies and practices.
Policy 5	Protect critical freight corridors and access to industrial lands by integrating freight mobility and access needs into land use and transportation plans and street design.
Policy 6	Invest in the region's multimodal freight transportation system, including road, air, marine and rail facilities, to ensure that the region and its businesses stay economically competitive.
Policy 7	Eliminate fatalities and serious injuries caused by freight vehicle crashes with passenger vehicles, bicycles and pedestrians, by improving roadway and freight operational safety.

Freight Policy 1. Plan and manage our multimodal freight transportation infrastructure systems approach, coordinating regional and local decisions to maintain seamless freight movement and access to industrial areas and intermodal facilities.

A comprehensive, systems approach is central to planning, managing, and using the region's multimodal freight transportation infrastructure. This approach provides a strong foundation for addressing core throughway network bottlenecks, recognizing and coordinating both regional and local decisions to maintain the flow and access for freight movement that benefits all.

The transport and distribution of freight occurs via a combination of interconnected publicly and privately-owned networks and terminal facilities.

Freight Policy 2. Manage the region's multimodal freight network to reduce delay and increase reliability and efficiency, improve safety and provide shipping choices.

The 2005 Cost of Congestion to the Economy of the Portland Region Study reported that our region has a higher than average dependency on traded sector industries, particularly computer/electronic products, wholesale distribution services, metals, forestry/wood/paper products, and publishing; business sectors that serve broader regional, national, and international markets and bring outside dollars into the region's economy.

These industries depend on a well-integrated and well-functioning international and domestic transportation system to stay competitive in a global economy.

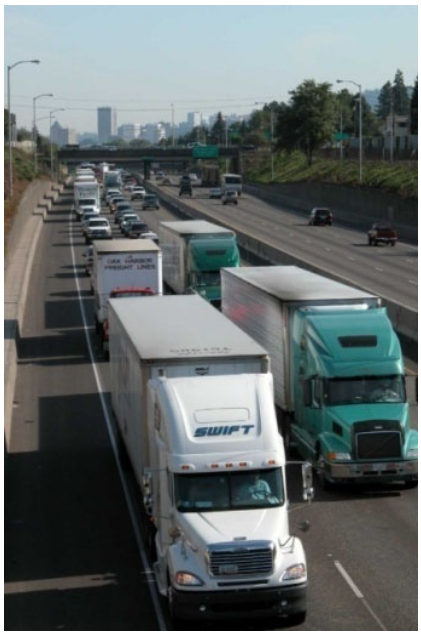
As an international gateway and domestic freight hub, the region is particularly influenced by the dynamic trends affecting distribution and logistics. As a result of these global trends, U.S. international and domestic trade volumes are expected to grow at an accelerated rate. The value of trade in Oregon is expected to double by 2040, to $730 billion.[12] The region's forecasted population and job growth – an additional 917,000 residents and 597,000 jobs to be added

[12] Federal Highway Administration, Freight Analysis Framework version 3.4, 2013

between 2010 and 2040[13] – along with the associated boost in the consumption of goods and services are significant drivers of projected increases in local freight volume.

This policy is the first step to improved freight and goods movement operations on the existing system and includes preservation, maintenance and operations-focused projects and associated planning and coordinating activities. It focuses on using the system we have more effectively.

It is critical to maximize system operations and create first-rate multimodal freight networks that reduce delay, increase reliability, maintain and improve safety and provide cost-effective choices to shippers. In industrial and employment areas, the policy emphasizes providing critical freight access to the interstate highway system to help the region's businesses and industry in these areas remain competitive. Providing access and new street connections to support industrial area access and commercial delivery activities and upgrading main line and rail yard infrastructure in these areas are also emphasized.



Reducing delay and increasingly reliability of the freight network is critical for the health our regional economy.

Ensure adequate investment in freight capacity

In order to carry out an overall policy of reducing delay and increasing reliability, it will be necessary to expand the types of programs and amounts of funding for freight transportation infrastructure to adequately fund and sustain investment in our multimodal freight transportation network in order to ensure that the region and its businesses stay economically competitive.

Freight Policy 3. Better integrate freight issues in regional and local planning and communication to inform the public and decision-makers on the importance of freight and goods movement issues.

To gain public support for projects and funding of freight initiatives, and to better inform elected officials when making land use and transportation decisions, a program that informs the public is required.

Potential freight impacts should be considered in all modal planning and funding, policy and project development and implementation and monitoring. This also means better informing the region's residents and decision makers about the importance of freight movement on our daily lives and economic well-being. Metro will work with its transportation partners to improve the level of freight information available to decision-makers, the business community and the public.

[13] Metro 2040 growth forecast. Represents forecasted population and jobs within 4-county area (Multnomah, Clackamas, Washignton and Clark counties).

Freight Policy 4. Pursue a sustainable multimodal freight transportation system that supports the health of the economy, communities and the environment through clean, green and smart technologies and practices.

This policy deals with traditional nuisance and hot spot issues associated with "smokestack and tailpipe" problems, but it also recognizes the many current contributions and new opportunities for the evolving green freight community to be part of the larger environmental and economic solution set required in these times, including reducing greenhouse gas emissions.

It is important to ensure that the multimodal freight transportation network supports the health of the economy and the environment by pursuing clean, green and smart technologies and practices. Details of the most promising innovations and technologies have been developed as part of the Regional Freight Strategy's Technology for Sustainable Freight Transport, as identified in Chapter 6 of the strategy.

The Columbia River serves as a critical international marine gateway to the region's system of multi-modal freight networks.

Freight Policy 5. Protect critical freight corridors and access to industrial lands by integrating freight mobility and access needs into land use and transportation plans and street design.

This policy targets land use planning and design issues that can affect the ability of freight, goods movement and industrial uses to live harmoniously with their neighbors. Freight---sensitive land use planning includes everything from long-range aspirations for freight and industrial lands to short-term and smaller scale design and access issues.

It is important to integrate freight mobility and access needs in land use decisions to ensure the efficient use of prime industrial lands, protection of critical freight corridors and access for commercial delivery activities. This includes improving and protecting the throughway

interchanges that provide access to major industrial areas, as well as the last-mile arterial connections to both current and emerging industrial areas and terminals.

Freight Policy 6. Invest in the region's multimodal freight transportation system, including road, air, marine and rail facilities, to ensure that the region and its businesses stay economically competitive.

This policy focuses on planning and building capital projects and developing the funding sources, partnerships, and coordination to implement them.

It is important to look beyond the roadway network to address needs of the multi-modal and intermodal system that supports our regional economy. As described in the Regional Freight Strategy, freight rail capacity is adequate to meet today's needs but as rail traffic increases additional investment will be needed in rail mainline, yard and siding capacity.[14] Whenever right-of-way is considered for multiple uses such as freight rail, passenger rail and trails, analysis must include long-term needs for existing freight and freight rail expansion to ensure that necessary future capacity is not compromised.

In addition, navigation channel depth on the Columbia River continues to be the limiting factor on the size, and therefore the number, of ships that call on the Portland-Vancouver Harbor.

Trade-dependent state economies

Exports: In 2012 Oregon state exports totaled $18 billion. Portland ranked 4th among the largest 100 U.S. metro areas in terms of export value as a share of metro output (24 percent).

Businesses: Oregon companies depend on Portland's marine, rail, air and road facilities for access to resources and markets: onions, apples, hazelnuts, grass seed, seafood, wood products, Les Schwab, Fred Meyer, Intel, Nike, Columbia Sportswear, etc.

Jobs: 490,000 Oregon jobs tie directly or indirectly to, or supported by, international trade

Sources: Portland Business Alliance, Today More than Ever: Oregon and Portland/Vancouver Depend on International Trade and Investment, 2013 exports as a percentage of gross state product.

Freight Policy 7. Eliminate fatalities and serious injuries caused by freight vehicle crashes with passenger vehicles, bicycles and pedestrians, by improving roadway and freight operational safety.

This policy and the potential design solutions focuses on addressing the issue of eliminating fatalities and serious injuries due to freight vehicle crashes with passenger vehicles, bicycles and pedestrians.

[14] Port of Portland, Port of Portland Rail Plan, 2013.

3.7.3 Regional freight network classifications and map

The Regional Freight Network map, shown in **Figure 3.21** applies the regional freight network concept on the ground to identify the transportation networks and facilities that serve the region and the state's freight mobility needs. Click on 2018 RTP Regional Network Maps for online zoomable version of map. The regional freight network has a functional hierarchy similar to that of the regional motor vehicle network. To show the continuity of the freight system in both Oregon and Washington state, the map shows the freight routes in Clark County, north of the Columbia River and rural freight routes designated by Clackamas and Washignton counties that connect to the regional freight network designated within the metropolitan planning area boundary. The Regional Freight Network map also includes six inset maps (brown dotted line boxes) that focus on the key intermodal facilities (marine terminals, rail yards and pipeline facilities) and rail lines to highlight the importance of the rail network, and have better visibility for the rail lines, These inset maps are located on the back side of the main map.

The different functional elements of the regional freght network are:

- **Main line rail –** Class I rail lines (e.g., Union Pacific and Burlington Northern/Santa Fe).
- **Branch line rail –** Non-Class 1 rail lines, including short lines (e.g., Portland and Western Railroad).
- **Main roadway routes –** Designated freights routes that are freeways and highways that connect major activity centers in the region to other areas in Oregon or other states throughout the U.S., Mexico and Canada.
- **Regional Intermodal Connectors –** Roads that provide connections between major rail yards, marine terminals, airports, and other freight intermodal facilities; and the freeway and highway system. Marine terminals, truck to rail facilities, rail yards, pipeline terminals, and air freight facilities are the primary types of intermodal terminals and businesses that the tier 1 and NHS intermodal connectors are serving in the Portland region. An example of a NHS intermodal connector is Marine Drive between the marine terminals (Terminal 5 and 6) and I-5; which in 2014 had over 4,100 average daily trucks. Another NHS intermodal connector is Columbia Boulevard between I-5 and OR 213 (82nd Avenue) which had over 3,500 average daily trucks and is a vital freight connection between the air-freight terminal at Portland International Airport and both I-5 and I-205. These Regional Intermodal Connectors are carrying many more trucks than the typical road connectors on the Regional Freight Network map. They are also of critical importance for carrying commodities that are being exported from and imported into the state and across the country.
- **Roadway connectors –** Roads that connect other freight facilities, industrial areas, and 2040 centers to a main roadway route.
- **Marine faciilties –** A facility where freight is transferred between water-based and land-based modes.
- **Rail yards –** A rail yard, railway yard or railroad yard is a complex series of railroad tracks for storing, sorting, or loading and unloading, railroad cars and locomotives. Railroad yards have many tracks in parallel for keeping rolling stock stored off the mainline, so that they do not obstruct the flow of traffic.

Figure 3.21 Regional freight network map

Page 2 of freight map here

3.8 REGIONAL ACTIVE TRANSPORTATION NETWORK VISION

A complete and welcoming active transportation network allows people of all ages, abilities, income levels and backgrounds to access transit, walk and bike easily and safely for many of their daily needs. The Regional Active Transportation Network vision was developed in the Regional Active Transportation Plan and starts with the understanding that integrated, complete and seamless regional pedestrian, bicycle and transit networks are necessary to achieve local and regional transportation goals, aspirations and targets.

Active transportation is human-powered transportation that engages people in healthy physical activity while they travel from place to place. People walking, bicycling, the use of strollers, wheelchairs /mobility devices, skateboarding, and rollerblading are active transportation.

Active transportation supports public transportation because most trips on public transportation include walking or bicycling.

3.8.1 Regional active transportation network vision

Many people in the region incorporate walking, transit and riding a bicycle into daily travel. The regional active transportation network concept focuses on the integration of bicycle, pedestrian and transit travel and connecting local pedestrian and bicycle networks into a coordinated and complete regional network.

The regional active transportation network is composed of pedestrian-bicycle districts and regional bikeways and walkways that connect to and serve high capacity and frequent transit. Pedestrian-bicycle districts are urban centers and station communities. The following ten guiding principles were developed in the Regional Active Transportation Plan to guide development of the regional active transportation network.

1. Bicycling, walking, and transit routes are integrated and connections to regional centers and regional destinations are seamless.
2. Routes are direct, form a complete network, are intuitive and easy-to-use and are accessible at all times.
3. Routes are safe and comfortable for people of all ages and abilities and welcoming to people of all income levels and backgrounds.
4. Routes are attractive and travel is enjoyable.
5. Routes are integrated with nature and designed in a habitat and environmentally-sensitive manner.
6. Facility designs are context sensitive and seek to improve safety and balance the needs of all transportation modes.
7. Increases corridor capacity and relieves strain on other transportation systems.

8. Ensures access to regional destinations for people with low incomes, people of color, people living with disabilities, people with low-English-proficiency, youth and older adults.
9. Measurable data and analyses inform the development of the network and active transportation policies.
10. Implements regional and local land use and transportation goals and plans to achieve regional active transportation modal targets.

Developing the regional active transportation network according to the guiding principles will provide a well-connected network of complete streets and off-street paths integrated with transit and prioritizing safe, convenient and comfortable pedestrian and bicycle access for all ages and abilities. This will help make walking and bicycling the most convenient and enjoyable transportation choices for short trips and provide access to regional destinations, jobs, regional and town centers, schools, parks and essential daily services. It will also increase walking and bicycling access for underserved populations and ensures that the regional active transportation network equitably serves all people.[15]

Many people in the region incorporate walking into daily travel. It is important that routes and crossings are safe and comfortable for people of all ages and abilities.

[15] Underserved populations include low income, low-English proficiency, minority, solder adults (over 65) and youth (under 18).

3.9 REGIONAL BICYCLE NETWORK CONCEPT AND POLICIES

Residents in the region have long recognized bicycling as an important form of transportation. The RTP elevates the importance of supporting bicycle travel because of the mobility, economic, environmental, health, and land use benefits it provides.

Sidewalks, trails, bicycle facilities and transit cannot achieve their full potential if they are treated as stand-alone facilities – they must be planned and developed as part of a complete network.

Bicycle travel is an important mode that supports regional goals for mobility, public health and the environment.

Section 3.08.140 of the Regional Transportation Functional Plan requires that local jurisdictions include a bicycle plan to achieve the following:

- an inventory of existing facilities that identifies gaps and deficiencies in the bicycle system;
- an evaluation of needs for bicycle access to transit and essential destinations, including direct, comfortable and safe bicycle routes and secure bicycle parking;
- a list of improvements to the bicycle system;
- provision for bikeways along arterials, collectors and local streets, and bicycle parking in centers, at major transit stops, park-and-ride lots and institutional uses; and
- provision for safe crossing of streets and controlled bicycle crossing on major arterials.

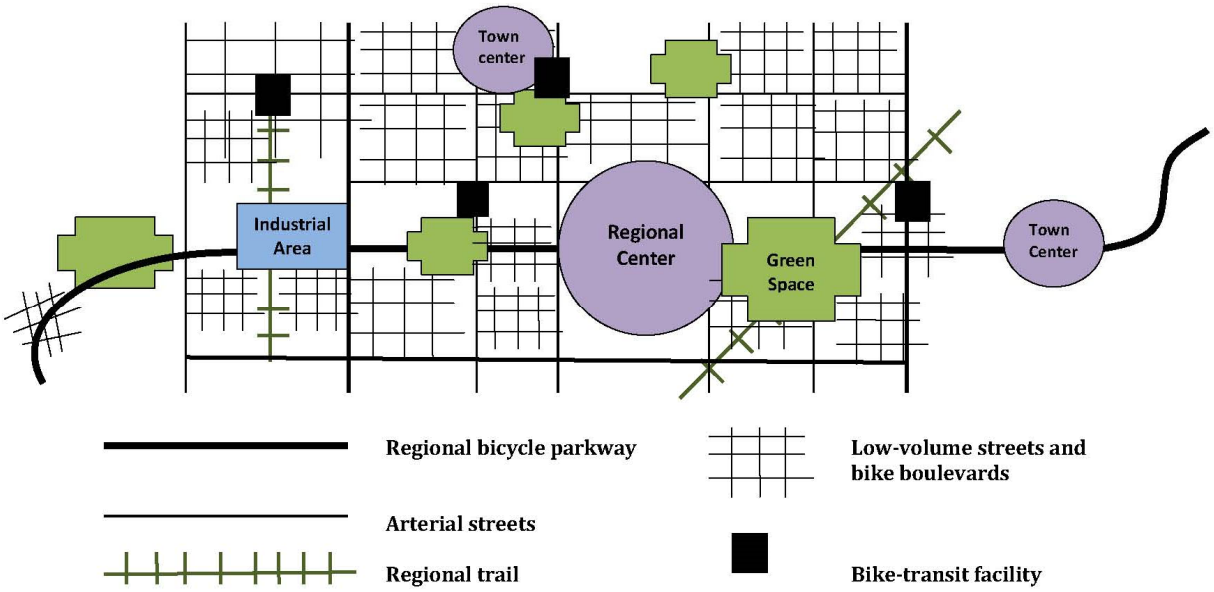
3.9.1 Regional bicycle network concept

The regional bicycle network concept includes:

- A bicycle parkway in each of the region's Mobility Corridors within the MPA boundary to provide transportation options in these corridors.
- A network of bicycle parkways, spaced approximately every two miles, that connect to and/or through every town and regional center, many regional destinations and to most employment and industrial land areas and regional parks and natural areas (all areas are connected by regional bikeways, the next functional class of bicycle routes).
- A network of regional bikeways that connect to the bicycle parkways, providing an interconnected regional network. Local bikeways connect to bicycle parkways and regional bikeways.
- Regional bicycle districts. Regional and town centers and station communities were identified as bicycle districts, as well as pedestrian districts.

Figure 3.22 shows the components of the regional bicycle network concept and their relationship to adjacent land uses. A region-wide bicycle network would be made up of on-street and off-street routes with connections to transit and other destinations.

Figure 3.22 Regional bicycle network concept



The Region 2040 plan sets forth a vision for making bicycling safe, convenient and enjoyable, and to support bicycling as a legitimate travel choice for all people in the region. The RTP supports this vision with a region-wide network of bicycle districts and on-street and off-street bikeways integrated with transit.

3.9.2 Regional bicycle network policies

This section describes the policy framework of the Regional Bicycle Network Concept. Specific actions that Metro, in partnership with cities, counties, agencies and other stakeholders can take to implement the policies are identified in the Regional Active Transportation Plan.

Regional Bicycle Network Policies	
Policy 1	Make bicycling the most convenient, safe and enjoyable transportation choice for short trips of less than three miles
Policy 2	Complete an interconnected regional network of bicycle routes and districts that is integrated with transit and nature and prioritizes seamless, safe, convenient and comfortable access to urban centers and community places, including schools and jobs, for all ages and abilities.
Policy 3	Complete a green ribbon of bicycle parkways as part of the region's integrated mobility strategy.
Policy 4	Improve bike access to transit and community places for people of all ages and abilities.
Policy 5	Ensure that the regional bicycle network equitably serves all people.

Bicycle Policy 1. Make bicycling the most convenient, safe and enjoyable transportation choice for short trips of less than three miles.

The average length of a bicycle trip in the region is about three miles.[16] Nearly 45 percent of all trips made by car in the region are less than three miles, and 15 percent are less than one mile.[17] With complete networks, education, encouragement and other programs, many short trips made by car could be replaced with bicycle or pedestrian trips, increasing road capacity and reducing the need to expand the road system. Emerging technologies such as bike-sharing provide a new toolkit to make bicycling even easier for short trips.

In 2011, the Federal Transit Administration (FTA) established a formal policy on the eligibility of pedestrian and bicycle improvements for FTA funding and defined the catchment area for pedestrians and bicyclists in relation to public transportation stops and stations. The policy recognized that bicycle and pedestrian access to transit is critical, and defined a three mile catchment area for bicycle improvements and a half mile catchment area for pedestrian improvements. [18]

[16] 2011 Oregon Household Activity Survey.
[17] 2011 Oregon Household Activity Survey. Vehicle trips by length for trips wholly within Clackamas, Multnomah, Washington and Clark Counties.
[18] Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law

Bicycle travel holds huge potential for providing transportation options that can replace trips made by auto, especially for short trips. Bicycle trips made in the region for all purposes grew by 190 percent since 1995.[19] When bicycling is safe, comfortable, convenient and enjoyable, people have the option of making some of those short trips by bicycle.

Actions to implement this policy can be found in Chapter 12 of the 2014 Regional Active Transportation Plan.

Bicycle Policy 2. Complete an interconnected regional network of bicycle routes and districts that is integrated with transit and nature and prioritizes seamless, safe, convenient and comfortable access to urban centers and community places, including schools and jobs for all ages and abilities.

A well-connected bicycle network does not have gaps and is comfortable and safe for people of all ages and abilities. Regional bicycle routes connect to and through urban centers increasing access to transit, businesses, schools, and other destinations. Regional trails and transit function better when they are integrated with on-street bicycle routes. Wherever possible, routes should connect to and through nature and include trees and other green elements. Designing the network for universal access will make the regional bicycle network accessible and comfortable for all ages and abilities. The Regional Transportation Functional plan requires local Transportation System Plans include an interconnected network of bicycle routes.

Bicycle Policy 3. Complete a green ribbon of bicycle parkways as part of the region's mobility strategy.

Regional bicycle parkways form the backbone of the regional bicycle system, connecting to 2040 activity centers, downtowns, institutions and greenspaces within the urban area while providing an opportunity for bicyclists to travel efficiently with minimal delays. In effect, the bicycle parkway concept mainstreams bicycle travel as an important part of the region's integrated mobility strategy. This concept emerged from work by the Metro Blue Ribbon Committee for Trails as part of the broader Connecting Green Initiative in 2007-09 and further developed in the Regional Active Transportation Plan adopted in 2014.

Key experiential aspects that bike parkways embody:

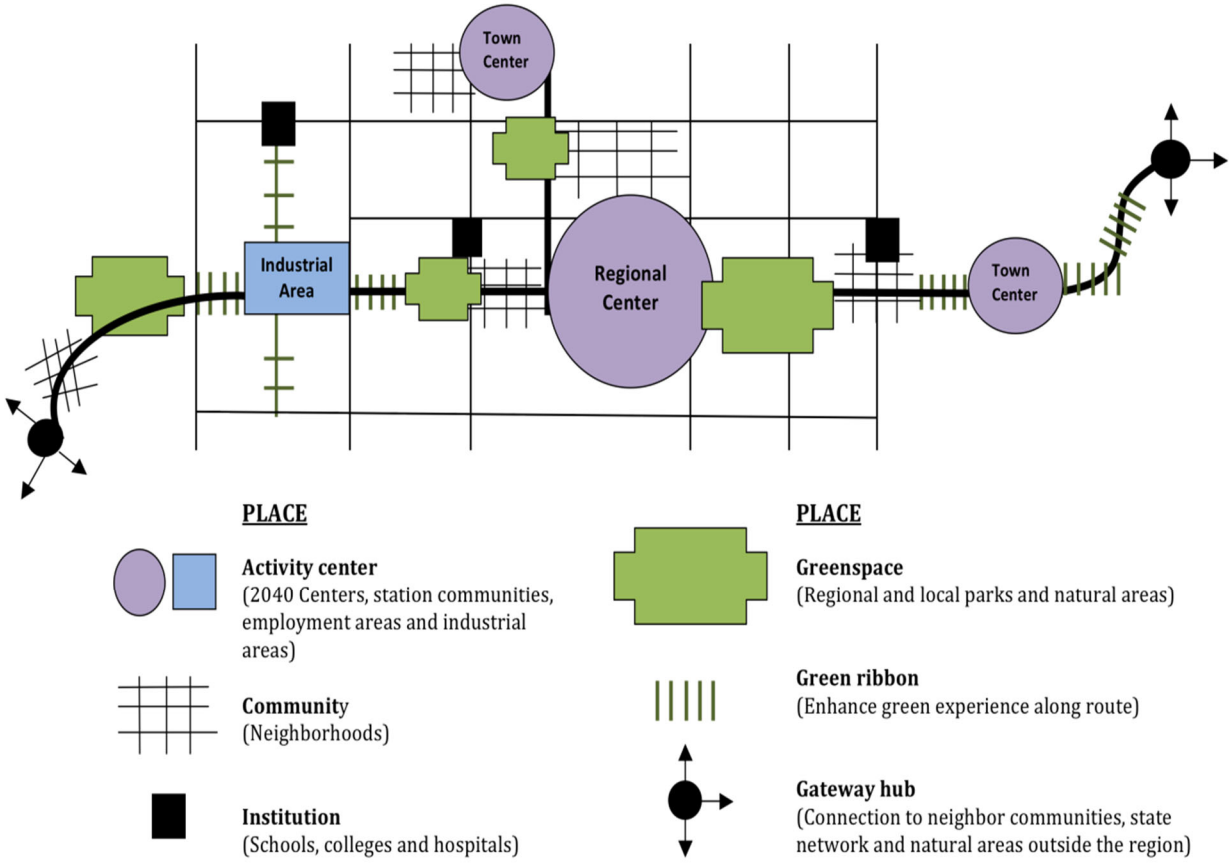
- A green environment with natural features such as trees or plantings (some will already be green, while others will be made greener as part of bike parkway development)
- Comfort and safety provided by protection from motorized traffic
- Large volumes of cyclists traveling efficiently with minimal delays

The bicycle parkway also connects the region to neighboring communities, other statewide trails and natural destinations such as Mt Hood, the Columbia River Gorge, and the Pacific Ocean.

[19] 2011 Oregon Household Activity Survey.

Figure 3.23 illustrates this policy concept in the context of the regional bicycle parkway concept.

Figure 3.23 Bicycle parkway concept



A bicycle parkway serves as a green ribbon connecting 2040 activity centers, downtowns, institutions and greenspaces within the urban area.

The experience of the cyclist will be optimized to such a high level that people will clearly know when they are riding on a bicycle parkway. The specific design of a bike parkway will vary depending on the land use context within which it passes through. The facility could be designed as an off-street trail along a stream or rail corridor, a cycle track along a main street or town center, or a bicycle boulevard through a residential neighborhood. Priority treatments will be given to cyclists (e.g., signal timing) using the bike parkway when they intersect other transportation facilities, and connections to/from other types of bicycle routes will be intuitive. The Regional Active Transportation Plan provides design guidance on the development of bicycle parkways.

Bicycle Policy 4. Improve bike access to transit and to community places for people of all ages and abilities.

Public transit and bicycling are complementary travel modes. Effectively linking bicycling with transit increases the reach of both modes. It allows longer trips to be made without driving and reduces the need to provide auto park-and-ride lots at transit stations.

Transit provides a fast and comfortable travel environment between regional destinations that overcomes barriers to bicycling (hills, distance, and streets without bikeways); while bicycling provides access from the front door to a transit station, is faster than walking and can sometimes eliminate the need to transfer between transit vehicles.

The region's bicycle network supports a variety of facilities to make bicycling safe, direct and enjoyable.

A key component of the bike-transit connection is bicycle parking at transit stations and stops. Bike-transit facilities provide connections between modes by creating a "bicycle park and ride." Both TriMet and SMART currently provide bicycle parking and storage at many transit stations and stops. TriMet, with input from regional stakeholders, has developed Bicycle Parking Guidelines. The guidelines consider station context and regional travel patterns, and are focused on three major factors for parking: location, amount and design. The guidelines will help TriMet and local jurisdictions determine the appropriate location, size and design of large-scale bike-parking facilities, including Bike-Transit Facilities. The Regional Transportation Functional Plan requires that local transportation system plans evaluate the needs for bicycle access to transit, including secure bicycle parking.

Bicycle Policy 5. Ensure that the regional bicycle network equitably serves all people.

All people in the region, regardless of race, income level, age or ability should enjoy access to complete and safe walking, bicycling and transit networks and the access they provide to essential destinations, including schools and jobs. Currently the regional active transportation network is incomplete in many areas of the region, including areas with low-income, minority and low-English proficiency populations. Transportation is the second highest household expense for the average American; providing transportation options in areas with low-income populations helps address transportation inequities. Future planning, design and construction of the networks must include consideration of the benefits and burdens of transportation investments to underserved and environmental justice populations. In addition to infrastructure, new technologies such as bike sharing increase opportunities for all residents to bicycle. In Portland, the "Biketown for All"" program provides discounted memberships, free helmets and bike safety education to low-income people.

3.9.3 Regional bicycle network functional classifications and map

This section describes the regional bicycle network functional classifications shown on **Figure 3.24**, the Regional Bicycle Network. Click on 2018 RTP Regional Network Maps for online zoomable version of map.

The regional bicycle network is composed of on-street and off-street bikeways that serve the central city, regional centers, town centers, and other 2040 Target Areas, providing a continuous network that spans jurisdictional boundaries. **Figure 3.24** is a functional map illustrating how regional bicycle routes and districts work together to form a comprehensive network that would allow people to bike to transit, schools, employment centers, parks, natural areas and shopping.

The regional bicycle network has a functional hierarchy similar to that of the regional motor vehicle network. **Figure 3.24** provides a vision for a future bicycle network; for a map of current bicycle facilities in the region, refer to Chapter 4.

The Eastbank Esplanade, along the Willamette River, is an example of how regional trails serve recreational and commuter travel needs.

The different functional elements of the regional bicycle network are:

- **Regional Bicycle Parkways** are spaced approximately every two miles in a spiderweb-grid pattern, and connect to and through every urban center, many regional destinations and to most employment and industrial land areas, regional parks and natural areas. Each Mobility Corridor within the urban area has an identified bicycle parkway. Bicycle parkways were identified as routes that currently serve or will serve higher volumes of bicyclists and provide important connections to destinations.
- **Regional Bikeways** provide for travel to and within the Central City, Regional Centers, and Town Centers. Regional bikeways can be any type of facility, including off-street trails/multi-use paths, separated in-street bikeways (such as buffered bicycle lanes) and bicycle boulevards. On-street Regional Bikeways located on arterial and collector streets are designed to provide separation from traffic.
- **Local Bikeways** are not identified as regional routes. However, they are very important to a fully functioning network. They are typically shorter routes with less bicycle demand and use than regional routes. They provide for door to door bicycle travel.

- **Bicycle Districts (and Pedestrian Districts)** include the Portland Central City, Regional and Town Centers and Station Communities. A bicycle district is an area with a concentration of transit, commercial, cultural, educational, institutional and/or recreational destinations where bicycle travel is intended to be attractive, comfortable and safe. Bicycle districts are also areas with current or planned high levels of bicycle activity. All bicycle routes within bicycle districts are considered regional and are eligible for federal funding. Bicycle facilities in bicycle districts should strive to be developed consistent with the design guidance described in Chapter 9.

  Which areas are designated as bicycle districts should be considered further in future Regional Transportation Plan and ATP updates. For example, areas around bus stops with high ridership should be evaluated as potential bicycle districts (light rail station areas are currently identified as bicycle districts); some Main Streets on the regional network may be considered for expansion as bicycle districts, as well as other areas

- **Bike-Transit Facilities** are often referred to as Bike & Rides and are generally located at transit centers and stations and provide secure, protected large-scale bike parking facilities. Some facilities may include additional features such as showers, lockers, trip planning and bicycle repair. In addition to existing bike and ride facilities at Wilsonville (SMART), Hillsboro, Beaverton Transit Center, Sunset Transit Center and Gresham Transit Center, TriMet is working in partnership with city and county jurisdictions to apply for funding to build additional bike and rides with current planning focusing on enhanced bike parking facilities in areas such as Gateway Transit Center in East Portland, Orenco/NW 231st Ave. in Hillsboro, Beaverton Creek in Beaverton, Goose Hollow in Portland and Park Ave. and Tacoma stations as part of the Portland-Milwaukie light rail line.

Bicycle Parkways and Regional Bikeways typically follow arterial streets but may also be located on collector and low-volume streets. On-street bikeways should be designed using a flexible "toolbox" of bikeway designs, including bike lanes, cycle tracks (physically separated bicycle lanes) shoulder bikeways, shared roadway/wide outside lanes and bicycle priority treatments (e.g. bicycle boulevards).

Figure 3.24 Regional bicycle network map

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Regional Active Transportation Plan (2014)

The Regional Active Transportation Plan provides recommended design guidance for trails/multi-use paths, and low volume and high volume streets. The appropriateness of each design is based on adjacent motor vehicle speeds and volumes. It may be difficult on some arterial streets at present to provide a comfortable facility. The RTP expects that these routes will eventually improve for bicycling, through better designs and lower auto speeds accompanying a more compact urban form. In the short-term the RTP recognizes the need to continue to build ridership through providing low-volume routes for bicycle travel in the region.

Arterial streets provide direct routes that connect to 2040 Target Areas. Cyclists tend to travel on arterial streets when they want to minimize travel time or access destinations along them. Oregon State statutes and administrative rules establish that bicycle facilities are required on all collector and higher classification arterial streets when those roads are constructed or reconstructed.

Low-volume streets often provide access to 2040 Target Areas as well as residential neighborhoods, complementing bicycle facilities located on arterial streets. Though these routes are often less direct than arterials, attributes such as slower speeds and less noise, exhaust and interaction with vehicles, including trucks and buses, can make them more comfortable and appealing to many cyclists. Recent research suggests that providing facilities on low-volume streets may be a particularly effective strategy for encouraging new bicyclists, which helps increase bicycle mode share in the region.

Higher use trails can be designed to provide separation between bicyclists and pedestrians in order to avoid conflicts. Some trails that have been designed to minimum width requirements will need retrofits as more people use them.

Regional trails typically provide an environment removed from vehicle traffic and function as an important part of the larger park and open space system in a community and in the region. Trails often take advantage of opportunities for users to experience natural features such as creeks, rivers, forests, open spaces and wildlife habitats, as well as historic and cultural features, with viewpoints and interpretive opportunities. In the highest use areas, regional trails should be designed to provide separation between bicyclists and pedestrians.

Off-street facilities also complement on-street bikeways, providing access to 2040 Target Areas while providing a travel environment with fewer intersecting streets than on-street bikeways, thereby allowing for faster travel times. This makes off-street facilities especially attractive for serving long distance bicycle trips. Similar to low-volume streets, off-street facilities provide an environment more removed from vehicle traffic, which is appealing to families and new or less confident cyclists.

3.10 REGIONAL PEDESTRIAN NETWORK CONCEPT AND POLICIES

Walking contributes to a healthy lifestyle and supports vibrant local economies. Every trip begins or ends with at least a short walk. Transit in particular is integrated with walking. However, while everyone walks, walking is not a safe or convenient option for everyone in the region. Traffic crashes involving people walking often end in a death or severe injury and pedestrian deaths are rising.

Many streets are not ADA-compliant, sidewalk gaps remain on busy arterial roadways and along bus routes, safe places to cross the street can be few and far between, and lack of street lighting and other gaps make it dangerous and difficult to walk, especially for older adults, children and people with disabilities. In historically marginalized communities, lack of safe walking routes can be worse.

Walkability plays an important role in economic development by supporting commercial activity in centers. The RTP considers walking and bicycling equal with other transportation modes, and prioritizes short walking and bicycling trips.

In the Regional Pedestrian Network Vision, walking is safe and convenient. Section 3.08.130 of the Regional Transportation Functional Plan requires that local jurisdictions include a pedestrian plan to achieve the following:

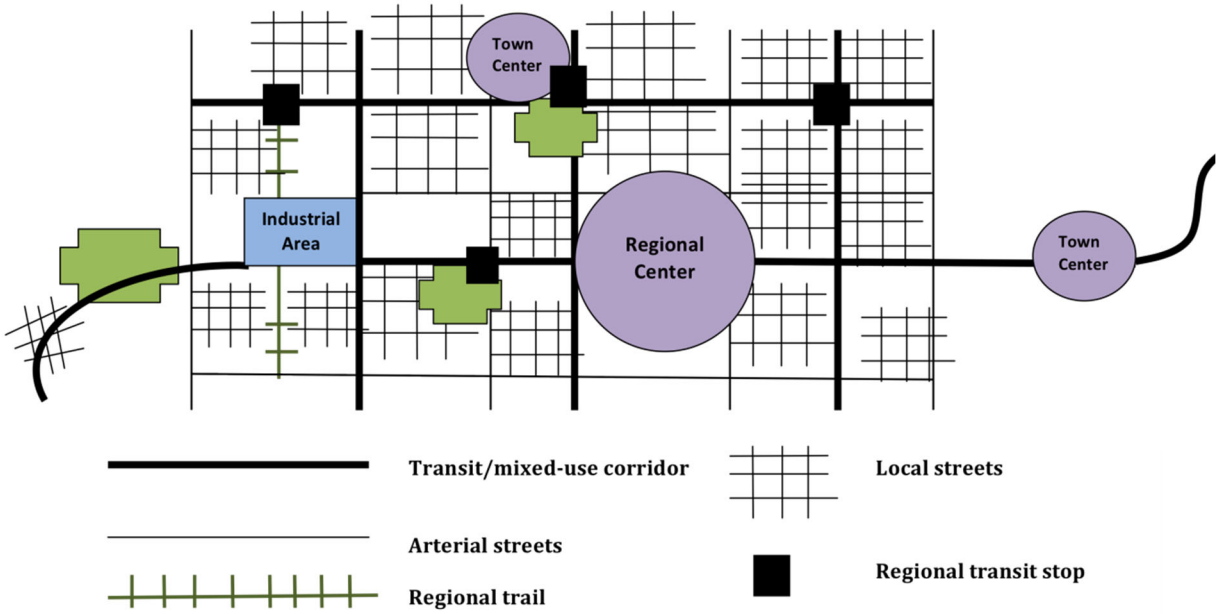
- Sidewalks along all arterials, collectors and most local streets.
- Direct and safe pedestrian routes to transit and other essential destinations.
- Provision of safe crossings of streets and controlled pedestrian crossings on major arterials.
- Safe, direct and logical pedestrian crossings at all transit stops where practicable.
- Crossings over barriers such as throughways, active rail-lines and rivers provided at regular intervals following regional connectivity standards.
- Regional multi-use trails and walking paths are completed.

3.10.1 Regional pedestrian network concept

The Regional Pedestrian Network Concept describes a well-connected grid of streets and multi-use paths connecting to and intersecting through regional and town centers, employment areas, station communities, parks and natural areas and connecting to transit and essential destinations.

Figure 3.25 shows the components of the regional pedestrian network and their relationship to adjacent land uses.

Figure 3.25 Regional pedestrian network concept



The 2040 Growth Concept sets forth a vision for making walking safe, convenient and enjoyable to support walking as a legitimate travel choice for all people in the region. The Regional Transportation Plan supports this vision with a region-wide network of on-street and off-street pedestrian facilities integrated with transit and regional destinations.

3.10.2 Regional pedestrian network policies

Regional pedestrian policies help achieve the Regional Pedestrian Network Vision. Specific actions that Metro, in partnership with cities, counties, agencies and other stakeholders, can take to implement the policies are identified in the Regional Active Transportation Plan.

Regional Pedestrian Network Policies

Policy 1	Make walking the most convenient, safe and enjoyable transportation choice for short trips of less than one mile.
Policy 2	Complete a well-connected network of pedestrian routes and safe street crossings that is integrated with transit and nature that prioritize seamless, safe, convenient and comfortable access to urban centers and community places, including schools and jobs, for all ages and abilities.
Policy 3	Create walkable downtowns, centers, main streets and station communities that prioritize safe, convenient and comfortable pedestrian access for all ages and abilities.
Policy 4	Improve pedestrian access to transit and community places for people of all ages and abilities.

Pedestrian Policy 1. Make walking the most convenient, safe and enjoyable transportation choice for short trips of less than one mile.

In addition to being the most basic form of transportation, walking is an important form of exercise and is the most popular recrteational activity in Oregon.[20] The average length of a walking trip in the region is about half a mile. Today 15 percent of trips made in an auto are less than one mile. [21] Many of these trips could be made by walking if it were convenient, safe and enjoyable. Fully implementing regional and local plans will help make this possible.

In 2011, the Federal Transit Administration (FTA) established a formal policy on the eligibility of pedestrian and bicycle improvements for FTA funding and defined the catchment area for pedestrians and bicyclists in relation to public transportation stops and stations. The policy recognized that bicycle and pedestrian access to transit is critical, and defined a three mile catchment area for bicycle improvements and a half mile catchment area for pedestrian improvements. [22]

[20] Oregon's 2017 Statewide Outdoor Recreation Survey shows that 83 percent of Oregonians walk on local streets and sidewalks for recreation, making this the most popular recreational activity in the state.
[21] 2011 Oregon Household Activity Survey.
[22] Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law

Ensuring all gaps and deficiencies on the regional pedestrian network have projects identified in the Regional Transportation Plan and including wayfinding, street markings, lighting and other elements that enhance connections and make the pedestrian network consistent, integrated and easy to navigate are key elements to implementing this policy. The Regional Transportation Functional Plan includes specific requirements in the Pedestrian and Transit System Design sections.

Actions to implement this policy can be found in Chapter 12 of the 2014 Regional Active Transportation Plan.

Pedestrian Policy 2. Complete a well-connected network of pedestrian routes, including safe street crossings, integrated with transit and nature that prioritize seamless, safe, convenient and comfortable access to urban centers and community places, including schools and jobs, for all ages and abilities.

A well-connected high-quality pedestrian environment facilitates walking trips by providing safe and convenient access to essential destinations. The Regional Pedestrian Network provides the plan for well-connected pedestrian routes and safe street crossings to provide access to transit and essential daily needs. The Regional Transportation Functional Plan requires that local Transportation System Plans include an interconnected network of pedestrian routes.

Section 3.08.130 of the Regional Transportation Functional Plan includes the requirements to provide a well-connected pedestrian system, and Oregon State statutes and administrative rules establish that pedestrian facilities are required on all collector and higher classification streets when those roads are built or reconstructed. Exceptions are provided where cost is excessively disproportionate to need or where there is an absence of need due to sparse population or other factors.

Priority should be given to filling gaps and providing safe crossings of the busiest streets with transit and other essential destinations. Deficient facilities in areas of high walking demand are considered gaps.

Children need a safe pedestrian environment, especially for walking to and from school and parks.

Pedestrian Policy 3. Create walkable downtowns, centers, main streets and station communities that prioritize safe, convenient and comfortable pedestrian access for all ages and abilities.

All centers and station areas are Regional Pedestrian Districts. The central city, regional and town centers, main streets and light rail station communities are areas where high levels of pedestrian activity are prioritized. In these areas, sidewalks, plazas and other public spaces are integrated with civic, commercial and residential development. They are often characterized by compact mixed-use development served by transit. These areas are defined as pedestrian districts in the RTP.

Walkable areas should be designed to reflect an urban development and design pattern where walking is safe, convenient and enjoyable. These areas are characterized by buildings oriented to the street and boulevard-type street design features, such as wide sidewalks with buffering from adjacent motor vehicle traffic, marked street crossings at all intersections with special crossing amenities at some locations, special lighting, benches, bus shelters, awnings and street trees. All streets within these areas are important pedestrian connections. Sections 3.08.120 (B) (2) and 3.08.130 (B) list requirements for pedestrian districts and new development near transit.

Pedestrian Policy 4. Improve pedestrian access to transit and community places for people of all ages and abilities.

Public transportation use is fully realized only with safe and convenient pedestrian and bicycle connections, especially safe crossings and facilities that connect stations or bus stops to surrounding areas or that provide safe and attractive waiting areas. Improving walkway connections between office and commercial districts and surrounding neighborhoods provides opportunities for residents to walk to work, shopping or to run personal errands. Buildings need to be oriented to the street and be well connected to sidewalks. Safe routes across parking lots need to be provided. This reduces the need to bring an automobile to work and enhances public transportation and carpooling as commute options. The Regional Transportation Functional Plan requires that local Transportation System Plans include an evaluation of needs for pedestrian access to transit for all mobility levels, including direct, comfortable and safe pedestrian routes.

Pedestrian access along transit-mixed use corridors is improved with features such as wide sidewalks, reasonably spaced marked crossings and buffering from adjacent motor vehicle traffic.

NW 23rd in Portland is an example of a lively pedestrian district.

Pedestrian Policy 5. Ensure that the regional pedestrian network equitably serves all people.

All people in the region, regardless of race, income level, age or ability should enjoy access to the region's walking and transit networks and the access they provide to essential destinations, including schools and jobs. Currently the regional pedestrian network is incomplete in many areas of the region, including areas where people with low-incomes, people of color and people with language isolation live. Transportation is the second highest household expense for the average American; providing transportation options in areas with low-income populations helps address transportation inequities.

Section 3.08.120[C] of the Regional Transportation Functional Plan specifies that the needs of youth, seniors, people with disabilities and environmental justice populations including people of color and people with low-incomes must be considered when planning transit.

Regional and local planning, design and construction of the networks must include consideration of the benefits and burdens of transportation investments to underserved and environmental justice populations, and continue to collect data and monitor performance in accordance with section 3.08.010 of the Regional Transportation Functional Plan.

Investment programs should set priorities for sidewalk improvements to and along major transit routes and communities where physically or economically disadvantaged populations live.

3.10.3 Regional pedestrian network classifications and map

This section describes the regional pedestrian network functional classifications shown on **Figure 3.26**, the Regional Pedestrian Network. The regional pedestrian network mirrors the regional transit network reflecting the important relationship of a complete walking network and transit. Frequent transit routes and regional arterials comprise regional pedestrian streets. Regional trails are also part of the regional pedestrian network. Centers and station areas are regional pedestrian districts, and include all streets of all functional classifications and paths within their boundaries.

The regional pedestrian network has a functional hierarchy similar to that of the regional motor vehicle network. **Figure 3.26** provides a vision for a future pedestrian network; for a map of existing pedestrian facilities in the region, refer to Chapter 4.

The different functional elements of the regional pedestrian network are:

- **Pedestrian Parkways** are generally major urban streets that provide frequent and almost frequent transit service (existing and planned). They can also be regional trails.
- **Regional Pedestrian Corridors** are any major or minor arterial on the regional urban arterial network that is not a Pedestrian Parkway. Regional trails that are not Pedestrian Parkways are classified as Regional Pedestrian Corridors.
- **Local Pedestrian Connectors** are all streets and trails not included on the Regional Pedestrian Network.
- **Pedestrian Districts** are the Central City, Regional and Town Centers and Station Communities shown on the Regional Pedestrian Network Map. A pedestrian district is an area with a concentration of transit, commercial, cultural, institutional and/or recreational destinations where pedestrian travel is attractive, comfortable and safe. Pedestrian Districts are areas where high levels of walking exist or are planned. All streets and trails within the Pedestrian District are part of the regional system.

Figure 3.26 applies the regional pedestrian network concept on the ground, illustrating how different regional pedestrian facilities work together to form a comprehensive network that allows people to walk to transit, schools, employment centers, parks, natural areas and shopping. Click on 2018 RTP Regional Network Maps for online zoomable version of map.

Figure 3.26 Regional pedestrian network map

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3.11 TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS VISION AND POLICIES

The region's Transportation System Management and Operations (TSMO) policies reflect that the transportation system represents a significant public investment in capital infrastructure that must be protected and well-managed. Concerns about the social, environmental and financial cost of larger-scale capital projects, such as building new lanes, lend support for first managing the current system. Management can restore reliable travel and provide flexibility for travelers to use a variety of travel options.

TSMO is a set of integrated transportation strategies and solutions. Through a combination of transportation system management (TSM), coordinated response from transportation operators and transportation demand management (TDM) services and projects, the TSM component typically incorporates advanced technologies to improve traffic operations. TDM promotes travel options and ongoing programs that result in reduced demand for drive-alone trips. Together these two transportation management techniques optimize the existing transportation infrastructure to help achieve multiple regional transportation goals.

3.11.1 Transportation system management and operations concept

Through the RTP and supporting strategies, such as the regional TSMO Strategy, the region aims to be a nationally recognized leader for innovative management and operations of its system to:

- Improve safety and travel time reliability
- Improve transit on-time arrival and speeds
- Reduce travel delay
- Decrease vehicle miles traveled and drive alone trips
- Reduce fuel use and corresponding air pollution and greenhouse gas emissions

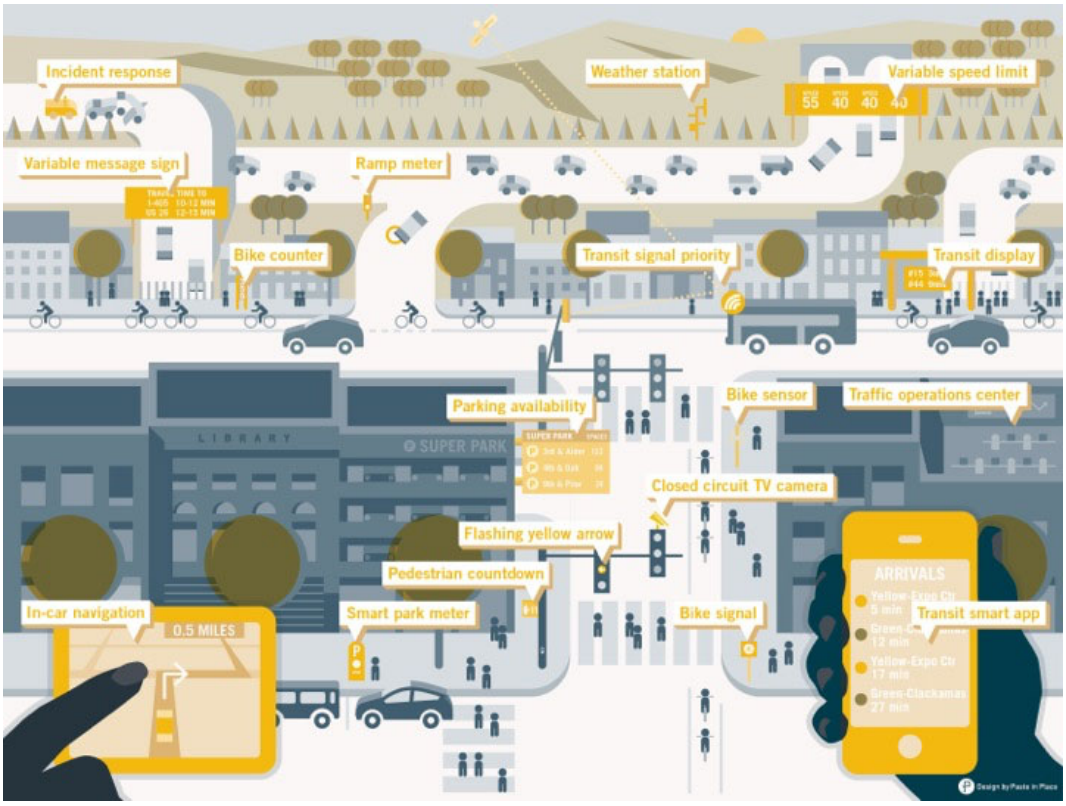
Table 3.10 provides examples of TSMO strategies for each of the investment areas and **Figure 3.27** illustrates how some of these strategies are implemented in the communities across the region.

The region continues to seek opportunities to use national best practices in linking planning and operations to improve system efficiency and performance, and demonstrate the cost-effectiveness of the region's toolkit of multimodal system management and operations strategies in solving regional transportation challenges.

Table 3.10 Examples of TSMO strategies and investments

Multimodal Traffic Management • Traffic signal coordination • Transit signal priority treatment • Detection and countdown timers for bicycles and pedestrians
Traveler Information • Real-time traveler information for freeways, arterials and transit • Enhanced multi-modal traveler information tools on mobile devices
Traffic Incident Management • Add and coordinate traffic cameras and other sensors • Expand incident management teams and training
Transportation Demand Management • Carpooling and vanpooling • Collaborative marketing (e.g., development and coordination of regional messaging) • Individualized marketing (e.g. SmartTrips program) • Employer outreach • Wayfinding guidance for bicycling and walking

Figure 3.27 Illustration of transportation system management and operations strategies


Incident response
Weather station
Variable speed limit
55 40 40 40
Variable message sign
Ramp meter
Bike counter
Transit signal priority
Transit display
Parking availability
Bike sensor
Traffic operations center
LIBRARY
SUPER PARK
Closed circuit TV camera
Flashing yellow arrow
Pedestrian countdown
In-car navigation
0.5 MILES
Smart park meter
Bike signal
Transit smart app
ARRIVALS

3.11.2 Transportation system management and operations policies

Transportation System Management and Operations Policies

Policy 1 Expand use of pricing strategies to improve reliablity and efficiency by managing congestion, reducing VMT, and increasing transportation options through investments in transit-supportive elements and increased access to transit and other modal alternatives.~~to manage travel demand on the transportation system in combination with adequate transit service options.~~

Policy 2 Expand use of access management, advanced technologies, and other tools to actively manage the transportation system.

Policy 3 Provide comprehensive, integrated, universally accessible and real-time travel information to people and businesses.

Policy 4 Improve incident detection and clearance times on the region's transit, motor vehicle networks to reduce the impact of crashes on the transportation system.

Policy 5 Expand commuter programs, individualized marketing efforts and other tools throughout the region to **i**ncrease awareness and use of travel options.

Policy 6 Build public, non-profit and private sector capacity throughout the region to promote travel options.

Policy 7 Manage parking in mixed-use centers and corridors that are served by frequent transit service and good biking and walking connections to reduce

TSMO Policy 1. Expand use of pricing strategies to manage travel demand on the transportation system in combination with adequate transit service options.

Congestion pricing—sometimes called value 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.

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. Successful implementation of pricing often incudes improved transit service. 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.

Through the end of 2018, ODOT conducted a feasibility analysis to explore the options available and determine how congestion (value) pricing could help ease congestion in the greater Portland area. Oregon's House Bill 2017, also known as Keep Oregon Moving, directs the Oregon Transportation Commission to develop a proposal for value pricing on I-5 and I-205 from the state line to the junction of the two freeways just south of Tualatin, to reduce congestion. The State Legislature directed the OTC to seek approval from the Federal Highway Administration no later than December 31, 2018. If FHWA approves the proposal, the OTC is required to implement value pricing. See Chapter 8 for more information about future planning and analysis of this strategy.

TSMO Policy 2. Expand use of access management, advanced technologies and other tools to actively manage the transportation system.

Multimodal traffic management strategies improve metropolitan mobility by applying technology solutions to actively manage the transportation system. Projects in this area improve integrated corridor management (e.g., coordination among operators), improve arterial traffic management (e.g., traffic signal timings, data collection and performance monitoring), expand transit priority treatments, pursue congestion pricing options, develop access management strategies, and implement active traffic management techniques.

The city of Gresham upgraded traffic signals along East Burnside Road to adaptive signal timing, which adjusts to real-time traffic flow. Average travel time along the corridor decreased by 15 percent as a result, benefiting automobiles, trucks and buses.

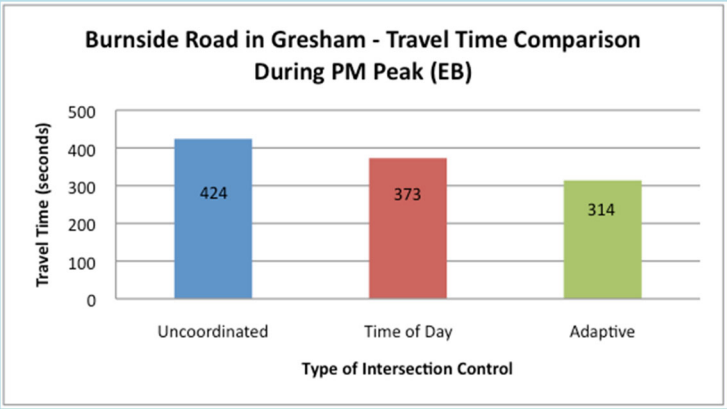


Figure 3.28 shows where some of these strategies are envisioned to be applied in the region to address growing congestion and improve safety, efficiency and reliability of the system.

Figure 3.28 Transportation system management and operations map

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TSMO Policy 3. Provide comprehensive, integrated, universally accessible real-time travel information to people and businesses.

Real-time traveler information provides travelers accurate and comprehensive information for their route, mode, and time of day choices. Providing centralized real-time and forecasted traveler information is one of the main goals of the TSMO concept. By providing accurate traveler information, system users can make more informed travel choices.

Ideally, this leads to optimal roadway usage, less unnecessary traveler delay, more walking, biking, transit and carpool trips, reduction in vehicle miles traveled and an improved traveler experience. All modes of travel benefit from improved traveler information. Drivers and freight traffic are able to make alternate route choices and avoid congestion; transit users can plan their transit trip with more certainty; and the information shows travelers walking or biking routes that meet their preferences.

Traveler information projects expand traveler information to arterial roadways, centralize all real-time data, further expand travel option marketing, improve multimodal traveler data and tools, and enhance data collection capabilities. The information can reach travelers through a variety of interfaces including internet, radio, cell phone, in-vehicle navigation devices or variable message signs.

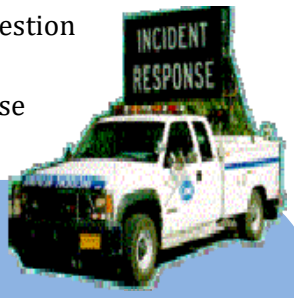
Currently, real-time traveler information in the greater Portland area is provided for most freeways and is distributed via variable message signs, radio, traffic surveillance cameras, TripCheck.com, TriMet trip planning tools and PORTAL. TriMet provides their schedule and real-time transit data to the public. This open source policy has led to the creation of many beneficial applications by third party developers.

For example, TriMet's Transit Tracker data, which predicts next arrival times for vehicles, can now be accessed through a variety of different mobile device applications. Traveler information is one area where public-private partnerships can flourish and benefit from transportation system uses.

In 2015, TripCheck.com received more than 32 million visits. Surveys show that information influenced travel decisions for 60 percent of site visitors.

TSMO Policy 4. Improve traffic incident detection and clearance times on the region's transit, motor vehicle networks to reduce the impact of crashes on the transportation system.

Efficient incident management is critical to reducing incident related congestion and restoring capacity as quickly as possible after an incident. Incident management strategies enhance incident management capabilities, increase surveillance for faster incident detection, improve inter-agency communications and implement active traffic management. Incident management responds to vehicle accidents and breakdowns, as well as weather related issues, to improve traffic operations and restore traffic flow.



Past studies show:

- 20 percent of all incidents are secondary crashes
- For every 1 minute a primary incident continues to be a hazard, the likelihood of a secondary crash increases by almost 3 percent.

Active traffic management can:

- reduce primary crashes by 3 to 30 percent
- reduce secondary crashes by 40 to 50 percent
- reduce crash severity

Incident management targets safety and reliability. By clearing incidents quickly, the chance of secondary incidents decreases which improves safety. The primary modes that benefit from incident management strategies are automobiles, buses and trucks. Activities that also benefit from these strategies include disaster response, evacuation and security planning efforts.

Incidents that block travel lanes decrease capacity and lead to unreliable travel times as shown in **Table 3.11**. When lanes are blocked due to an incident, capacity decreases significantly (even when the incident is on the shoulder) and travelers experience delays.

Table 3.11 Detecting and clearing incidents on throughways quickly restores lost capacity

Number of throughway lanes	Percent of facility capacity lost by lane blockage type			
	Shoulder	1 Lane	2 Lanes	3 Lanes
2	19%	65%	100%	N/A
3	17%	51%	83%	100%
4	15%	42%	75%	87%

Source: Highway Capacity Manual. Transportation Research Board, National Research Council, Washington, D.C., 2000.

When implemented with active traffic management techniques, such as variable speed limits and lane management signs, the number and severity of crashes can be reduced.[23]

TSMO Policy 5. Expand commuter programs, individualized marketing efforts and other tools throughout the region to increase awareness and use of travel options.

Through the Regional Travel Options (RTO) program, TSMO also manages transportation from the demand side to help residents and employees of the region increase their awareness and use of travel options and reduce their trips made driving alone. Transportation demand management (TDM) strategies shift trips from personal, single occupancy vehicles to alternative travel options by educating and encouraging the public. These travel options include transit, ridesharing[24], bicycling, and walking.

Carpooling is one strategy to reduce drive alone trips, supporting the region's efforts to improve mobility throughout the region.

All modes benefit from TDM strategies. These strategies raise general awareness about transit, ridesharing, bicycling and walking use and encourage or incentivize travelers to use these options. Specific educational efforts tied with infrastructure investments, known as Safe Routes to School, make it easier and safer for children to travel to school. In addition, it creates recognition within children that they have multiple options for how to travel.

RideWise, a program of Ride Connection, provides travel training for older adults and people with disabilities at no cost and is available in Wilsonville through a partnership with SMART.

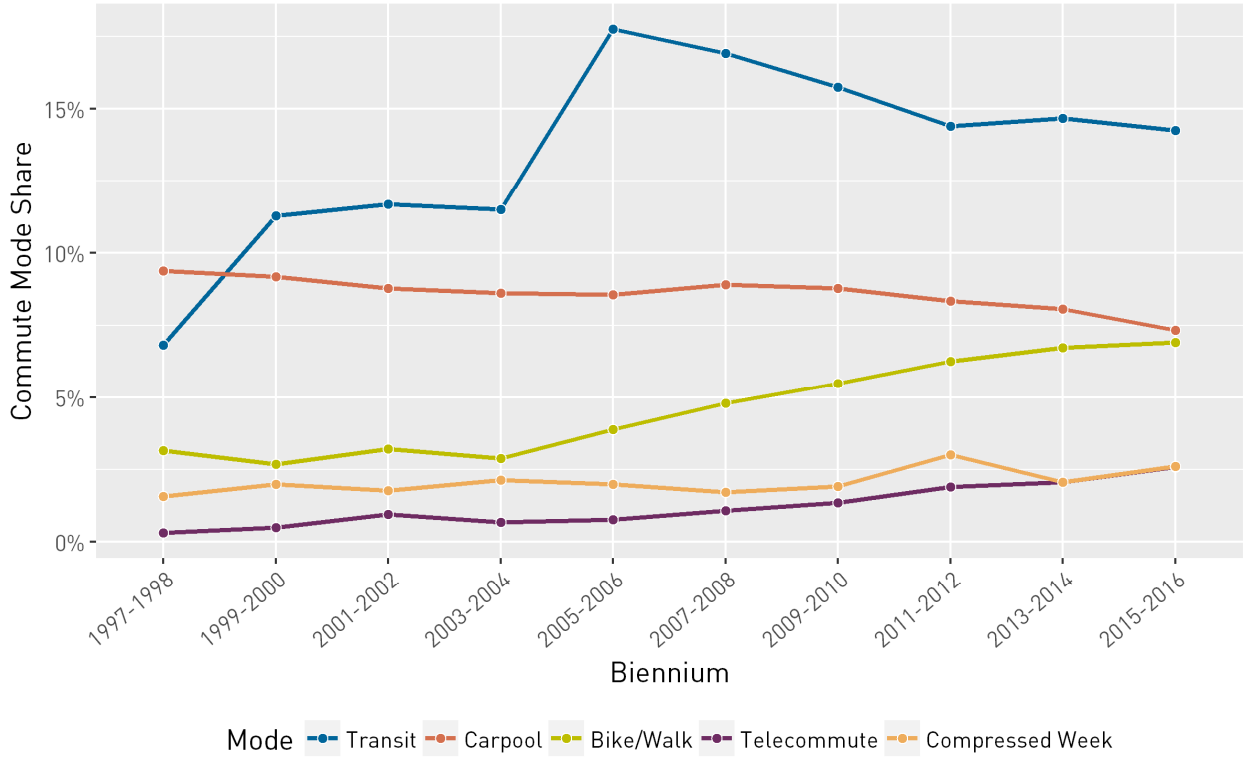
Benefits of using travel options include improved health, reduced roadway injuries and fatalities, reduced personal transportation costs, reduced GHG emissions, and improved travel times for other roadway users.

An example of how TDM efforts are delivered is the region's long-standing program to reduce single-occupant-vehicle commute trips. RTO partners provide services to over one thousand employers throughout the Portland region. Employers may implement travel option programs, such as buying transit passes for their employees.

[23] Research and Innovative Technology Administration (RITA) Intelligent Transportation Systems Benefits Database. Website: http://www.benefitcost.its.dot.gov/its/benecost.nsf/BenefitsHome (June 2009)
[24] "Ridesharing" in this context means traditional not-for-profit carpooling or vanpooling, not Transportation Network Companies such as Uber or Lyft.

Shown in **Figure 3.29**, over the last eighteen years, employee commute trips that used non-drive alone modes (transit, bicycling, walking, carpooling/vanpooling, and telecommuting) rose from 20 percent to over 32 percent among participating employers.

Figure 3.29 Effectiveness of employer-based commuter programs



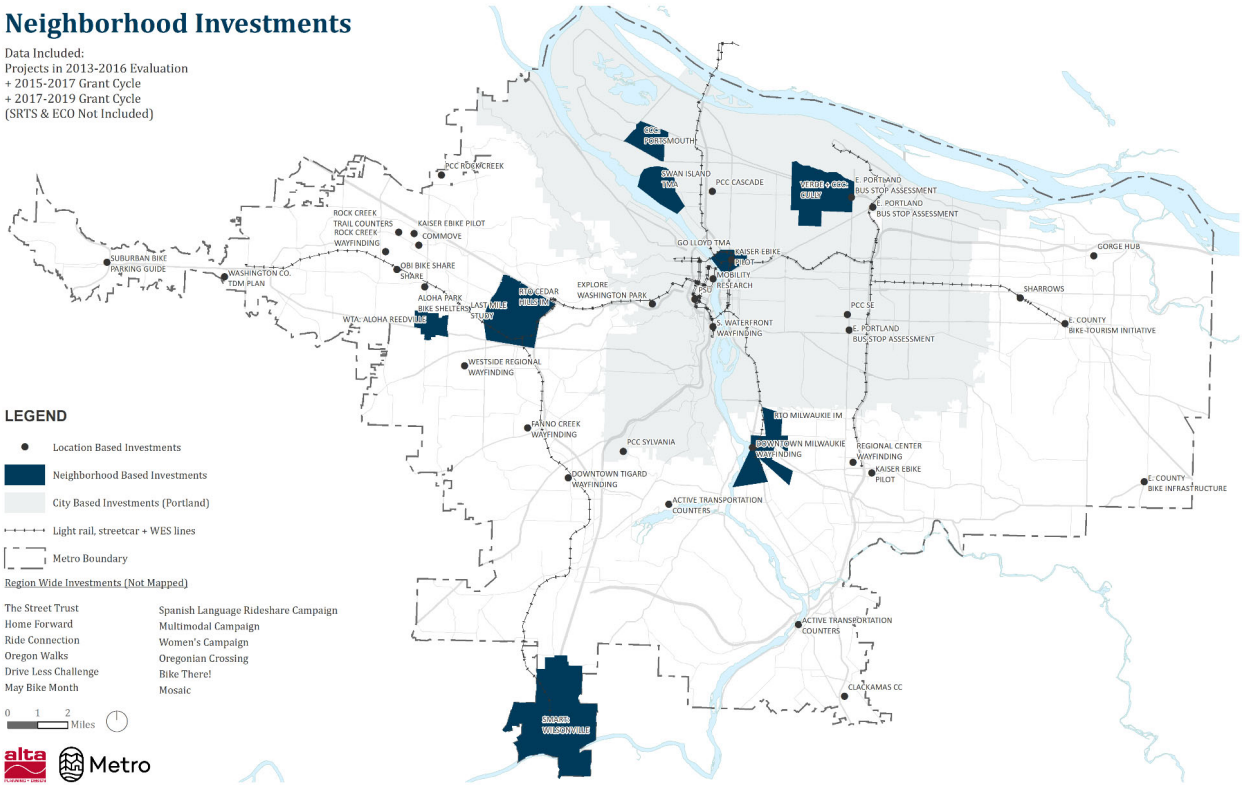
TDM projects support the 2040 growth concept by encouraging people to make choices that reduce their dependence on cars. As a result, vehicle trips are reduced, saving energy and reducing vehicle emissions.

TSMO Policy 6. Build public, non-profit and private sector capacity throughout the region to promote travel options.

Metro leads the region's TDM efforts through the RTO program. The RTO program consists primarily of a series of local efforts, led by regional and local governments, education, and not-for-profit partners. These partners produce educational events and outreach to connect with the public. Their efforts are aimed at encouraging people to use non-SOV travel modes for more of their travel. Metro provides oversight, funding and coordination for the program.

While employer outreach is a region-wide effort, much of the RTO program's efforts have been historically focused within the city of Portland. **Figure 3.30** illustrates where local partnerships have conducted RTO events or programming. The map highlights that RTO efforts are not present in much of the region outside the city of Portland.

Figure 3.30 Local partnerships and investments by Regional Travel Options program



In order to fully realize the benefits of managing demand, additional RTO efforts need to be implemented throughout the region. The needs of historically underserved communities are particularly underrepresented in the current RTO program investments. The RTO Strategy defines goals and objectives that address the need to implement further TDM efforts. Allocation of regional flexible funds ensures that program resources are available to help develop local partners develop new community-based outreach efforts.

Programs offered at the neighborhood level provide the ideal scale for promoting and encouraging greater use of transportation options. A majority of the trips people make throughout the day are for shopping, leisure activities, or recreation, and begin and end at home.

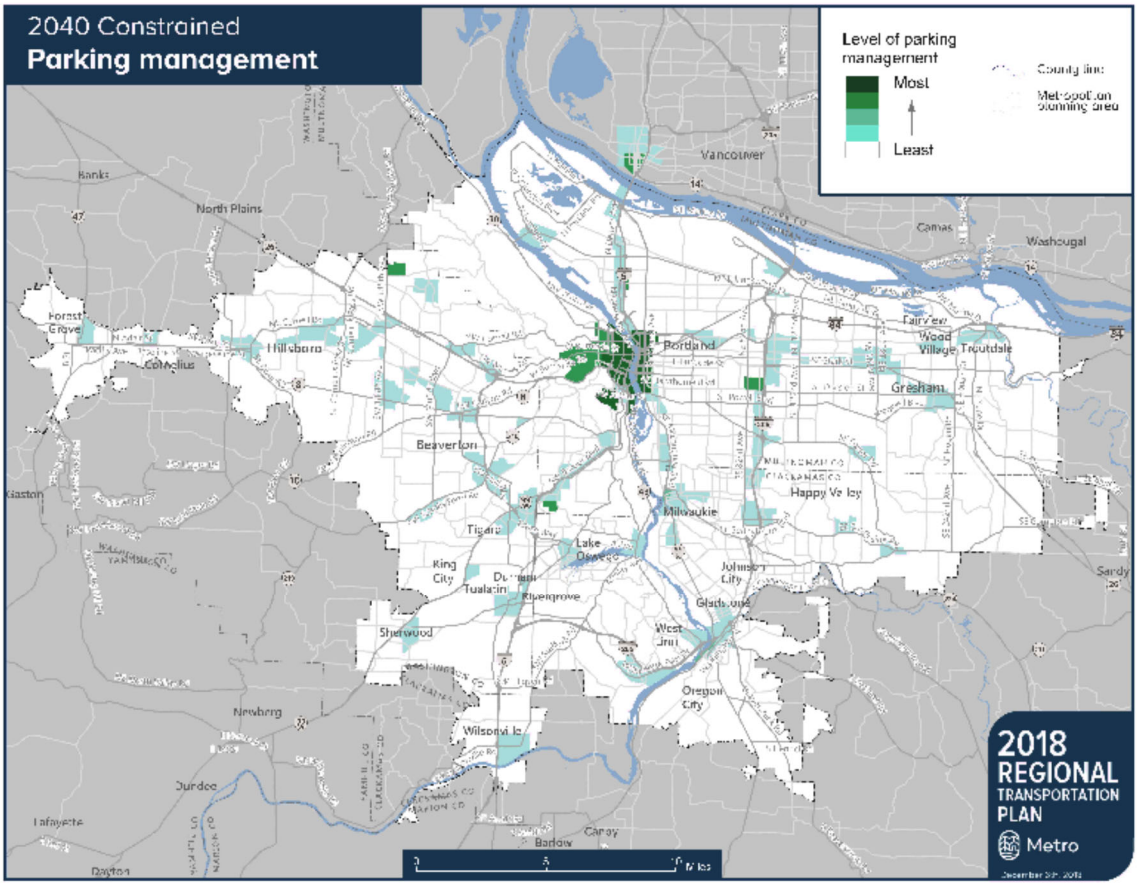
TSMO Policy 7. Manage parking in mixed-use centers and corridors served by frequent transit service and good biking and walking connections to reduce the amount of land dedicated to parking, encourage parking turnover, increase shared trips, biking, walking and use of transit, reduce vehicle miles traveled and generate revenue.

Other tools include parking management strategies, which aim to use parking resources more efficiently. Parking management strategies can include dynamic parking pricing, shared parking that serves multiple users or destinations, preferential parking or price discounts for carpools.

When appropriately applied, parking management can reduce the number of parking spaces required in some situations. Implementation of parking management may require changing current development, zoning and design practices, broadening how parking problems and solutions are addressed and activities to improve enforcement and address potential spillover impacts. A regional parking management strategy would assist local jurisdictions' efforts to implement parking management.

Figure 3.31 shows general locations where parking costs and management strategies were assumed for purposes of the RTP system evaluation. Chapter 8 (Section 8.2.3.14) describes future work to update this policy.

Figure 3.31 Areas assumed to have parking management in the region (2040)



3.12 MOVING FROM VISION TO ACTION

Implementation of the concepts and policies in this chapter will result in a complete and interconnected transportation system that supports all modes of travel and implementation of the 2040 Growth Concept. These idealized network concepts, along with performance measures and targets in Chapter 2, form the basis for identifying system needs and deficiencies and the investment priorities in Chapter 6. The policies in this chapter recognize that each element of the transportation system may perform multiple functions, and that each will need to be tailored to fit local geography, respect existing communities and development patterns and protect the natural environment.

The RTP will be implemented through a variety of strategies and actions at the local, regional, state and federal levels. The various jurisdictions in the region are expected to pursue policies and projects that contribute to implementing the Regional Transportation Plan.

Implementation of the Regional Transportation Plan will result in a safe, reliable, healthy and affordable transportation system.

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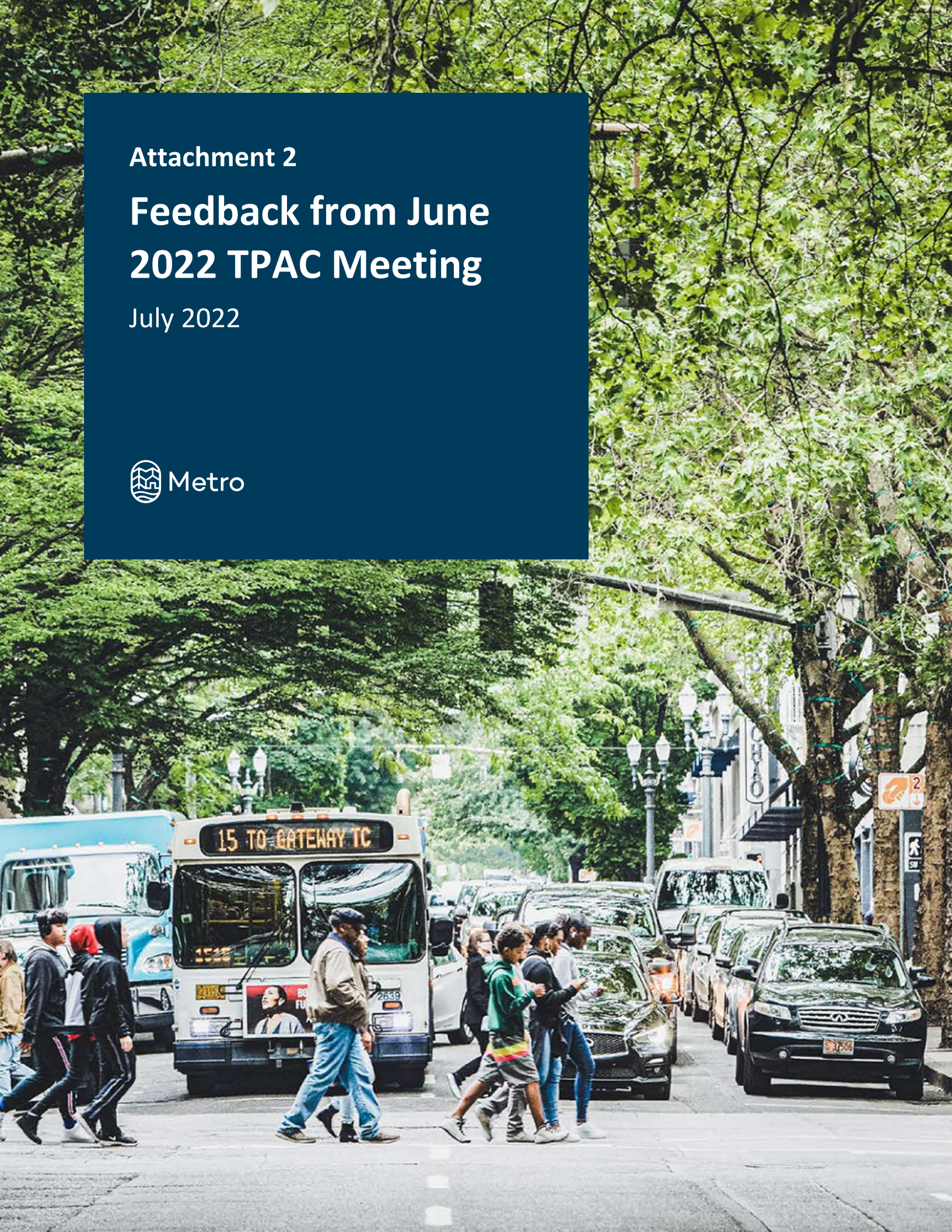
Attachment 2

Feedback from June 2022 TPAC Meeting

July 2022

Metro



This document summarizes the feedback on draft 2023 RTP congestion pricing policies that was collected from TPAC members following the June 3, 2022 TPAC meeting, identifying whether feedback has been addressed in revised language, will be addressed in future revisions, or will be shared with other Metro staff for consideration as other 2023 RTP update work moves forward.

1. SUMMARY OF ITEMS ADDRESSED

Create Section in Chapter 3 for Congestion Pricing

What We Heard

- Ensure continuity of the new section with the RTP as a whole.
- Proceed with caution to avoid policy/goal redundancies.
- Add policy and respective implementation to support and encourage regional and local options for VMT pricing, similar to the local gas tax.
- Articulate a more detailed vision of the section.

How / When We're Addressing

- A new section has been added to Chapter 3.
- The new section will be reviewed to ensure continuity with existing Chapter.
- Congestion pricing language has been integrated into existing goals and policies where appropriate.
- Language has been added to the definitions to make clear that congestion pricing strategies can be implemented at the state, regional, or local level.

Refine the definitions of Congestion Pricing and Types of Pricing

What We Heard

- The new section should be named Road (or Roadway) Pricing rather than Congestion Pricing. This will allow the section to span multiple outcomes and goals.
- The definition of congestion pricing should be tied to the overall RTP goal of reducing VMT, not just note that congestion pricing can reduce VMT.
- Modify definitions of terms to align with FHWA definitions and umbrella terms.

How / When We're Addressing

- Definitions have been revised to take into account feedback on specific definitions and the overall relationship and hierarchy of terms and how they interact with one another, reflecting best current practices. Metro will continue to coordinate with ODOT and partners to address inconsistencies between RTP policy language and OHP toll policy amendment language.

Addressing the Safety and Diversion Policy

What We Heard

- Separate diversion and safety into two policies:
    - The safety policy should address traffic safety and safety of users of all modes, both on and off the priced system.
    - Addressing traffic safety should be more clearly defined to reduce fatalities and serious injuries.
    - The diversion policy should address programs to monitor diversion and adjust to mitigate impacts. Oversight of these programs should include local people who have lived experience in the area affected area.
- Reference how the pricing program addresses diversion impacts as a "life-safety issue."
- The RTP should provide more clarity on the topic of diversion, including both the positive and negative.

How / When We're Addressing

- The safety and diversion policy has been separated into two separate policies.
- Policy language has been updated to reference the safety of all users/modes and the regional high injury corridors.
- Policy action items have been added that address both policies in more detail and include language about monitoring and evaluation, collaborating with local communities, and reducing fatalities and serious injuries.

Defining Transportation Demand Management Policies

What We Heard

- Clarify the definition of "transit-supportive elements" and broaden it beyond transit strategies.
- Add stronger language to Policy 1 that includes reference to what the pricing revenue should support.

How / When We're Addressing

- A definition for transit-supportive elements has been added, reflecting existing terminology in the 2018 RTP.
- Policy action items have been added to the mobility policy (Policy 1) that provide more clarity and detail.

Strengthen and Revise the Regional Motor Vehicle Network Policies

What We Heard

- Edit text of existing policy to clarify that the increase in lane capacity is for one or more through lanes.
- Replace reference to "deficiencies and bottlenecks" with reference to mobility, safety, climate, and equity policies.

- Add parking pricing and management to the toolbox of strategies.

How / When We're Addressing

- Regional Motor Vehicle Network Policies 6 and 12 have been revised.
- Table 3.7 toolbox of strategies has been revised.

Pricing Obstacles and Details

What We Heard

- How does pricing interface with severe weather routes, evacuation directions, or construction detours? Will pricing programs exempt users from the fee?
- Consider the challenge of implementing pricing on a corridor when a corridor extends through multiple government jurisdictions.
- Use language to reference that implementing agencies must work with the transit provider on ongoing revenue needs and coordination with the High-Capacity Transit Plan priorities.

How / When We're Addressing

- Policy action items added regarding plans and contingencies for severe weather routes, evacuation directions, and construction detours.
- Policy action items added regarding coordination amongst agencies.
- Policy action items added regarding transit provider and implementing agency coordination.

Supporting the New Policies on Equity and Mobility

What We Heard

- Define a process or set of criteria to address how congestion pricing will "integrate equity and affordability from the outset." Implementation that is used here should be consistent across the RTP.
    - Does integrating mean using an inclusive decision-making process, conducting disparate impact analysis, and reinvesting revenues for equity outcomes?
- Is the inclusion of transit-supportive elements the same as increased access to transit? Clearly state where transit access cannot be increased since transit access priorities may differ from pricing priorities.
- Considering the influences of Objectives 9.1 and 9.2 on the development of pricing strategies.
- Update definition of mobility in regard to congestion pricing context.

How / When We're Addressing

- Policy action items added to address many equity-related items including process equity and outcome equity. Equity related items added under the equity policy as well as other policies as appropriate.

- Policy action items added related to transit and transit-supportive elements. A definition of transit-supportive elements also added.
- The phrase "mobility" changed to "reliability and efficiency" to align with the Draft Regional Mobility Policy

2. SUMMARY OF ITEMS NOT YET ADDRESSED

Economic Impacts

What We Heard

- Reference economic impacts. These impacts should mirror the process of identification and mitigation of the equity impacts. Monitoring and evaluation is important for local businesses.

How / When We're Addressing

- Some references to economic impacts have been added to policy action items, however, further thought and discussion needs to be undertaken to understand how to best address this topic in both congestion pricing policy and the broader 2023 RTP update

Revenue Generation as a Pricing Goal

What We Heard

- The role of pricing to raise revenue for needed investments is missing.

How / When We're Addressing

- References to revenue reinvestment have been added to policy action items.
- The expert panel that was engaged as a part of the Regional Congestion Pricing Study recommended against revenue generation as an explicit reason to enact pricing programs as there are easier and less costly ways to generate revenue. However, the definition of flat rate pricing (tolling) has been updated to reflect that some pricing may be intended primarily for revenue generation. Further discussion is warranted as part of the RTP update process and ODOT'S OHP tolling policy amendment process.

Other Types of Pricing Programs

What We Heard

- Add considerations for "timed-use pricing" as an element of cordon pricing.
- Consider future applicability to other travel space contexts, such as future riverway travel, local airspace travel (drone deliveries) and site-specific pricing (e.g., Multnomah Falls).

How / When We're Addressing

- Metro staff will further consider how to include the full range of pricing programs, some of which may fall outside of the existing definition of congestion pricing.

Strategizing Outcomes

What We Heard

- It is important to articulate a vision and strategy to apply multiple congestion pricing tools in a more coordinated and system demand management system.

How / When We're Addressing

- Metro staff will further consider the role of Metro and the RTP in facilitating region-wide program coordination; language has also been added to reference the potential for multiple pricing tools and programs, and the benefits that can occur when multiple pricing tools and programs are coordinated.

Role of Freight

What We Heard

- The role of freight should be addressed, perhaps under Goal 4.

How / When We're Addressing

- Metro staff will further consider how to integrate freight into the current policies and policy action items.

3. SUMMARY OF OTHER FEEDBACK

Other feedback was received during this process and will be shared with additional Metro staff as appropriate. Other feedback noted includes:

- Implementing already adopted land use plans, more formally integrating pricing, and addressing resilience in the Climate Smart Strategy.
- Adjusting Safety and Security Policies, adding pedestrian and bike data collection to complement the Regional Motor Vehicle Policies.
- Developing criteria for Policy 6 and Policy 12 of the Regional Motor Vehicle Network and reflect that demand and level of viability for transit investments should be tied to the High Capacity Transit Update and revenue availability.
- Consider editing Policy 2 of the Regional Motor Vehicle Network policies to add language about the congestion management process, regional mobility policy, safety and bike and pedestrian network completion to identify motor vehicle network deficiencies.
- Addressing wayfinding platforms used to divert routes from congestion pricing
- Reviewing next steps in Chapter 8.
- Review and possibly revise Goal, Objective 2.4 to address any conflicts with pricing, related to the work on equitable financing.

- Including pricing revenue language in the finance chapter of the RTP.

Metro

TPAC Feedback

Clackamas County

June 2022

Draft Congestion Pricing Policy Language Worksheet

Feedback is requested by end of day on Friday, June 17, 2022. Please return this worksheet to alex.oreschak@oregonmetro.gov and copy marie.miller@oregonmetro.gov.

Agency name: **Clackamas County**

Do you agree with the approach to provide a separate section in Chapter 3 for congestion pricing?

Yes, we agree that a separate section is a good idea.

Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?

Yes – there are still gaps in the proposed congestion pricing policies.

Proposed edits to the policies:

Mobility: Implement congestion pricing programs that improve system-wide regional mobility by managing congestion, reducing VMT, and increasing viable transportation options ~~through investments in modal alternatives, including~~ viable ~~transit-supportive elements and increased access to transit.~~

Safety and Diversion- Separate these into two policies

Safety – Congestion pricing programs should be designed to address traffic safety and safety of users of all modes, both on and off the priced system.

Diversion - Congestion pricing projects should create minimal diversion onto local roads. The programs should be implemented in areas. Within those areas all trips should be priced so that overall automobile trips are reduced in the area, not just shifted to the local roads. Required mitigations should be constructed prior to pricing being applied. Programs should be developed to monitor diversion and make adjustments to mitigate impacts. Oversight of these programs should include local people who have lived experience in the area affected area.

Economy – Congestion pricing projects should not negatively impact local businesses or create a disadvantage to only a subset of businesses in the region due to increased cost resulting from congestion pricing. The economic impacts should be identified and mitigated ~~clearly addressed~~. The project should support the economic prosperity of region as well as the local communities adjacent to the project. Similar to the Diversion recommendation above, impacts to businesses in the region should be monitored on an ongoing basis and adjustments made to mitigate unanticipated impacts. Oversight of the monitoring program should include local business owners who have lived experience with the impacts from the area specific pricing program.

____

Draft Congestion Pricing Policy Language Worksheet

What specific changes would you like to see to improve the proposed policy language?

Please explain how the below Policies are different.

- Both appear to be addressing actions that need to be taken before adding new motor vehicle capacity.
- The edits to Policy 6 change the purpose of the policy, moving the focus away from raising revenue, and shifting it from actions to consider "when" lanes are added to "an alternative to" lanes being added.
- Making this shift removes the differentiation between the policies.

Current language with Metro recommended changes:

Regional Motor Vehicle Network Policies (3.5)

o **Policy 6** – In combination with increased transit service, consider use of ~~value~~ pricing to manage traffic congestion and reduce VMT as an alternative to adding ~~and raise revenue when~~ one or more lanes are being added to throughways.

o **Policy 12** – Prior to adding new motor vehicle capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority, ~~**and**~~ ~~**value**~~ congestion pricing, ~~**and**~~ transit service and multimodal connectivity improvements cannot adequately address arterial or throughway deficiencies and bottlenecks.

Proposed Revised Policy 6

o **Policy 6** – In combination with increased transit service, consider use of pricing to manage traffic congestion and reduce VMT.

Metro

TPAC Feedback

Federal Highway Administration (FHWA)

June 2022

Attachment 1 - Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022

Metro staff, with consideration of input from TPAC and MTAC at the April 20, 2022 workshop, proposes the following updates to the 2023 RTP to better address congestion pricing:

Include new section in Chapter 3: System Policies to Achieve our Vision specific to congestion pricing policy

This new section would include the following elements:

- Definitions of congestion pricing, including defining different types of pricing
  - Congestion Pricing
  - Road User Charge/Vehicle Miles Traveled Fee
  - Cordon Pricing
  - Parking Pricing
  - Roadway Pricing/Tolling
- New congestion pricing policies
  - Mobility: Implement congestion pricing programs that improve regional mobility by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.
  - Equity: Implement congestion pricing programs that integrate equity and affordability from the outset.
    - Include spotlight/example of EMAC and/or POEM
  - Safety and Diversion: Implement congestion pricing programs that reduce overall automobile trips, address traffic safety and minimize diversion.
  - Climate: Implement congestion pricing programs that reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options.
  - Emerging Technologies: Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.
- Description of other pricing work currently underway in the region
  - ODOT: I-205 Toll Project, I-5 Bridge Replacement, Boone Bridge Replacement, Regional Mobility Pricing Project
  - PBOT Pricing Options for Equitable Mobility
- Overview of federal pricing programs
  - Section 129
  - Value Pricing Pilot Program
- Description of HB 2017 and HB 3055 tolling policies
- Discussion of potential revenue opportunities and limitations under Article IX, section 3a of the Oregon Constitution

Update other RTP Goals and Objectives, and Chapter 3 sections to include congestion pricing

The following goals, objectives, and Chapter 3 sections have been identified by Metro staff and members of TPAC and MTAC. Specific changes have been identified for a subset of these goals, objectives, and sections; the remaining identified areas will be documented and shared with Metro RTP staff to update as appropriate to better reflect congestion pricing policy language in the new section in Chapter 3. Proposed changes are identified below; proposed additions are underlined and in orange text, while deletions are struck through and in orange text.

- **Goal 4: Reliability and Efficiency, Objective 4.6 Pricing** – Expand the use of pricing strategies to improve regional mobility and support additional development in 2040 growth areas by increasing transportation options, managing demand, and reducing VMT. ~~manage vehicle congestion and encourage shared trips and use of transit.~~
- **Climate Smart Strategy policies (3.2.3.2)**
  - **Policy 5.** Use technology and congestion pricing to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared trips and other Climate Smart Strategy policy and strategies.
- **Safety and Security Policies (3.2.1.4)**
  - **Policy 4**. Increase safety for all modes of travel for all people through the planning, design, construction, operation, pricing and maintenance of the transportation system, with a focus on reducing vehicle speeds on local roadways and minimizing diversion from priced facilities.
- **Transportation Demand Management Policies (3.11)**
  - **Policy 1** – Expand use of pricing strategies to improve regional mobility by managing travel demand, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit. ~~manage travel demand on the transportation system in combination with adequate transit service options.~~
  - Remove definition of pricing strategies and discussion of ODOT work on congestion pricing.
- **Regional Motor Vehicle Network Policies (3.5)**
  - **Policy 6** – In combination with increased transit service, consider use of ~~value~~ pricing to manage traffic congestion and reduce VMT as an alternative to adding ~~and raise revenue when~~ one or more lanes ~~are being added~~ to throughways.
  - **Policy 12** – Prior to adding new motor vehicle capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority, ~~and value~~ congestion pricing~~,~~ and transit service and multimodal connectivity improvements cannot adequately address arterial or throughway deficiencies and bottlenecks.
  - **Table 3.7 Toolbox of strategies to address congestion in the region**
    - ***Congestion pricing strategies***
      - *Roadway Pricing, including:*
        - ~~*Peak period*~~ *Variable rate or time of day pricing*
        - *Managed lanes*

    - *High occupancy toll (HOT) lanes*
- *Road User Charge (or Vehicle Miles Traveled Fee)*
- *Parking Pricing*
- *Cordon Pricing*

Review Chapter 8: Moving Forward Together for future updates

In the 2018 RTP, Section 8.2 identified mobility corridors recommended for future corridor refinement plans. The descriptions of many of these corridors referenced pricing in a variety of contexts, and were unclear on how or whether pricing might help address the goals of the RTP. A comprehensive look at the corridor refinement planning work identified in Section 8.2: Planning and Programs is needed to recommend updates in a future round of review.

Continue development of the Finance Chapter of the RTP, including incorporation of congestion pricing into the financial forecast

This work is underway and will be shared with partners in Summer 2022.

List of definitions for the new congestion pricing section of Chapter 3:

Congestion Pricing: Motorists pay directly for driving on a particular roadway or for driving or parking in a particular area. Congestion Pricing includes using variable road or parking tolls (higher prices under congested conditions and lower prices at less congested times and conditions). Congestion pricing has been demonstrated to be effective in encouraging drivers to change their behaviors by driving at different times, driving less, or taking other modes. As a result, congestion pricing can reduce VMT and greenhouse gas emissions.

Road User Charge (VMT): Motorists are charged for each mile driven. A road user charge is often discussed as an alternative to federal, state, and local gas taxes which have become less relevant to the user-pays principle as more drivers switch to fuel efficient or electric vehicles.

Cordon Pricing: Motorists are charged to enter a congested area, usually a city center. Cordon pricing can include flat or variable rate fees.

Parking Pricing: Drivers pay to park in certain areas. Parking pricing may include flat, variable, or demand-responsive fee structures. Demand-responsive pricing involves periodically adjusting parking fees to match demand, this can be paired with technology which helps drivers find spaces in underused and less costly areas.

Tolling (Roadway Pricing): Motorists are charged to drive on a particular roadway. Tolling can be assessed as a flat rate toll, or the toll can vary by time of day and/or vehicle type. Tolling that varies by time of day can follow a set toll schedule, or the toll rate can be continually adjusted based on traffic conditions.

Flat Rate Toll: A fee charged by a toll facility operator in an amount set by the operator for the privilege of traveling on said toll facility. Tolling is a user fee system for specific infrastructure such a bridges and tunnels. Toll revenues are used for costs associated with the tolled infrastructures. This tool is used to raise funds for construction, operations, maintenance and administration of specific infrastructure.

Variable Rate Tolling/Pricing: With this type of pricing, a variable toll schedule is set so that the toll is higher during peak travel hours and lower during off-peak or shoulder hours. This encourages motorists to use the roadway during less-congested periods and allows traffic to flow more freely during peak times. Peak toll rates may be high enough to guarantee that traffic flow will not break down, thus offering motorists a reliable and congestion-free trip in exchange for the higher peak toll.

Dynamic Tolling/Pricing: Tolls are continually adjusted according to traffic conditions to maintain a free-flowing level of traffic. Under this system, prices increase when the tolled lane(s) get relatively full and decrease when the tolled lane(s) get less full. The current price is displayed on electronic signs prior to the beginning of the tolled section. This system is more complex and less predictable than using a fixed-price table, but its flexibility helps to consistently maintain the optimal traffic flow. Motorists are usually guaranteed that they will not be charged more than a pre-set maximum price under any circumstances.

Section 129: Section 129 of Title 23 of the U.S. Constitution provides the ability to toll Federal-aid highways in conjunction with construction, reconstruction, or other capital improvements. Flat rate tolling and pricing strategies are authorized.

Value Pricing Pilot Program: Oregon is a participant in the FHWA Value Pricing Pilot Program (VPPP). The VPPP was established in 1991 (as the Congestion Pricing Pilot Program) to encourage implementation and evaluation of value pricing pilot projects to manage congestion on highways through tolling and other pricing mechanisms. While the program no longer actively solicits projects, it can still provide tolling authority to State, regional or local governments to implement congestion pricing applications. See https://ops.fhwa.dot.gov/congestionpricing/value_pricing/ for more detail.

Metro

TPAC Feedback

Happy Valley

June 2022

Draft Congestion Pricing Policy Language Worksheet

This worksheet provides space for TPAC members to provide feedback on the proposed congestion pricing policy language that was shared at the June 3, 2022 TPAC meeting. The proposed policy language is included in Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022, which was shared in the June 3, 2022 TPAC packet and is provided as an attachment to this worksheet for reference.

Feedback is requested by end of day on Friday, June 17, 2022. Please return this worksheet to alex.oreschak@oregonmetro.gov and copy marie.miller@oregonmetro.gov.

Agency name: Jaimie Lorenzini, Happy Valley*

*Thank you for the opportunity to comment. These comments are exclusively my own opinions and not representative of my agency.

Do you agree with the approach to provide a separate section in Chapter 3 for congestion pricing?

Not opposed, though I encourage Metro to look at the RTP in its totality to ensure continuity with the new section.

Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?

- Under Climate Smart Strategy Policies (3.2.3.2) consider Policy 1, "Implement adopted local and regional land use plans". The housing crisis has demonstrated how interconnected our land use and transportation systems are. It could be fruitful to dialogue about how pricing fits within the landscape of needs to fund infrastructure in expansion areas or unlocking land for new jobs and housing.
- Please clarify what "transit-supportive elements" means.
- Under Table 3.7, I could see merit to adding "timed-use pricing" as an element of cordon pricing given the pilot occurring by Multnomah Falls.
- Consider 3.2.1.4 Safety and security policies, Policy 5, Make safety a key consideration in all transportation projects, and avoid replicating or exacerbating a known safety problem with any project or program. (3-9)
- Under Regional Motor Vehicle Network Policies (3.5), consider Policy 2, Use the Congestion Management Process, Regional Mobility Policy, safety and bike and pedestrian network completion data to identify motor vehicle network deficiencies. Our approach to pricing must be sensitive to areas that do not have travel alternatives and how underdeveloped active transportation systems affect diversion.
- Consider implications of Goal 2, Objective 2.4. Existing language feels like an implicit conflict with pricing. Should the objective language be updated?
- How do we address the practice of wayfinding platforms offering toll-free routes and impact this practice may have on diversion?
- Consider how Objective 9.1 and 9.2 (2-21) should influence the development of pricing strategies.
- Consider a nexus to 3.2.3.5 Transportation preparedness and resilience (3-32). How does pricing interface with severe weather routes, evacuation directions, or construction detours? Will pricing programs exempt users from the fee?

Draft Congestion Pricing Policy Language Worksheet

- Consider future applicability to other travel space contexts, such as future riverway travel, local airspace travel (drone deliveries) and site-specific pricing (e.g., Multnomah Falls).
- Consider the challenge of implementing pricing on a corridor when a corridor extends through multiple government jurisdictions.

What specific changes would you like to see to improve the proposed policy language?

Under "New congestion pricing policies":

1. The first five points read as directives to implement in lieu of parameters if a program is implemented. Can you clarify?
2. Under "Mobility," what constitutes a "transit-supportive element"?
3. Under "Safety and Diversion," it might be a nice tie-in to reference the arterials brief. If we know that a disproportionate number of crashes happen on major arterials, a pricing program needs to address diversion impacts as a life-safety issue. Also, should we say, "address safety for all modes" in lieu of just "address traffic safety"?
4. Under "Climate", would low-carbon travel options include EVs/charging infrastructure? Should this policy include a resiliency factor given increased weather volatility?

Under description of other pricing work, it would be cool to talk about the Waterfall Corridor timed-use permit deployed for Multnomah Falls. Oregon Department of Transportation : Waterfall Corridor Improved Access : Waterfall Corridor Permits : State of Oregon

Metro

TPAC Feedback

Multnomah County

June 2022

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Agency name: _Multnomah County_____

Do you agree with the approach to provide a separate section in Chapter 3 for congestion pricing?

Yes, the outline provided will better address congestion pricing that spans multiple outcomes and goals.

Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?

The policies proposed don't address what should guide revenue reinvestment or how those decisions should be made. There is a bullet for the new section that discusses revenue opportunities and limitations. Perhaps after that has been drafted we can revisit if any of the policies should be more explicit about revenue decision-making. There is a difference between implementing a pricing program in general and congestion pricing with a focused purpose of managing congestion, reducing VMT, and increasing transportation options. This is not explained well in the draft so far. There are circumstances where a facility might be priced to raise revenue (flat rate toll) or replace revenue (in the case of plans for the Road User Charge to eventually replace the gas tax). Do these policies apply or do they only apply when the purpose is to manage congestion?

Draft Congestion Pricing Policy Language Worksheet

What specific changes would you like to see to improve the proposed policy language?

The new policy on equity, “Implement congestion pricing programs that integrate equity and affordability from the outset.”, could be further developed. As stated it implies equity in congestion pricing would be implemented on a project by project basis rather than there being a regional strategy on where pricing can be applied equitably and what phasing might be needed to ensure affordability. At a minimum, a process or set of criteria for what “integrating equity and affordability from the outset” means should be developed to make implementation consistent across projects. Does integrating mean using an inclusive decision-making process, conducting disparate impact analysis, and reinvesting revenues for equity outcomes?

In the new policy on mobility, it states “including transit-supportive elements”. I’m not really familiar with what that means and am wondering if there is a more plain language way to state it or if it can just be shortened to “increased access to transit”. I also wonder if there needs to be a caveat to increasing transit access since there are limitations to funding transit through tolling revenues and there may be transit access priorities that are separate from pricing priorities.

In the definitions section, the Congestion Pricing definition seems to be an umbrella definition that covers several more specific types but it doesn’t make that clear as stated. There are also some types of pricing that are specific to managing congestion and some that might not have that as the main purpose or could be used in different ways.

The Congestion Pricing definition talks about the benefits of changing behaviors and reducing VMT. Some of the other definitions don’t speak to benefits. I would recommend more consistency so it doesn’t appear some are more favorable than others since each mechanism might have particular strengths.

If Table 2, Steps to Consider when Planning for Pricing, is going to be included in the new section I would recommend just using a summary of the general process or choosing one to use as the example since they are all similar. The comparison table is hard to follow.

Metro

TPAC Feedback

ODOT

June 2022

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Agency name: Oregon Department of Transportation

Do you agree with the approach to provide a separate section in Chapter 3 for congestion pricing?

If there is a new section it should be named Road (or Roadway) Pricing rather than Congestion Pricing. The draft policy document discusses multiple purposes of pricing the roadway.

Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?

The Oregon Transportation Commission is the appointed tolling authority for the State. The policy document should acknowledge that. Some policy and implementation actions will only be possible with actions of the OTC or possibly state legislature.

The draft policy document asks road pricing to deliver many desired outcomes, without discussion of the inherent tradeoffs that planners and operators will face during implementation. The goals are laudable; it will be important to keep the RTP policies at a high level as guidance to facility owners so they can tailor operations to best address potentially competing needs.

There is potential for many types of pricing programs as described by the RCPS, and possibly others such as a dynamic parking program as cities respond to DLCDs Climate Friendly Equitable Communities work. The RTP should make room for the large range of possible tools. Ideally future RTP cycles will benefit from broad regional visioning with locally specific implementation as planners will be able to review and evaluate the range of programs in years to come and evaluate the range of successful outcomes.

The RTP should provide more clarity on the topic of diversion. There are multiple types of diversion, both good and bad. For example, modal or time-of-day diversion is a desirable outcome. Moving short distance trips from throughways to arterials, may also be a positive outcome as it better aligns driver behavior with the purpose and design of the transportation network. The diversion where drivers choose arterials and local roads for trips that would be more appropriate for throughways, placing undue burden on local networks and possibly increasing trip length is the negative outcome for which operators will tailor mitigation.

Draft Congestion Pricing Policy Language Worksheet

What specific changes would you like to see to improve the proposed policy language?

Following are some specific suggestions for questions, referencing locations within the draft. Also attached with this document you'll find a marked up version of the PDF (Attachment 1). ODOT asked WSP's national tolling expert for comments and thoughts on the draft. The notes are placed onto the PDF.

1. Goal 4: Reliability and Efficiency, Objective 4.6 Pricing:
    a. The primary mismatch with our work is the policy that includes *"and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit."*

        As applied to Goal 4, Objective 4.6, (page 151)

        Expand the use of pricing strategies to improve regional mobility and support additional development in 2040 growth areas by increasing transportation options, managing demand, and reducing VMT. ~~*manage vehicle congestion and encourage shared trips and use of transit*~~.

        And **Transportation Demand Management Policies (3.11)**

        Policy 1 *– Expand use of pricing strategies to improve regional mobility by managing travel demand, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.* ~~*manage travel demand on the transportation system in combination with adequate transit service options.*~~

        This direct linkage to increasing transportation options and transit using congestion pricing may make it tough to incorporate RMPP or future toll projects into the RTP if ODOT can't show that sufficient revenue will be used for transit access and projects. This is conflating financially supporting transit (which is well covered in other parts of the RPT) with using pricing to manage demand and encourage transit use. It would be preferable to have congestion pricing policies that focus on demand and congestion management, as with the prior text in strikethrough.

    b. Clarifying what is meant by transit-supportive elements and increased access to transit. Are these defined in other places?
    c. Reduce VMT per capita.
    d. Role of freight?

Draft Congestion Pricing Policy Language Worksheet

2. Safety and Security Policy, proposed change to Policy 4:
    a. Clarify what is meant by diversion. There is positive diversion that reduces VMT from pricing, such as switching from SOV to HOV, telecommuting, and making local trips on local roads, and choosing other times of the day to drive for those who have the availability.
    b. They way this is written it would apply to all pricing. How would one minimize diversion from parking pricing?

2. Regional Motor Vehicle Network, proposed changes to Policy 6:
    a. How would consideration be proven?

3. Existing policy…"Policy 2. Ensure investments in the transportation system anticipate and minimize the effects of displacement and other affordability impacts on historically marginalized communities, with a focus on communities of color and people with low income."
    a. Although I agree with the concern about displacement, this is a big topic and one that will be hard to determine on a project-level basis. How would this be accomplished? Qualitative alone?

4. ODOT's consultant tolling experts have provided comments in the attached PDF related to the definitions. The overarching theme is to shape the way the policy discusses the types of pricing. Specifically:

    The term "congestion pricing" should be replaced with "road pricing" or "roadway pricing", of which congestion pricing is a subclassification. Multiple sources reflect this hierarchy of terms, and being consistent will allow Oregon citizens to best understand what Metro and ODOT are trying to accomplish.

    FHWA's definition can be found here: https://www.fhwa.dot.gov/roadpricing/

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Review Chapter 8: Moving Forward Together for future updates

In the 2018 RTP, Section 8.2 identified mobility corridors recommended for future corridor refinement plans. The descriptions of many of these corridors referenced pricing in a variety of contexts, and were unclear on how or whether pricing might help address the goals of the RTP. A comprehensive look at the corridor refinement planning work identified in Section 8.2: Planning and Programs is needed to recommend updates in a future round of review.

Continue development of the Finance Chapter of the RTP, including incorporation of congestion pricing into the financial forecast

This work is underway and will be shared with partners in Summer 2022.

Attachment 1 - Metro Regional Transportation Plan – Draft Congestion Pricing

This table provides an overview of existing policies from the 2018 RTP that are relevant to congestion pricing, along with related f RCPS and the Expert Review Panel that was convened in April 2021 to review the RCPS. The first column in the table below identif

The column on the far right documents the proposed new and updated policy language outlined earlier in this attachment as they underlined and in orange text, while deletions are struck through and in orange text.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS
☐ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Goal 4: Reliability and Efficiency (2-16)** • **Objective 4.6 Pricing –** Expand the use of pricing strategies to manage vehicle congestion and encourage shared trips and use of transit.	**RCPS** • Define clear goals and outcomes from the beginning of a pricing program. The program priorities such as mobility, revenues, or equity should inform the program design and implementation strategies. Optimizing for one priority over another can lead to different outcomes. (pg. 84)
☑ **Equity** ☐ **Safety** ☐ **Climate** ☐ **Mobility**	**Regional Transportation Equity Policies (3-18)** • **Policy 1**: Embed equity into the planning implementation of transportation projects, programs, policies and strategies to comprehensively consider the benefits and impacts of transportation and eliminate disparities and barriers experienced by historically marginalized communities, particularly communities of color and people with low income. • **Policy 2**. Ensure investments in the transportation system anticipate and minimize the effects of displacement and other affordability impacts on historically marginalized communities, with a focus on communities of color and people with low income. • **Policy 4**. Use inclusive decision-making processes that provide meaningful opportunities for communities of color, people with low income and other historically marginalized communities to engage and participate in the development and implementation of transportation plans, projects and programs. • **Policy 6**. Evaluate transportation plans, policies, programs and investments to understand how they address transportation-related disparities and barriers experienced by communities of color, people with low-income and other historically marginalized communities and the extent the disparities are being eliminated.	**RCPS** • Congestion pricing can benefit communities that have been harmed in the past, providing meaningful equity benefits to the region. However, if not done thoughtfully, congestion pricing could harm BIPOC and low-income communities, compounding past injustices. (pg. 85) • Conduct meaningful engagement and an extensive outreach campaign, including with those who would be most impacted by congestion pricing, to develop a project that works and will gain public and political acceptance. (pg. 85) • Recognize that benefits and impacts of pricing programs will vary across geographies. These variations should inform decisions about where a program should target investments and affordability strategies and in depth outreach. (pg. 84) • Carefully consider how the benefits and costs of congestion pricing impact different geographic and demographic groups. In particular, projects and programs need to conduct detailed analysis to show how to: ○ maximize benefits (mobility, shift to transit, less emissions, better

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS
		access to jobs and community places, affordability, and safety) ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)
☐ **Equity** ☐ **Safety** ☑ **Climate** ☐ **Mobility**	**Climate Smart Strategy policies (3.2.3.2)** • **Policy 2.** Make transit convenient, frequent, accessible and affordable. • **Policy 5.** Use technology to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared trips and other Climate Smart Strategy policy and strategies. • **Policy 6.** Provide information and incentives to expand the use of travel options. • **Policy 7.** Make efficient use of vehicle parking spaces through parking management and reducing the amount of land dedicated to parking. • **Policy 9.** Secure adequate funding for transportation investments that support the RTP climate leadership goal and objectives.	**RCPS** • The success of a specific project or program is largely based on how it is developed and implemented requiring detailed analysis, outreach, monitoring, and incorporation of best practices. (pg. 85) • …projects and programs need to conduct detailed analysis to show how to: ○ maximize benefits (mobility, shift to transit, less emissions, better access to jobs and community places, affordability, and safety) ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS
☐ **Equity** ☑ **Safety** ☐ **Climate** ☐ **Mobility**	**Safety and Security Policies (3.2.1.4)** • **Policy 4**. Increase safety for all modes of travel for all people through the planning, design, construction, operation and maintenance of the transportation system, with a focus on reducing vehicle speeds.	**RCPS** • Build equity, safety, and affordability into the project definition so a holistic project that meets the need of the community is developed rather than adding "mitigations" later. (pg. 85) •

☐ **Equity**
☐ **Safety**
☑ **Climate**
☑ **Mobility**
	Transportation Demand Management Policies (3.11)
	
	• **Policy 1** – Expand use of pricing strategies to manage travel demand on the transportation system in combination with adequate transit service options.
	• **Table 3.10** Examples of TSMO strategies and investments
	
	The policy further defines the suite of pricing strategies as involving "*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…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…..*"
		RCPS
		• Congestion pricing can be used to improve mobility and reduce emissions. This study demonstrated how these tools could work with the region's land use and transportation system. (pg. 84)
		• …projects and programs need to conduct detailed analysis to show how to:
		  ○ maximize benefits (mobility, shift to transit, less emissions, better access to jobs and community places, affordability, and safety)
		  ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS
	The policy also discusses ODOT work on congestion pricing at the time of the 2018 RTP's publication: *Through the end of 2018, ODOT conducted a feasibility analysis to explore the options available and determine how congestion (value) pricing could help ease congestion in the greater Portland area. Oregon's House Bill 2017, also known as Keep Oregon Moving, directs the Oregon Transportation Commission to develop a proposal for value pricing on I-5 and I-205 from the state line to the junction of the two freeways just south of Tualatin, to reduce congestion. The State Legislature directed the OTC to seek approval from the Federal Highway Administration no later than December 31, 2018. If FHWA approves the proposal, the OTC is required to implement value pricing. See Chapter 8 for more information about future planning and analysis of this strategy.*	

☐ **Equity**
☐ **Safety**
☑ **Climate**
☑ **Mobility**
	Regional Motor Vehicle Network Policies (3.5)
	
	• **Policy 6** – In combination with increased transit service, consider use of value pricing to manage congestion and raise revenue when one or more lanes are being added to throughways.
	• **Policy 12** – Prior to adding new motor vehicle capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority and value pricing, transit service and multimodal connectivity improvements cannot adequately address arterial or throughway deficiencies and bottlenecks.
	• **Table 3.7 Toolbox of strategies to address congestion in the region**
	  ○ ***Emerging*: *Congestion Pricing Strategies***
	  ▪ *Peak Period Pricing*
	  ▪ *Managed Lanes*
	  ▪ *High Occupancy Toll Lanes*
	• **Appendix L:** Federal performance-based planning and congestion management process documentation	

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS
☑ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Emerging Technology Policies (3.2.4.3)** • **Policy 3.** Use the best available data to empower travelers to make travel choices and to plan and manage the transportation system. • **Policy 4**. Advance the public interest by anticipating, learning from and adapting to new development in technology.	**RCPS** • Coordinate with other pricing programs, including analysis of cumulative impacts and consideration of shared payment technologies, to reduce user confusion and ensure success of a program. (pg. 85) •
☐ **Equity** ☐ **Safety** ☐ **Climate** ☑ **Mobility**	Various mobility corridors identify congestion pricing for consideration.	

List of definitions for the new congestion pricing section of Chapter 3:

Congestion Pricing: Motorists pay directly for driving on a particular roadway or for driving or parking in a particular area. Congestion Pricing includes using variable road or parking tolls (higher prices under congested conditions and lower prices at less congested times and conditions). Congestion pricing has been demonstrated to be effective in encouraging drivers to change their behaviors by driving at different times, driving less, or taking other modes. As a result, congestion pricing can reduce VMT and greenhouse gas emissions.

Road User Charge (VMT): Motorists are charged for each mile driven. A road user charge is often discussed as an alternative to federal, state and local gas taxes which have become less relevant to the user-pays principle as more drivers switch to fuel efficient or electric vehicles.

Cordon Pricing: Motorists are charged to enter a congested area, usually a city center. Cordon pricing can include flat or variable rate fees.

Parking Pricing: Drivers pay to park in certain areas. Parking pricing may include flat, variable, or demand-responsive fee structures. Demand-responsive pricing involves periodically adjusting parking fees to match demand, this can be paired with technology which helps drivers find spaces in underused and less costly areas.

Tolling (~~Roadway Pricing~~): Motorists are charged to drive on a particular roadway. Tolling can be assessed as a flat rate toll, or the can vary by time of day and/or vehicle type. Tolling that varies by time of day can follow a set toll schedule, or the toll rate can be continually adjusted based on traffic conditions.

Flat Rate Toll: A fee charged by a toll facility operator in an amount set by the operator for the privilege of traveling on said toll facility. Tolling is a user fee system for specific infrastructure such a bridges and tunnels. Toll revenues are used for costs associated with the tolled infrastructures. This tool is used to raise funds for construction, operations, maintenance and administration of specific infrastructure.

~~iable Rate Tolling~~/Pricing: With this type of pricing, a variable toll schedule is set so that the toll is higher during peak travel hours and lower during off-peak or shoulder hours. This encourages motorists to use the roadway during less-congested periods and allows traffic to flow more freely during peak times. Peak toll rates may be high enough to guarantee that traffic flow will not break down, thus offering motorists a reliable ~~and congestion free~~ trip in exchange for the higher peak toll.

Dynamic Tolling/Pricing: Tolls are continually adjusted according to traffic conditions to ~~maintain a~~ free-flowing level of traffic. Under this system, prices increase when the tolled lane(s) get relatively full and decrease when the tolled lane(s) get less full. ~~The current price is displayed on electronic signs prior to the beginning of the tolled section.~~ This system is more complex and less predictable than using a ~~fixed price table~~, but its flexibility helps to ~~consistently maintain~~ the optimal traffic flow. ~~Motorists are usually guaranteed that they will not be charged more than a pre-set maximum price under any circumstances.~~

Section 129: Section 129 of Title 23 of the U.S. ~~Constitution~~ provides the ability to toll Federal-aid highways in conjunction with construction, reconstruction, or other capital improvements. Flat rate tolling and pricing strategies are authorized.

Value Pricing Pilot Program: Oregon is a participant in the FHWA Value Pricing Pilot Program (VPPP). The VPPP was established in 1991 (as the Congestion Pricing Pilot Program) to encourage implementation and evaluation of value pricing pilot projects to manage congestion on highways through tolling and other pricing mechanisms. While the program no longer actively solicits projects, it can still provide tolling authority to State, regional or local governments to implement congestion pricing applications. See https://ops.fhwa.dot.gov/congestionpricing/value_pricing/ for more detail.

Figure 1 Table from Page 8-9 of RCPS

Table 2 Steps to Consider when Planning for Pricing

TransForm's Pricing Roads, Advancing Equity Five Steps	NCHRP Tolling Assessment Steps	GARE Racial Equity Toolkit Steps & Questions	City of Portland Racial Equity Toolkit Worksheet Steps
1. Identify Who, What, and Where	1. Frame the Project 2. Identify the Applicable Requirements Governing Decisions 3. Recognize the Relevant Decision-Makers and Stakeholders	1. Proposal: What is the policy, program, practice, or budget decision under consideration? What are the desired results and outcomes? 2. Data: What's the data? What do the data tell us? 3. Community engagement: How have communities been engaged? Are there opportunities to expand engagement?	1. Set Equitable Outcomes 2. Collect and Analyze Data 3. Understand the Historical Context 4. Engage those most Impacted
2. Define Equity Outcome and Performance Indicators	4. Scope Approach to Measure and Address Impacts	*See #1 "Proposal" above*	*See # 1 "Set Equitable Outcomes" above*
3. Determining Benefits and Burdens	5. Conduct Impact Analysis and Measurement	4. Analysis and strategies: Who will benefit from or be burdened by your proposal? What are your strategies for advancing racial equity or mitigating unintended consequences?	*See #2 "Collect and Analyze Data" above*
4. Choose Programs that Advance Transportation Equity	6. Identify and Assess Mitigation Strategies	*See #4 "Analysis and Strategies" above*	5. Develop Racially Equitable Strategies and Refine Outcomes 6. Implement Changes
5. Provide Accountable Feedback and Evaluation	7. Document Results for Decision Makers and the Public 8. Conduct Post-Implementation Monitoring	5. Accountability and communication: How will you ensure accountability, affordability, communicate, and evaluate results? 6. Implementation: What is your plan for implementation?	7. Evaluate/ Accountability/ Report Back

Figure 2 Table from Page 15 of RCPS

REVENUE INVESTMENT EQUITY MATRIX	
INVESTMENT STRATEGY	***EQUITY IMPACTS***
Road expansion	Does not add more affordable options.
Mix of road expansion and transit	Some drivers can shift to new, more affordable modes. Transit users also benefit.
Transit, walking, and bike infrastructure with targeted carpool, vanpool, and new mobility options where needed	Allows greater shift to more affordable and sustainable modes.
Transit, walking, and bike infrastructure with an **intensive focus on vulnerable communities**	Significant expansion of commute options and a reduction in user costs (if fares are reduced on transit and other mobility options).

Source: TransForm

Metro

TPAC Feedback

PBOT

June 2022

Draft Congestion Pricing Policy Language Worksheet

This worksheet provides space for TPAC members to provide feedback on the proposed congestion pricing policy language that was shared at the June 3, 2022 TPAC meeting. The proposed policy language is included in Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022, which was shared in the June 3, 2022 TPAC packet and is provided as an attachment to this worksheet for reference.

Feedback is requested by end of day on Friday, June 17, 2022. Please return this worksheet to alex.oreschak@oregonmetro.gov and copy marie.miller@oregonmetro.gov.

Agency name: _____PBOT_____

Do you agree with the approach to provide a separate section in Chapter 3 for congestion pricing?

Yes for Chapter 3 (noting the specific recommendations we make in response to the third question below). We also recommend that the Climate Smart Strategy should address Pricing separately and more clearly than it does now. Recognizing there may be concerns about "updating" the Climate Smart Strategy, my understanding is that the RTP effectively does that. As such, we could actually do some work to more formally integrate pricing results as part of this RTP's CSS update if we use the tools like VE and the RTDM to do so, along with the Regional Congestion Pricing Study), connecting it to finance strategy and project lists, as well as demonstrating VMT and GHG performance. Technology is more TSMO (though linked), there's also information and incentives listed. Let's describe how these pieces fit together through our policies and narrative more completely, rather than trying to shoehorn all of it into a TSMO policy element of Climate Smart, as currently proposed.

Draft Congestion Pricing Policy Language Worksheet

Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?

In addition to the need to expand the Climate Smart Strategy as suggested n previous answer above, also request adding policy in Ch. 3 and associated implementation actions in Ch. 8 to support and encourage regional and local option VMT pricing, similar to the local gas tax option that Portland and other cities have implemented. As we shift to road usage pricing it will be critical that local agencies can implement local road usage charges, or a regional road usage charge.

While the components for it is there in the policy language, it feels like we could still more clearly articulate a vision for how to apply multiple of these tools strategies in a more coordinated and systematic demand management system to improve outcomes, per our previous comments. This could helpfully point to the need for next steps of modeling to combine previous runs and adjust values to do sensitivity test to inform the balance of benefits and burdens in a way that reflects a more mature system vs the piecemeal projects of today, since this is a long-range regional plan.

Once a more comprehensive vision is set in policy and informed by evaluation, we then need Chapter 8 to address the next steps of implementation being more clearly defined than the Review of specific projects/corridors being proposed. As noted above, this seems like it should be about how pricing is being used to fund and manage the system in line with our adopted goals, potentially including additional tools in the modeling than RCPS was able to do, including the combination of tools to manage for diversion (tolled throughways, plus RUC/VMT fees to provide balancing background signals and reduce VMT sufficiently to meet regional targets. In terms of Ch. 8, feels like we may need to first develop an Implementation strategy for pricing to support the outcomes of the RTP, having just developed policy language that hopefully sets out the desired outcomes and intent for the strategy to realize. Then we can worry about defining language in Chapter 8 to describe it and wave it through the plan. Happy to discuss this idea further with Metro Staff.

What specific changes would you like to see to improve the proposed policy language?

Please see the line item proposed edits and other recommendations/requests in the marked up .pdf provided via email with this form.

Date: May 27, 2022
To: Transportation Policy Alternatives Committee and Interested Parties
From: Alex Oreschak, Senior Transportation Planner
Subject: 2023 Regional Transportation Plan Policy Brief – Congestion Pricing Policy Development

Purpose

This meeting is to:

1. Discuss with and receive feedback from TPAC on proposed congestion pricing policy language for the 2023 Regional Transportation Plan (RTP)

Request to TPAC

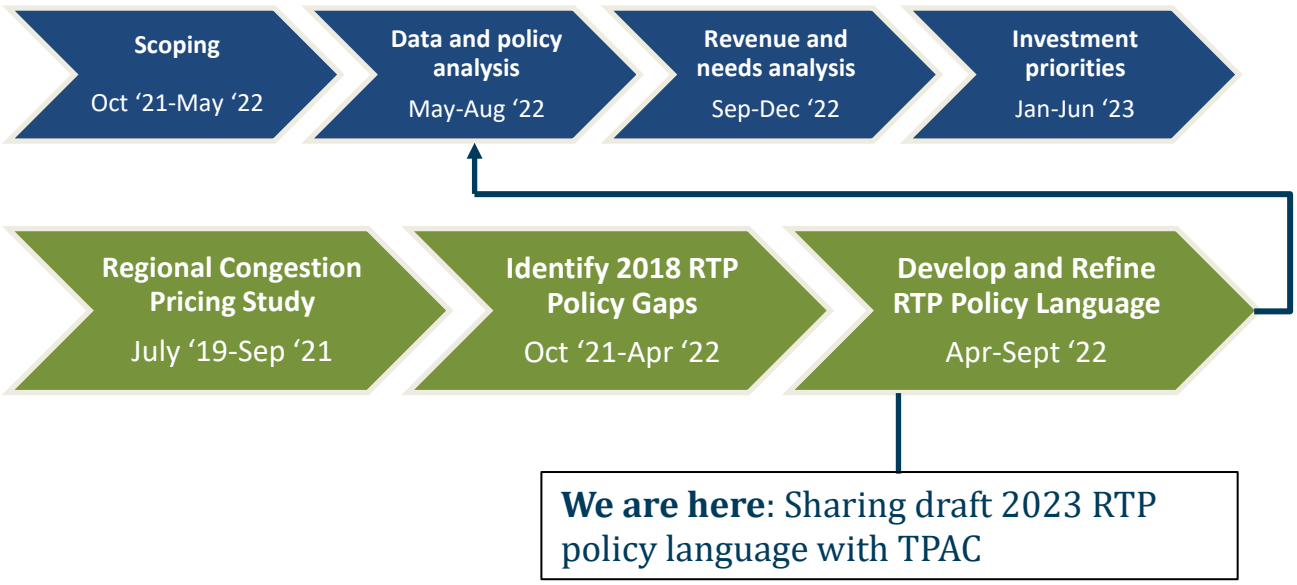
Provide input and comment on the proposed congestion pricing policy language for the 2023 RTP update.

2023 RTP Draft Congestion Pricing Policy Development and Timeline

In September 2021, Metro Council passed a resolution accepting the findings and recommendations in the Regional Congestion Pricing Study (RCPS) report, and directing staff to build upon existing policy in the 2018 RTP by incorporating the findings and recommendations from the study in the 2023 RTP update. On April 20, 2022, Metro staff presented to TPAC and MTAC on congestion pricing policies in the 2018 RTP, intersections with the findings and recommendations from the RCPS, and other supportive language from both the RCPS and the Expert Review Panel that convened in April 2021.

Following that meeting, Metro staff have been working with a consultant team (Nelson\Nygaard) to review TPAC and MTAC feedback (summarized later in this memo) and develop draft congestion pricing policy language for the 2023 RTP. The draft language is documented in **Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022**.

Staff is requesting feedback from TPAC members on the draft congestion pricing policy language. This feedback will help guide refinement of the draft language for further review by TPAC and other Metro Committees and for eventual inclusion in the 2023 RTP. The timing for this work is part of the data and policy analysis for the 2023 RTP update, as shown below.



2023 RTP Update Relationship to Oregon Highway Plan Amendment

Concurrently with the 2023 RTP update process, the Oregon Department of Transportation's (ODOT) Office of Urban Mobility is preparing an amendment to the Oregon Highway Plan (OHP) which would update the plan's toll policies, which are primarily located in Goal 6 of the OHP. Amendments to the OHP are reviewed and adopted by the Oregon Transportation Commission. No action is required from TPAC, JPACT, or Metro Council for the OHP amendment.

Metro staff and ODOT staff are coordinating on the two efforts, and have identified opportunities to comparatively evaluate policy development, including providing updates and opportunities for feedback on the OHP amendment to TPAC and other committees concurrently with updates on the 2023 RTP congestion pricing policy development. More information on the OHP amendment can be found at in **Attachment 2: OHP Toll Policy Amendment Overview** and at https://www.oregon.gov/odot/Planning/Pages/Oregon-Highway-Plan-Update.aspx.

Summary of TPAC and MTAC Feedback on 2018 RTP Congestion Pricing Policy

On April 20, 2022, Metro staff shared a presentation at the TPAC/MTAC workshop on congestion pricing policies in the 2018 RTP and requested feedback from committee members by May 4, 2022. Written feedback was received from seven partner agencies and is documented in **Attachment 3: Feedback from April 2022 TPAC and MTAC Workshop**. Attachment 3 also includes a high-level summary of the feedback received, identifying key themes and how Metro staff has or will address those themes. This information was used to help develop the 2023 RTP congestion pricing policy recommendations identified above.

Next Steps – Refined Congestion Pricing Policy Options

Metro staff requests that TPAC provide feedback on the draft congestion pricing policy recommendations by **Friday, June 17**. Staff will consider TPAC feedback as part of refining the draft congestion pricing policy recommendations, which will be shared with TPAC in July 2022. Staff will then present the congestion pricing policy options to MPAC and at a joint Metro Council/JPACT workshop in July 2022.

Following those meetings, staff will further refine the draft congestion pricing policy recommendations and present a memo outlining final proposed congestion pricing policy language to TPAC, JPACT, and Metro Council in fall 2022.

Questions for TPAC

- Does TPAC agree with the approach to provide a separate section in Chapter 3 for congestion pricing?
- Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?
- What specific changes would you like to see to improve the proposed policy language?

Attachments:

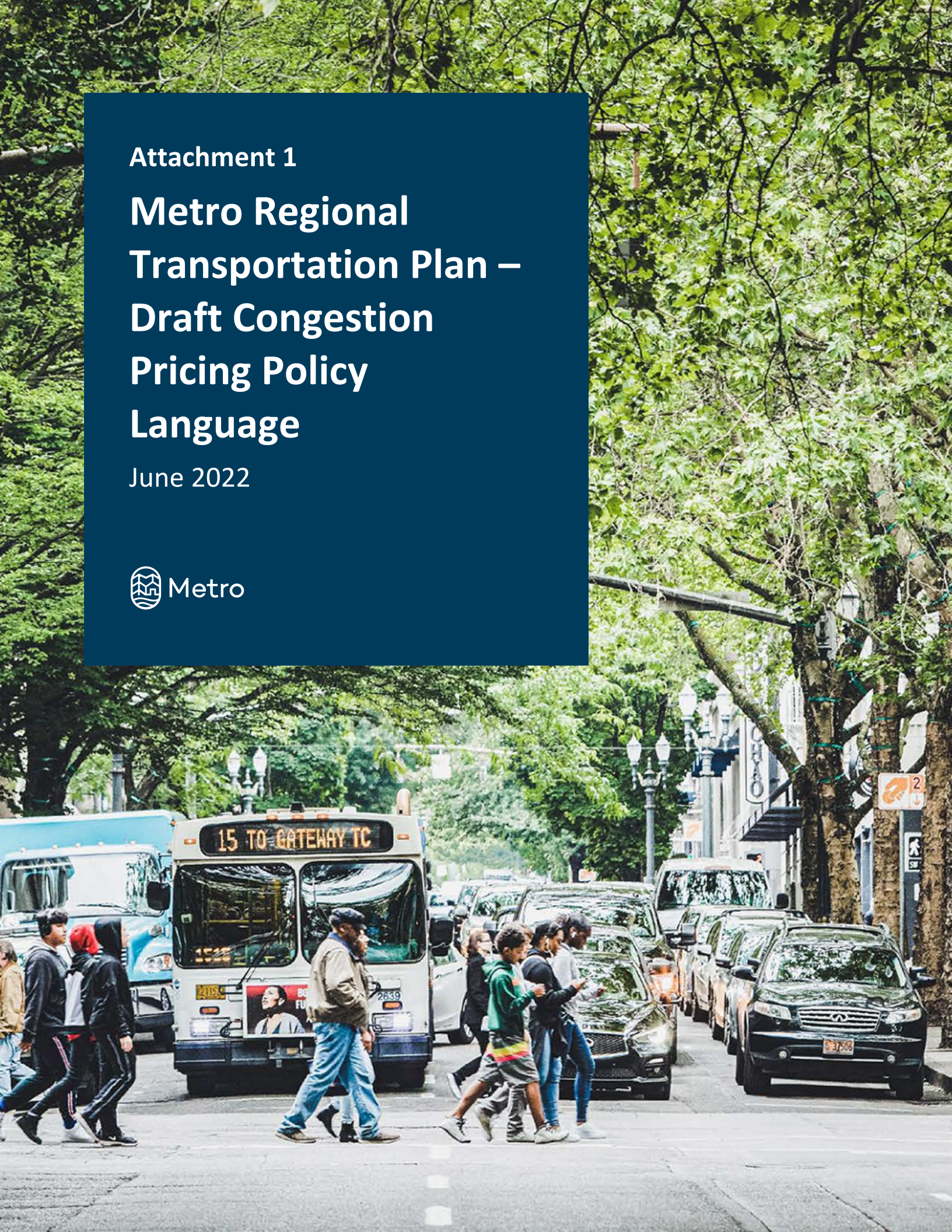
Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022
Attachment 2: OHP Toll Policy Amendment Overview
Attachment 3: Feedback from April 2022 TPAC and MTAC Workshop

Attachment 1

Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language

June 2022

Metro



Attachment 1 - Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022

Metro staff, with consideration of input from TPAC and MTAC at the April 20, 2022 workshop, proposes the following updates to the 2023 RTP to better address congestion pricing:

Include new section in Chapter 3: System Policies to Achieve our Vision specific to congestion pricing policy

This new section would include the following elements:

- Definitions of congestion pricing, including defining different types of pricing
  - Congestion Pricing
  - Road User Charge/Vehicle Miles Traveled Fee
  - Cordon Pricing
  - Parking Pricing
  - Roadway Pricing/Tolling
- New congestion pricing policies
  - Mobility: Implement congestion pricing programs that improve regional mobility by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.
  - Equity: Implement congestion pricing programs that integrate equity and affordability from the outset.
    - Include spotlight/example of EMAC and/or POEM
  - Safety and Diversion: Implement congestion pricing programs that reduce overall automobile trips, address traffic safety and minimize diversion.
  - Climate: Implement congestion pricing programs that reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options.
  - Emerging Technologies: Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.
- Description of other pricing work currently underway in the region
  - ODOT: I-205 Toll Project, I-5 Bridge Replacement, Boone Bridge Replacement, Regional Mobility Pricing Project
  - PBOT Pricing Options for Equitable Mobility
- Overview of federal pricing programs
  - Section 129
  - Value Pricing Pilot Program
- Description of HB 2017 and HB 3055 tolling policies
- Discussion of potential revenue opportunities and limitations under Article IX, section 3a of the Oregon Constitution

Update other RTP Goals and Objectives, and Chapter 3 sections to include congestion pricing

The following goals, objectives, and Chapter 3 sections have been identified by Metro staff and members of TPAC and MTAC. Specific changes have been identified for a subset of these goals, objectives, and sections; the remaining identified areas will be documented and shared with Metro RTP staff to update as appropriate to better reflect congestion pricing policy language in the new section in Chapter 3. Proposed changes are identified below; proposed additions are underlined and in orange text, while deletions are struck through and in orange text.

- **Goal 4: Reliability and Efficiency, Objective 4.6 Pricing** – Expand the use of pricing strategies to improve regional mobility and support additional development in 2040 growth areas by increasing transportation options, managing demand, and reducing VMT. ~~manage vehicle congestion and encourage shared trips and use of transit.~~
- **Climate Smart Strategy policies (3.2.3.2)**
  - **Policy 5.** Use technology and congestion pricing to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared trips and other Climate Smart Strategy policy and strategies.
- **Safety and Security Policies (3.2.1.4)**
  - **Policy 4**. Increase safety for all modes of travel for all people through the planning, design, construction, operation, pricing and maintenance of the transportation system, with a focus on reducing vehicle speeds on local roadways and minimizing diversion from priced facilities.
- **Transportation Demand Management Policies (3.11)**
  - **Policy 1** – Expand use of pricing strategies to improve regional mobility by managing travel demand, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit. ~~manage travel demand on the transportation system in combination with adequate transit service options.~~
  - Remove definition of pricing strategies and discussion of ODOT work on congestion pricing.
- **Regional Motor Vehicle Network Policies (3.5)**
  - **Policy 6** – In combination with increased transit service, consider use of ~~value~~ pricing to manage traffic congestion and reduce VMT as an alternative to adding ~~and raise revenue when~~ one or more lanes ~~are being added~~ to throughways.
  - **Policy 12** – Prior to adding new motor vehicle capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority, ~~and value~~ congestion pricing~~,~~ and transit service and multimodal connectivity improvements cannot adequately address arterial or throughway deficiencies and bottlenecks.
  - **Table 3.7 Toolbox of strategies to address congestion in the region**
    - ***Congestion pricing strategies***
      - *Roadway Pricing, including:*
        - ~~*Peak period*~~ *Variable rate or time of day pricing*
        - *Managed lanes*

    - *High occupancy toll (HOT) lanes*
- *Road User Charge (or Vehicle Miles Traveled Fee)*
- *Parking Pricing*
- *Cordon Pricing*

Review Chapter 8: Moving Forward Together for future updates

In the 2018 RTP, Section 8.2 identified mobility corridors recommended for future corridor refinement plans. The descriptions of many of these corridors referenced pricing in a variety of contexts, and were unclear on how or whether pricing might help address the goals of the RTP. A comprehensive look at the corridor refinement planning work identified in Section 8.2: Planning and Programs is needed to recommend updates in a future round of review.

Continue development of the Finance Chapter of the RTP, including incorporation of congestion pricing into the financial forecast

This work is underway and will be shared with partners in Summer 2022.

Attachment 1 - Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022

This table provides an overview of existing policies from the 2018 RTP that are relevant to congestion pricing, along with related findings and recommendations from Metro's Regional Congestion Pricing Study (RCPS), as well as supportive language from the RCPS and the Expert Review Panel that was convened in April 2021 to review the RCPS. The first column in the table below identifies which one or more of the four RTP priorities (Equity, Safety, Climate, Mobility) relate to each policy.

The column on the far right documents the proposed new and updated policy language outlined earlier in this attachment as they relate back to information in the other columns. As in the above outline, for the updated policies, proposed additions are underlined and in orange text, while deletions are struck through and in orange text.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	Suggested draft policy updates in 2023 RTP
☐ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Goal 4: Reliability and Efficiency (2-16)** • **Objective 4.6 Pricing –** Expand the use of pricing strategies to manage vehicle congestion and encourage shared trips and use of transit.	**RCPS** • Define clear goals and outcomes from the beginning of a pricing program. The program priorities such as mobility, revenues, or equity should inform the program design and implementation strategies. Optimizing for one priority over another can lead to different outcomes. (pg. 84)	**Expert Review Panel** • Revenue reinvestment is single most important factor, but pricing is an expensive and difficult way to raise revenue. Pricing should be done for other goals, like congestion and reducing GHG emissions. **RCPS** • …identify and commit to equity indicators to assess the benefits and burdens of pricing. Measurable indicators can and should be established for both outcome equity (such as affordability, access to opportunity, community health) and process equity (community engagement) indicators. (pg. 9-10)	***UPDATE Objective 4.6 Pricing:*** Expand the use of pricing strategies to improve regional mobility and support additional development in 2040 growth areas by increasing transportation options, managing demand, and reducing VMT. ~~manage vehicle congestion and encourage shared trips and use of transit.~~

☑ **Equity**
☐ **Safety**
☐ **Climate**
☐ **Mobility**
	Regional Transportation Equity Policies (3-18)
	
	• **Policy 1**: Embed equity into the planning implementation of transportation projects, programs, policies and strategies to comprehensively consider the benefits and impacts of transportation and eliminate disparities and barriers experienced by historically marginalized communities, particularly communities of color and people with low income.
	• **Policy 2**. Ensure investments in the transportation system anticipate and minimize the effects of displacement and other affordability impacts on historically marginalized communities, with a focus on communities of color and people with low income.
	• **Policy 4**. Use inclusive decision-making processes that provide meaningful opportunities for communities of color, people with low income and other historically marginalized communities to engage and participate in the development and implementation of transportation plans, projects and programs.
	• **Policy 6**. Evaluate transportation plans, policies, programs and investments to understand how they address transportation-related disparities and barriers experienced by communities of color, people with low-income and other historically marginalized communities and the extent the disparities are being eliminated.
		RCPS
		• Congestion pricing can benefit communities that have been harmed in the past, providing meaningful equity benefits to the region. However, if not done thoughtfully, congestion pricing could harm BIPOC and low-income communities, compounding past injustices. (pg. 85)
		• Conduct meaningful engagement and an extensive outreach campaign, including with those who would be most impacted by congestion pricing, to develop a project that works and will gain public and political acceptance. (pg. 85)
		• Recognize that benefits and impacts of pricing programs will vary across geographies. These variations should inform decisions about where a program should target investments and affordability strategies and in depth outreach. (pg. 84)
		• Carefully consider how the benefits and costs of congestion pricing impact different geographic and demographic groups. In particular, projects and programs need to conduct detailed analysis to show how to:
		  ○ maximize benefits (mobility, shift to transit, less emissions, better
			Expert Review Panel
			• Co-creation process partnering with community-based organizations. Focus on organizations that represent region's low income and BIPOC communities
			  ○ Compensate people who are a part of this process.
			  ○ Participants should help shape goals and performance metrics, what defines success, help shape policy options, how they would make tradeoffs, help prioritize use of revenues
			• Look at outcomes – who pays and what is the distribution of benefits – make sure that providing a disproportionate benefit to most vulnerable communities.
			• Understand and consider ability to pay as part of the structure – progressive fee structure.
			• Study people who are spending over 50% of their income on housing.
			• Use of revenues – focus on improving access and options to the area that is congested/priced, especially improving options for those places that do not have great options today.
			• Ensure that revenues are being used to support the desired costs and benefits
			RCPS
			• See table in Figure 1
			• Selection of particular technologies and methodologies for pricing should consider impacts on different demographic and income groups in the region. Expensive or complex pricing methods may not only unfairly burden transportation disadvantaged travelers and create barriers to entry for them but could also cause these groups to be punitively treated as violators due to their lack of access to the proper technologies…
				NEW Policy in Congestion Pricing section:
				Implement congestion pricing programs that integrate equity and affordability from the outset.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	Suggested draft policy updates in 2023 RTP
		access to jobs and community places, affordability, and safety) ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)	For example, paying tolls should allow those without access to traditional banking services to be able to use alternative payment methods, such as cash payment kiosks at local stores, or to preload a pass account at a retail location. (pg. 75-76) • Improve equity outcomes by: ○ Reducing harm and increasing benefits if agencies are willing to focus engagement on historically impacted residents and other stakeholders traditionally at a disadvantage and ensure they have a role in decision making at every step in the process. (pg. 6) ○ Committing to targeted investments of net toll revenues for locally supported improvements such as improved transit infrastructure and services and traffic safety improvements. (pg. 6) ○ Exploring who pays and to what degree, and considering a suite of affordability programs such as rebates or exemptions for low-income drivers, a "transportation wallet", or other investments that address affordability. (pg. 6) • With substantial community input and collaboration with representatives of impacted communities, agencies should gain consensus on equity definitions and to establish the equitable direction for the project, program, or study. (pg. 9)	
☐ **Equity** ☐ **Safety** ☑ **Climate** ☐ **Mobility**	**Climate Smart Strategy policies (3.2.3.2)** • **Policy 2.** Make transit convenient, frequent, accessible and affordable. • **Policy 5.** Use technology to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared trips and other Climate Smart Strategy policy and strategies. • **Policy 6.** Provide information and incentives to expand the use of travel options. • **Policy 7.** Make efficient use of vehicle parking spaces through parking management and reducing the amount of land dedicated to parking. • **Policy 9.** Secure adequate funding for transportation investments that support the RTP climate leadership goal and objectives.	**RCPS** • The success of a specific project or program is largely based on how it is developed and implemented requiring detailed analysis, outreach, monitoring, and incorporation of best practices. (pg. 85) • …projects and programs need to conduct detailed analysis to show how to: ○ maximize benefits (mobility, shift to transit, less emissions, better access to jobs and community places, affordability, and safety) ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)	**Expert Review Panel** • Build multimodal elements into program design. You can't mitigate your way out of an inequitable program design. • Incentivize mode shift. All aspects should be part of this, including use of revenues. ○ Provide and fund alternatives to driving ○ Commuter credits ○ Use revenues to provide funds for transit passes • Ideas for alternatives to driving and vehicle ownership that could be subsidized ○ Cash on transit card, ○ EV carshare, including to affordable housing sites ○ Transit passes ○ Discounted rideshare rides • The thing that really moves the needle on VMT reduction is auto ownership. How to encourage people to not need/want cars. Densify transit. • Subsidize the ongoing operation and maintenance of transit. • Small investments in striping bike lanes, pedestrian walkways, and similar things can help to solve the first/last mile between transit and key employment hubs. **RCPS** • Improve equity outcomes by: ○ Committing to targeted investments of net toll revenues for locally supported improvements such as	***NEW Policy in Congestion Pricing section:*** Implement congestion pricing programs that reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options. ***UPDATE Policy 5:*** Use technology and congestion pricing to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared trips and other Climate Smart Strategy policy and strategies.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	Suggested draft policy updates in 2023 RTP
			improved transit infrastructure and services and traffic safety improvements. (pg. 6)	
☐ **Equity** ☑ **Safety** ☐ **Climate** ☐ **Mobility**	**Safety and Security Policies (3.2.1.4)** • **Policy 4**. Increase safety for all modes of travel for all people through the planning, design, construction, operation and maintenance of the transportation system, with a focus on reducing vehicle speeds.	**RCPS** • Build equity, safety, and affordability into the project definition so a holistic project that meets the need of the community is developed rather than adding "mitigations" later. (pg. 85) •	**RCPS** • Once indicators have been selected, agencies should conduct the necessary assessments to identify the extent to which the identified populations of concern are impacted by project or program alternatives. Special attention should be placed on travelers by geography, mode, and demographics of interest. (pg. 11) • In depth analysis with modeling and mapping can show the geographies where benefits and impacts are likely to occur with a project. This analysis can help project implementers to understand where to focus investments (and outreach) and what types of investments make sense to improve equity. (pg. 12) • Agencies and communities will need to strike a balance between affordability programs and the kinds of strategies that can best increase access to opportunity, mode shift, improve community health/safety, or other desirable outcomes. (pg. 12) • …resources should be provided to lower income communities and neighborhoods that are in the vicinity of roadways being considered in pricing scenarios. Some potential resources for these communities should include introducing programs to dedicate pricing revenues to affordability programs for low-income auto-users, public transit improvements, and bicycle and pedestrian improvements in communities faced with heavy congestion and health disparities. (pg. 21)	***NEW Policy in Congestion Pricing section:*** Implement congestion pricing programs that reduce overall automobile trips, address traffic safety and minimize diversion. ***UPDATE Policy 4:*** Increase safety for all modes of travel for all people through the planning, design, construction, operation, pricing and maintenance of the transportation system, with a focus on reducing vehicle speeds on local roadways and minimizing diversion from priced facilities.
☐ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Transportation Demand Management Policies (3.11)** • **Policy 1** – Expand use of pricing strategies to manage travel demand on the transportation system in combination with adequate transit service options. • **Table 3.10** Examples of TSMO strategies and investments The policy further defines the suite of pricing strategies as involving "*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…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…..*"	**RCPS** • Congestion pricing can be used to improve mobility and reduce emissions. This study demonstrated how these tools could work with the region's land use and transportation system. (pg. 84) • …projects and programs need to conduct detailed analysis to show how to: ○ maximize benefits (mobility, shift to transit, less emissions, better access to jobs and community places, affordability, and safety) ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)	**Expert Review Panel** • Incentivize mode shift. All aspects should be part of this, including use of revenues. ○ Provide and fund alternatives to driving ○ Commuter credits ○ Use revenues to provide funds for transit passes • Ideas for alternatives to driving and vehicle ownership that could be subsidized ○ Cash on transit card, ○ EV carshare, including to affordable housing sites ○ Transit passes ○ Discounted rideshare rides	***NEW Policy in Congestion Pricing section:*** Implement congestion pricing programs that improve regional mobility by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit. ***UPDATE Policy 1:*** Expand use of pricing strategies to improve regional mobility by managing travel demand, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit. ~~manage travel demand on the transportation system in combination with adequate transit service options.~~

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	Suggested draft policy updates in 2023 RTP
	The policy also discusses ODOT work on congestion pricing at the time of the 2018 RTP's publication: *Through the end of 2018, ODOT conducted a feasibility analysis to explore the options available and determine how congestion (value) pricing could help ease congestion in the greater Portland area. Oregon's House Bill 2017, also known as Keep Oregon Moving, directs the Oregon Transportation Commission to develop a proposal for value pricing on I-5 and I-205 from the state line to the junction of the two freeways just south of Tualatin, to reduce congestion. The State Legislature directed the OTC to seek approval from the Federal Highway Administration no later than December 31, 2018. If FHWA approves the proposal, the OTC is required to implement value pricing. See Chapter 8 for more information about future planning and analysis of this strategy.*			***UPDATE AND MOVE to NEW Congestion Pricing section:*** Definition of congestion pricing and related terms, as well as the description of current regional work on pricing.
☐ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Regional Motor Vehicle Network Policies (3.5)** • **Policy 6** – In combination with increased transit service, consider use of value pricing to manage congestion and raise revenue when one or more lanes are being added to throughways. • **Policy 12** – Prior to adding new motor vehicle capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority and value pricing, transit service and multimodal connectivity improvements cannot adequately address arterial or throughway deficiencies and bottlenecks. • **Table 3.7 Toolbox of strategies to address congestion in the region** ○ ***Emerging*: *Congestion Pricing Strategies*** ▪ *Peak Period Pricing* ▪ *Managed Lanes* ▪ *High Occupancy Toll Lanes* • **Appendix L:** Federal performance-based planning and congestion management process documentation		**RCPS** • Leaders in the Metro region have long recognized the importance of pairing investments in transportation capacity building with travel demand management tools. The 2018 RTP identified congestion pricing as a high priority, high impact strategy (pg. 1) • The biggest determinant of whether a congestion pricing program improves equity is how the program is designed—who benefits, how people are charged, and how revenue from congestion pricing strategies is spent (pg. 7) • Roadway-focused spending disproportionately benefit white people and those that have more means. In the Portland Metro area, people of color are more likely to rely on transit, walking, and carpooling. Nearly 20% of African American households, 14% of Latino households, and 13% of Asian households live without a car (Source: Metro 2018 RTP). In addition, racial minorities are four times more likely than whites to rely on transit for their work commute. Low-income people, disabled people, and seniors are also much more likely to rely on transit. Government provision of free roads and auto infrastructure acts like a matching grant, whereby those that can afford to own and operate a car are given the benefit. Those that cannot afford auto ownership or that are unable to drive, do not receive the same benefit. Transportation investments that focus on transit, walking, and biking infrastructure, especially if targeted to areas with concentrations of transportation disadvantaged groups can improve equity. Figure 2 (below) demonstrates equity impacts of different investment strategies (pg. 15) • Stockholm: The congestion pricing program has reduced traffic by 22% and greenhouse gas emissions by 14%. Program revenues have funded 18 new regional bus lines and 2,800 new regional park-and-ride spaces (pg. 82)	***UPDATE Policy 6:*** • In combination with increased transit service, consider use of ~~value~~ pricing to manage traffic congestion and reduce VMT as an alternative to adding ~~and raise revenue when~~ one or more lanes ~~are being added~~ to throughways. ***UPDATE Policy 12:*** • Prior to adding new motor vehicle capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority, ~~and value~~ congestion pricing, ~~and~~ transit service and multimodal connectivity improvements cannot adequately address arterial or throughway deficiencies and bottlenecks. ***UPDATE Table 3.7:*** ▪ ***Congestion pricing strategies*** • *Roadway Pricing, including:* ○ ~~*Peak period*~~ *Variable rate or time of day pricing* ○ *Managed lanes* ○ *High occupancy toll (HOT) lanes* • *Road User Charge (or Vehicle Miles Traveled Fee)*

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	Suggested draft policy updates in 2023 RTP
			• London: Prior to congestion pricing, traffic in central London averaged 2-5 mph. Since implementation, the average traffic speed has increased to 10 mph.17 London increased bus service in the pricing zone by 27%, improving transit reliability and travel times. As a result, bus ridership increased 38% in two years (pg. 82) • New York City: In 2019, New York City implemented a congestion zone surcharge on for-hire vehicles (like taxis, Uber and Lyft) in Manhattan as part of its phased approach to pricing. Future phases, planned for implementation in 2021, include a vehicle fee for crossing into a specified zone. Revenues collected from the program will be reinvested into capital transit projects, particularly in the city's subway system.	• *Parking Pricing* • *Cordon Pricing*
☑ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Emerging Technology Policies (3.2.4.3)** • **Policy 3.** Use the best available data to empower travelers to make travel choices and to plan and manage the transportation system. • **Policy 4**. Advance the public interest by anticipating, learning from and adapting to new development in technology.	**RCPS** • Coordinate with other pricing programs, including analysis of cumulative impacts and consideration of shared payment technologies, to reduce user confusion and ensure success of a program. (pg. 85) •	**RCPS** • Selection of particular technologies and methodologies for pricing should consider impacts on different demographic and income groups in the region. Expensive or complex pricing methods may not only unfairly burden transportation disadvantaged travelers and create barriers to entry for them but could also cause these groups to be punitively treated as violators due to their lack of access to the proper technologies… For example, paying tolls should allow those without access to traditional banking services to be able to use alternative payment methods, such as cash payment kiosks at local stores, or to preload a pass account at a retail location. (pg. 75-76) • Deploying existing technologies will likely be less expensive to implement and reduce scheduling risks compared to deploying emerging or in-development technologies. Implementing existing technologies does need to be weighed against the risk of the technology becoming obsolete in the near future or being vulnerable to future market disruptors. (pg. 75) • Keeping in mind coordination with other pricing programs will go a long way towards creating a more seamless customer experience for travelers. In particular, ODOT is planning to implement tolling on Interstates in the Portland region, so adopting common technologies and payment systems may be advantageous in order to reduce duplicative efforts and provide savings through economies of scale. (pg. 75)	***NEW Policy in Congestion Pricing section:*** Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.
☐ **Equity** ☐ **Safety** ☐ **Climate** ☑ **Mobility**	Various mobility corridors identify congestion pricing for consideration.			***REVIEW:*** A comprehensive look at the corridor refinement planning work identified in Section 8.2: Planning and Programs is needed to recommend updates in a future round of review.

List of definitions for the new congestion pricing section of Chapter 3:

Congestion Pricing: Motorists pay directly for driving on a particular roadway or for driving or parking in a particular area. Congestion Pricing includes using variable road or parking tolls (higher prices under congested conditions and lower prices at less congested times and conditions). Congestion pricing has been demonstrated to be effective in encouraging drivers to change their behaviors by driving at different times, driving less, or taking other modes. As a result, congestion pricing can reduce VMT and greenhouse gas emissions.

Road User Charge (VMT): Motorists are charged for each mile driven. A road user charge is often discussed as an alternative to federal, state, and local gas taxes which have become less relevant to the user-pays principle as more drivers switch to fuel efficient or electric vehicles.

Cordon Pricing: Motorists are charged to enter a congested area, usually a city center. Cordon pricing can include flat or variable rate fees.

Parking Pricing: Drivers pay to park in certain areas. Parking pricing may include flat, variable, or demand-responsive fee structures. Demand-responsive pricing involves periodically adjusting parking fees to match demand, this can be paired with technology which helps drivers find spaces in underused and less costly areas.

Tolling (Roadway Pricing): Motorists are charged to drive on a particular roadway. Tolling can be assessed as a flat rate toll, or the toll can vary by time of day and/or vehicle type. Tolling that varies by time of day can follow a set toll schedule, or the toll rate can be continually adjusted based on traffic conditions.

Flat Rate Toll: A fee charged by a toll facility operator in an amount set by the operator for the privilege of traveling on said toll facility. Tolling is a user fee system for specific infrastructure such a bridges and tunnels. Toll revenues are used for costs associated with the tolled infrastructures. This tool is used to raise funds for construction, operations, maintenance and administration of specific infrastructure.

Variable Rate Tolling/Pricing: With this type of pricing, a variable toll schedule is set so that the toll is higher during peak travel hours and lower during off-peak or shoulder hours. This encourages motorists to use the roadway during less-congested periods and allows traffic to flow more freely during peak times. Peak toll rates may be high enough to guarantee that traffic flow will not break down, thus offering motorists a reliable and congestion-free trip in exchange for the higher peak toll.

Dynamic Tolling/Pricing: Tolls are continually adjusted according to traffic conditions to maintain a free-flowing level of traffic. Under this system, prices increase when the tolled lane(s) get relatively full and decrease when the tolled lane(s) get less full. The current price is displayed on electronic signs prior to the beginning of the tolled section. This system is more complex and less predictable than using a fixed-price table, but its flexibility helps to consistently maintain the optimal traffic flow. Motorists are usually guaranteed that they will not be charged more than a pre-set maximum price under any circumstances.

Section 129: Section 129 of Title 23 of the U.S. Constitution provides the ability to toll Federal-aid highways in conjunction with construction, reconstruction, or other capital improvements. Flat rate tolling and pricing strategies are authorized.

Value Pricing Pilot Program: Oregon is a participant in the FHWA Value Pricing Pilot Program (VPPP). The VPPP was established in 1991 (as the Congestion Pricing Pilot Program) to encourage implementation and evaluation of value pricing pilot projects to manage congestion on highways through tolling and other pricing mechanisms. While the program no longer actively solicits projects, it can still provide tolling authority to State, regional or local governments to implement congestion pricing applications. See https://ops.fhwa.dot.gov/congestionpricing/value_pricing/ for more detail.

Figure 1 Table from Page 8-9 of RCPS

Table 2 Steps to Consider when Planning for Pricing

TransForm's Pricing Roads, Advancing Equity Five Steps	NCHRP Tolling Assessment Steps	GARE Racial Equity Toolkit Steps & Questions	City of Portland Racial Equity Toolkit Worksheet Steps
1. Identify Who, What, and Where	1. Frame the Project 2. Identify the Applicable Requirements Governing Decisions 3. Recognize the Relevant Decision-Makers and Stakeholders	1. Proposal: What is the policy, program, practice, or budget decision under consideration? What are the desired results and outcomes? 2. Data: What's the data? What do the data tell us? 3. Community engagement: How have communities been engaged? Are there opportunities to expand engagement?	1. Set Equitable Outcomes 2. Collect and Analyze Data 3. Understand the Historical Context 4. Engage those most Impacted
2. Define Equity Outcome and Performance Indicators	4. Scope Approach to Measure and Address Impacts	*See #1 "Proposal" above*	*See # 1 "Set Equitable Outcomes" above*
3. Determining Benefits and Burdens	5. Conduct Impact Analysis and Measurement	4. Analysis and strategies: Who will benefit from or be burdened by your proposal? What are your strategies for advancing racial equity or mitigating unintended consequences?	*See #2 "Collect and Analyze Data" above*
4. Choose Programs that Advance Transportation Equity	6. Identify and Assess Mitigation Strategies	*See #4 "Analysis and Strategies" above*	5. Develop Racially Equitable Strategies and Refine Outcomes 6. Implement Changes
5. Provide Accountable Feedback and Evaluation	7. Document Results for Decision Makers and the Public 8. Conduct Post-Implementation Monitoring	5. Accountability and communication: How will you ensure accountability, affordability, communicate, and evaluate results? 6. Implementation: What is your plan for implementation?	7. Evaluate/ Accountability/ Report Back

Figure 2 Table from Page 15 of RCPS

REVENUE INVESTMENT EQUITY MATRIX	
INVESTMENT STRATEGY	***EQUITY IMPACTS***
Road expansion	Does not add more affordable options.
Mix of road expansion and transit	Some drivers can shift to new, more affordable modes. Transit users also benefit.
Transit, walking, and bike infrastructure with targeted carpool, vanpool, and new mobility options where needed	Allows greater shift to more affordable and sustainable modes.
Transit, walking, and bike infrastructure with an **intensive focus on vulnerable communities**	Significant expansion of commute options and a reduction in user costs (if fares are reduced on transit and other mobility options).

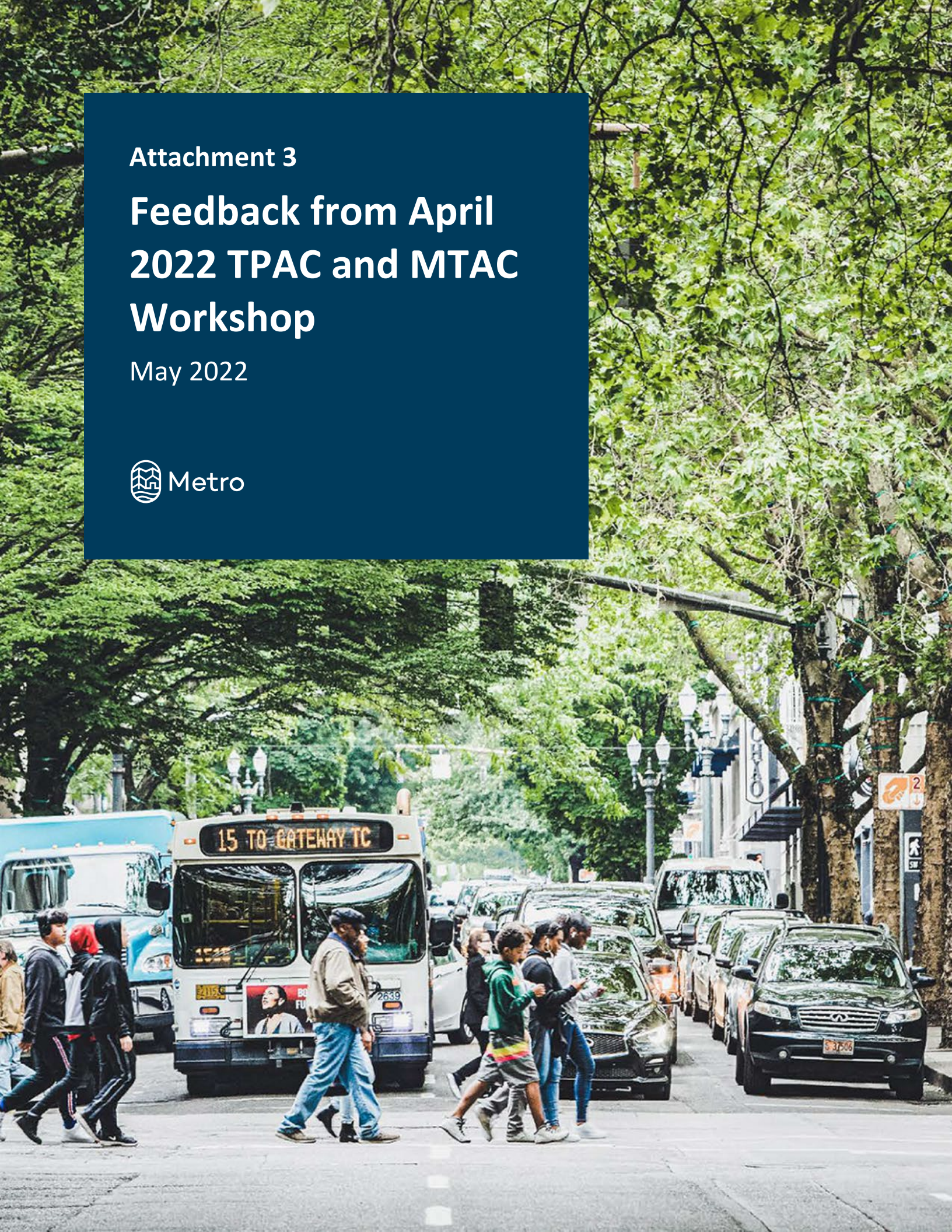
Source: TransForm

Attachment 3

Feedback from April 2022 TPAC and MTAC Workshop

May 2022

Metro



1. SUMMARY OF FEEDBACK FROM THE APRIL 20, 2022 TPAC AND MTAC WORKSHOP

Updating Current Elements of the 2018 RTP for Congestion Pricing

What We Heard

- The RTP should include a new section that addresses congestion pricing while also integrating it into other relevant policy and goal areas.
- Consider adding pricing language to additional RTP goals, objectives, policies, and strategies not currently identified in **Attachment 1 - Metro Regional Transportation Plan – Congestion Pricing Policy Overview April 2022** (from the April 20, 2022 TPAC and MTAC Workshop).
- The different types of pricing and terminology need to be defined clearly.
- The current definition of congestion pricing as a whole needs to be updated and should include a greater focus on demand management and VMT reduction.
- The goals and objectives of pricing should be explicit, and the desired outcomes should be clear. These should touch on the following items:
    - Demand management
    - Reduce VMT
    - Reduce diversion on local roadways
    - Improve reliability and efficiency of system
    - Improve mobility
    - Reduce greenhouse gas emissions
    - Induce mode shift
    - Trip reduction
    - Safe and reliable travel
    - System completeness
- Freight movement in relation to pricing should be addressed.
- The connection between pricing and land use should be made clear. Pricing can support the 2040 growth areas and will have an impact on future land use.
- Update Table 3.10 TSMO Strategies to address congestion pricing.
- A distinction should be made between reducing speeds on local streets and priced highway facilities. This refers to language in the current Policy 4 under the Safety and Security Policies 3.2.1.4.
- Include connections to the CFEC parking work.
- Strengthen the connection between pricing and economic impacts and shared prosperity and include this in project analysis.

- Address the federal and financial requirements and limitations regarding pricing and pricing revenue reinvestment.

How / When We're Addressing

- A new section will be added to the 2023 RTP that focuses on congestion pricing. This new section will include:
    - updated definition of congestion pricing
    - definition of terms
    - goals and desired outcomes of congestion pricing
    - crosswalk table that identifies how congestion pricing impacts RTP goals
    - discussion related to mode shift, economic impacts, freight movement, land use, and other work currently underway or recently completed including CFEC parking work, the Oregon Highway Plan, federal pricing programs, ODOT tolling, and others
    - Summary of constitutional limitations on revenue. Description of potential revenue opportunities and limitations under Article IX section 3a of the Oregon Constitution.
- A number of existing RTP goals, objectives, and policies will be updated to include language related to congestion pricing; see **Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022**.
- Metro staff will further consider whether it is appropriate to update language related to goals, objectives, and policies in **Table 1: Additional RTP Items to Consider for Congestion Pricing Language Update**, below.

Addressing Program Design

What We Heard

- Pricing should directly support mode shift by expanding the availability and viability of alternative modes and investments should be prioritized based on their ability to support this. Transit-supportive elements should be a focus.
- Revenue reinvestment should not support additional road capacity but rather be invested in projects the support the RTP goals, equity, mode shift, expanding transit service, and the negative impacts of pricing such as diversion and safety.
- Technologies and pricing mechanisms need to be integrated across programs and agencies and incorporated with other system management tools.
- There needs to be policies and mechanisms in place that set up a system for initial and continued assessment, review, and adjustment. Effectiveness, outcomes, benefits, burdens, and air quality should be analyzed.
- It is important to get political and public acceptance, especially from historically marginalized communities.

- Language about the impacts of pricing on vulnerable populations and tactics for mitigating harm needs to be a central focus. Further, pricing policies should define essential components and analysis that pricing projects must include to address equity. Considerations for equity should include:
    - Low-income, elderly, disabled
    - Progressive fee structure
    - Exemptions and subsidies
    - Integration with existing programs like TriMet's low-income fare program
    - Engage with historically marginalized communities, particularly communities of color
    - Point policies to the Equitable Mobility Framework and some of the key elements of the Transform report, Oregon Toll Program's Equity Framework
- Flexibility at the project level is important. This could include more flexibility in assessing investment mixes as they relate to equity or allowing implementers to submit alternative performance measure tools to demonstrate how an innovative idea supports desired outcomes.

How / When We're Addressing

- Appropriate existing goals, objectives, and policies have been updated; see **Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022**.
- New policies have been created to address additional items; see **Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022**..
- Supporting policy language will be included in future updates that addresses these items in more detail, including specific equity elements.

Equitable Finance Strategy

What We Heard

Include congestion pricing in the RTP Equitable Finance Strategy.

How / When We're Addressing

Congestion pricing is being considered as a part of the current work related to equitable finance and will be included in the Equitable Finance Strategy.

When to Consider Pricing

What We Heard

Clarify the relationship between pricing and existing project evaluation, including the order and criterion for when pricing should be evaluated as an option in the region.

How / When We're Addressing

Regional Motor Vehicle Network Policies (3.5) Policy 12 will be updated to clarify congestion pricing and additional supportive policy elements, to come in future updates, will provide additional guidance.

Mobility Corridors

What We Heard

The Mobility Corridors section needs a refresh to clarify how corridors should be used and how to include considerations for pricing.

How / When We're Addressing

A comprehensive look at the corridor refinement planning work identified in Section 8.2: Planning and Programs is needed. This work will be done in the future, as part of the 2023 RTP update.

2. ADDITIONAL GOALS, OBJECTIVES AND POLICIES TO BE CONSIDERED

Table 1 Additional RTP Items to Consider for Congestion Pricing Language Update

Item	Feedback
Goal 1 (Vibrant Communities)	• Connect to land use strategies • Objective 1.4 Access to Community Places ○ This objective is relevant to congestion pricing within the context of demand management, alternative availability, and the evaluation of diversion impacts. It could also be a performance measure consistent with RCPS.

Goal 2 (Shared Prosperity)	• Connect to land use strategies
	• Objective 2.3 (Access to Jobs and Talent)
	  ○ Possible performance measure consistent with RCPS.
	• Objective 1.4 (Access to Community Places)
	  ○ This speaks to the POEM discussion about not wanting to burden low-income households with additional congestion pricing costs. This is an Equity bullet addition in the matrix.
	  ○ This language appears to conflict with the concept of congestion pricing. Consider updating or clarifying objective.

Goal 3 (Transportation Choices)	• All Objectives • This is a coordinated land use, transportation and transportation management objective and gets at the POEM intent of using pricing to manage the system to get at active transportation modes and reducing VMT

	• Objective 3.1 (Travel Choices)
	  ○ Demand pricing is a form of system management. Pricing should therefore measurably advance Objective 3.1.
	  ○ If I'm not mistaken, the I-205 toll project was previously anticipated to only result in very small modal shift. I wonder if this objective could explore strategies for increasing voluntary mode shift among users.

Goal 4 (Reliability and Efficiency)	• Objective 4.3 (Travel Information) ○ This might not be the correct place, but we should probably address how wayfinding platforms offer toll-free routes and the impact that this practice might have on diversion.

Goal 5 (Safety and Security)	• Objective 5.1 (Transportation Safety)
	  ○ This relates back to short- and long-term diversion and our safe system approach. How to we factor user error into the design of pricing projects, diversion mitigation, and helping people adjust to new infrastructure?
	• Objective 5.3 (Preparedness and Resiliency)
	  ○ Reduce the vulnerability of regional transportation infrastructure to natural disasters, climate change and hazardous incidents, through potential reinvestment of pricing revenues (though completing multimodal networks and investing in low-income exemptions should be higher investment priorities for pricing revenues).

Goal 7 (Healthy People)	• Objective 7.2 (Clean Air) ○ Air quality impacts of congestion pricing
Goal 9 (Equitable Transportation)	• Objective 9.1 (Transportation Equity) and Objective 9.2 (Barrier Free Transportation) ○ This may be an appropriate place to contemplate how pricing projects accommodate people who experience hardship. How do we price equitably? What does equitable tolling mean in this context? What if pricing is proposed in an area that is predominantly characterized by racial diverse communities or households experiencing economic hardship? What about unbanked populations and their barriers to using the system?
Goal 10 (Fiscal Stewardship)	• Objective 10.2 (Sustainable Funding) ○ This language feels like a beautiful nexus for contemplating how pricing projects approach accountability, financial transparency, project longevity, and growth consistent with the 2040 Vision.
Goal 11 (Transparency and Accountability)	• Objective 11.3 (Coordination and Cooperation)

Appendix L: Congestion Management Process	• Reference Table 3 for other goals and objectives that a pricing approach focused on demand management and mode shifting connects to.
Regional Freight and Vision Policy	Add congestion pricing
Regional Transportation Equity Policies (3-18)	• Consider Policy 3 as it relates to prioritizing investments that eliminate disparities and barriers for historically marginalized communities, particularly communities of color and people experiencing economic hardship. • Consider Policy 7 on supporting family-wage job opportunities and a diverse construction work force. Wouldn't this be in alignment with the construction career pathways initiative undertaken by Metro and ClackCo?
Climate Smart Strategy Policies (3.2.3.2)	• Consider Policy 1, Implement adopted local and regional land use plans. o The housing crisis has demonstrated how interconnected our land use and transportation systems are. We shouldn't be afraid to dialogue about how pricing fits within the landscape of needs to fund infrastructure in expansion areas or unlocking land for new jobs and housing. • Consider Policy 3, Make biking and walking safe and convenient. o We need complete routes for short-distance trips (modal shift feasibility
Transportation preparedness and resilience (3.2.3.5)	• Specifically this bullet point: "Optimize operations and maintenance practices that can help lessen impacts on transportation from extreme weather events and natural disasters. Examples include more frequent cleaning of storm drains, improved plans for weather emergencies, closures and rerouting, traveler information systems, debris removal, early warning systems, damage repairs and performance monitoring." o Our pricing strategy must contemplate: ▪ What happens if pricing infrastructure (e.g., toll gantries, parking meters) must be serviced? ▪ What if we experience severe weather, and priced infrastructure is the safest route/directed detour/evacuation line? How do we communicate relevant information to the public? Will operators exempt users from the fee? ▪ How do we protect priced infrastructure from weather anomalies or security threats?
Safety and Security Policies (3.2.1.4)	• Consider Safety Policy 3, Prioritize investments that benefit people with higher risk of being involved in a serious crash, including people of color, people with low incomes, people with disabilities, people walking, bicycling, and using motorcycles, people working in the right-of-way, youth and older adults. • Consider 3.2.1.4 Safety and security policies, Policy 5, Make safety a key consideration in all transportation projects, and avoid replicating or exacerbating a known safety problem with any project or program. (3-9)

	• Consider Policy 6, Employ a Safe System approach and use data and analysis tools and performance monitoring to support data-driven decision-making. This should inform our mitigation approach and mindset.
Regional Vehicle Motor Network Policies (3.5)	• Consider Policy 2, Use the Congestion Management Process, Regional Mobility Policy, safety and bike and pedestrian network completion data to identify motor vehicle network deficiencies. Our approach to pricing must be sensitive to areas that do not have travel alternatives and how underdeveloped active transportation systems affect diversion. • Consider Policy 3, Actively manage and optimize capacity on the region's throughway network forn longer, regional, statewide and interstate travel. This is fundamentally what demand pricing is doing – trying to optimize capacity on existing facilities.
Emerging Technology Policies (3.2.4.3)	• Consider Policy 2, Use emerging technology to improve transit service, provide shared travel options throughout the region and support transit, bicycling and walking. This is relevant to our diversion mitigation, as well as encouraging congestion pricing, as a nascent tool, to ensure adequate travel alternatives are in place before implementation.
Regional Transit Network Vision and Policy (3.6)	• As we increase need for transit investment to support travel options other than tolled travel • Will respond in future updates. There needs to be alignment between the Regional Transit Network Policies (page 3-32 of 2018 RTP) and the region's pricing policies to truly provide alternatives to manage demand.

3. OTHER FEEDBACK

Other feedback was received during this process and will be shared with additional Metro staff as appropriate. This feedback related to technology and data sharing policies, applications to help drivers understand congestion conditions and pricing, new development within the UGB, addressing safety design issues, adding information into Chapters 5 and 8, CFEC rulemaking and modeling, additional analysis or methodological updates to the RCPS as well as the regional travel demand model, concerns about new wayfinding tools, and approaches to optimize performance of existing projects.

Metro

TPAC and MTAC Feedback

PBOT

May 2022

Attachment 1 - Metro Regional Transportation Plan – Congestion Pricing Policy Overview April 2022 – For TPAC/MTAC Feedback

This document provides an overview of existing policies from the 2018 RTP that are relevant to congestion pricing, along with related findings and recommendations from Metro's Regional Congestion Pricing Study (RCPS), as well as supportive language from the RCPS and the Expert Review Panel that was convened in April 2021 to review the RCPS. The first column in the table below identifies which one or more of the four RTP priorities (Equity, Safety, Climate, Mobility) relate to each policy.

Feedback is requested by May 4, 2022. Please send to alex.oreschak@oregonmetro.gov. There is space within this document to provide feedback on each 2018 RTP element, or to provide general thoughts at the bottom of the table. If easier, sending an email with comments in the email body or as a separate attachment is also acceptable.

Additionally, below are questions that Metro staff asked TPAC and MTAC at the April 20, 2022 workshop to consider as they review this information: [we address these in the text box you created below]

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	TPAC/MTAC Feedback
☐ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Goal 4: Reliability and Efficiency (2-16)** • **Objective 4.6 Pricing –**Expand the use of pricing strategies to manage travel demand to reduce VMT and encourage walking, biking,using transit and other shared trips and support additional development in 2040 Growth Areas.	**RCPS** • Define clear goals and outcomes from the beginning of a pricing program. The program priorities such as mobility, revenues, or equity should inform the program design and implementation strategies. Optimizing for one priority over another can lead to different outcomes. (pg. 84)	**Expert Review Panel** • Revenue reinvestment is single most important factor, but pricing is an expensive and difficult way to raise revenue. Pricing should be done for other goals, like congestion and reducing GHG emissions. **RCPS** • …identify and commit to equity indicators to assess the benefits and burdens of pricing. Measurable indicators can and should be established for both outcome equity (such as affordability, access to opportunity, community health) and process equity (community engagement) indicators. (pg. 9-10)	If framed correctly (around demand management), this could be a really key link that could ground the RCPS recommendation in this row with the RTP doing that more effectively. Connecting more strongly to the Congestion Management Process (with a key focus on why reducing VMT is essential to improving reliability) is another opportunity.

☑ **Equity**
☐ **Safety**
☐ **Climate**
☐ **Mobility**
	Regional Transportation Equity Policies (3-18)
	• **Policy 1**: Integrate consideration of equity into the planning implementation of transportation projects, programs, policies and strategies to comprehensively consider the benefits and impacts of transportation and eliminate negative impacts, disparities and barriers experienced by marginalized communities, particularly communities of color.
	• **Policy 2**. Ensure investments in the transportation system anticipate and minimize the effects of displacement and other affordability impacts on historically marginalized communities, with a focus on communities of color and people with low income.
	• **Policy 4**. Use inclusive decision-making processes that provide meaningful opportunities for communities of color, people with low income and other historically marginalized communities to engage and participate in the development and implementation of transportation plans, projects and programs.
	• **Policy 6**. Evaluate transportation plans, policies, programs and investments to understand how they address transportation-related disparities and barriers experienced by communities of color, people with low-income and other historically marginalized
		RCPS
		• Congestion pricing can benefit communities that have been harmed in the past, providing meaningful equity benefits to the region. However, if not done thoughtfully, congestion pricing could harm BIPOC and low-income communities, compounding past injustices. (pg. 85)
		• Conduct meaningful engagement and an extensive outreach campaign, including with those who would be most impacted by congestion pricing, to develop a project that works and will gain public and political acceptance. (pg. 85)
		• Recognize that benefits and impacts of pricing programs will vary across geographies. These variations should inform decisions about where a program should target investments and affordability strategies and in depth outreach. (pg. 84)
		• Carefully consider how the benefits and costs of congestion pricing impact different geographic and demographic groups. In particular, projects and programs need to conduct detailed analysis to show how to:
		  ○ maximize benefits (mobility, shift to transit, less emissions, better access to jobs and community places, affordability, and safety)
		  ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)
			Expert Review Panel
			• Co-creation process partnering with community-based organizations. Focus on organizations that represent region's low income and BIPOC communities
			  ○ Compensate people who are a part of this process.
			  ○ Participants should help shape goals and performance metrics, what defines success, help shape policy options, how they would make tradeoffs, help prioritize use of revenues
			• Look at outcomes – who pays and what is the distribution of benefits – make sure that providing a disproportionate benefit to most vulnerable communities.
			• Understand and consider ability to pay as part of the structure – progressive fee structure.
			• Study people who are spending over 50% of their income on housing.
			• Use of revenues – focus on improving access and options to the area that is congested/priced, especially improving options for those places that do not have great options today.
			• Ensure that revenues are being used to support the desired costs and benefits
			RCPS
			• See table in Figure 1
			• Selection of particular technologies and methodologies for pricing should consider impacts on different demographic and income groups in the region. Expensive or complex pricing methods may not only unfairly burden transportation disadvantaged travelers and create barriers to entry for them but could also cause these groups to be punitively treated as violators due to their lack of access to the proper technologies… For example, paying tolls should allow those without access to traditional banking services to be able to use alternative payment methods, such as cash payment kiosks at local stores, or to preload a pass account at a retail location. (pg. 75-76)
			• Improve equity outcomes by:
				While these equity policies still stand on their own, it does feel like some additional policy language around how to design pricing equitably would be valuable. As suggested by the graphic appended to the bottom of this document you may be considering, but can we point to the Equitable Mobility Framework and some of the key elements of the Transform report on more specific applications of equity to pricing?

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	TPAC/MTAC Feedback
	communities and the extent the disparities are being eliminated.		○ Reducing harm and increasing benefits if agencies are willing to focus engagement on historically impacted residents and other stakeholders traditionally at a disadvantage and ensure they have a role in decision making at every step in the process. (pg. 6) ○ Committing to targeted investments of net toll revenues for locally supported improvements such as improved transit infrastructure and services and traffic safety improvements. (pg. 6) ○ Exploring who pays and to what degree, and considering a suite of affordability programs such as rebates or exemptions for low-income drivers, a "transportation wallet", or other investments that address affordability. (pg. 6) • The biggest determinant of whether a congestion pricing program improves equity is how the program is designed—who benefits, how people are charged, and how revenue from congestion pricing strategies is spent (pg. 7) • With substantial community input and collaboration with representatives of impacted communities, agencies should gain consensus on equity definitions and to establish the equitable direction for the project, program, or study. (pg. 9) • Roadway-focused spending disproportionately benefit white people and those that have more means. In the Portland Metro area, people of color are more likely to rely on transit, walking, and carpooling. Nearly 20% of African American households, 14% of Latino households, and 13% of Asian households live without a car (Source: Metro 2018 RTP). In addition, racial minorities are four times more likely than whites to rely on transit for their work commute. Low-income people, disabled people, and seniors are also much more likely to rely on transit. Government provision of free roads and auto infrastructure acts like a matching grant, whereby those that can afford to own and operate a car are given the benefit. Those that cannot afford auto ownership or that are unable to drive, do not receive the same benefit. Transportation investments that focus on transit, walking, and biking infrastructure, especially if targeted to areas with concentrations of transportation disadvantaged groups can improve equity. Figure 2 (below) demonstrates equity impacts of different investment strategies (pg. 15)	
☐ **Equity** ☐ **Safety** ☑ **Climate** ☐ **Mobility**	**Climate Smart Strategy policies (3.2.3.2)** • **Policy 2.** Make transit convenient, frequent, accessible and affordable. • **Policy 5.** Use technology to actively manage the transportation system and ensure that new and emerging technology affecting the region's transportation system supports shared	**RCPS** • The success of a specific project or program is largely based on how it is developed and implemented requiring detailed analysis, outreach, monitoring, and incorporation of best practices. (pg. 85) • …projects and programs need to conduct detailed analysis to show how to:	**Expert Review Panel** • Build multimodal elements into program design. You can't mitigate your way out of an inequitable program design. • Incentivize mode shift. All aspects should be part of this, including use of revenues. ○ Provide and fund alternatives to driving ○ Commuter credits ○ Use revenues to provide funds for transit passes	Add policy statement(s) here that articulate that pricing should be designed and implemented to advance these other Climate Smart policies and to demonstrate achievement of the updated state-mandated VMT reduction goals for the RTP.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	TPAC/MTAC Feedback
	trips and other Climate Smart Strategy policy and strategies. • **Policy 6.** Provide information and incentives to expand the use of travel options. • **Policy 7.** Make efficient use of vehicle parking spaces through parking management and reducing the amount of land dedicated to parking. • **Policy 9.** Secure adequate funding for transportation investments that support the RTP climate leadership goal and objectives.	○ maximize benefits (mobility, shift to transit, less emissions, better access to jobs and community places, affordability, and safety) ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)	• Ideas for alternatives to driving and vehicle ownership that could be subsidized ○ Cash on transit card, ○ EV carshare, including to affordable housing sites ○ Transit passes ○ Discounted rideshare rides • The thing that really moves the needle on VMT reduction is auto ownership. How to encourage people to not need/want cars. Densify transit. • Subsidize the ongoing operation and maintenance of transit. • Small investments in striping bike lanes, pedestrian walkways, and similar things can help to solve the first/last mile between transit and key employment hubs. **RCPS** • Improve equity outcomes by: ○ Committing to targeted investments of net toll revenues for locally supported improvements such as improved transit infrastructure and services and traffic safety improvements. (pg. 6)	
☐ **Equity** ☑ **Safety** ☐ **Climate** ☐ **Mobility**	**Safety and Security Policies (3.2.1.4)** **Policy 4**. Increase safety for all modes of travel for all people through the planning, design, construction, operation and maintenance of the transportation system, with a focus on reducing vehicle speeds.	**RCPS** • Build equity, safety, and affordability into the project definition so a holistic project that meets the need of the community is developed rather than adding "mitigations" later. (pg. 85)	**RCPS** • Once indicators have been selected, agencies should conduct the necessary assessments to identify the extent to which the identified populations of concern are impacted by project or program alternatives. Special attention should be placed on travelers by geography, mode, and demographics of interest. (pg. 11) • In depth analysis with modeling and mapping can show the geographies where benefits and impacts are likely to occur with a project. This analysis can help project implementers to understand where to focus investments (and outreach) and what types of investments make sense to improve equity. (pg. 12) • Agencies and communities will need to strike a balance between affordability programs and the kinds of strategies that can best increase access to opportunity, mode shift, improve community health/safety, or other desirable outcomes. (pg. 12) • …resources should be provided to lower income communities and neighborhoods that are in the vicinity of roadways being considered in pricing scenarios. Some potential resources for these communities should include introducing programs to dedicate pricing revenues to affordability programs for low-income auto-users, public transit improvements, and bicycle and pedestrian improvements in communities faced with heavy congestion and health disparities. (pg. 21)	We recommend additional policy statement(s) in the Safety goal area articulating that pricing programs should aim to minimize the amount of VMT shifted to non-freeway routes. Ideal outcome: Reduce VMT on all freeways and roadways. Acceptable: Same VMT on the system. But keep vehicles on freeways given their limited access and lower exposure risk for non-driving people/vulnerable roadway users. We want to prevent against driver diversion onto local arterials and lower classified streets to avoid pricing. AVOID: Increased VMT on local arterials and lower classified roadways. This leads to greater exposure risk for people walking, biking, scooting, accessing transit, etc. We also recommend adding policy language referencing that reducing VMT, as well as travel speeds, also can lead to reducing fatalities, serious injuries, and crashes.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	TPAC/MTAC Feedback

☐ Equity
☐ Safety
☑ Climate
☑ Mobility
	Transportation Demand Management Policies (3.11)
	
	• **Policy 1** – Expand use of pricing strategies to manage travel demand and reduce VMT across the transportation system in combination with adequate transit service options and expanding safe bicycle and pedestrian networks.
	• **Table 3.10** Examples of TSMO strategies and investments
	
	The policy further defines the suite of pricing strategies as involving "*the application of market pricing (through variable tolls, variable priced lanes, area-wide charges or cordon charges) to the use of roadways in various locations at different times …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 and other associated impacts of vehicle travel, such as safety…..*"
	
	The policy also discusses ODOT work on congestion pricing at the time of the 2018 RTP's publication: *Through the end of 2018, ODOT conducted a feasibility analysis to explore the options available and determine how congestion (value) pricing could help ease congestion in the greater Portland area. Oregon's House Bill 2017, also known as Keep Oregon Moving, directs the Oregon Transportation Commission to develop a proposal for value pricing on I-5 and I-205 from the state line to the junction of the two freeways just south of Tualatin, to reduce congestion. The State Legislature directed the OTC to seek approval from the Federal Highway Administration no later than December 31, 2018. If FHWA approves the proposal, the OTC is required to implement value pricing. See Chapter 8 for more*
		RCPS
		• Congestion pricing can be used to improve mobility and reduce emissions. This study demonstrated how these tools could work with the region's land use and transportation system. (pg. 84)
		• projects and programs need to conduct detailed analysis to show how to:
		  ○ maximize benefits (mobility, shift to transit, less emissions, better access to jobs and community places, affordability, and safety)
		  ○ address negative impacts (diversion and related congestion on nearby routes, slowing of buses, potential safety issues, costs to low-income travelers, and equity issues). (pg. 84)
			Expert Review Panel
			• Incentivize mode shift. All aspects should be part of this, including use of revenues.
			  ○ Provide and fund alternatives to driving
			  ○ Commuter credits
			  ○ Use revenues to provide funds for transit passes
			• Ideas for alternatives to driving and vehicle ownership that could be subsidized
			  ○ Cash on transit card,
			  ○ EV carshare, including to affordable housing sites
			  ○ Transit passes
			  ○ Discounted rideshare rides
				Reconsider including "other routes" or provide more nuance explanation. We want to protect against diversion onto local arterials and lower classified streets to avoid pricing.
				
				May also need to vary pricing by days of the week in addition to time of day.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	TPAC/MTAC Feedback
	information about future planning and analysis of this strategy.			

☐ **Equity**
☐ **Safety**
☑ **Climate**
☑ **Mobility**
	Regional Motor Vehicle Network Policies (3.5)
	
	• **Policy 6** – In combination with increased transit service, consider use of value pricing to reduce VMT and raise revenue.
	• **Policy 12** – Prior to adding new motor vehicle capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority and value pricing, transit service and multimodal connectivity improvements have been implemented and evaluated to determine if additional capacity is justified.
	• **Table 3.7** Toolbox of strategies to address congestion in the region
	  ○ ***Emerging*: *Congestion Pricing Strategies***
	  ▪ *Areawide pricing*
	  ▪ *Peak Period Pricing*
	  ▪ *Managed Lanes*
	  ▪ *High Occupancy Toll Lanes*
	• **Appendix L:** Federal performance-based planning and congestion management process documentation
		RCPS
		• All eight pricing scenarios reduced daily vehicle miles traveled. The VMT C scenario provided the greatest reduction (approximately 7.5%), while the Parking A scenario showed the smallest reduction (approximately 0.9%) (pg. 49)
		• Six of the eight pricing scenarios showed a decrease in total vehicle hours of delay (approximately 7% to 39%). The two Cordon scenarios showed increases (approximately 5% to 7%). While the two Roadway scenarios showed the greatest decrease in freeway vehicle hours of delay (approximately 35% to 38%), they both also showed an increase in arterial vehicle hours of delay (approximately 6% to 29%) (pg. 52)
			RCPS
			• Leaders in the Metro region have long recognized the importance of pairing investments in transportation capacity building with travel demand management tools. The 2018 RTP identified congestion pricing as a high priority, high impact strategy (pg. 1)
			• Stockholm: The congestion pricing program has reduced traffic by 22% and greenhouse gas emissions by 14%. Program revenues have funded 18 new regional bus lines and 2,800 new regional park-and-ride spaces (pg. 82)
			• London: Prior to congestion pricing, traffic in central London averaged 2-5 mph. Since implementation, the average traffic speed has increased to 10 mph.17 London increased bus service in the pricing zone by 27%, improving transit reliability and travel times. As a result, bus ridership increased 38% in two years (pg. 82)
			• New York City: In 2019, New York City implemented a congestion zone surcharge on for-hire vehicles (like taxis, Uber and Lyft) in Manhattan as part of its phased approach to pricing. Future phases, planned for implementation in 2021, include a vehicle fee for crossing into a specified zone. Revenues collected from the program will be reinvested into capital transit projects, particularly in the city's subway system. (pg. 82)	

☑ **Equity** ☐ **Safety** ☑ **Climate** ☑ **Mobility**	**Emerging Technology Policies (3.2.4.3)** • **Policy 3.** Use the best available data to empower travelers to make travel choices and to plan and manage the transportation system. • **Policy 4**. Advance the public interest by anticipating, learning from and adapting to new development in technology.	**RCPS** • Coordinate with other pricing programs, including analysis of cumulative impacts and consideration of shared payment technologies, to reduce user confusion and ensure success of a program. (pg. 85)	**RCPS** • Selection of particular technologies and methodologies for pricing should consider impacts on different demographic and income groups in the region. Expensive or complex pricing methods may not only unfairly burden transportation disadvantaged travelers and create barriers to entry for them but could also cause these groups to be punitively treated as violators due to their lack of access to the proper technologies… For example, paying tolls should allow those without access to traditional banking services to be able to use alternative payment methods, such as cash payment kiosks at local stores, or to preload a pass account at a retail location. (pg. 75-76) • Deploying existing technologies will likely be less expensive to implement and reduce scheduling risks compared to deploying emerging or in-development technologies. Implementing existing technologies does need to be weighed against the risk of the technology becoming obsolete in the near future or being vulnerable to future market disruptors. (pg. 75)	Is this policy just referring to ITS emerging technologies or also pricing tools? More crosswalk and language connecting the two may be needed here. That said, I think they could be used together to better inform people's decisions. Ideally before they pick up the keys and leave the front door. Imagine an app that helps you check congestion/delay conditions, variable toll prices, travel times/arrival times for driving versus transit, when the next bus is coming. And other mode options too. I think Google Maps could with some more coding.

Outcome	Existing *Relevant* Policies in 2018 RTP	Findings and Recommendations from RCPS	Supportive language from RCPS and Expert Review Panel	TPAC/MTAC Feedback
			• Keeping in mind coordination with other pricing programs will go a long way towards creating a more seamless customer experience for travelers. In particular, ODOT is planning to implement tolling on Interstates in the Portland region, so adopting common technologies and payment systems may be advantageous in order to reduce duplicative efforts and provide savings through economies of scale. (pg. 75)	
☐ **Equity** ☐ **Safety** ☐ **Climate** ☑ **Mobility**	Various mobility corridors identify congestion pricing for consideration.			

Additional thoughts from TPAC/MTAC Members:

Top-line considerations Portland would emphasize prior to responding to more specific prompts below and in matrix:

As the pricing expert panel noted, being clear about the outcomes we want to achieve with pricing tools is core to success, so it is imperative that the RTP pricing policy help establish that clearly.

If we're going to advance all of our goals, we need to be sure to define the core goal of pricing as demand management – which itself must clearly mean VMT reduction not "congestion management," which is essentially idling reduction and would be measured by traffic speeds vs travel volumes and mode splits.

Given the CFEC rules' updated requirement to have this and future RTPs demonstrate significant VMT reductions (30%/capita by 2045 for this RTP), we should also more explicitly link the RTP congestion pricing policy to achievement of these state required targets and incorporate that target as part of the rate setting work ODOT will be pursuing in the future. This should be an explicit focus of the RTP's congestion pricing strategy.

Are these the right policy areas to evaluate? Are we missing any important policy topics or gaps?

Largely, yes, though we would suggest adding Goals and related Objectives and Policies connected to land use strategies in Vibrant Places (Goal 1), particularly around Centers and Corridors, to Shared Prosperity (Goal 2) objectives, and to Transportation Choices (Goal 3) and around Healthy People (Goal 7) to address air quality impacts (such as Objective 7.2)

One potential model for this is in Appendix L's Table 3. *2018 RTP Congestion Management Process Related Goals and Objectives*, which could provide a good starting place for the full range of relevant goals and objectives that a pricing approach focused on demand management and mode shifting connects to (as the CMP also supports to reduce/eliminate the need for expanded capacity). This also points to the opportunity to strengthen the connection between pricing and the benefits to business (especially but not exclusively trade-driven business) of having a more reliable transportation system.

Existing RTP Goals/Objectives to add:

- All Objectives under Goal 2, and specifically Objective 2.4 Transportation and Housing Affordability –This speaks to the POEM discussion about not wanting to burden low-income households with additional congestion pricing costs. This is an Equity bullet addition in the matrix below.
- All 3 Objectives under Goal 3 should be included – this is a coordinated land use, transportation and transportation management objective and gets at the POEM intent of using pricing to manage the system to get at active transportation modes and reducing VMT.
- Goal 5 and specifically Objective 5.3 Preparedness and Resiliency – Reduce the vulnerability of regional transportation infrastructure to natural disasters, climate change and hazardous incidents, through potential reinvestment of pricing revenues (though completing multimodal networks and investing in low-income exemptions should be higher investment priorities for pricing revenues).

What specific policy language would you want to see to update the existing language or address gaps?

See specific suggested edits in the matrix language.

In addition, we would offer the following language, building on language under discussion at the EMAC table currently that may be appropriate for the communications approach) we propose below to highlighting and articulating Congestion Pricing Strategy (as well as for the other major policy moves):

To effectively manage congestion, congestion pricing must be designed for demand management, meaning prioritizing reducing single occupant/passenger vehicle demand for the roadways (both the highway and surrounding areas) and increasing the use of transportation options such as transit, biking, walking and carpooling and vanpooling. This will be critical for tolling to help to reduce carbon emissions and air quality impacts and provide improved mobility options and improve the lives of those living near or traveling on the highways, especially historically affected and underserved populations.

Demand management, with the goals described above, should be the foundation for how we study and design toll rate setting. For the region to be able to meet the VMT reduction requirements under CFEC rules, we must price tolls at a level that reduces the amount of vehicle miles travelled (initially and with adjustments over time based on performance monitoring) and ideally eliminates the need for additional highway travel lanes in these areas.

How do we balance the need to respond to and help shape existing projects while at the same time, providing a broad blueprint on pricing that can address future projects that may take different approaches to applying pricing to our system?

In order to meet these VMT reduction targets being established by the CFEC rulemaking, modeling Portland has done with Metro and ODOT using the Vision Eval tool to evaluate progress towards these targets shows clearly that we must expect existing projects to evaluate and demonstrate their performance relative to those outcomes. In addition, ODOT should seek feedback from EMAC, JPACT, and the RTPC on ways of optimizing the performance of existing projects.

In addition, Metro should use the RTP update (and potentially also the technical work for the RMPP) to build upon the RCPS and project-specific analysis done to date to assess the impact of multiple facility-specific tolling projects advancing in combination of with evaluation of other pricing tools to understand how that would impact system and project level performance. In particular, assessing area-wide pricing together with facility tolling seems like a gap in the current RCPS, potentially in combination with parking pricing, which is also identified in the CFEC rules and the RTP workplan. This combined tool approach is also likely to show different diversion response to pricing.

Do we still primarily want pricing to be used to manage congestion and encourage mode shift, or are there other goals and objectives that the RTP should be placing more emphasis on in relation to pricing?

By using pricing to manage demand (meaning VMT reduction) and encourage mode shift, we can also use pricing to help advance multiple other goals in the RTP (in the same way that focusing on VMT reduction as a primary standard in the Regional Mobility Policy would most completely addresses the suite of safety, climate and mobility goals, and can/should advance equity when done right).

Should the existing definition of congestion pricing in the 2018 RTP (Transportation Demand Management Policies (3.11)) remain, or be replaced/updated, and whether this definition or another, is this is the right place for pricing to be defined?

While we strongly support defining congestion pricing policy to achieve demand management, PBOT is concerned that the approach to pricing in the current RTP risks this important strategy being buried in the current structure, including if we were to only include it in the Travel Demand Management policies. We also see value in ensuring that pricing specific policy language is also included in the relevant Goal areas, Objectives and Policies, while wanting to ensure that the reader and user of the document can clearly understand what the region's desired approach to congestion pricing is without having to navigate a suite of individual policies across the document.

PBOT recommends considering a "Yes and" approach to address this dynamic: Develop a unified description of the use and purpose of the region's Congestion Pricing Strategy in this RTP (perhaps in Chapter 2 as part of the Shared Vision section and/or in Chapter 3 as an introduction to key policy moves in this RTP). This could be accompanied by a summary of the Goals, Objectives and Policies (and other RTP elements, such as the financial strategy) that enact that Strategy in the RTP. This would seem to balance the value of a clear and cohesive articulation of the Strategy, with a clearly trackable guide to where and how it is embedded in the document and process to give it the appropriate legal standing and actionability.

PBOT would further recommend considering this approach for all of the major policy updates/additions being addressed in this RTP (for which policy briefs are being developed), including the Regional Mobility Policy, Safe and Healthy Urban Arterials, High Capacity Transit Strategy and Climate Smart Strategy). In addition, we see an opportunity to be able to explain how these policies work together to help achieve the region's adopted outcomes (recognizing that could likely use some more regional discussion to flesh out). For example, a Mobility Policy focusing on moving people and goods rather than vehicles can be supported by the demand management effects of pricing while also generating revenues to reinvest in our Safe and Healthy Urban Arterials and High Capacity Transit Strategies. All of these strategies together can show how the Climate Smart Strategy can demonstrate meeting state required VMT reductions.

Can or should there be a more consistent way for mobility corridors to include consideration of pricing, and can or should there be additional considerations in Chapter 8 beyond whatever pricing language ends up within other chapters or sections of the RTP?

Consideration of pricing's ability to manage demand and support mode shift should be clearly included as part of the region's Congestion Management Process and could be applied at a mobility corridor scale in conjunction with project and system evaluation.

As we believe is intended, PBOT would also highlight the importance of integrating pricing into the RTP financial strategy and to be testing various pricing assumptions in conjunction with the model runs on project (and program/policy) scenarios (financially constrained/strategic) to help evaluate how well the RTP performance relative to required state VMT reduction goals and other RTP outcomes/performance measures.

Figure 1 Table from Page 8-9 of RCPS

Table 2 Steps to Consider when Planning for Pricing

TransForm's Pricing Roads, Advancing Equity Five Steps	NCHRP Tolling Assessment Steps	GARE Racial Equity Toolkit Steps & Questions	City of Portland Racial Equity Toolkit Worksheet Steps
1. Identify Who, What, and Where	1. Frame the Project 2. Identify the Applicable Requirements Governing Decisions 3. Recognize the Relevant Decision-Makers and Stakeholders	1. Proposal: What is the policy, program, practice, or budget decision under consideration? What are the desired results and outcomes? 2. Data: What's the data? What do the data tell us? 3. Community engagement: How have communities been engaged? Are there opportunities to expand engagement?	1. Set Equitable Outcomes 2. Collect and Analyze Data 3. Understand the Historical Context 4. Engage those most Impacted
2. Define Equity Outcome and Performance Indicators	4. Scope Approach to Measure and Address Impacts	*See #1 "Proposal" above*	*See # 1 "Set Equitable Outcomes" above*
3. Determining Benefits and Burdens	5. Conduct Impact Analysis and Measurement	4. Analysis and strategies: Who will benefit from or be burdened by your proposal? What are your strategies for advancing racial equity or mitigating unintended consequences?	*See #2 "Collect and Analyze Data" above*
4. Choose Programs that Advance Transportation Equity	6. Identify and Assess Mitigation Strategies	*See #4 "Analysis and Strategies" above*	5. Develop Racially Equitable Strategies and Refine Outcomes 6. Implement Changes
5. Provide Accountable Feedback and Evaluation	7. Document Results for Decision Makers and the Public 8. Conduct Post-Implementation Monitoring	5. Accountability and communication: How will you ensure accountability, affordability, communicate, and evaluate results? 6. Implementation: What is your plan for implementation?	7. Evaluate/ Accountability/ Report Back

Figure 2 Table from Page 15 of RCPS

REVENUE INVESTMENT EQUITY MATRIX

INVESTMENT STRATEGY	*EQUITY IMPACTS*
Road expansion	Does not add more affordable options.
Mix of road expansion and transit	Some drivers can shift to new, more affordable modes. Transit users also benefit.
Transit, walking, and bike infrastructure with targeted carpool, vanpool, and new mobility options where needed	Allows greater shift to more affordable and sustainable modes.
Transit, walking, and bike infrastructure with an **intensive focus on vulnerable communities**	Significant expansion of commute options and a reduction in user costs (if fares are reduced on transit and other mobility options).

Source: TransForm

Metro

TPAC Feedback

TriMet

June 2022

Draft Congestion Pricing Policy Language Worksheet

This worksheet provides space for TPAC members to provide feedback on the proposed congestion pricing policy language that was shared at the June 3, 2022 TPAC meeting. The proposed policy language is included in Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022, which was shared in the June 3, 2022 TPAC packet and is provided as an attachment to this worksheet for reference.

Feedback is requested by end of day on Friday, June 17, 2022. Please return this worksheet to alex.oreschak@oregonmetro.gov and copy marie.miller@oregonmetro.gov.

Agency name: TriMet

Do you agree with the approach to provide a separate section in Chapter 3 for congestion pricing?

Yes

Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?

I think there is a need to ensure that the onus does not fall on the transit provider to expand transit service in corridors impacted by pricing. This could be achieved by language referencing that the Project sponsor must work with the transit provider on ongoing revenue needs and coordination with the High Capacity Transit Plan priorities. Draft language used by EMAC on this topic in their report: Work with transit agencies to support equitable investments with toll revenues. The Finance chapter of the RTP, or the new Congestion Pricing section, should also include language that investments from pricing revenue must adequately fund multimodal alternatives to using priced roadways in the area of project impact.

Draft Congestion Pricing Policy Language Worksheet

What specific changes would you like to see to improve the proposed policy language?

Regional Motor Vehicle Network Policies (3.5) Policy 6 – suggest a revision in this policy update or elsewhere to reflect that demand and level of viability for transit investments should be tied to HCT Update and revenue availability:

When considering use of pricing to manage traffic congestion and reduce VMT as an alternative to adding one or more lanes to throughways, Project Sponsor will work with transit provider to ensure ongoing revenue is available for transit improvements supported by the High Capacity Transit Strategy.

Transportation Demand Management Policies (3.11) – as noted in my verbal comments, please define transit-supportive elements in this policy in the definitions section. Is there any link to land use in this definition?

I also would add stronger language to policy 1 that includes reference to what the pricing revenue should support – though I'm not certain if this is the right place for this reference. Pricing backed-bond financed projects should include a range of multimodal investments to include addressing diversion and leading to modeshift.

Congestion pricing definition: The definition should be tied to the overall RTP goal of reducing VMT, not just note that congestion pricing can reduce VMT**.** For example instead of the last sentence of definition on page 9 I would replace with something like: Congestion pricing programs must be designed to address the goals of the Regional Transportation Plan.

Metro

TPAC Feedback

Washington County

June 2022

Draft Congestion Pricing Policy Language Worksheet

This worksheet provides space for TPAC members to provide feedback on the proposed congestion pricing policy language that was shared at the June 3, 2022 TPAC meeting. The proposed policy language is included in Attachment 1: Metro Regional Transportation Plan – Draft Congestion Pricing Policy Language June 2022, which was shared in the June 3, 2022 TPAC packet and is provided as an attachment to this worksheet for reference.

Feedback is requested by end of day on Friday, June 17, 2022. Please return this worksheet to alex.oreschak@oregonmetro.gov and copy marie.miller@oregonmetro.gov.

Agency name: __Washington County

Do you agree with the approach to provide a separate section in Chapter 3 for congestion pricing?

A separate section could be good for definitions… but it could lead to policy/goal redundancies since congestion pricing is a tool to achieve all of the other goals and not a goal in and of itself. So a qualified support – unless it is redundant.

Are there still gaps in the proposed congestion pricing policy that you would like to see addressed?

Yes. The role of pricing to raise revenue for needed investments is missing. This could be added to Regional motor vehicle Policy policy 6 consider use of pricing strategies to fund investments needed to improve regional mobility (eg IBR). Regional motor vehicle polices - policy 12 – needs more clarity on what it means to 'demonstrate …that system and demand management strategies… have been met' We've had similar language for years – but now we may reference it more – and who has to demonstrate it and who judges. Safety and diversion are separate policies – policy 4 should be to reduce diversion from all throughways (not just priced, but especially due to pricing) Economic impacts are not referenced. As the equity impacts that are identified at the outset, economic impacts should also be identified and monitored – this could be impacts locally on businesses or at regional level with labor force access for example – or the increase cost of doing business with tolls. The equity policy adds affordability, which refers to housing/transportation, but not business costs

Draft Congestion Pricing Policy Language Worksheet

What specific changes would you like to see to improve the proposed policy language?

Transportation demand management policies policy 1 – drop the reference to 'including transit-supportive elements and increased access to transit." This is covered under investments in modal alternatives – doesn't add anything and sounds too specific

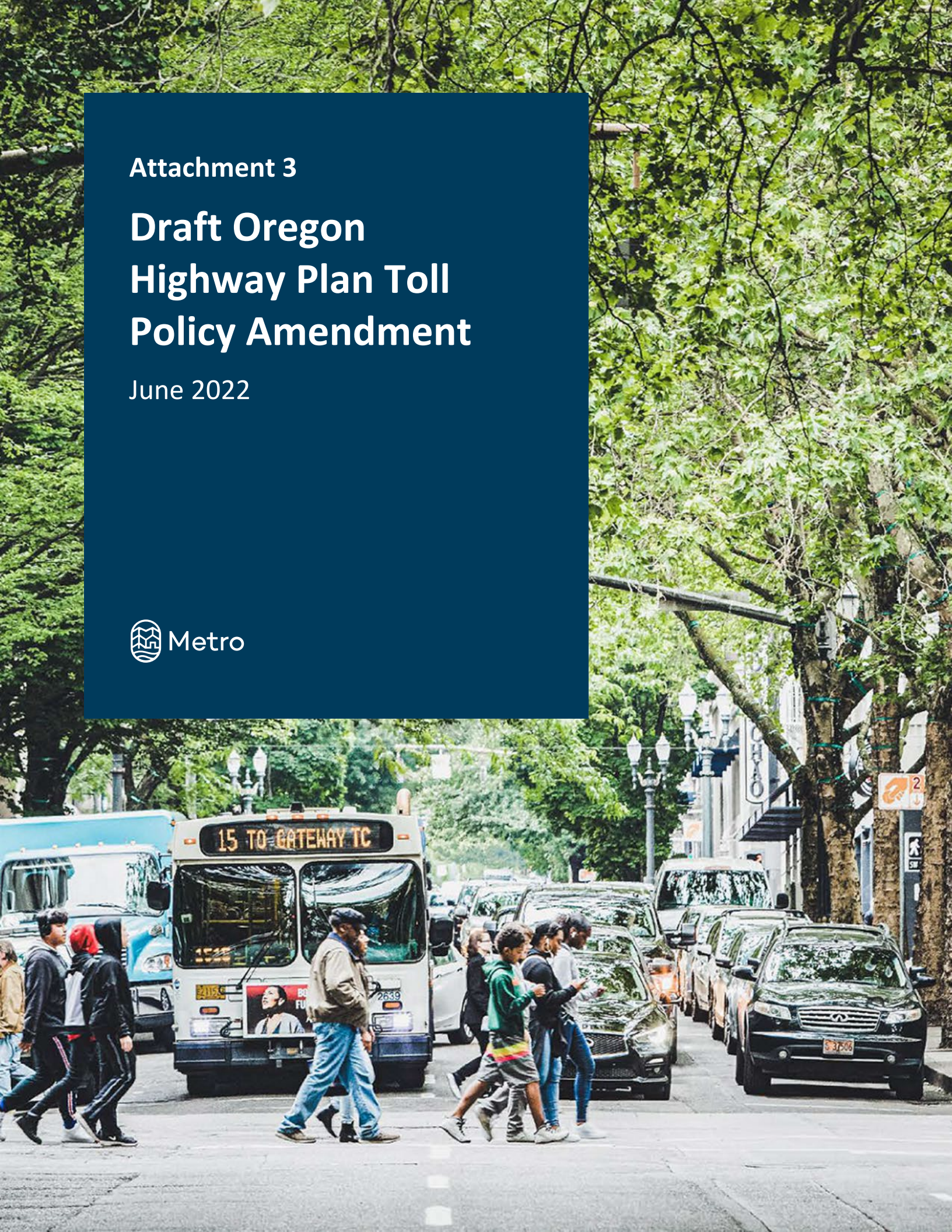
Policy 6 under regional motor vehicle network. – add one or more through lanes or more lanes than planned through lane capacity – also, this language is similar but different than policy 12 which calls for demonstrating… needs to be differentiated by intent

Attachment 3

Draft Oregon Highway Plan Toll Policy Amendment

June 2022

Metro



Oregon Department of Transportation

Oregon Highway Plan Amendment

Tolling Goal

June 2022

Why do we need an amendment?

The 2012 Oregon Highway Plan needs to be refreshed to frame congestion pricing and tolling policy. The purpose is to provide clarity around pricing and tolling to recognize new opportunities and support potential implementation. Policy updates are also needed to address evolving equity, climate, safety, modernization, and funding goals. Policies need to be in place to inform the rulemaking process for I-205 Toll Rate Setting which will begin in fall 2022.

Toll policies are primarily located in Goal 6 of the Oregon Highway Plan. That goal was last amended in 2012 and much has changed since then.

What is included?

This amendment will:

- Define terms and types of road pricing
- Clarify the need and goals for tolling and toll-based congestion pricing
  - The primary purpose of tolling is to help pay for infrastructure
  - The primary purpose of congestion pricing is to help manage congestion
- Incorporate connections to equity and climate goals, initiatives, and targets
- Provide guidance on rate setting and use of revenues

This amendment will not:

- Determine toll rates and revenue estimates
- Identify specific investments to be funded through toll projects

Schedule

The Oregon Transportation Commission will be the decision-makers on the policy update. They will receive a proposed amendment in September 2022. If adopted, the policy will be effective immediately.

How can you get involved?

The Draft OHP Policy Amendment is available for public review until August 1, 2022

Comments can be made via the electronic comment form or by email to: OHPManager@odot.oregon.gov

Informational webinar on June 30, 2022

Public hearing on July 20, 2022

Check the Oregon Highway Plan Policy Amendment Webpage for more information and updates.

Summary of Policies

Road Pricing Objectives

- Clarify appropriate uses for road tolls and congestion pricing and process for implementation
- Consider interconnections with other statewide goals
- Highlight supplemental options for managing demand
- Center equity throughout the process and outcomes

Rate Structures, Pricing Considerations, Exemptions and Discounts

- Set rates to achieve targeted revenue or performance outcomes
- Provide strategies to avoid imposing unfair burdens on people experiencing low-income
- Guide provision of discounts or exemptions to incentivize certain travel behaviors or address impacts

Use of Revenue

- Clarify that revenue must be used within the project corridor
- Outline revenue obligations and priorities for spending
- Address neighborhood impacts within the corridor

Infrastructure and Management

- Clarify authority of the Oregon Transportation Commission
- Provide guidance to ensure interoperability of toll systems
- Establish program assessment, monitoring, and adjustments

Comparison of Road Pricing Mechanisms

Mechanism: Types of System Pricing	Flat Rate Toll	Congestion Pricing: Variable Rate
User Experience		
One price to use	☑	✖
Price changes throughout day	✖	☑
Predictable price for travelers	☑	☑
Demand Management		
Encourage shifts away from single-occupancy vehicle travel	☑	☑
Encourage shifts from peak travel to off-peak travel	✖	☑
Traffic Operations		
Manages recurring traffic congestion (congestion pricing)	✖	☑
Responsive to day-to-day variations and real-time conditions	✖	✖

☑ = Does achieve

✖ = Does not achieve

Si desea obtener información sobre este proyecto traducida al español, sírvase llamar al 503-731-4128.

Nếu quý vị muốn thông tin về dự án này được dịch sang tiếng Việt, xin gọi 503-731-4128.

Если вы хотите чтобы информация об этом проекте была переведена на русский язык, пожалуйста, звоните по телефону 503-731-4128.

如果您想了解这个项目，我们有提供简体中文翻译，请致电：503-731-4128。

For Americans with Disabilities Act or Civil Rights Title VI accommodations, translation/interpretation services, or more information call 503-731-4128, TTY (800) 735-2900 or Oregon Relay Service 7-1-1.

Goal 6: Tolling and Congestion Pricing

Introduction

There are many mechanisms to price the transportation system to raise revenue and/or help achieve desired outcomes. These mechanisms can be used in concert with one another when a single system is insufficient at either purpose. The focus of this section is to outline roadway pricing mechanisms to pay for specific high-cost infrastructure or to achieve congestion reduction or other outcomes along discrete sections of roadways. "Tolls" are included in this section, which refer to roadway pricing that focuses on creating revenue for the construction, and other outcome-based mechanisms targeting a desired performance on a roadway, segment, or area, such as helping to reduce congestion. These roadway pricing mechanisms are defined in this policy to help identify when use may be most appropriate and further policy direction is provided to outline how these mechanisms should be applied.

As with all transportation programs, Oregon will fulfill obligations under Federal law for the implementation of road pricing on the interstate system. Tolling and pricing have requirements and obligations that are unique to those programs and the state will ensure that all of these are met.

Types of Road Pricing

To simplify the various terms that are used for road pricing and align them with different policies, the following definitions will be used as key terms:

1. **Flat rate toll** – A fee set by the Oregon Transportation Commission (OTC) and charged by a road pricing operator for the use of traveling on said facility. The flat rate toll rate does not change throughout the day. Revenues from this type of road pricing are used for specific infrastructure such as bridges or tunnels and other costs associated with the tolled infrastructures.

2. **Congestion pricing** – Fee ranges are set by OTC and charged by a toll facility operator. Rates are higher during peak travel periods (such as morning and evening commute) and lower during off-peak periods. Current prices are displayed on electronic signs prior to the beginning of each priced section. With congestion pricing, motorists receive a reliable and less congested trip in exchange for the payment. Oregon will focus on scheduled variable rate congestion pricing.

   Scheduled variable rate pricing, typically called "variable pricing" varies by time of day according to a published schedule, which can be updated periodically. Although rates can be different for each hour and for each day, they are known to users in advance of travel. This encourages motorists to plan travel in advance to use the roadway during less-congested periods or use a different mode and allows traffic to flow more freely during peak times.

Road Pricing Objectives

Tolling and congestion pricing are tools used to help achieve specific outcomes and can be used together.

6.1 Policy Utilize tolling, congestion pricing or a combination to achieve documented outcomes

6.1.A Action
When tolling is used to fund a specific improvement, consider adding congestion pricing if high levels of congestion exist or it is anticipated within the planning horizon.

6.1.B Action
Develop application specific objectives for tolling and congestion pricing consistent with the policies in this plan, recognizing more than one objective can be achieved but should be balanced.

6.1.C Action
Road pricing options must not conflict with, and try to support, other statewide goals around sustainability and climate, health and equity, with an emphasis on addressing the needs of historically or currently underrepresented and underserved communities.

6.1.D Action
Any road pricing options must consider the purpose and function of the facility, recognizing that the interstate and freeway system should serve longer trips and movement of people and goods to major employment and commerce locations.

6.2 Policy Utilize road tolls to help fund infrastructure improvements

6.2.A Action
Consider tolling for major investment projects on Oregon's freeways and bridges as a source for initial and sustainable funding when other funding sources are inadequate for investment needs.

6.2.B Action
Utilize flat-rate tolling to raise funds for construction, operations, maintenance and administration of specific infrastructure, recognizing that such toll may have less impacts to congestion and climate when compared to congestion pricing.

6.2.C Action
Evaluate if tolling should be used to help pay for any project that is for the construction or re-construction of a freeway or bridge and anticipated to cost more than $100 million.

6.2.D Action
Complete a comprehensive funding plan for projects utilizing tolling to pay for improvements. Include in the plan funding sources and relative funding shares, as well as analysis of the viability of the project if tolling does not move forward. Reasons for not pursuing tolling must verify how other funding sources will be impacted if the project still moves forward.

6.2.E Action

Consider tolling to cover the short- and long-term costs of the infrastructure improvement, as is required by law and financing obligations, including: the initial capital outlay, cost of operating the tolling program, and revenue needed to cover long term maintenance, operations, and administration functions.

6.3 Policy Use congestion pricing to reduce traffic congestion

Reduce delays, stops-and-starts, and increase reliability of travel times through congestion pricing to improve overall mobility on Oregon's interstates and freeways where mobility targets are not met and the system is experiencing regular recurring congestion. The intent of congestion pricing is to change some users' behavior so that they choose a different mode of transportation, time of day, route or not to make the trip. Congestion pricing can be considered as a complimentary part of a tolling project incorporating new or upgraded infrastructure, but also can be considered as a travel demand strategy for an interstate or freeway segment without any planned infrastructure projects.

6.3.A. Action

Evaluate if congestion pricing should be used to help manage congestion for any interstate or freeway that exceeds an Annual Average Daily Traffic (AADT) to Capacity ratio (AADT/C) of 9.0 or greater or where average vehicle speeds are less than 45 mph.

6.3.B Action

Prior to adding new throughway capacity such as the addition of new through travel lanes, demonstrate that system and demand management strategies, transit service and multimodal connectivity improvements, and pricing cannot adequately address throughway deficiencies and bottlenecks.

6.3.C Action

Pair pricing with other actions to address roadway congestion holistically, including the use of ITS technology, access control and management, increasing modal options and implementing other demand management tools.

6.3.D Action

Utilize congestion pricing to have a moderate impact on reducing vehicle travel on interstates and freeways through an expected schedule (e.g. during peak hours) with the ability to manage impacts to people experiencing low-income and diversion (rerouting) and especially when there few available alternate route and mode options for real-time decisions.

6.4 Policy Connect to our climate goals and targets

Ensure that potential application of congestion pricing evaluates how it will help support state climate change goals and targets.

6.4.A Action

Recognize that implementation of any road pricing mechanism is likely to impact overall VMT and therefore should be structured to minimize diversion of freight or longer trips to local roads and encourage VMT reduction.

6.4.B Action

Evaluate implementation of road pricing as a strategy to limit or reduce future vehicular travel demand from planned land use development. Analysis should specifically look at projects that are adding significant through travel roadway capacity such as additional through lanes.

6.5 Policy Connect shifting travel to off-peak hours and to biking, walking, and public transportation to the design and operations of road pricing mechanisms

Ensure that road pricing as strategy evaluates potential shift to other travel times and modes of transportation (e.g. public transportation, carpools, biking, and walking), telecommute, or times of travel to reduce climate impacts.

6.5.A Action

Pursue congestion pricing strategies to manage demand so that the recurring congestion performance objectives are met during all hours of the day.

6.5.B Action

Upon completing toll bond obligations, consider congestion pricing strategies for ongoing reliability and demand management purposes.

6.5.C Action

While developing the tolling project and/or road pricing application, collaborate with transit agencies, local jurisdictions, and other modal groups on the following:

- Increase (or support) public transportation services, transportation option service providers, or biking and walking options for those unable to afford tolls within the project or project area
- Understand how the benefits of a better managed, less congested interstate or freeway may provide opportunities for new, expanded, or enhanced transit service
- Understand how the impacts of diversion (rerouting) of vehicle trips may impact existing or planned transit service routes

6.6 Policy Center equity when designing tolling and pricing frameworks

While the reason to price the system will not be to improve equity directly, equity must be considered and addressed in the design, execution and management of any road pricing program. Equity efforts must focus on both “process equity” and “outcome equity,” which are defined as follows:

> *Process equity* means that the planning process, from design to post-implementation monitoring and evaluation, actively and successfully encourages the meaningful participation of individuals and groups from historically excluded and underserved communities.
>
> *Outcome equity* means that the toll or roadway pricing project will acknowledge existing inequities and will strive to prevent historically excluded and underserved communities from bearing the burden of

negative effects that directly or indirectly result from the priced projects, and will further seek to improve overall transportation affordability, accessible opportunity, and community health.

6.6.A Action

Engrain equity into decision-making processes and ensure equity outcomes are achieved when developing, implementing, and managing road pricing programs, by:

- Ensure full **participation** of impacted populations and communities throughout the project and applications by identifying specific populations, groups, or geographic areas that will be used to discern for equity. The Agency must be accountable and transparent.
- Explore how road pricing application will impact overall household budgets, populations and communities and maintain **affordability**, in balance with other objectives.
- Projects will identify ways to support multi-modal access through partnerships and expand **opportunities** for historically excluded and underserved communities.
- Projects will consider the project impacts to outcomes such as community health, including air quality, noise, traffic safety, economic impacts and other potential effects on historically or currently excluded and underserved communities.

Table XX: Summary of Road Pricing Mechanisms and Associated User Impact and Goals

Mechanism	Flat rate toll	Congestion Pricing
Types of System Pricing	**Flat rate toll**	**Variable rate**
USER EXPERIENCE		
One price to use	☑	✗
Price changes throughout day	✗	☑
Predictable price for travelers	☑	☑
DEMAND MANAGMENT		
Encourage shifts away from single-occupancy vehicle travel	☑	☑
Encourage shifts from peak travel to off-peak travel	✗	☑
TRAFFIC OPERATIONS		
Manages recurring traffic congestion (congestion pricing)	✗	☑
Responsive to day-to-day variations and real-time conditions	✗	✗

☑ **- Does achieve**

✗ **- Does not achieve**

Rate Structures, Pricing Considerations, Exemptions and Discounts

Rate setting will be a critical step in tolling and congestion pricing processes. Specific rates are to be set in rule and the policy below provides the overarching structure for doing so.

6.7. Policy Structure rates so as not to impose unfair burdens on people experiencing low-income and to advance equity

6.7.A Action

When planning for, implementing, and managing road pricing systems including rate setting, engage the following groups for feedback and analysis:

- People experiencing low-income or economic disadvantage
- Black, indigenous and people of color (BIPOC)
- Older adults and youth
- Persons who speak non-English languages, especially those with limited English proficiency
- Persons living with a disability
- Small, minority, and woman- owned businesses
- Other populations and communities historically underrepresented by transportation projects – this shall be determined at the project-level

6.7.B Action

While setting or adjusting road pricing rates, analyze the impacts to affordability by the percentage of household income for lower- income drivers compared to middle and higher-income drivers.

6.7.C Action

Set a no- or low minimum balance requirement for loading or maintaining road pricing accounts used by the public.

6.7.D Action

Road pricing should not contribute to major financial indebtedness for people experiencing low income. Establish rate discounts, exemptions, account supplementation and/or other processes for low-income users.

6.8 Policy Set rates to help achieve desired outcomes

Structure rates to help achieve targeted revenue or performance outcomes as outlined in policy and specified by the project or desired application.

6.8.A Action

Set rates to achieve outcomes and performance targets with the understanding that outcomes will not likely be achieved through road pricing alone and additional revenue sources may supplement funding needs. Structure rates to meet the desired share from toll revenues.

6.8.B Action

Establish rates consistent with the roadway classification, purpose, and function; and the desired use of such facilities. As such:

- Discourage short trips (three miles or less) and prioritize longer-distance travel on interstates and freeways; when evaluating diversion (rerouting) to local streets, limiting these new short trips should not be a priority as compared to limiting diversion (rerouting) of freight or longer trips (three miles or more)
- Any change of 0.05 to the existing/planned V/C from diverted traffic is considered significant and mitigation may be considered
- Keep freight on interstates and freeways and off local streets, when possible.

6.8.C Action

Set rates sufficient to:

- Cover the cost of the tolling or congestion pricing system and administration as is required by law
- Reach the desired revenue needed to pay for the planned share from tolling for the infrastructure improvement, operations, and maintenance
- Manage congestion to desired travel times, speeds, or reliability thresholds established for the project
- Meet any additional system performance metrics, defined for corridors, a series of corridors or by segments.

6.8.D Action

Rate setting decisions must be based on the following considerations that include equitable rate parameters. At a minimum, rate setting should include:

- Definition of a rate range to set a minimum and maximum threshold
- Consideration of condition thresholds for when a rate range may be exceeded
- Provision of discounted or free passage to be used for certain vehicles
- Definition of the corridor for investment.

6.8.E Action

Quarterly review rates to assess goal achievement and need for additional or revised exemptions and discounts.

6.8.F Action

When rate pricing over a longer length of roadway, allow variable rates to be applied in different roadway segments by defining road pricing zones. Zones should be as long as possible and should only be divided where there is a major system connection location that significantly changes the traffic characteristics as compared to an adjacent zone. The rates are then allowed to vary between zones.

6.9 Policy Provide discounts or exemptions to incentivize certain travel behaviors or address impacts

Understand how pricing impacts users and incorporate considerations for system users while achieving pricing outcomes.

6.9.A Action

Provide exemptions for active response vehicles (police, fire, EMS/ambulatory service).

6.9.B Action
Provide an exemption to public transportation vehicles, including private coaches as required under Federal law.

6.9.C Action
Provide discounts or account supplements for people who are experiencing low income and who are struggling to meet basic needs (e.g. food, shelter, clothing).

6.9.D Action
Ensure fairness in pricing and balance low income programs with revenue needs and congestion pricing goals.

6.9.E Action
Incentivize high occupancy vehicles, such as shuttles, and carpools at the project-level or if multiple projects are operating within a region, at the regional-level.

6.9.F Action
Analyze and consider reducing toll rates when funding needs are achieved for the infrastructure improvement but ensure that toll remains to cover maintenance, operation and administration costs and that reduced rates will remain consistent with both project and statewide goals of congestion reduction.

Use of Revenue

6.10 Policy Utilize tolling or roadway pricing revenue within the project corridor

Use funds on the tolled/priced project corridor. The corridor is defined as the tolled/priced roadway and the immediate area of impact adjacent to the project, generally within 1 mile of the priced facility or as defined through the project-specific NEPA process identifying significant impacts. Additionally the corridor should be limited to arterials that generally move traffic in the same direction. If no arterial exists within, then a collector that generally moves traffic in the same direction as priced roadways may be considered. Diversion that is considered significant is when there is a substantial increase in large trucks or an increase in non-short distance trips to the local system that changes the potentially impacted facility's v/c ratio by 0.05 or more.

6.10.A Action

Ensure compliance with U.S. Code Title 23 Section 129 when a toll project is approved under this section. This section requires toll revenue first go to paying for transportation improvements with capital investments to which the toll project is linked.

6.11 Policy Meet all revenue obligations first and prioritize revenue usage

When construction projects are bonded, certain financial obligations must be met before discretionary spending may occur. Net revenues after such obligations should be targeted to meet statewide goals and meet all requirements identified in Oregon's constitution, federal requirements and others as appropriate.
ORS 383.009(2)(j) states that moneys in the toll program fund may be used for improvements on the tollway, adjacent, connected and parallel highways to reduce congestion, improve safety and address impacts of diversion as a result of the tollway.

When implementing tolling as a way to help fund key infrastructure projects, revenues should be first directed toward financial obligations, construction, maintenance, and operation of the related infrastructure. A toll may be reduced once obligations are met.

Spend revenue utilizing the following hierarchy:

- Cover the cost of the tolling/pricing system and administration first as consistent with bond indenture requirements; and then
- Reach the desired share of revenue needed to pay for the infrastructure improvement, direct project mitigation, operations, and maintenance; and/or then
- For congestion pricing, discretionary spending should be targeted to manage congestion to desired travel times, speeds, or reliability thresholds established for the project; and then
- Meet any additional system performance metrics, defined for corridors, a series of corridors or by segments.

6.11.A Action

Identify corridor priorities for construction (seismic improvements, bottleneck relief projects, etc.) and operations, maintenance, administration for revenue usage.

6.11.B Action
Target net revenues for larger congestion management related projects in corridor as part of project mitigation, including enhanced transit, modal overpasses, etc.

6.11.C Action
Transit and multimodal transportation options should be increased with congestion pricing projects. This can be done through direct toll revenue allocation, when compliant with the Oregon Constitution, or through partnerships. Larger investments in transit-supportive infrastructure, such as bus-on-shoulder and park-and-rides, could be funded through a capital investments approach. Investments in carpools, vanpools, shuttles, and other demand responsive type of shifts to higher occupancy vehicles should also be considered as they may better match the needs of longer-trip users of the interstate and freeway system.

6.12 Policy Address impacts to neighborhood health and safety within the corridor (mitigation)
Acknowledge that diversion, the choice of some drivers to choose off priced system routes, may have impacts to adjacent communities and coordinate with these communities to mitigate significant impacts when feasible.

6.12.A Action
Tolling and congestion pricing projects should be planned and operated to limit longer-trip diversion (rerouting) through local communities on parallel roads.

6.12.B Action
Trips that previously used the interstate or freeway for local travel / short trips (three miles or less) should not be considered as diversion. Local trips are better served on local roads and preserve capacity on the interstates and freeways for their purpose in connecting people on longer trips.

6.12.C Action
When providing investments to address neighborhood health and safety impacts in communities because of diversion (rerouting), prioritize capital investments in biking and walking networks, consistent with constitutional restrictions.

6.12.D Action
Partner with communities when providing investments related to diversion and consider improvements to all modes.

Infrastructure and Management

6.13 Policy The Oregon Transportation Commission is Oregon's toll and roadway pricing authority

Per ORS 383.004 the OTC has been given authority over tolling and road pricing design, execution and management rules and decisions.

The OTC will implement pricing programs to raise revenue and/or manage congestion, independent of land use actions and decisions. Since pricing is a mechanism for system management, such as ramp metering, establishment of pricing rate adjustments are not to be considered land use actions.

6.14 Policy Ensure interoperability of toll rate collection systems

Design systems that are easy to use and maximize interoperability with other known systems of neighboring states, weight mile tax devices and ITS systems while maximizing options for users.

6.14.A Action

Deploy technology that facilitates interoperability with tolling systems of neighboring states whenever possible.

6.14.B Action

For any proposed tolling or congestion pricing project on an interstate or freeway, ODOT shall develop tolling systems that rely on all-electronic collection mechanisms, and enable at least one manner of toll collection that does not require a transponder.

6.14.C Action

For any proposed tolling or road pricing project on an interstate or freeway, ODOT will develop and utilize tolling technologies and systems that are based on common standards and an operating sub-system accessible by the marketplace where components performing the same function can be readily substituted or provided by multiple providers to the extent possible while compatible with tolling systems in the Washington and California whenever possible.

6.14.D Action

Provide a "cash preferred" option for paying road pricing fees in order to reduce barriers to use of the transponders.

6.15 Policy Complete program assessment, monitoring, and adjustments

Once established, evaluate tolling and congestion pricing programs regularly against project specific objectives. Along with financial obligations, this will inform any future adjustments to the rate schedule and other program design adjustments.

6.15.A Action

Establish a monitoring and reporting program, which should include: vehicle speed, volume, driver pattern changes within the corridor (e.g. diversion or rerouting), levels of congestion, modal shifts, air quality, GHG

emissions, and equity goals identified on a project-level basis. Data should capture the benefits and impacts to multimodal transportation, which includes: freight, light rail, transit, passenger vehicles (single and high-occupancy), bike, walk, and telecommute. It is acknowledged that varying levels of data exist for these modes and thus information may vary by level of detail or frequency.

6.15.B Action

The OTC will evaluate and adjust all road pricing programs on a regular basis with a minimum of annual review, with consideration to effectiveness toward goals, rate adjustments and revenue generation thresholds.

6.15.C Action

Continually assess the cumulative impact of fees and tolled/priced areas on people experiencing low income.

6.15.D Action

Actively monitor cost allocation between light and heavy vehicles as a part of the highway cost allocation and adjust as needed and ensure compliance with Oregon state constitution requirements.

Attachment 4

Draft Low Income Toll Report

June 2022

Metro

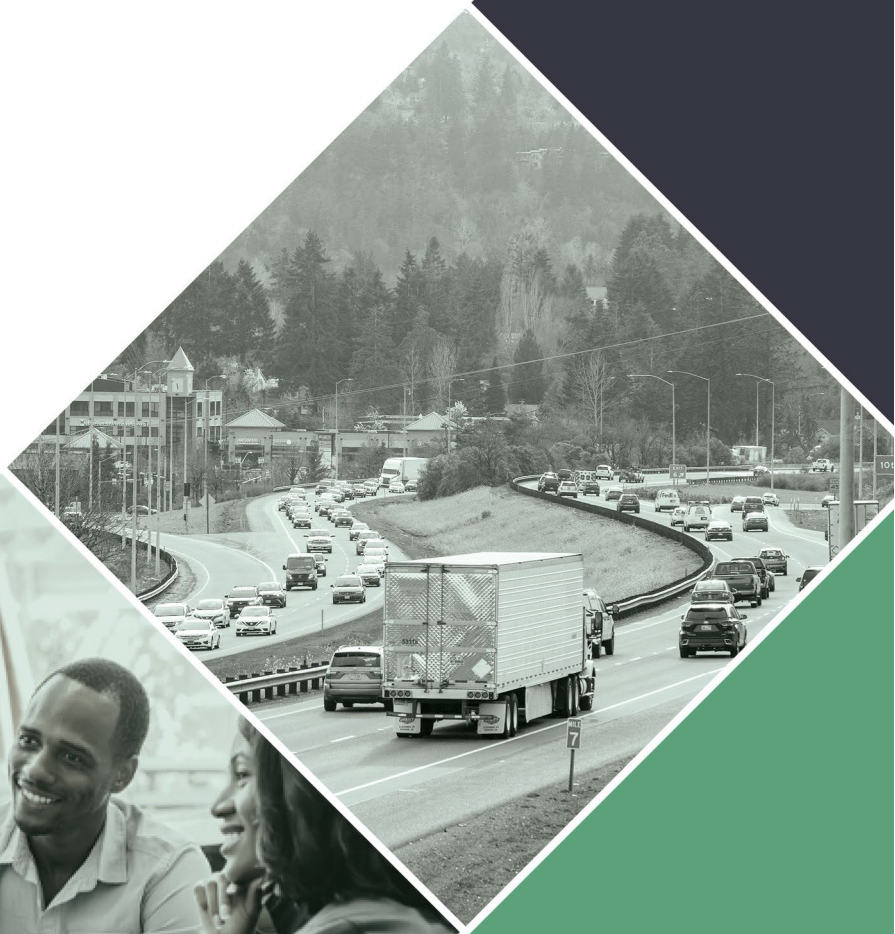
Oregon Toll Program

Draft Low-Income Toll Report:

Options to Establish Toll Benefits for Drivers Experiencing Low Incomes

A Report to the Oregon Legislature

June 27, 2022



Urban Mobility STRATEGY

Oregon Department of Transportation

Draft Low-Income Toll Report

Options to Establish Toll Benefits for Drivers Experiencing Low Incomes

A Report to the Oregon Legislature

June 27, 2022

Prepared for:

Oregon Department of Transportation

Prepared by:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ALICE	Asset Limited, Income Constrained, Employed
BIPOC	Black, indigenous, and people of color
DMV	Oregon Driver and Motor Vehicle Services
EMAC	Equity and Mobility Advisory Committee
FPL	federal poverty level
HB	House Bill
HUD	U.S. Department of Housing and Urban Development
NEPA	National Environmental Policy Act
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statute
OTC	Oregon Transportation Commission
SFCTA	San Francisco County Transportation Authority
SNAP	Supplemental Nutrition Assistance Program
SSS	Self-Sufficiency Standard for Oregon
T&R	traffic and revenue
TANF	Temporary Assistance for Needy Families
TIMMA	Treasure Island Mobility Management Agency
TriMet	Tri-County Metropolitan Transportation District of Oregon
VDOT	Virginia Department of Transportation
VOT	value of time

1 Executive Summary

The Draft Low-Income Toll Report for the Oregon Toll Program was conducted by the Oregon Department of Transportation (ODOT) at the direction of the Oregon Legislature. The full report identifies options for consideration on the thresholds and benefits for a low-income toll rate, as well as proposed implementation practices for an equitable, inclusive toll system. The options for consideration ("options") and proposed implementation practices are intended to start on or before day one of tolling, which is planned for the end of 2024. ODOT will finalize the report and present it to the Oregon Transportation Commission (OTC) and Oregon Legislature by September 2022, as required by House Bill 3055.

This report is a culmination of the work ODOT and the OTC have been working on for multiple years regarding how to best address the impacts of the proposed toll projects on people experiencing low incomes. In combination with the Oregon Highway Plan update and coordination and collaboration with the Oregon Toll Program's Equity and Mobility Advisory Committee (EMAC), this report is part of a larger ODOT and OTC effort to initiate the Oregon Toll Program in a way that does not disproportionately burden, but rather benefits, people experiencing low incomes and that recognizes that past land use and transportation investments in the Portland metro area—including highway investments—have resulted in negative cultural, economic, and relational impacts on local communities and populations.

The draft report summarizes the engagement, analysis, and research conducted thus far to inform the options for consideration and implementation practices. Focused engagement with the OTC, stakeholders, and the public will occur throughout summer 2022 to further inform and refine the options for consideration and implementation practices presented in the final report.

1.1 Options for Consideration

Provide a significant discount (e.g. credits, free trips, percentage discount, or full exemption) for households equal to or below 200% Federal Poverty Level.

People experiencing low incomes have difficulty meeting basic needs such as paying for food, shelter, clothing, and healthcare. A sizable discount (e.g. credits, free trips, percentage discount, or full exemption) would alleviate the burden of choosing between paying a toll and meeting those basic needs. EMAC supports a sizable discount for households equal to or below 200% federal poverty level (FPL). Furthermore, research and stakeholder engagement shows that the 200% FPL threshold is commonly used to determine eligibility for existing low-income benefits programs in Oregon and nationally.

Provide a smaller, more focused discount (e.g. credits or free trips) for households above 201% and up to 400% of the Federal Poverty Level.

People experiencing incomes equal to and between 201% and 400% FPL still struggle to meet basic needs, despite having slightly higher incomes. Providing a more focused discount (e.g. credits or free trips) for this income group would alleviate the burden of additional transportation expenses. Furthermore, people with incomes at or below 200% of the FPL often shift income throughout the year; this benefit allows them reassurance of continued benefits despite that movement. Respondents from the May 2022 regional online survey support providing some benefit to a range of incomes, up to 300% FPL. EMAC expressed support for providing a sizeable benefit at 200% FPL and a smaller benefit at 400% FPL. EMAC also agreed that including two income ranges to meet different needs is worth the additional complexity.

Use a certification process that leverages existing programs for verification and further explore self-certification.

Qualification through existing low-income service program(s) improves the ease of enrollment for applicants and reduces the administrative burden and data privacy risk for ODOT. Self-certification would allow applicants to certify their income without substantiating documents, potentially reducing barriers to enrollment and eliminating the need for ODOT to collect or process sensitive information. However, additional research is needed to understand the potential risk -and impact of program fraud related to self-certification, and the efficacy and tradeoffs of fraud prevention strategies. EMAC strongly supports a self-certification model that streamlines the low-income toll program benefit enrollment process.

1.2 Proposed Implementation Practices

- Provide free transponders to people enrolled in the low-income program and community-based organizations or other groups helping to enroll people. Do not require a minimum dollar amount of balance to load or maintain the transponder account.
- Provide a cash-based option for paying tolls to reduce a barrier to enrollment among those who prefer to pay in cash.
- Conduct extensive marketing, promotion, and engagement with community-based organizations that begins at least 6 months before tolling starts. Post signage so that travelers can make informed decisions.
- Create an in-person and online enrollment process that accommodates participants with disabilities, who have limited technology access or training, and who speak languages other than English.
- Support a monitoring, review, and adjustment process for the low-income toll program that includes community voices and a process that is aligned with the Oregon Toll Program's Equity Framework.
- For people with income at 400% of the Federal Poverty Level and below, offer education opportunities, additional time to pay toll charges, multiple notices of account balances, or set a maximum penalty amount.
- Work with the toll implementation team to develop a concept of operations for the low-income toll program that includes a compliance waterfall.

1.3 Next Steps

Prior to the beginning of tolling, the OTC will establish a rate structure based on vehicle class, time of day, location and distance, and method and payment, and will include income-based adjustments. Additionally, more work is needed to identify the implementation and operations costs associated with the options for consideration and proposed implementation practices identified in this report. Wherever possible, the Low-Income Toll Program will leverage existing systems to streamline implementation and operations. Whatever low-income benefit is decided upon will be built into the back-office system before tolling goes live; a greater challenge will be messaging the low-income benefit to customers and forming creative strategies to reduce barriers to enrollment.

While the options presented in the Final Low-Income Toll Report will inform the income-based adjustments, further work and engagement is needed to define next steps after the report is submitted to the OTC and Oregon Legislature. Ultimately, decision-making authority lies the OTC and will occur through the rate-setting process after further robust public engagement and analysis of traffic and revenue impacts.

2 Introduction

This chapter introduces the purpose, legislative directive, and context for the draft report, in addition to previous work on addressing concerns about tolling related to people experiencing low incomes and the significant challenges and considerations for a low-income toll program. It also includes the engagement and decision-making plan for the program and the next steps for implementation.

2.1 Purpose

This draft report provides options for consideration and planned elements for the implementation of equitable, income-based tolls in Oregon. Tolling is planned to begin at the end of 2024 as part of the I-205 Toll Project. The Oregon Department of Transportation (ODOT) and Oregon Transportation Commission (OTC) will finalize this report during the summer 2022 and present the final report to the Oregon Legislature's Joint Committee on Transportation by September 15, 2022, as required by House Bill (HB) 3055.

This draft report is a culmination of ODOT and OTC's multiple years of work on best addressing the impacts of the proposed toll projects on people experiencing low incomes. The draft report summarizes the engagement, analysis, and research conducted thus far to inform the options for consideration and implementation practices. Additional engagement will further inform and refine the options for consideration and implementation practices presented in the final report.

2.2 Background

The following sections provide background on the legislative requirements directing this draft report, ODOT's Urban Mobility Strategy, and related work efforts leading up to the final report.

2.2.1 Legislative Requirements (HB 3055)

In 2021, the Oregon Legislature passed HB 3055, which requires ODOT to "implement a method for establishing equitable income-based toll rates" before tolling begins. The first toll project for the Oregon Toll Program is planned to begin tolling towards the end of 2024. HB 3055 also requires that ODOT produce a report on the method for establishing equitable income-based toll rates before September 15, 2022. The legislative direction for the report is as follows:

> *REPORT ON EQUITABLE INCOME-BASED TOLL RATES*
>
> *SECTION 162. (1) As used in this section, "toll" and "tollway" have the meanings given those terms in ORS [Oregon Revised Statute] 383.003.*
>
> *(2) Before the Department of Transportation assesses a toll, the department shall implement a method for establishing equitable income-based toll rates to be paid by users of tollways.*
>
> *(3) At least 90 days before the date the Oregon Transportation Commission seeks approval from the Federal Highway Administration to use the income-based toll rates developed under subsection (1) of this section, the department shall prepare and submit a report on the method developed to the Joint Committee on Transportation and the Oregon Transportation Commission. The department may also submit to the Joint Committee on Transportation any recommended legislative changes. The report*

shall be provided to the Joint Committee on Transportation, in the manner provided under ORS 192.245, on or before September 15, 2022.

SECTION 163. Section 162 of this 2021 Act is repealed on January 2, 2023.

2.2.2 ODOT's Urban Mobility Strategy

ODOT's Urban Mobility Strategy aims to improve everyday travel in the Portland area through a cohesive set of projects and investments, shown in Figure 2-1. The Urban Mobility Strategy is led by the Urban Mobility Office and primarily functions to manage traffic congestion with tolling, reduce highway bottlenecks through capital construction, and invest in multimodal transportation in ways that serve ODOT's goals of addressing equity, climate change, congestion relief, and safety.

Current core projects include I-5 Rose Quarter Improvement, I-205 Improvements Project, I-205 Toll Project, Regional Mobility Pricing Project, I-5 Boone Bridge and Seismic Improvement Project, Oregon 217 Auxiliary Lanes Project, Interstate Bridge Replacement Program, and investments in transit and rolling and pedestrian paths, all of which will contribute to building a seismically resilient and modern transportation system. As a part of these core projects, tolling will be central to ODOT's long-term strategy to manage congestion and sustainably raise revenue for roadway and multimodal investments in the Portland metropolitan area.

Oregon Toll Program

The Oregon Toll Program currently comprises two projects: the I-205 Toll Project and the Regional Mobility Pricing Project.

- **The I-205 Toll Project** would toll Interstate 205 (I-205) near the Abernethy and Tualatin River Bridges to raise revenue for construction of the planned I-205 Improvements Project and manage congestion between Stafford Road and Oregon Route 213 to give travelers a better and more reliable trip.
- **The Regional Mobility Pricing Project** would apply congestion pricing[1] on all lanes of I-5 and I-205 in the Portland metropolitan area to manage traffic congestion in a manner that will generate revenue for future transportation investments. The project area begins just south of the Columbia River and ends before the Boone Bridge over the Willamette River in Wilsonville.

While there are currently only two planned toll projects in Oregon, this report seeks to establish a broad framework that is flexible to adapt to future projects statewide yet effective and precise enough to prevent negative impacts on people experiencing low incomes when tolling begins in the Portland area.

[1] "Congestion pricing", or variable-rate tolling, describes a type of tolling that aims to improve mobility, travel times, and reliability by charging a higher price during peak traffic periods. The higher fee—typically implemented along with transit and other multimodal improvements—encourages some drivers to consider using other travel options such as carpools or transit, or to change their travel time to other, less-congested times of the day, or not to make the trip at all.

Figure 2-1. Urban Mobility Strategy Projects Map

2.2.3 Previous Work on Low-Income Tolls

ODOT and the OTC began working on how toll projects should mitigate impacts on people experiencing low incomes in 2017. Highlights of this work include the following:

- From 2017 to 2018, ODOT and the OTC convened a Policy Advisory Committee to provide input on the Value Pricing Feasibility Analysis. The Policy and Advisory Committee reviewed existing research and identified the need to address cost impacts on people experiencing low incomes as a priority strategy.
- In 2020, the OTC commissioned and chartered the Equity and Mobility Advisory Committee (EMAC) to provide recommendations on how transportation needs of and benefits for people of color and people experiencing low incomes, with limited English proficiency, or experiencing a disability who live near or travel through the project area.
- From 2020 to 2021, EMAC, with support from ODOT and the OTC, conducted extensive research on case studies of other toll programs to inform a set of performance measures for ODOT to incorporate into both toll project analysis and an initial list of policy options. In late 2021, EMAC, ODOT, and the OTC agreed on a set of Foundational Statements to address equity and mobility needs for the Oregon Toll Program, which includes providing transportation options, addressing both climate and equity needs, offering toll-free travel options, creating a user-friendly program that is in place once tolling begins, ensuring that benefits extend to southwest Washington, and coordinating with regional partners. The Foundational Statements serve as one building block for the options outlined in this draft report.
- ODOT, the Joint Policy Advisory Committee on Transportation, and Metro Council have committed to supporting a list of "Commitments for ODOT and Regional Partners" (Ordinance 21-1467) and a Letter of Agreement (dated April 25, 2022) to center equity in their process and outcomes.

This draft report is also informed by ODOT's work in equity through the Office of Social Equity and direction identified in the *Strategic Action Plan*.

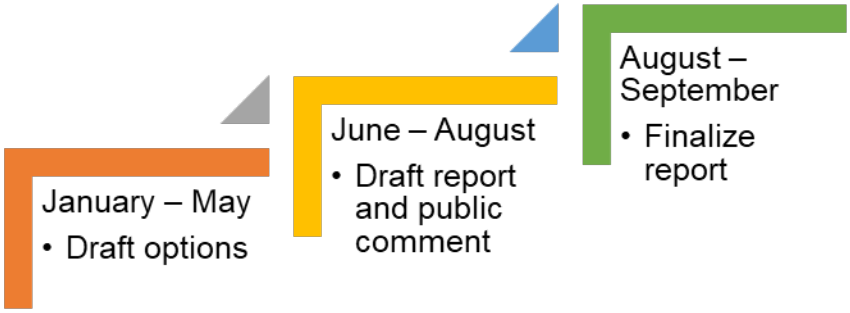
2.3 Draft Report Development and Engagement

To develop the draft report, the Project Team partnered with EMAC and engaged with the Washington State Department of Transportation (ODOT's partner on the IBR program), social service agencies, transit and multimodal transportation providers, and statewide, local, and regional stakeholders. The Project Team also sought community input through discussion groups and an online survey. Chapter 4 details the findings of this effort and the list of stakeholders and organizations ODOT engaged with. The final report will include a full engagement summary as an appendix, including feedback received to date and results of further engagement to be conducted this in summer 2022.

2.3.1 Engagement and Decision-Making

Since tolling I-5 and I-205 in the Portland region has statewide impacts (and beyond), the Project Team strived to reach as many people as possible, conducting nine discussion groups and a community-based organization discussion with historically excluded and underserved groups, seven interviews with representatives from social service providers, and an online survey that received over 12,000 responses. To capture the robust engagement—both completed and forthcoming—the Project Team developed a three-step iterative process to develop the draft and finalize the report (Figure 2-2).

Figure 2-2. Three-Step Process for the Draft Low-Income Toll Report



Guiding Questions

The following questions were developed in coordination with EMAC and Portland regional partners to ensure that the draft report addressed the key questions we have been hearing about from the community:

- What level of income should ODOT provide a price discount from tolling?
- Should it be a partial credit, full exemption, somewhere in between, or a combination?
- How can ODOT provide toll-free travel options available to avoid further burdening people experiencing low incomes who are struggling to meet basic needs (food, shelter, clothing, healthcare)?
- Research shows that income-based toll programs are drastically under-enrolled. What are the barriers to enrollment (privacy, access, lack of information, etc.) and how can they be addressed?
- How can Oregon's tolling be a user-friendly system that is clear and easy to use by people of all backgrounds and abilities, including linguistic diversity, and by those without internet access?
- How can benefits extend across state lines?
- Research shows that income-based toll programs are drastically under-enrolled. What are the barriers to enrollment (privacy, access, lack of information, etc.) and how can they be addressed?
- How can Oregon's tolling be a user-friendly system that is clear and easy to use by people of all backgrounds and abilities, including linguistic diversity, and by those without internet access?
- How can benefits extend across state lines?
- This will be a new program for ODOT. What are issues that need to be addressed for administration and implementation on day 1 of tolling?
- How will this program be monitored and adjusted so that the low-income program provides easy access and low barrier for the customers experiencing low-income it was intended to benefit.

2.4 Key Terms and Concepts

The following section defines key terms and concepts for this draft report:

- Income threshold: Eligible household income for program participation (e.g., Households 0 to 100% of the federal poverty level).
- Toll Discount: A discount applied to the assessed toll for each trip (e.g., 50% discount on a $3 toll would result in the driver paying $1.50). A toll discount is applied as the trip is charged, so the driver would pay the discounted price.
- Toll Credit: A credit applied to a transponder account on a recurring basis (e.g., a $25 toll credit applied to the transponder account every 6 months).
- Free Trip(s): A set number of free trips are applied to a transponder account on a recurring basis (e.g., 10 free trips in the tolled area per month).
- Exemption: Drivers are not required to pay any toll costs.
- Income verification: The process to determine that an applicant is within the eligible income range. This can be done through providing proof of income (such as a paystubs), through enrollment in another approved low-income benefit program (such as the Supplemental Nutrition Assistance Program [SNAP]), or through self-certification (applicant through a self-attestation form).

3 Equity and Mobility Advisory Committee Input

This chapter includes an overview of the Equity and Mobility Advisory Committee (EMAC) and its role in developing the low-income toll program, including its Foundational Statements that guide the Oregon Department of Transportation's *(ODOT) work to ensure equitable mobility in the toll projects. It summarizes EMAC's recommendations on three topics: analysis of the toll projects, the low-income toll program, and operating the overall toll program. All of these recommendations are designed to center equity in the Oregon Toll Program.*

To ensure both equitable Interstate 205 (I-205) and I-5 toll projects and processes, and to help develop a framework, ODOT convened an Equity and Mobility Advisory Committee. This committee is a group of individuals with professional or lived experience in equity and mobility coming together to advise the Oregon Transportation Commission and ODOT on how tolls on the I-205 and I-5 freeways, in combination with other demand management strategies, can include benefits for populations that have been historically and are currently underrepresented or underserved by transportation projects. Among their tasks was the development of strategies to address the transportation needs of, and benefits for, people of color and people with low incomes, limited English proficiency or disabilities that live near, or travel through, the project area.

EMAC's initial work resulted in the adoption of an Equity Framework to identify the burdens and benefits of tolling and provide a process for determining how to equitably distribute those burdens and benefits from the toll projects. The Equity Framework acknowledges how past land-use and transportation investments in the Portland metropolitan area have resulted in negative cultural, health, economic, and relational impacts on the following local communities and populations:

- People experiencing low-income or economic disadvantage
- Black, indigenous, and people of color (BIPOC)
- Older adults and children
- Persons who speak non-English languages, especially those with limited English proficiency
- Persons experiencing a disability
- Other populations and communities historically excluded and underserved by transportation projects

3.1 Informing the Low-Income Toll Program

EMAC received research about toll projects and low-income programs to inform options development. Elements of these other programs that were considered by the Committee included eligibility standards, discount or credit allocations, and geographic distribution of benefit. The resulting input and the EMAC Foundational Statements provided the basis for the options for consideration and implementation practices outlined in this draft report (see Appendix A).

ODOT began to develop this draft report while the EMAC recommendations were in draft form and refined the report to reflect the final EMAC recommendations. EMAC members have also provided feedback on online survey questions, participated in discussion groups, provided input to confirm the draft report topic areas and questions, shared reactions to preliminary findings, and expressed support for the

draft report options. The following sections define Equity Framework communities, outline the final EMAC recommendations, and summarize key EMAC feedback on an earlier draft of this report.

3.2 EMAC Advice and Feedback

Throughout 2021, ODOT supported EMAC with research documents that included a literature review, examples of toll projects throughout the United States, and feedback received from the community about how toll projects have address affordability. The following list provides links to these resources:

- Affordability Research
- Affordability Policy and Strategy Options (1st Round)
- Affordability Performance Measures
- Affordability Workshop (Video)

EMAC identified robust ideas during discussions relating to toll project analysis, the low-income toll program, and toll program. The following EMAC input is directly applicable to this draft report:

- Look beyond the standard federal definition of "low-income." For the toll projects' federal environmental review process (i.e., National Environmental Policy Act [NEPA]), a measure of 200% of the federal definition for poverty was assumed. This should be the baseline for future consideration. The reality is that people move below and above the federal definition for poverty in a short span of time.
- Implement an income-based toll program that is progressive in nature, meaning that higher-income drivers will pay a larger share or percentage of household income than lower-income drivers.
- In addition to drivers who are people experiencing low incomes, provide toll payment credits, exemptions, or discounts for:
  - Public transit vehicles and registered vanpools and carpools
  - Public emergency response vehicles and non-emergency medical transportation
  - Social service or nonprofit health organizations to recruit and retain volunteer drivers
- Find the right balance between discounts and/or exemptions and revenue generation to advance equity. Specifically, analyze the tradeoffs between exemptions, credits, or discounted rates based on income versus collecting the toll revenues and investing them into equity and mobility strategies. This may include an analysis of tradeoffs in the time between when I-205 tolling starts and when the regional I-5 and I-205 toll system (i.e., Regional Mobility Pricing Project) comes online.
- Equity Framework-identified communities should be involved in the analysis and decision-making process on determining what would best advance equity.
- Design and implement an interoperable and easy-to-use fare/payment system across geographic boundaries and transportation options.
- Coordinate between Oregon and Washington, as well as across bike, scooter, carpooling, car sharing options, and park-and-ride lots. Look at Rideshare Online as an example of rideshare and vanpool services that serve Oregon and Washington. Likewise, TriMet's Hop card is an example of a system that accommodates users in Oregon and Washington.

- Commit to offering additional time to pay a toll bill without incurring fines and study options for effectively doing so. Tolling should not contribute to more financial indebtedness for people experiencing low incomes, nor should it lead to criminal penalties.
- Follow the precedent set by ODOT's Rose Quarter Improvement Project to include a baseline for Disadvantaged Business Enterprise investment that goes beyond the federal requirement.
- Provide a cash-based option for paying tolls in order to reduce barriers to use of the tolls, including among the unbanked.
- Ensure the process of applying for exemptions, discounted rates, or credits considers varying degrees of technological competency and access. ODOT should account for internet reliability in rural areas and how that could affect access to services online (load transponders, apply for exemptions, etc.).
- Set a zero or low minimum-balance requirement for loading or maintaining transponders. Transponders should also be free or should come pre-loaded with credits to cover the cost of the purchase. The cost of a transponder can be a barrier to purchase for people experiencing low incomes.

3.3 EMAC Feedback on Draft Report Development

A sub-committee of EMAC members received information on the technical analysis and the results of public engagement related to a low-income toll policy. The members provided input and feedback on a draft of this report at two sub-committee meetings in April and May of 2022. Feedback on draft options included the following:

- Support for a sizable benefit at 200% Federal Poverty Level and a smaller benefit at 400% federal poverty level.
- Agreement that including two income eligibility levels is worth the additional complexity so that different needs can be met.
- Varied support for offering a free option. Supportive members referenced the current and historic regressive transportation funding structure as well as the extreme economic needs at the lowest of incomes. Opposing members raised concerns about the climate impacts of incentivizing driving and de-incentivizing transit, the history of free social service benefit programs, and a feeling that all users should contribute some amount.
- Strong support for a self-certification model that streamlines the low-income toll program benefit enrollment process.

EMAC is also in the process of developing and delivering a set of recommendations (overall and July 2022 actions) to the Oregon Transportation Commission in July 2022. If accepted by the Oregon Transportation Commission in July, EMAC recommended actions that connect to affordability will be updated in this document.

4 Stakeholder Engagement Results

This chapter outlines the toll projects' iterative, three-step process involving the draft report, community and stakeholder feedback, and the final report, to ensure robust engagement leading up to the September 2022 deadline. The chapter summarizes key themes from various engagement methods, including stakeholder interviews with low-income service providers, a regional public survey, and discussion groups with historically excluded and underserved groups. This feedback was central to developing the draft report's options for consideration.

The Oregon Department of Transportation (ODOT) engaged stakeholders through a variety of methods and with numerous audiences.

4.1 Stakeholder Interviews and Discussion Groups

ODOT conducted seven interviews[2] to gather information from social service providers and state, local, and federal programs that serve people experiencing low incomes. The purpose of the interviews was to help inform implementation practices for determining eligibility and designing an accessible, inclusive low-income toll program.

ODOT partnered with the Community Engagement Liaisons Program to conduct focused, meaningful engagement with historically excluded and underserved groups. Trusted leaders from various communities held eight discussion groups with individuals or groups who identify as a youth, people experiencing disabilities, Latin American, Russian/Slavic, Chinese, Vietnamese, Black/African American, and Black, indigenous and people of color (BIPOC). Participants were asked for their perspectives on options for the low-income toll program, preferences on enrollment and application process, and potential barriers to participating in the program.

ODOT also held a discussion group with eight representatives[3] from seven community-based organizations serving Equity Framework communities. Participants were asked about potential barriers to participation in a low-income toll program and best practices for enrollment from other programs for people experiencing low incomes.

4.1.1 Key Themes

The following key themes emerged from stakeholder interviews and discussion groups:

- Address the many barriers that may exist for potential applicants (language, technology access, etc.).
- Provide many options to demonstrate eligibility for a low-income discount.
- Make the application centralized and easy to complete and track.
- Offer many application options and in multiple languages.

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2 Interview participants included representatives from Neighborhood House, Health Share of Oregon, Native American Youth and Family Center, TriMet, Portland Housing Bureau, Housing and Urban Development, and Oregon Housing and Community Services.

3 Community-based organization discussion group participants included representatives from Black United Fund of Oregon, Community Alliance of Tenants, East County Rising, Immigrant and Refugee Community Organization, Oregon Latino Health Coalition, Ride Connection, and Portland Community Reinvestment Initiatives.

- Partner with low-income programs and resources for the program to be successful.
- Provide resources for staff and funding for community-based organizations and other trusted organizations such as schools and libraries to support enrollment.
- Consider other impacts on household finances in addition to income.
- Provide low-income discounts, but some concern was expressed about fairness and minimizing financial impacts on working families.
- Consider the unique needs of other user groups.
- Provide discount and credit options, but some concern was expressed about a transit credit.
- Consider more ideas for types of discounts and how toll discounts could work.
- Conduct an awareness and education campaign.
- Provide multiple options for toll payment, including cash options.
- Provide support for those who cannot make toll payments to avoid impacts from fines or penalties.

The final report will include a full engagement summary as an appendix.

4.2 Regional Online Survey

An online survey was publicly available from April 28 to May 16, 2022, and received over 12,000 responses. ODOT advertised[4] the survey as an opportunity for the public to share feedback to shape congestion pricing and advance equity, including developing a toll discount or credit for people experiencing low incomes. The survey included two multiple-choice questions related to the draft Low-Income Toll Report, asking who should be eligible for the low-income discount or credit and the level of agreement with options for a low-income toll program. There was one open-ended response question.

A write-in question was provided at the end of the survey for respondents to share any additional feedback with decision-makers and project planners about congestion pricing. There were over 8,000 responses to this question, of those there were 146 comments related to the Low-Income Toll Report. These were comments and ideas specific to the Low-Income Toll Report and what the commenter might want addressed in the report.

4.2.1 Key Themes

ODOT tabulated survey results for all respondents and respondents who reported household annual incomes under $50,000. Key themes related to benefits and eligibility are shown in Table 4-1. Full results will be included in an appendix of the final report.

As shown in Table 4-1, when asked about eligibility for a low-income discount or credit, many respondents (55%) preferred some type of eligibility threshold. The most common preference was an eligibility threshold of 300% federal poverty level (FPL) (36%), while 19% preferred an eligibility threshold of 200% FPL. Across nearly all demographics, there was significantly more preference for eligibility at

[4] Activities to help invite participation in the online survey included: digital and print ads in regional and multi-cultural publications; social media posts, including ads in Spanish; website notices and newsletter updates; outreach toolkits to partners; tabling events at food pantries; presentations at various transportation meetings in the Portland region and statewide.

300% FPL. Several groups were more likely to choose one of the presented eligibility thresholds. Among those respondents who bike/roll, walk, take transit, and people with household incomes under $50,000, 70% opted to select one of the eligibility thresholds.

Table 4-1. Key Themes from Survey Respondents – Eligibility (N = 11,050)

Theme	All Respondents	Households under $50,000/year
Eligibility[1]		
Under 300% Federal Poverty Level (FPL)	36%	47%
Under 200% FPL	19%	25%
Neither	33%	20%
I don't have a preference / prefer not to answer	12%	8%

[1] Survey question: Who should be eligible for a low-income discount or credit?
FPL = federal poverty level

As shown in Table 4-2, when asked about options for a low-income toll program, all respondents and respondents from households with annual incomes under $50,000 agreed with providing toll caps and toll credits. Only one option, free transponders with a $25 initial credit, had net disagreement (39%) exceeding agreement (38%). Respondents experiencing low incomes agreed with all options comparatively more frequently.

Respondents experiencing low incomes and respondents that identified as living with a disability agreed with transit credits relatively less frequently. For these groups, transit credits garnered the least support compared to the other options.

Table 4-2. Key Themes from Survey Respondents – Benefit Type (N = 10,914)

Theme	All Respondents Strongly Agree or Agree	Households under $50,000/year
Benefit Type[1]		
Daily or monthly toll caps	45%	55%
Providing a limited number of toll credits for free or discounted toll trips	44%	53%
Transit credits	40%	41%
Free transponder plus $25 credit	38%	48%

[1] Survey question: How much do you agree or disagree with the following options for a low-income toll program? Respondents could also select options indicating disagreement, neither agreeing or disagreeing or unknown.

In summary, the general population and households with incomes under $50,000 most agreed with providing toll caps and toll credits. Lower-income households were more supportive of all benefit types than the general population. Both groups were more in favor of defining eligibility at the 300% FPL than at the 200% FPL, but lower-income households were more supportive of either level than the general population.

Key themes from the open-ended survey responses and project emails

General themes discussed in these comments and by direct email included observations and experiences of the need for a low-income toll program, thresholds for income eligibility and the recommended types of credits, discounts and exemptions, and ideas about income verification and certification. A full summary will be included in an appendix of the final report.

- Many respondents indicated their concern about the impact the toll will have on people experiencing low incomes, particularly in the BIPOC communities, given income inequality, limited travel options, and the increased cost of living.
- Commenters generally supported discounts, exemptions, and credits for people experiencing low incomes, including tiered and phased credits, monthly and daily caps, and an expansion of the low-income threshold. A small number of commenters also suggested exemptions for key user groups such as students, seniors. and people with disabilities. A few felt there should be no exemptions, and that all travelers, including people experiencing low incomes, should pay at least some amount.
- Some commenters indicated their preferred thresholds or definitions for “low income.” A few mentioned that they felt the threshold for low-income eligibility should be raised. General income thresholds for exemptions, discounts, or credits discussed ranged from $27,000 to $80,000 per year.
- A few commenters indicated concern about the procedural burden that income verification or certification would place on people experiencing low incomes.

ODOT received two emails about discount options for people experiencing low incomes. These comments noted the following:

- Concern about the cost of administering a low-income program and the impact on taxpayers. It noted tolling programs in other states, such as Florida and New Jersey, where everyone pays the same without discounts.
- Concern that the federal poverty guidelines would be too low for senior citizens to qualify. Given this concern, the commenter recommended increasing the eligibility to $45,000 for a married couple.

5 Sensitivity Test for Discount Options

This chapter presents the technical analyses of the potential impacts of income-based discount options on traffic volume and gross toll revenue for the I-205 Toll Project and the Regional Mobility Pricing Project. It also highlights modeling assumptions and methodologies used for this analysis, which is meant to inform—not precisely represent—the potential outcomes of one of the options for consideration.

5.1 Outcomes

This draft report considered findings from two separate sensitivity test analyses, one conducted as a part of the I-205 Toll Project and the other conducted a part of the Regional Mobility Pricing Project. Sensitivity tests are used to test different project assumptions by changing a single variable and measuring the outcomes of that change. For these analyses, the Project Team applied a 50% discount for trips made by drivers experiencing low incomes and measured daily traffic volumes on the tolled facilities (Interstate 5 [I-5] and I-205) and gross toll revenue.

The sensitivity test results are not meant to represent exact outcomes of the options in this draft report; rather, they suggest the pattern of how a low-income benefits program might affect project outcomes. The tests were performed using the Metro Regional Travel Demand Model[5] to assess future year conditions (in 2040 or 2045). The modeling analyses involve a number of assumptions, such as 100% enrollment in the program by all who are eligible, and high-, medium-, and low-income thresholds that do not perfectly match the federal poverty level (FPL) used in the draft report options for consideration.

The model results indicate that as more users take advantage of a discount program, the more likely it is that the toll program objectives related to revenue and congestion management could be affected. The findings suggest that a limited low-income discount could slightly increase daily traffic volume on tolled facilities and slightly decrease gross toll revenue[6] compared to baseline conditions without a discount. A more inclusive discount program (with increased eligibility at a higher income threshold) could further increase daily traffic volume and decrease gross toll revenue.

5.1.1 Key Findings: I-205 Toll Project Model Sensitivity Test

The Project Team performed model sensitivity tests for the I-205 Toll Project to support the refinement of assumptions for the I-205 Toll Project alternatives to be advanced into the Environmental Assessment. Table 5-1 shows how daily traffic volume and daily gross toll revenue may change by applying the low-income discount to the baseline project scenario. The baseline scenario is Alternative 3 from the I-205 Toll Project Comparison of Screening Alternatives Report, which includes two toll locations: The Abernethy Bridge and the Tualatin River bridges located east of Stafford Road. The changes represent the difference between application of a low-income discount and the baseline scenario, in year 2040 modeling. The estimated daily volume increase and change in gross toll revenue are totals of the two tolled segments of I-205.

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5 Metro's Research Center collects and analyzes transportation-related information to develop and maintain modeling tools for forecasting travel flows and emissions. Travel demand models use data to predict transportation choices such as trip frequency, trip origins and destinations, types or modes of transportation, and travel by time of day.

6 The sum of all money generated from collecting tolls, without taking into account any portion of the revenue that will be used to cover expenses.

In summary, the 2040 model results indicate that a low-income discount could slightly increase daily traffic volume (2% from the baseline) and could slightly decrease gross toll revenue (1% from the baseline).

Table 5-1. Comparison of Discount Scenario to Base Toll Rate Scenario in 2040

Change Measurement	Low-Income Discount Toll Scenario (50% of Base Toll for Low Income)
Percent Change in Daily Traffic Volume	+2%
Percent Change in Gross Toll Revenue	-1%

5.1.2 Key Findings: Regional Mobility Pricing Project Model Sensitivity Test

The Project Team tested two low-income discount scenarios for the Regional Mobility Pricing Project. The first test applied a 50% toll discount to low-income vehicle trips, which make up about 10% to 15% of potential automobile trips on I-5 and I-205. The second test applied a 50% toll discount to the same low-income vehicle trips in addition to half of the medium-income vehicle trips, accounting for a total of 35% to 40% of potential auto trips on I-5 and I-205. Table 5-2 shows the estimated effects that each discount could have on I-5 and I-205 volumes and the gross Regional Mobility Pricing Project toll revenue, based on modeling for 2045 conditions.

Table 5-2. Comparison of Discount Scenarios Versus Congestion Pricing without Discount Applied in 2045

Change Measurement	Smaller Discount Program (50% Discount for Low-Income Trips)	Larger Discount Program (50% Discount for All Low-Income Trips Plus Half of Medium-Income Trips)
Percent Change in Daily Traffic Volume	+2%	+4%
Percent Change in Gross Toll Revenue[1]	-<5%	-10 – -15%

[1] The gross toll revenue impacts described in this section are based on raw model results and toll rate assumptions. They are intended for relative comparisons and do not represent net toll revenue estimates.

In summary, the smaller (less inclusive) discount program (50% discount on all low-income trips) would increase daily traffic volume by 2% from the baseline, and the larger discount program (50% discount on all low-income trips and half of medium-income trips) would increase daily traffic volume by 4% from the baseline in 2045. The smaller discount program would decrease gross toll revenue by less than 5%, and the larger discount program would decrease gross toll revenue by 10% to 15%.

5.2 Considerations for Sensitivity Tests

5.2.1 Income Threshold

As mentioned previously, the Metro Regional Travel Demand Model used to produce these results uses different income thresholds than the FPL thresholds referenced in the draft report options for consideration. Trips in this model are divided into three groups based on household income:

- Low Income: Household income under approximately $30,000 per year (in current year dollars)
- Medium Income: Household income between approximately $30,000 and $125,000 per year (in current year dollars)
- High Income: Household income above approximately $125,000 per year (in current year dollars)

As shown in Table 5-3, the 2021 FPL thresholds are split into individual household/family size, ranging from 1 person to 14 people, rather than the entire household on average. Because the Regional Travel Demand Model does not account for household/family size associated with each vehicle trip, the outcomes reported in the Key Findings sections in Section 5.1 above cannot be directly tied to the income thresholds used in the model. However, these data provide a helpful point of reference for how income classes in the model relate to FPL.

Table 5-3. Annual Household Income Thresholds for 200% and 400% of the 2021 Federal Poverty Level

Household/Family Size	200% FPL	400% FPL
1	$27,180	$54,360
2	$36,620	$73,240
3	$46,060	$92,120
4	$55,500	$111,000
5	$64,940	$129,880
6	$74,380	$148,760
7	$83,820	$167,640
8	$93,260	$186,520
9	$102,700	$205,400
10	$112,140	$224,280
11	$121,580	$243,160
12	$131,020	$262,040
13	$140,460	$280,920
14	$149,900	$299,800

Source: U.S. Department of Health and Human Services. 2022. *HHS Poverty Guidelines for 2022*. https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines.
FPL = federal poverty level

5.3 Value-of-Time Considerations

Each household is assigned to an income class in the Regional Travel Demand Model, and vehicle trips generated by these households are assigned a particular willingness to pay a toll, as represented by a value-of-time (VOT) assumption. This determines how a monetary toll assumption affects travel behavior in the model. For example, a driver with a high VOT is more willing to pay a toll for the travel-time savings that the tolled facility would offer than a driver with a low VOT, even though the amount of money paid is the same for both drivers.

The current model assumptions directly tie income and VOT: low-income drivers are assigned a low VOT, and high-income drivers are assigned a high VOT. In reality, VOT distributions for each income class will overlap and vary with each individual trip, because each traveler's willingness to pay tolls for a given trip can be highly situational and not always correlated with their income level. The Project Team is currently running tests to account for more variation in VOT within each income class. However, the current assumptions still show a range of possible responses to different toll schedules and allowed the Project Team to assess the potential impacts of different policies.

6 Regional Analysis

This chapter considers income levels in the Portland region in relation to the Federal Poverty Level (FPL) and alternative ways, beyond the FPL, to determine eligibility in the region. It describes a decision-making framework and a set of metrics to evaluate different benefit options, which culminates in a table of scores that identify the best and worst benefit options based on the framework and metrics. The decision-making framework was central to developing the options for consideration presented in the draft report.

As noted in Chapter 5, the complexities of using the FPL as a benchmark introduce many considerations during the sensitivity test analyses, ranging from accounting for differences in household size when modeling to the insufficiency of using the FPL alone as a threshold for low or medium incomes in urban areas. At the same time, using a nationally recognized federal benchmark like the FPL can make a program easier to understand from the perspectives of both program operators and the public and can foster consistency with other similar programs. These complex considerations and tradeoffs warrant further examination of:

- How the FPL relates to the people living in communities surrounding Portland;
- How the FPL relates to more regionally specific income thresholds (ALICE and SSS[7]); and
- Benefit recommendations resulting from these relationships.

6.1 Income Levels by Geography

In the Portland region, about 25% of the population experiences low income at or below 200% FPL and 54% have incomes at or below 400% FPL. These percentages are lower than Oregon overall, and the proportion of people experiencing both levels of low incomes is higher in Oregon than in Washington. Table 6-1 displays the population totals and income levels by geography. The table includes percentage of the population experiencing incomes below the FPL not only as a point of comparison but to demonstrate that using the FPL alone as a threshold in the Portland area is too stringent to serve a practical purpose and to provide a widespread benefit. These statistics provide context for determining eligibility for the low-income program.

Table 6-1. Populations in the Portland Metropolitan Statistical Area, Oregon, and Washington by Share of the Federal Poverty Level

Demographic (U.S. Census Bureau Classifications)	Metropolitan Statistical Area[1]	Oregon	Washington
Total Population	**2,412,378**	**4,052,019**	**7,266,810**
100% FPL	11%	13%	11%
200% FPL	25%	31%	26%
400% FPL	54%	61%	55%

Source: U.S. Census Bureau, American Community Survey, 2015 to 2019. S1701 Poverty Status in the Past 12 Months.
[1] Metropolitan Statistical Area = Portland-Vancouver-Hillsboro, OR-WA Metro Area

[7] ALICE is the acronym for Asset Limited, Income Constrained, Employed, and represents households with incomes above the FPL but that still don't make enough to pay for the basic cost of living. SSS is the acronym for Self-Sufficiency Standard, which is a measure of the cost for a family to make ends meet without assistance.

6.2 Eligibility for the Portland Region

Since the FPL alone has been demonstrated to be too restrictive to use as a benchmark for the program to provide widespread benefits, Equity and Mobility Advisory Committee and stakeholder feedback supported using a more inclusive income threshold than the FPL. While multiples of the FPL shown above (i.e., 200% and 400% FPL) are commonly used for similar programs, the Oregon Department of Transportation (ODOT) assessed two alternative methodology models:

- **ALICE** (Asset Limited, Income Constrained, Employed) uses a standardized set of measurements to quantify the cost of a basic household budget in each county of partner states. The *ALICE Threshold* represents the minimum income level necessary for survival for a household and is derived from the *ALICE Household Survival Budget*—the bare minimum cost of household basics including housing, childcare, food, transportation, technology, and health care, plus taxes and a contingency amount equal to 10% of the household budget. The ALICE Household Survival Budget (for Oregon in 2018) for one adult, one preschooler, and one child is $56,523.[8] ALICE also calculates a Household Stability Budget, which estimates the higher costs of maintaining a viable household over time, including a 10% savings category that can be used in an emergency, for additional education, or to buy a home.[9] For 2018, the most recent data year, the ALICE is $51,216 for a household/family size of one and $118,896 for a household/family size of four.
- **Oregon SSS** (Self-Sufficiency Standard for Oregon) calculates how much income a family must earn to meet basic needs and is derived from the costs of housing, childcare, food, healthcare, and transportation, plus the cost of taxes and impacts of 2021 tax credits. The Oregon SSS minimum cost of living tends to be higher than the ALICE minimum cost of living. For the counties of the Portland Metropolitan Statistical Area, the Oregon SSS for one adult, one preschooler, and one school-age child is around $60,000 to $80,000. Table 6-2 shows for the SSS by county.

Table 6-2. Portland Metro SSS Compared to the Federal Poverty Guidelines

County	Annual SSS	As a Percentage of Federal Poverty Guidelines
Clackamas County	$78,355.02	357%
Columbia County	$67,966.03	309%
Multnomah County	$79,710.87	363%
Washington County	$78,106.52	356%
Yamhill County	$68,352.56	311%
Clark County	$64,600.25	294%
Skamania County	$59,272.81	270%

Source: University of Washington.2021. The Self-Sufficiency Standard for Oregon 2021. https://www.oregon.gov/workforceboard/data-and-reports/Documents/The-Self-Sufficiency-Standard-For-Oregon-2021.pdf.
SSS = Self-Sufficiency Standard

Both the ALICE and SSS methodologies calculate standards for unique combinations of county and family composition. Table 6-3 gives a examples of the varying SSS by county and household size as a percentage of the FPL, demonstrating that meeting this standard can range from earning 221% of the FPL for a household of one in Skamania County, Washington, to earning 497% of the FPL for a household of five in Multnomah County, Oregon. Various household compositions and sizes of 6 to 20

[8] United for Alice. https://www.unitedforalice.org/household-budgets/oregon.
[9] United for Alice. https://www.unitedforalice.org/household-budgets-mobile/oregon

are also calculated in the SSS but not shown below. The SSS per household size indicated below are averages taken from all household compositions per household size.

Table 6-3. Portland Metro SSS Compared to Federal Poverty Guidelines by Household Size

Family Size	1	2	3	4	5
Clackamas County	$ 36,249.70	$ 57,349.17	$ 71,700.00	$ 95,112.94	$ 144,944.23
%FPL	281%	329%	327%	359%	467%
Columbia County	$ 32,543.45	$ 51,364.19	$ 63,135.63	$ 82,911.86	$ 122,969.33
%FPL	253%	295%	288%	313%	396%
Multnomah County	$ 31,801.10	$ 54,173.98	$ 70,300.35	$ 95,727.33	$ 154,422.78
%FPL	247%	311%	320%	361%	497%
Washington County	$ 36,155.86	$ 57,191.33	$ 71,403.40	$ 94,806.47	$ 144,473.67
%FPL	281%	328%	325%	358%	465%
Yamhill County	$ 33,210.14	$ 51,912.40	$ 63,531.74	$ 83,371.06	$ 123,464.96
%FPL	258%	298%	289%	315%	398%
Clark County	$ 30,756.90	$ 48,584.59	$ 60,219.16	$ 79,647.82	$ 120,376.66
%FPL	239%	279%	274%	301%	388%
Skamania County	$ 28,484.07	$ 44,680.15	$ 54,932.57	$ 71,964.98	$ 106,813.92
%FPL	221%	256%	250%	272%	344%
Overall	**$ 32,743.03**	**$ 52,179.40**	**$ 65,031.83**	**$ 86,220.35**	**$ 131,066.51**
%FPL	**254%**	**300%**	**296%**	**325%**	**422%**

Source: University of Washington 2021. The Self-Sufficiency Standard for Oregon 2021. https://www.oregon.gov/workforceboard/data-and-reports/Documents/The-Self-Sufficiency-Standard-For-Oregon-2021.pdf.

FPL = federal poverty level; SSS = Self-Sufficiency Standard

Table 6-3 also shows that while these standards are highly specific to family composition and geography, it may be difficult to practically apply to the process of determining household eligibility. ALICE and SSS can still be used to judge the effectiveness of using FPL multiples as benchmarks in reaching the right level of intended users.

See Appendix A for more information on ALICE and the Oregon SSS.

7 Case Study Findings

This chapter reviews best practices and lessons learned from other income-based toll programs and fare systems. The case study analysis and stakeholder interviews revealed many barriers to enrollment in low-income benefit programs, but providers still face difficulties in lowering those barriers. The review of national programs and feedback from the Equity and Mobility Advisory Committee feedback suggest that the other programs' benefits, such as free transponders or a $25 annual credit, are not appealing enough to increase enrollment significantly.

7.1 National Case Studies

The process to develop this draft report included a national scan of existing or proposed low-income programs that could offer best practices or lessons learned. This research identified only two low-income toll programs operating in the United States. While the lessons learned from the two programs are valuable, the research effort was also broadened to assess low-income programs in Oregon in general, relevant transit fare low-income programs, as well as proposed low-income toll programs. The research also included a focus on enrollment options for low-income programs.

7.1.1 Existing Low-Income Toll Programs

The two existing low-income toll programs are in Los Angeles, CA, and in the Norfolk, VA, metro area.

For eligible participants, the **Los Angeles Metro Low-Income Assistance Program** waives a $1 monthly account maintenance fee and provides a $25 credit to offset the cost of purchasing the transponder.[10] Households that report an annual household income of less than 200% of the federal poverty level (FPL) are eligible. The program's value was initially set to match the cost of the transponder, and as such, another way to describe the program is that it provides a free transponder to participants. Because of the relatively low value of the benefit, LA Metro does not require users who have qualified for the program to requalify on a recurring basis. In 2020, LA Metro considered increasing the value of the toll credit provided to participants, since there is an understanding that despite significant marketing efforts, the limited enrollment in the program is likely due to the low value of the benefits provided to users—3% of all transponders used on the toll corridors are enrolled in the program. Furthermore, LA Metro also provides toll credits for users of transit on the corridor (and bus passes for roadway users), and uses net revenues from the corridor to fund multimodal mobility projects in adjacent communities. The key lessons learned are:

- Transponder purchase costs can be a barrier for corridor users experiencing low incomes.
- If the program verifies income, it may not be necessary to re-verify annually.
- Program enrollment will be suppressed if the value of the benefit is low.
- It is possible to use toll revenues for equity programs beyond providing credits and discounts.

The **Virginia Department of Transportation (VDOT) Toll Relief Program** provides eligible participants with discounts on various toll tunnels in the Norfolk, VA, metro area. In order to join the program, users must apply at an E-ZPass customer service center, of which there is one in each city, both of which are on bus lines and are accessible to people with disabilities. This program provides low-income residents of two towns directly adjacent to the toll tunnels a 50% discount on their first ten trips per week. Until

[10] https://www.metroexpresslanes.net/offers-discounts/low-income-assistance/

recently, this program was designed differently so that benefits would accrue primarily to drivers using the tunnels frequently—approximately 2,000 to 3,000 users are enrolled in the program, with the average benefit being approximately $25 per month. A prominent aspect of this program is that it is led by a steering committee of local stakeholders, including representatives from the NAACP, the Hispanic Chamber of Commerce, local military bases, local business owners, and local elected officials. With a diverse slate of members, a steering committee involving local stakeholders can help focus communities continue to have a voice with regard to program features and functions on a recurring basis once it is implemented. As a further equity accommodation, VDOT dropped the required minimum balance on the E-ZPass transponder from $35 to $20. VDOT has found that enrollment, verification, and maintenance costs add up to approximately 15% of the value of the benefit distributed—the state pays for these aspects of the program, and the private concessionaire absorbs the cost of the reduced tolls.

The key lessons learned are:

- It is likely that significantly less than all eligible corridor users will enroll in a low-income program.
- A steering committee or equity panel can help people experiencing low incomes continue to shape the program on an ongoing basis.
- The minimum balance on transponders as well as the size of automatic reloading events can be significant barriers for people experiencing low incomes.
- The cost of income verification is a significant share of overall program costs for low-income toll programs.
- A thoughtful and broadly accessible enrollment process is key to driving program enrollment and equity.

Additional research on corridor-length and shorter-length (e.g., bridge replacement) tolling programs and projects is included in Appendices B and C.

7.1.2 Proposed Low-Income Toll Programs

Various states and cities around the United States are actively considering implementing low-income toll programs, including Washington State; the Oakland, CA, metro area; the San Francisco, CA, metro area; San Bernardino County, CA; Colorado; and Minnesota. The studies conducted for these programs reflect the lessons learned from existing programs, and also include:

- In Washington State:
  - The proposed program provides recurring monthly toll credits or free toll trips to all eligible Washington residents using the corridor, and proposes to provide free transponders, establish a program advisory panel, and be intentional about program accessibility.
  - The State has an existing online system for instantly checking whether an individual has qualified for any state benefits, significantly simplifying the income verification process.
  - The proposed low-income toll program was chosen to:
    - acknowledge the value of program simplicity for users and implementing agencies
    - be responsive to stakeholder and user feedback that occasional free trips were highly valuable for making emergency trips

  - leave open the possibility that transponders may not have required balances, credit, or debit cards for program users, all of which can present significant barriers, and
  - be flexible in when the benefits can be used, to acknowledge that people experiencing low incomes have greatly divergent mobility needs, and they know their own mobility needs best.
- A program option choice framework considering user benefits, program practicality, and costs guided the choice of program options, with the framework reflecting feedback, knowledge, and preferences from stakeholders, decisionmakers, and the community.

- In the Oakland, CA, metro area, the implementing agency has expressed a desire to learn by observation rather than modeling or multi-year study, and is in progress to launch a pilot of a low-income toll discount program on a set of express lanes.
- In Colorado, the proposed low-income toll program includes a significant amount of choice for users and the community. In the program's first year, program participants can choose from a $100 toll or transit credit. The program is planned to be set up with an advisory panel, and in future years, the community will choose whether to allocated funding from net toll revenues to further toll credits, transit credits, or a combination. This kind of choice makes programs more complicated for users and implementers, but can provide significant value to program users and communities who understand their own needs best.
- In the San Francisco, CA, metro area, the San Francisco County Transportation Authority is planning a low-income toll program for access to Treasure Island via a toll bridge. The agency is strongly considering a tiered benefit, with possibly a toll waiver for those in the lowest quintile for household incomes, and a 50% discount for those in the second-lowest quintile for household incomes, or alternately a 75% discount for the second-lowest quintile and a 50% discount for the middle quintile. Notably, the agency feels that 200% of the FPL is too low as a threshold for low-income determination in the San Francisco, CA area.

7.1.3 Existing Low-Income Transit Fare Programs

A significant number of transit agencies around the country offer discounts to people experiencing low incomes. This section discusses the three programs with most relevant lessons learned and practices. Of course, the funding and operations models for highways and transit agencies are significantly different, and as such the levels of benefit provided may not be analogous to toll road contexts.

TriMet, the primary public transportation operator in the Portland metro area, provides a low-income assistance program that provides qualifying riders with reduced fares. The agency's electronic fare program, Hop Fastpass, can also be used on the Portland Streetcar and buses operated by C-TRAN, the Clark County, Washington, public transportation agency. Program eligibility comprises four principles: applicants must be Oregon residents, have incomes at or below 200% of the FPL, be between the ages of 16 to 64 (with older and younger individuals eligible for different discount programs), and verify their identity. The program provides between a 50% and a 75% discount on various transit passes. Best practices and key lessons learned from this program include:

- Program funding is through payroll taxes and so is reliable and sustainable.
- The program requires users to provide proof of income, and TriMet feels this causes them to turn away potential users who are probably eligible but don't have the appropriate paperwork.

- The agency is thoughtful and deliberate about encouraging high levels of enrollment (with approximately 10% of eligible individuals in the Portland metro area enrolling), through:
  - Designing the program to have a single point of centralized administration within the government, while also having many different points of contact for participants, since TriMet is partnered with cities and community organizations to help people access the benefit.
  - Providing multiple enrollment options, with an online application as well as seven in-person locations, reducing barriers to enrollment.

In the Seattle, WA, metro area, **King County Metro** provides two low-income fare programs, one of which provides discounted rides to people with incomes below 200% of the FPL, and the other of which provides free rides to people who have incomes below 80% of the FPL and are enrolled in one of six state benefit programs.[11] They key lessons are:

- Recognizing the people have a wide range of ability to pay for transportation costs, and as such creating a tiered program that provides more benefits to people experiencing very low incomes as opposed to people experiencing moderately low incomes.
- Using enrollment in other government programs as a substitute for direct verification of income for program enrollment.

LA Metro's Low-Income Fare is Easy (LIFE) program provides a free 90-day transit pass, followed by a choice of fare credit or fare discount. A key practice from the program is its use of self-certification, in which program users are allowed to state that their income is below the program's eligibility thresholds without having to provide further documentation. This process makes the enrollment process easier for program participants, and cheaper for the implementing agency. Furthermore, the agency encourages enrollment by promoting the program and allowing in-person registration at pop-up locations and community fairs—in general, meeting potential participants where they already are can greatly increase the share who enroll in a benefit program.

7.2 Lessons Learned for Eligibility and Enrollment

This case study analysis provides insight into best practices for and lessons learned from existing and planned programs. This section expands upon these for eligibility and enrollment. An overall theme is that driving enrollment in low-income toll programs, and in benefit programs in general, is a significant challenge. Barriers can include knowledge and understanding of the programs, the low value of benefits provided, balance and banking requirements for transponders, the cost and complication of in-person and paperwork-intensive enrollment processes, and a lack of thorough accessibility in the enrollment process. For example, the review of national programs and feedback from the Equity and Mobility Advisory Committee suggests that the benefits offered by some other programs, such as free transponders or a $25 annual credit, are insufficiently appealing to someone going through the enrollment process.

The following subsections summarize best practices and lessons learned from the national case studies in two categories: eligibility thresholds and self-certification.

[11] The six Washington state benefit programs: Temporary Assistance for Needy Families (TANF)/State Family Assistance (SFA), Refugee Cash Assistance (RCA), Aged, Blind, or Disabled Cash Assistance (ABD), Pregnant Women Assistance (PWA), Supplemental Security Income (SSI), Housing and Essential Needs (HEN).

7.2.1 Eligibility Thresholds

Income thresholds for benefit programs can consist of a single threshold, for example everyone whose income is below the FPL qualifies, which are called one-tier programs. Alternately, they can consist of multiple thresholds, for example below whose income is below the FPL receive a large benefit and people whose incomes are instead below 300% of the FPL receive a smaller benefit, which are called multi-tier programs. Multi-tier programs are more challenging to implement and for users to understand, but they are often more equitable and economically efficient in distributing benefits to those who most need it, while still providing benefits to people experiencing moderately low incomes. Both one-tier and multi-tier eligibility thresholds are used for benefit programs around the country.

Many of the toll and fare equity programs analyzed use a multiple of the FPL as a reference to determine eligibility for benefits. FPL is widely known, but it no longer reflects the current cost of basic household necessities or differences in cost of living across specific geographies in the United States. Depending on the median income in an area, people experiencing low income or very low income compared to other members of their local community may still have incomes that fall above the FPL, even though the local cost of living may exceed their income. Agencies in Portland, and the other geographies listed above, use a multiple (e.g., 200%) of the FPL as a threshold to right-size the program eligibility threshold with the local cost of living. Table 7-1 outlines income requirements used by the low-income programs listed in the case studies.

Table 7-1. Income Requirements for Various Low-Income Programs

Program	Income Cap Requirements
LA Metro toll program [1]	200% FPL
VDOT toll program [2]	Approximately 200% FPL
Washington proposed toll program [3]	Approximately 200% FPL
San Francisco proposed toll program [4]	Various tiers, up to median area income
TriMet fare program [5]	200% FPL
King County Metro fare programs [6]	200% FPL for lower tier; 80% FPL plus enrollment in one of six state benefit programs for higher tier
LA Metro fare program [7]	HUD very low income level for Los Angeles

[1] https://www.metroexpresslanes.net/offers-discounts/low-income-assistance/
[2] https://www.virginiadot.org/newsroom/statewide/2021/enrollment-now-open-for-2022-vdot-toll-relief-program12-1-2021.asp#:~:text=Beginning%20December%201%2C%202021%2C%20Norfolk,to%2010%20trips%20per%20week.
[3] https://wstc.wa.gov/wp-content/uploads/2021/08/2021-WSTC-Tolling-Equity-Report.pdf
[4] https://www.sfcta.org/sites/default/files/2022-01/TIMM_PIR_2021_2022-01-21.pdf
[5] https://trimet.org/lowincome/
[6] https://kingcounty.gov/depts/transportation/metro/fares-orca/subsidized-annual-pass.aspx; https://kingcounty.gov/depts/transportation/metro/fares-orca/orca-cards/lift.aspx
[7] https://kingcounty.gov/depts/transportation/metro/fares-orca/orca-cards/lift.aspx
FPL = federal poverty level; HUD = U.S. Department of Housing and Urban Development; VDOT = Virginia Department of Transportation

As discussed elsewhere in this draft report, two methodologies called ALICE (Asset Limited, Income Constrained, Employed) and Oregon SSS (Self-Sufficiency Standard) attempt to calculate an updated version of the FPL, assessing the income one needs to fulfill all basic necessities based on family size and home geography. The resulting figures are significantly higher than the FPL, and for the Portland metro area are in the vicinity of 400% of the FPL.

7.2.2 Self-Certification

To qualify for enrollment in low-income benefit programs, applicants are required to state or demonstrate that their household income meets the eligibility requirements. Applications may require documentation to prove income, such as a paystub, benefit letter, or other approved document. However, self-certification allows applicants to certify their income without substantiating documents. Applicants may be asked to check a box on the application that says, "I verify that the income I selected is true." Some programs may also require applicants to agree to provide proof of income in the future.[12] Self-certification reduces barriers to enrollment in low-income benefit programs. Benefit programs in general, and particularly programs with self-certification, commonly generate discussion and concerns about the possibilities of fraud. In practice, much of this discussion is grounded in prejudice and stereotype, and benefit programs like the low-income toll program being considered here are not shown to generate a meaningful amount of fraud. When balanced against the significantly lower costs of program operation, increased enrollment, and time and cost saved to program users, the benefits are likely to outweigh the costs.

In particular, the Low-Income Toll Program would have features that further limit the potential for and cost of fraud:

- **Benefits cannot be cashed out:** The fact that the benefits can only be used for travel on the toll corridors, and cannot be cashed out, significantly limits the potential for professionalized fraud at scale, by far the most visible kind of fraud observed in benefit programs.
- **Use of the benefit is limited:** The low-income toll benefit only applies to people who use the tolled I-5 and I-205 facilities, which significantly limits the potential for fraud, as users would have to live in the project area (and not qualify for the program themselves).
- **Benefits are administered on a small scale:** Each person only receives one instance of the benefit at a time. Furthermore, if the final benefit chosen is bounded—that is, it is a credit or a number of free trips, that makes fraud even less appealing, as it is much less likely that many would commit fraud for a benefit that is limited to a fairly small value. More research may be needed to understand whether a full exemption would invite more illegitimate use of the program by extremely frequent (for example commercial) users of the corridor, who can thus achieve significant savings by misusing the program—a preferred way of addressing this issue is by performing focused income checks for self-verified accounts that become power users of the program.

Self-certification of income can be beneficial to increase accessibility to the low-income toll program and therefore increase overall enrollment. Although there may be some concerns about fraud, some of which arise more from stereotype and bias, administering a program without self-certification may be more costly than potential losses from fraud.

[12] Self-certification example: https://www.hudexchange.info/resource/4786/cdbg-selfcertification-of-annual-income-form

8 Evaluation Framework for Type of Benefit

This chapter provides a high-level evaluation framework the Project Team developed using other agencies' experiences and input from various stakeholders to evaluate different options for the low-income benefit.

To help guide the options for consideration in this draft report, the Project Team used other agencies' experiences and the input from various stakeholders to develop a high-level evaluation framework and a set of metrics to evaluate different benefit options. Further detail on the metrics and the evaluation framework is provided in Appendix C. The decision-making framework considers the type(s) of benefits to provide, the method of enrollment, and the selection of income criteria. The set of metrics includes the benefit to program participants, the cost of implementing the program, its impact on roadway operations, and feasibility of implementation. Key terms and concepts include the following:

- Income threshold: Household income within a defined range of eligibility for program participation (e.g., Households 0% to 100% of the federal poverty level).
- Toll discount: A discount applied to the assessed toll for each trip (e.g., 50% discount on a $3 toll would result in the driver paying $1.50). A toll discount is applied as the trip is charged, so the driver would pay the discounted price. Discounts are the easiest for participants to understand and track but require reloading a toll account and may incentivize travel during peak hours.
- Toll credit: A credit applied to a transponder account on a recurring basis (e.g., A $25 toll credit applied to the transponder account every 6 months). Credits diminish the burdens of payment card requirements, minimum account balances, and automatic reloading events. Credits also incentivize travel during non-peak hours.
- Free trip(s): A set number of free trips are applied to a transponder account on a recurring basis (e.g., 10 free trips in the tolled area per month). Free trip(s) diminish the burdens of payment card requirements, minimum account balances, and automatic reloading events but may incentivize travel during peak hours.
- Exemption: Those enrolled in the Low-Income Toll Program are exempt from paying any toll costs. This discount option places the least burden on travelers experiencing low incomes but may incentivize travel during peak hours.
- Income verification: The process to determine that an applicant is within the eligible income range. This can be done through providing proof of income (such as a W2), through enrollment in another approved low-income benefit program (such as the Supplemental Nutrition Assistance Program [SNAP]), or through self-certification (applicant certifies their income without proof of income). Income verification can be a barrier to enrollment, but that can be improved by accepting enrollment in another low-income benefit program or allowing self-certification.

Based on the decision-making framework and the set of metrics, a score was assigned to each benefit option. The score was shaped by the relative weighting of each metric. Both the weighting for each metric and the score for each option on each metric can be revised based on feedback from stakeholders. This iterative revision process is part of the decision-making framework.

The following high-level ideas are the basis of the decision-making framework, the weighting for each metric, and the initial scores:

- People experiencing low incomes have a diverse set of travel needs, and their commute trips tend to be more broadly distributed at all hours of day, as opposed to being confined to peak hours.
- Eligibility threshold: A multi-tier eligibility threshold makes tolling less regressive, but it is harder to understand for program users and costlier to implement. Stakeholders have emphasized the benefits of both options: simplicity is critical, but so is acknowledging the different travel and budget needs of people experiencing very low income as opposed to people experiencing moderately low income.
- Discount type:
  - Credit or free-trip option (as opposed to a discount) diminishes the burdens of credit card or debit card requirements, minimum account balances, and automatic reloading events.
  - Given the early stage in developing the toll program, all discount options appear equally feasible from a tolling back-office perspective. Self-certification is much simpler for the implementing agency than a verification option.
  - Percentage discounts and free trips incentivize travel during peak hours and add trips to the toll network when it is most stressed due to peak-hour demand. In contrast, toll credits and fixed discounts incentivize traveling off-peak, but they also have less impact on making the time-saving distribution more equitable.
  - Percentage discounts are easiest to understand and track for program participants, but they have disadvantages, such as necessitating the funding of toll accounts, whether with cash or a credit/debit card, both of which can present challenges for people experiencing low incomes.
  - Stakeholders broadly support percentage discounts, credits, and a fixed number of free trips.
  - Income verification: Self-certification is a much simpler model of income verification for the implementing agency than a verification option.

The decision-making framework based on the high-level ideas above led to the scoring system shown in Table 8-1. Higher numerical scores (up to 6.2) are better, and lower scores (down to 3.4) are considered worse. In general, the scores indicate the following:

- A recurring credit or a recurring number of free trips provides the greatest combined value for users and the operating agency, followed by a percentage discount.
- Self-certification is more efficient overall than actively verifying income on enrollment.
- One-tier and multi-tier options both work well, with a slight edge to multi-tier program versions.

Table 8-1. Initial Scores for Each Discount Option

		Weight --->	100%
Discount Option	**Enrollment**	**Tiered**	**Total**
Percent Discount	Self-Certification	One-tier	5.0
		Multi-tier	5.3
	Confirmed Eligibility	One-tier	3.6
		Multi-tier	3.7
Number of Free Trips	Self-Certification	One-tier	6.1
		Multi-tier	6.2
	Confirmed Eligibility	One-tier	4.1
		Multi-tier	4.1
Monthly Credit	Self-Certification	One-tier	5.7
		Multi-tier	5.8
	Confirmed Eligibility	One-tier	4.0
		Multi-tier	4.0
Fixed discount	Self-Certification	One-tier	4.7
		Multi-tier	5.0
	Confirmed Eligibility	One-tier	3.4
		Multi-tier	3.5

The Toll Program and Affordability Research, Appendix C and Appendix D provide a review of low-income toll programs and additional information on the evaluative framework.

9 Options for Consideration

This chapter details this draft report's three options for establishing and operating a low-income toll program, including the justification for each option, considerations for refinement, and next steps for exploration and eventual implementation.

9.1 Provide a significant discount (e.g., Credits, Free Trips, Percentage Discount, or Full Exemption) for Households Equal to or below 200% Federal Poverty Level

9.1.1 Key Findings

- People experiencing low incomes may already have difficulty meeting basic needs such as paying for food, shelter, clothing, and healthcare. A discount or credit would alleviate the burden of choosing between paying a toll and meeting those basic needs.
- The federal poverty level (FPL) is split into household/family size, ranging from 1 to 14 people. Since the FPL does not account for many household expenses and does not account for the cost of living in specific geographies, programs in urban areas often instead use a multiple of the FPL, such as 200% FPL, instead of 100% FPL to determine qualifications.
  - In 2022, the average annual income at 200% FPL is $27,142 for a household/family size of one and $55,500 for a household/family size of four.[13]
  - In the Portland region, about 25% of the population have incomes at or below 200% of the FPL. This is lower than Oregon overall.
- Case study research and stakeholder interviews shows that the 200% FPL threshold is commonly used to determine eligibility for existing low-income benefits programs in Oregon and nationally. The 200% FPL threshold has therefore set an easily understood precedent on who should qualify for low-income benefits programs.
- Using the same income threshold as existing low-income programs, such as the TriMet Hop Fastpass, may allow the Oregon Department of Transportation (ODOT) to leverage other programs for low-income verification as part of the Oregon Toll Program. This would benefit people experiencing low incomes by reducing barriers to access, in addition to potentially reducing costs and security risks for ODOT associated with enrollment and verification. Additional conversations with these programs are needed to fully understand the feasibility of ODOT leveraging existing programs.
- In combination with self-certification, a monthly credit, percentage discount, or providing a specific number of free trips all scored the highest in the evaluative framework.
- EMAC supported a sizable benefit at 200% FPL but was divided on whether it should be a completely free option or one that is deeply subsidized (90%).
- Findings from two separate sensitivity tests indicate how a 50% discount for people experiencing low incomes may affect project outcomes—specifically, daily traffic volumes on Interstate 5 (I-5) and I-205 and gross toll revenue. The sensitivity test results are not meant to represent exact outcomes of the

[13] Assistant Secretary for Planning and Evaluation. 2022 Poverty Guidelines: 48 Contiguous States (all states except Alaska and Hawaii). Retrieved on June 8, 2022 from: https://aspe.hhs.gov/sites/default/files/documents/4b515876c4674466423975826ac57583/Guidelines-2022.pdf

options in this draft report; rather, they suggest the pattern of how a low-income benefits program might affect project outcomes.

- For the **I-205 Toll Project**, a 50% discount for the low-income vehicle class would increase daily traffic volume by 2% and decrease gross toll revenue by 1% compared to the Project's baseline scenario (based on the modeling analysis in 2040 conditions). The baseline scenario is Alternative 3 from the I-205 Toll Project Comparison of Screening Alternatives Report, which includes two toll locations: The Abernethy Bridge and the Tualatin River bridges located east of Stafford Road.
- For the Regional Mobility Pricing Project, the Project Team applied a 50% toll discount to low-income vehicle trips, which make up about 10% to 15% of potential automobile trips on I-5 and I-205 (based on the modeling analysis in 2045 conditions). The team also applied a 50% toll discount to the same low-income vehicle trips in addition to half of the medium-income vehicle trips, accounting for a total of 35% to 40% of potential auto trips on I-5 and I-205. In summary, the smaller (less inclusive) discount program (50% discount on all low-income trips) would increase daily traffic volume by 2% from the baseline, and the larger discount program (50% discount on all low-income trips and half of medium-income trips) would increase daily traffic volume by 4% from the baseline in 2045. The smaller discount program would decrease gross toll revenue by less than 5%, and the larger discount program would decrease gross toll revenue by 10% to 15%.
- **Note on findings**: The tests were performed using the Metro Regional Travel Demand Model to assess future year conditions (in 2040 or 2045). The modeling analyses involve a number of assumptions, such as 100% enrollment in the program by all who are eligible, and the income thresholds used in the model do not perfectly match the FPL used in the draft report options. The income thresholds used in the modeling analysis for vehicle trips are divided into three groups:
  - **Low Income:** Household income under approximately $30,000 per year (in current year dollars)
  - **Medium Income:** Household income between $30,000 and $125,000 per year (in current year dollars)
  - **High Income:** Household income above $125,000 per year (in current year dollars)

9.1.2 Considerations and Next steps

- The project team will perform additional analysis for both toll projects to further explore how a discount or credit for drivers experiencing low incomes might affect project outcomes—specifically measuring change in daily traffic volume and change in gross toll revenue.
- Further along in project planning, the Level 3 Investment Grade Toll Traffic and Revenue (T&R)[14] studies for both projects will refine and confirm the impacts of the low-income policy decision. The Level 3 T&R for the I-205 Toll Project, which will implement tolls to pay for the I-205 Improvements Project, is expected to occur between mid-2023 to mid-2024. Analysis of the costs to administer the low-income program will also be refined in the Level 3 Investment Grade Toll T&R study, including expected participation rates, if available and appropriate.

[14] The Level 3 Toll Traffic & Revenue Study conducts a robust and independent forecast of the traffic and revenue potential for a preferred or narrowed set of toll scenarios and is used to inform and instill the confidence of investors that will arrange financing.

- Additional consideration is needed to understand customer service implications to promote program enrollment. Full exemptions and credits are easier to explain, while trip-based discounts may pose more challenges to communicate.

9.2 Provide a Smaller, More Focused Discount (e.g., Credits Or Free Trips) for Households above 201% and up to 400% of the Federal Poverty Level

9.2.1 Key Findings

- Providing a recurring credit or number of free trips for households up to 400% FPL would alleviate the burden of paying a toll for this group experiencing moderately low incomes, who may struggle to meet basic needs.
  - The review of national programs and feedback from the Equity and Mobility Advisory Committee (EMAC) suggests that the benefits offered by some other programs, such as free transponders or a $25 annual credit, are insufficiently appealing to someone going through the enrollment process.
- The Oregon SSS (Self-Sufficiency Standard) and ALICE (Asset Limited, Income Constrained, Employed) provide additional data on cost of living to support considering some benefit provision to households up to 400% FPL.
  - The Oregon SSS calculates how much income a family must earn to meet basic needs and is derived from the costs of housing, childcare, food, healthcare, and transportation, plus the cost of taxes and impacts of 2021 tax credits.[13] In 2021, the Oregon SSS, averaged across the state of Oregon, is $31,521 (245% FPL) for a household/family size of one and $82,447 (311% FPL) for a household/family size of four. However, when averaging the Oregon SSS for the seven counties that comprise the Portland-Vancouver-Hillsboro, OR-WA Metro Area only, the thresholds increase, ranging from 254% of FPL for a household of one to 422% of FPL for a household of five.
  - The ALICE Threshold for Survival estimates a more constrained household budget that represents the bare minimum for families to make ends meet. As a multiple of FPL, the threshold for survival varies greatly depending on household size. Averaged across the state of Oregon, the Household Survival Budget is $25,380 (200% FPL) for a household of one and $75,768 (286% FPL) for a household of four.
  - The ALICE Household Stability Budget estimates the higher costs of maintaining a viable household over time including a 10% savings category that can be used in an emergency, for additional education, or to buy a home.[15] For 2018, the most recent data year, the ALICE is $51,216 (398% FPL) for a household/family size of one and $118,896 (449% FPL) for a household/family size of four.

[15] https://www.unitedforalice.org/household-budgets-mobile/oregon

  - In 2022, the average annual income at 400% FPL is $54,360 for a household/family size of one and $111,000 for a household/family size of four.[16] In the Portland region, about 29% of people have incomes between 201% FPL and 400% FPL.[17]

- Stakeholders support providing some benefit up to 300% FPL:
  - Respondents from the May 2022 regional online survey support providing some benefit to a range of incomes, up to 300% FPL. Respondents generally chose a higher income threshold for eligibility (300% FPL) compared to a lower income threshold (200% FPL). The survey was developed prior to case study research and regional economic analysis that informed income threshold considerations. While survey respondents were asked about 300% FPL, the upper income limit was revised to 400% FPL to reflect additional research findings regarding cost of living (Table 4-1).
  - EMAC received a presentation on preliminary findings and members expressed support for providing a sizeable benefit at 200% FPL and a smaller benefit at 400% FPL. EMAC also agreed that including two income ranges is worth the additional complexity so that different needs can be met.

9.2.2 Considerations and Next Steps

- Explore different certification options including self-certification because of the difficulty of verifying incomes as well the data security risk associated with collecting sensitive information, such as social security number and income, with one possible mitigation being verifiers who review but do not collect income documents. Additional research will be useful to understand the administrative costs of income verification, reviews of program usage, and revenue leakage.
- Analyze of the costs to administer the low-income program, which will be refined in the Level 3 Investment Grade Toll Traffic and Revenue study, including expected participation rates, if appropriate.
- Determine a communication strategy to inform potential applicants about the eligibility requirements and benefits for a tiered program, which is more complicated.

9.3 Use a Certification Process that Leverages Existing Programs for Verification and Further Explore Self-Certification

9.3.1 Key Findings

- Qualification through existing low-income service program(s), such as those described in Appendix B.2, improves the ease of enrollment for applicants with incomes below 200% FPL and reduces the administrative burden and data privacy risk for ODOT.
- Self-certification allows applicants to certify their income without substantiating documents. Applicants may be asked to check a box on the application that says, “I verify that the income I selected is true” or complete an attestation form stating that applicants understand there may be penalties for

[16] Assistant Secretary for Planning and Evaluation. 2022 Poverty Guidelines: 48 Contiguous States (all states except Alaska and Hawaii). Retrieved on June 8, 2022 from: https://aspe.hhs.gov/sites/default/files/documents/4b515876c4674466423975826ac57583/Guidelines-2022.pdf

[17] U.S. Census Bureau, American Community Survey, 2015 to 2019. S1701 Poverty Status in the Past 12 Months.

misstating or falsifying information. The process may also require applicants to agree to provide proof of income in the future.[18]

- Possible benefits of qualification through existing low-income service program(s) and self-certification include improving the ease of enrollment for travelers, which addresses an enrollment barrier that could contribute to low utilization of program benefits and eliminating the needs for ODOT to collect or process sensitive information.[19]
- In the evaluation framework, discount options with self-certification all received more favorable scores than those with confirmed eligibility.
- EMAC strongly supports a self-certification model that streamlines the low-income toll program benefit enrollment process.
- The project team conducted research to identify rates of fraud among low-income toll programs as well as low-income service programs more broadly. While we found no reports of large-scale fraud among comparable programs including ones with self-certification, and the proposed low-income toll program has several features that make it an unlikely target of systemic fraud, the project team will continue to research the topic and establish business rules to prevent fraud.
- Some features of the program that can reduce the likelihood and impact of fraud include that the program is geographically bounded to only specific toll roads, that each person receives only one instance of the benefit, and potentially that the benefit from the program is bounded (if it takes the form of a credit or a number of free trips).
- ODOT can consider the following strategies to prevent fraud:
  - Requiring the use of a specific transponder that is affixed to the vehicle and cannot be transferred between vehicles.
  - Focused monitoring requiring some program participants who are frequent users of the benefit program to submit documentation to verify their income.

9.3.2 Considerations and Next Steps

- Coordination will be needed to ensure that the certification model(s) is interoperable with Washington agencies.
- The Level 3 T&R will provide an analysis of program administration costs.
- Work with stakeholders and partners to identify existing programs to automatically qualify for the low-income toll program. LA Metro, King County Metro, and TriMet, among others, offer this to increase accessibility to the program.
- If considering self-certification, additional research is needed to understand the potential risk to and impact of program fraud, as well as to understand the efficacy and tradeoffs of fraud prevention strategies.

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[18] Self-certification example: https://www.hudexchange.info/resource/4786/cdbg-selfcertification-of-annual-incomeform

[19] https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=1008&context=ncpp_pub; https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_fund_report_2009_may_1266_summer_increasing_particip_benefit_progs_v3.pdf

- Further research is needed to understand the administrative costs of income verification. The Virginia Department of Transportation (VDOT) found that the cost of income verification is a material share of overall program costs.

9.4 Next Steps

Prior to the beginning of tolling, the Oregon Transportation Commission (OTC) will establish a rate structure based on vehicle class, time of day, location and distance, and method and payment, and will include income-based adjustments. Additionally, more work is needed to identify the implementation and operations costs associated with the options for consideration and proposed implementation practices identified in this report. Wherever possible, the Low-Income Toll Program will leverage existing systems to streamline implementation and operations. Whatever low-income benefit is decided upon will be built into the back office system before tolling goes live; a greater challenge will be messaging the low-income benefit to customers and forming creative strategies to reduce barriers to enrollment.

While the options presented in the Final Low-Income Toll Report will inform the income-based adjustments, further work and engagement will be needed to define next steps after the report is submitted to the OTC and Oregon Legislature. Ultimately, decision-making authority lies with the OTC and will occur through the rate-setting process after further robust public engagement and analysis of traffic and revenue impacts.

9.4.1 Implementation Practices

There are numerous considerations for implementing the ODOT toll projects, some of which have implications for people experiencing low incomes. While this draft report outlines recommendations to create a low-income toll program framework, the following section offers practices to consider when implementing the low-income toll program.

Transponders and Account Maintenance

Provide free transponders to people enrolled in the low-income toll program and community-based organizations or other groups helping to enroll people. Do not require a minimum dollar amount of balance to load or maintain the transponder account.

ODOT currently plans to issue transponders to all users free of charge. While stakeholder feedback indicates that a transponder credit may be an insufficient benefit on its own, it can be a complementary program component to support program enrollment. Additionally, stakeholders support measures to address enrollment barriers.

Transponder installation could be coupled with Department of Environmental Quality vehicle testing processes. For example, a driver who brings their car in for a smog check could also get their transponder installed in the same visit.

Having no minimum balance requirements will alleviate additional burdens for people experiencing low incomes, but it also raises invoicing costs, which will lead to leakage. If

Case Study:
The Los Angeles Metro Low Income Assistance Plan allows credits to be applied to the cost of the transponder and waives the $1 monthly account maintenance fee, recognizing that transponder purchase costs can be a barrier for corridor users experiencing low incomes.

Case Study:
The Virginia Department of Transportation Toll Relief Program dropped the minimum balance on the transponder from $35 to $20.

having no minimum balance requirement is infeasible, explore a low balance requirement, such as $5.00 (Tri-Met's minimum load value).

Provide a Cash-Based Payment Option

Provide a cash-based option for paying tolls to reduce a barrier to enrollment among those who are cash-preferred.

Some individuals do not have a bank account or prefer to use alternative financial services. Others would prefer not to share banking information with a government agency. Providing a cash-based option to load transponders addresses these concerns and is supported by stakeholders. Ideally, cash loading should occur in-community (at local stores) and should not have surcharges. ODOT is already considering this option for the toll program overall.

Program Communications and Outreach

Conduct extensive marketing, promotion, and engagement with community-based organizations that starts at least 6 months before tolling begins. Post signage so that travelers can make informed decisions.

Feedback from EMAC, low-income discussion groups, social service providers, and community organizations all recommend selecting the low-income toll benefit and enrolling people in the program before tolling begins. ODOT will need to consider the timeline for program decision-making, marketing, and outreach.

One benefit of scheduled variable-rate pricing is the ability for drivers to know the toll rate before they travel. Signage communicating rates facilitates predictability and transparency.

Develop an Inclusive Enrollment Process

Create an in-person and online enrollment process that is accommodating for participants experiencing a disability, who have limited technology access or training, who speak languages other than English, and who live far away from existing customer service centers.

The Portland region is a diverse place with people of many abilities and with varying degrees of access to technology. Online resources, such as a website and mobile app, can reach a wide audience. But for those with limited technology access or training, stakeholders support offering an in-person option to provide an inclusive and accessible customer service experience. This can serve as a test bed to see if that would be successful in the statewide program.

Case Study:
Tri-Met allows HopCard holders to load money on their account at local grocery and convenience stores, such as Safeway and 7-Eleven.

Case Study:
LA Metro's LIFE program encourages enrollment by allowing in-person registration at pop-up locations and community fairs.

Partnering with Oregon Driver and Motor Vehicle Services (DMV) or other social services sites could help enroll users in the low-income toll program. ODOT is already considering stationing customer service representatives at DMVs. Other potential channels include payment platforms like PayNearMe and InComm.

All enrollment options should be compliant with the American with Disabilities Act, accessible by multiple forms of transportation, and open for longer hours. Application materials should be available in multiple languages.

Develop Monitoring, Review, and Adjustment Process

Support a monitoring, review, and adjustment process for the low-income toll program that includes community voices and a process that is aligned with the Oregon Toll Program's Equity Framework.

Ongoing engagement and consultation with historically underrepresented and underserved communities in program monitoring, reporting, and programmatic changes facilitates building community understanding, capacity, trust, and support. It can also help planners and policymakers interpret data in local context and make more informed decisions for the low income toll program. This best practice would be applied as part of customer/user engagement. Experience from VDOT indicates that a steering committee or equity panel can help people experiencing low incomes continue to shape the program on an ongoing basis.

Prevent Debt and Criminal Penalties

For people experiencing low incomes of 400% of the FPL and below, offer education opportunities, additional time to pay toll charges, multiple notices of account balances, or set a maximum penalty amount.

Tolling should not contribute to more financial indebtedness for people experiencing low incomes, nor should it lead to criminal penalties. The existing rules for failure to pay tolls are established in Oregon law (ORS 383) and rules (731-040-0064). ODOT will need to consider the timeline, process, and consistency for defining a waiver of fines or penalties in rule. For program administration, ODOT should consider applying the same rules to all accounts within the low-income toll program.

Develop an Operation and Implementation Plan

Work with the toll implementation team to develop a concept of operations for the low-income toll program that includes an implementation framework.

More work is needed to develop an operational design and implementation plan. Such a plan will establish the necessary program details, specific policies, and technical system requirements that will enable more precise analysis and estimation of the program costs and potential impact on toll revenues and performance, long-term.

Appendix A Low-Income Benefit Programs and Thresholds

A.1 Federal Agencies

The U.S. Department of Agriculture's Supplemental Nutrition Assistance Program (SNAP) provides food benefits to low-income households based on household size. As shown in Table A-1, the income thresholds for eligibility are calculated based on a maximum income of $16,744 for a one-person household and an additional $5,902 for each additional person in the household. In addition, the applicant must have a current bank balance (savings and checking combined) under $2,001, or have a current bank balance under $3,001 and share their household with either a person aged 60 and over or a person with a disability.

Table A-1. Annual Household Income Limits (Before Taxes)

Household Size*	Maximum Income Level (Per Year)
1	$16,744
2	$22,646
3	$28,548
4	$34,450
5	$40,352
6	$46,254
7	$52,156
8	$58,058

Source: U.S. Department of Agriculture's Supplemental Nutrition Program (SNAP) for Oregon. https://www.benefits.gov/benefit/1332.

* For households with more than eight people, add $5,902 per additional person. Always check with the appropriate managing agency to ensure the most accurate guidelines.

The U.S. Department of Health and Human Services' Poverty Guidelines for 2022 are as shown in Table A-2. The guidelines are calculated based on an income of $13,590 for a one-person household and an additional $4,720 for each additional person in the household. These guidelines are used by programs (directly or percentage multiples) such as Head Start, the SNAP, the National School Lunch Program, the Low-Income Home Energy Assistance Program, and the Children's Health Insurance Program.

Table A-2. Poverty Guidelines for 2022

Persons in Family/Household	Poverty Guideline
1	$13,590
2	$18,310
3	$23,030
4	$27,750
5	$32,470
6	$37,190
7	$41,910
8	$46,630

Source: 2022 Poverty Guidelines for the 48 Contiguous States and the District of Columbia, from the Office of the Assistant Secretary for Planning and Evaluation, U.S. Federal Poverty Guidelines used to determine financial eligibility for certain programs. https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines.

* For families/households with more than 8 persons, add $4,720 for each additional person

A.2 Local, Regional, and State Agencies

Oregon Housing and Community Services offers two programs that help low-income households with utility payments: Low-Income Home Energy Assistance Program and Oregon Energy Assistance Program. Households with incomes below 60% of Oregon's median income are eligible, based on household income and household size.

OREGON TRAIL CARD – ELECTRONIC BENEFITS TRANSFER (EBT) CARD

The Oregon Trail Card used for state benefits include SNAP food benefits and Temporary Assistance for Needy Families (TANF) cash benefits. Benefits are deposited into the account each month, and the card functions like a debit card.

For families and single adults without a disability, eligibility for SNAP food benefits can be determined via 65 Oregon Department of Human Services Self-Sufficiency offices in the state (example for different family types in Figure 9-3). For seniors and people living with disabilities, eligibility is determined via 76 Oregon Department of Human Services Aging and People with Disabilities and Area Agency on Aging offices in the state. Applications may be emailed or dropped off in person, mailed, or faxed to the appropriate office.

TANF is available for people who live in Oregon, experience low income and very few assets, and are either 18 or younger and head of their household, are pregnant, or have a child who is 18 or younger. Eligibility is determined via 65 Oregon Department of Human Services Self-Sufficiency offices in the state (example for Oregon counties in Figure 9-4). Applications may be emailed or dropped off in person, mailed, or faxed to the appropriate office. People who qualify for TANF are also eligible for employment and training via Oregon's Jobs Opportunity and Basic Skills (JOBS) program.

UTILITY BILL PAYMENT ASSISTANCE

Oregon Housing and Community Services offers two programs that help low-income households with utility payments: Low-Income Home Energy Assistance Program and Oregon Energy Assistance Program. The Low-Income Home Energy Assistance Program helps participants with energy expenses and may help repair or replace heating systems as well as improve household energy efficiency through the Weatherization Program. Oregon Energy Assistance Program assists households at risk of losing electricity access. Both programs are administered by Community Action Agencies with Oregon Housing and Community Services funding; each of Oregon's 36 counties has a Community Action Agency. Households with incomes below 60% of Oregon's median income are eligible, based on household income and household size. Both renters and owners are eligible, but benefit levels may vary for renters based on rental or utility agreements and landlord cooperation.

PORTLAND TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON (TRIMET) LOW-INCOME FARE PROGRAM

Seniors aged 65+, people on Medicare, people with a disability, and people experiencing low incomes, termed Honored Citizens, are eligible for 50% to 72% less than Adult fare. Discounts apply to rides on buses, MAX, WES, Portland Streetcar, and C-TRAN. An ID is required for proof of eligibility upon boarding. After spending $2.50 in a day or $28 in a calendar month, Honored Citizens may ride for free. Payment options for Honored Citizen fares include: a paper Hop ticket available at MAX/WES stations; a virtual Hop card in the Hop app; or a physical Hop card that can be bought ($3 for a card) and reloaded (via Hop website, app, or phone hotline) at 500+ local retailers including supermarkets, pharmacies, and convenience stores. Physical Hop cards do not require a bank account, credit card, smartphone, or

Internet access. Honored Citizen discounts are not available through the mobile wallet or physical bankcard (direct tapped on Hop readers) options.

Table A-3. Portland Tri-County Metropolitan Transportation District of Oregon (TriMet) Low-Income Fare Program

Facility Type	Mass Transit Fare
Tiered Benefits?	No
Program Features	• Low-income users receive discounts of 50% to 72% off the adult fare, depending upon whether fares are for single ride, day pass, or monthly pass. • Users automatically qualify with enrollment in Oregon Health Plan, SNAP, Energy Assistance, Free/Reduced Lunch, HUD Assistance, TANF, or Employment DayCare.
Income Requirements	200% FPL or below.
Proof of Income	WorkSource employment/wage verification, Current IRS transcript, W2 form from the most recent tax year, signed copy of federal tax return, or unemployment benefit letter and current weekly pay stub.
Residence Requirements	Oregon State
Proof of Residence	Valid government-issued ID
Enrollment Method	Online application, req. document upload and video enrollment call. Hop cards must be picked up in person at the TriMet Ticket Office at Pioneer Courthouse Square.[1]

[1] https://trimet.org/lowincome/

Table A-4. King County Metro Subsidized/Reduced Transit Fare

Facility Type	Mass Transit Fare	
Tiered Benefits?	Yes	
Program Features	Subsidized annual pass,[1] which allows free ($0) fare for select road-based transit services (King County Metro buses, RapidRide, Access, Via to Transit, Sound Transit express buses), water (King County Water Taxi), and rail (Seattle Center Monorail, Seattle Streetcar, Link Light Rail, Sounder commuter train); reduced fare for other transit modes is also available through the E-purse available through the ORCA card.	ORCA LIFT, a transit pass with reduced fares.[2] Discounts range widely depending on mode and provider, from 25% (Everett Transit) up to 74% (Sounder Train). Both Pierce Transit and Washington State Ferries do not participate in the discount program.
Income Requirements	80% FPL or below plus enrollment in one of six state benefit programs.	200% FPL
Proof of Income	Temporary Assistance for Needy Families (TANF)/State Family Assistance (SFA); Refugee Cash Assistance (RCA); Aged, Blind or Disabled Cash Assistance (ABD); Pregnant Women Assistance (PWA); Supplemental Security Income (SSI); and Housing and Essential Needs (HEN).	Proof of enrollment in certain state programs, letters or other proof of employment or unemployment, or tax returns.
Residence Requirements	Yes, King, Pierce, and Snohomish counties	No
Proof of Residence	Valid government-issued ID	N/A
Enrollment Method	Enrollment verification occurs by telephone or in person at Washington State Department of Social and Health Services, Seattle & King County Department of Public Health, and non-profit Catholic Community Services across King, Pierce, and Snohomish counties; or online through the King County Reduced Fare Portal. Online application requires uploading images of verification documents, including photo ID.	Enrollment verification occurs by calling the King County Community Health Access Program, applying online using the Reduced Fare Portal, or visiting authorized enrollment offices in King County.

[1] https://kingcounty.gov/depts/transportation/metro/fares-orca/subsidized-annual-pass.aspx
[2] https://kingcounty.gov/depts/transportation/metro/fares-orca/orca-cards/lift.aspx

Table A-5. LA Metro Low-Income and Transit-Rider Credit and Waiver of Recurring Fees

Facility Type	Highway Toll/Mass Transit Fare Cross-Benefits
Tiered Benefits?	No
Program Features	• Low-income users receive one-time $25 toll credit and waiver of $1 monthly account maintenance fee • Users who ride the buses on the express lanes receive a $5 toll credit for every 16 bus trips • Spends net toll revenues of neighborhood projects • Users must have an electronic fare (TAP) card
Income Requirements	200% FPL or below
Proof of Income	Check stub, EBT card, proof of free-reduced school lunch receipt
Residence Requirements	Yes, Los Angeles County
Proof of Residence	Photo ID
Enrollment Method	Enrollment verification requires users to travel to or call a customer service center and show/fax proof of Los Angeles County residence as well as income

Table A-6. Elizabeth River Tunnels

Facility Type	Tunnel Toll
Tiered Benefits?	No
Program Features	Low-income users receive a 50% discount for 2-axle tolls in the Downtown and Midtown tunnels for up to 10 trips per week.[1]
Income Requirements	$30,000 annual income (approx. 200% FPL) or below
Proof of Income	Acceptable documents include W-2, 1099-MISC, One month of pay stubs, IRS 1040, Employer's statement, Self-declaration of no income.
Residence Requirements	Yes, Portsmouth City or Norfolk City Counties
Proof of Residence	Driver's license, utility bill, bank account statement, property tax bill, proof of home ownership, or rental contract
Enrollment Method	Enrollment verification requires users to apply at an E-ZPass customer service center in Norfolk or Portsmouth.

[1] https://www.virginiadot.org/newsroom/statewide/2021/enrollment-now-open-for-2022-vdot-toll-relief-program12-1-2021.asp#:~:text=Beginning%20December%201%2C%202021%2C%20Norfolk,to%2010%20trips%20per%20week.

Table A-7. SFCTA's TIMMA Low-Income Toll Program (Planned)

Facility Type	Cordon Per-Direction Toll	
Tiered Benefits?	Yes	
Program Features	• Estimated start date is 2024 • Non-resident private vehicles will be tolled when entering and exiting the island at $5 per-direction peak and $2.50 per-direction off-peak. Households with moderate and low incomes are eligible for a 50% discount. • Households with very low incomes are eligible for toll exemption. • Treasure Island residents will be exempt from the toll. • Spends net toll revenue on expanded transit service and mobility improvements. • Treasure island employers will also be provided a quarterly subsidy, which may be used to compensate employees with low incomes or add cash value to toll tags.[1]	
Income Requirements	Less than 55% Area Median Income	55-120% than Area Median Income
Proof of Income	Unknown	Unknown
Residence Requirements	Yes	Yes
Proof of Residence	Toll only applies to non-residents	Toll only applies to non-residents
Enrollment Method	Unknown	Unknown

[1] https://www.sfcta.org/sites/default/files/2022-01/TIMM_PIR_2021_2022-01-21.pdf

MEDELLÍN, COLOMBIA

We mention the Metro de Medellín in Colombia here because they offer a wide range of tiered fare options as they operate a variety of transit modes in the city including rail, bus, and gondola. Tiered fares are determined by average neighborhood income, and the lowest tiers pay a small percentage of full fare. Gondola lines like the Cable Arví, which travel between the city center and the neighborhoods and parks in the surrounding hills, have a qualification system based off of Colombia's SISBEN system, where the economic well-being of individual households are evaluated for the purpose of selection for social programs.

A.3 Regional Incomes, Cost of Living, and Eligibility Thresholds

Many of the above toll equity programs use the federal poverty level (FPL) as a reference to determine eligibility for benefits. FPL is a national standard, allowing it to be easily referenced and understood, however does not always reflect the current cost of basic household necessities or differences in cost of living across specific geographies in the US. Depending on the median income in an area, people experiencing low income or very low income compared to other members of their local community may still have incomes that fall above the FPL, even though the local cost of living may exceed their income. Portland, and the other geographies listed above, fall into this category, and may benefit from using a multiple (e.g. 200%) of the FPL as a threshold. However, this threshold should be specific to local conditions, such as in Figure A-1, to ensure that the full focus population of benefit recipients can be eligible.

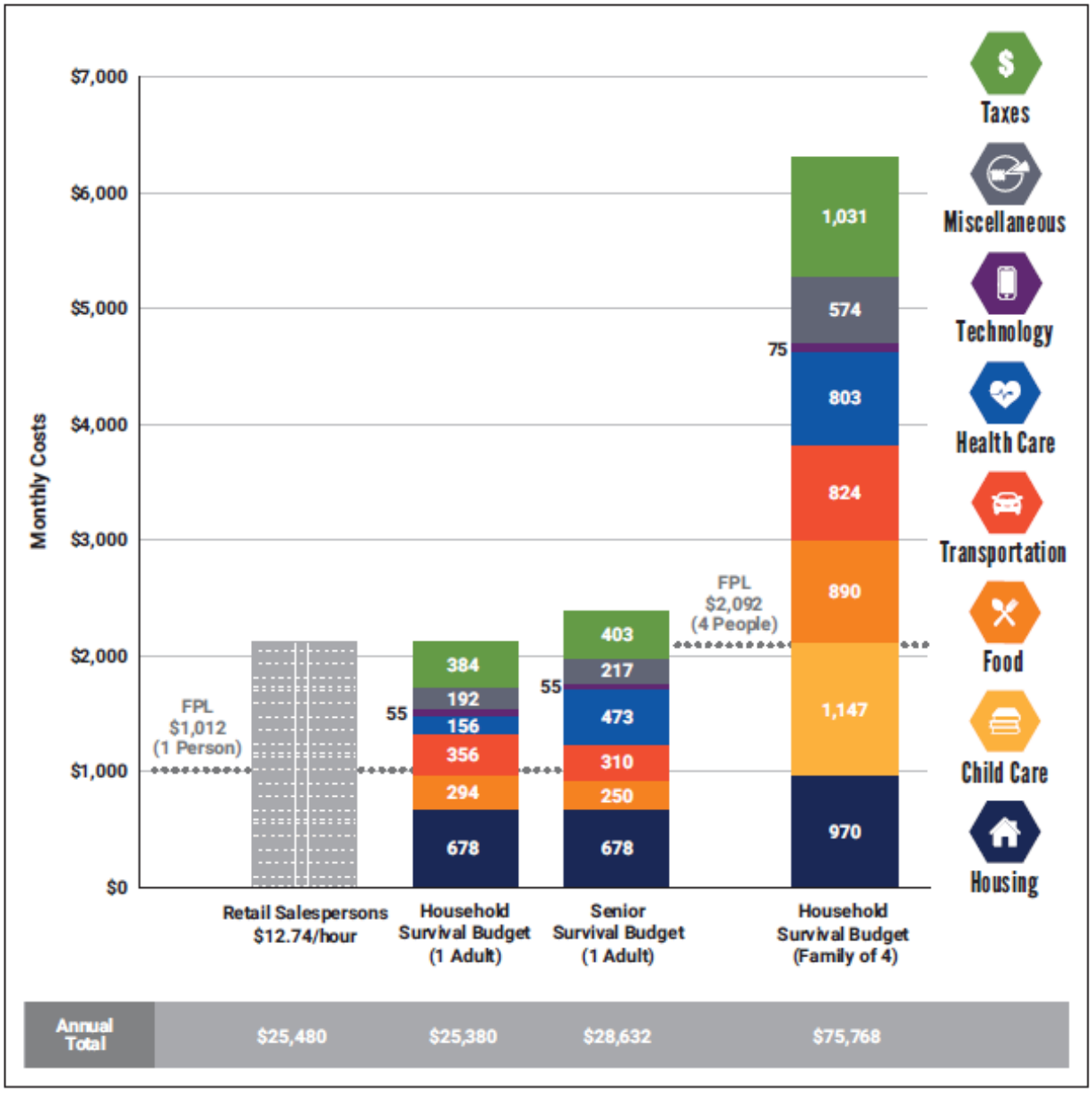
Another way to compare local income distributions is ALICE (Asset Limited, Income Constrained, Employed) methodology. This strategy uses a standardized set of measurements to quantify the cost of a basic household budget in each county of partner states. The ALICE Threshold represents the minimum income level necessary for survival for a household, and is derived from the ALICE Household Survival Budget—the bare minimum cost of household basics including housing, child care, food, transportation, technology, and health care, plus taxes and contingency equal to 10% of household budget. See Figure A-2 for the 2018 thresholds across Oregon counties.

Table A-8 summarizes ALICE and FPL data for each geography noted above, with the exception of California where only FPL data is available.

Table A-8. ALICE and FPL Data for Each Geography

Data Type	ALICE (Asset Limited, Income Constrained, Employed)	Self-Sufficiency Standard for Oregon
Organization	United For ALICE	Worksystems
Organization Description	Driver of innovation, research, and action to improve life across the country for ALICE (Asset Limited, Income Constrained, Employed) and for all. Through the development of the ALICE measurements, a comprehensive, unbiased picture of financial hardship has emerged.	Non-profit agency that accelerates economic growth in the City of Portland, Multnomah and Washington counties by pursuing and investing resources to improve the quality of the workforce.
Update Frequency	Bi-annually	Annually (since 2020, every three years), though individual data sources depend on individual update frequency
Most Recent Update	2018	2021
Philosophy (i.e. what is it trying to accomplish?)	Based upon the highest quality, unbiased data we are able to measure financial hardship and understand why so many households struggle to make ends meet. Each ALICE report contains data on household budgets, demographics, employment opportunities, housing affordability, public and private assistance, and other critical economic factors.	Comprehensive, credible, user-friendly tool to ensure the best data and analyses are available to enable Oregon's families and individuals to make progress toward real economic security.
Methodology (i.e. what is it counting and how?)	Measure calculates how much income a family must earn to meet basic needs without private or public assistance, varying by family composition, which city or county they live in Oregon, and accounting for the need for emergency savings (10% contingency). Based on the costs of basic needs for working families: housing, child care, food, health care, transportation, miscellaneous items, the cost of taxes, and technology.	Measure calculates how much income a family must earn to meet basic needs without private or public assistance, varying by family composition, which city or county they live in Oregon, and accounting for the need for emergency savings. Based on the costs of basic needs for working families: housing, child care, food, health care, transportation, and miscellaneous items, and the cost of taxes and impacts of tax credits like the American Rescue Plan Act of 2021
Geographies	All counties in Arkansas, Connecticut, Delaware, Florida, Hawai'I, Idaho, Illinois, Indiana, Louisiana, Maryland, Michigan, Mississippi, New Jersey, New York, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Virginia, Washington, West Virginia, and Wisconsin	All counties in Oregon, specific cities such as Portland; also, 41 states, the District of Colombia, and New York City
Website	https://www.unitedforalice.org/state-overview/Oregon	www.selfsufficiencystandard.org/Oregon
Data Availability	Excel file with ALICE data for all family types in every Oregon county	Excel file with Self-Sufficiency Standard data for all family types in every Oregon county
Use in other programs in Oregon	Only information for Pacific NW: Avista, Ford Family Foundation, Idaho Community Foundation, Idaho Nonprofit Center, Providence Health Care, WaFd Bank, WSECU, United Ways of the Pacific Northwest	Multnomah County Preschool for All program (qualification standard); Worksource Center Oregon (scholarship awards and to support service needs); Office of Forecasting, Research and Analysis for the State of Oregon (tax model impacts); Portland Development Commission (“prosperous households” measure)

Figure A-1. Budget Comparison (Oregon 2018)



Note: The FPL is a total; there is no breakdown of how that amount is allocated by budget category.

Sources: AAA, 2018; Agency for Healthcare Research and Quality, 2018; American Community Survey, 2018; Bureau of Labor Statistics, 2018—Consumer Expenditure Surveys; Bureau of Labor Statistics, 2019—Consumer Expenditure Survey; Bureau of Labor Statistics, 2018—Occupational Employment Statistics; Centers for Medicare & Medicaid Services, 2016—Medicare Current Beneficiary Survey; Centers for Medicare & Medicaid Services, 2019; Centers for Medicare & Medicaid Services, 2019—Medicare - Chronic Conditions; Federal Highway Administration, 2017; Feeding America, 2019; Fowler, 2019; Grobe & Weber, 2018; Internal Revenue Service, 2020; Internal Revenue Service—FICA, 2020; Medicare.gov; Scarboro, 2018; The Zebra, 2018; U.S. Department of Agriculture, 2018—Official USDA Food Plans; U.S. Department of Housing and Urban Development, 2018—Fair Market Rents; Walczak, 2019. For more details, see the Methodology Overview at UnitedForALICE.org/Methodology[14]

Figure A-2. Library Locations and Household Below ALICE Threshold (Oregon 2018)

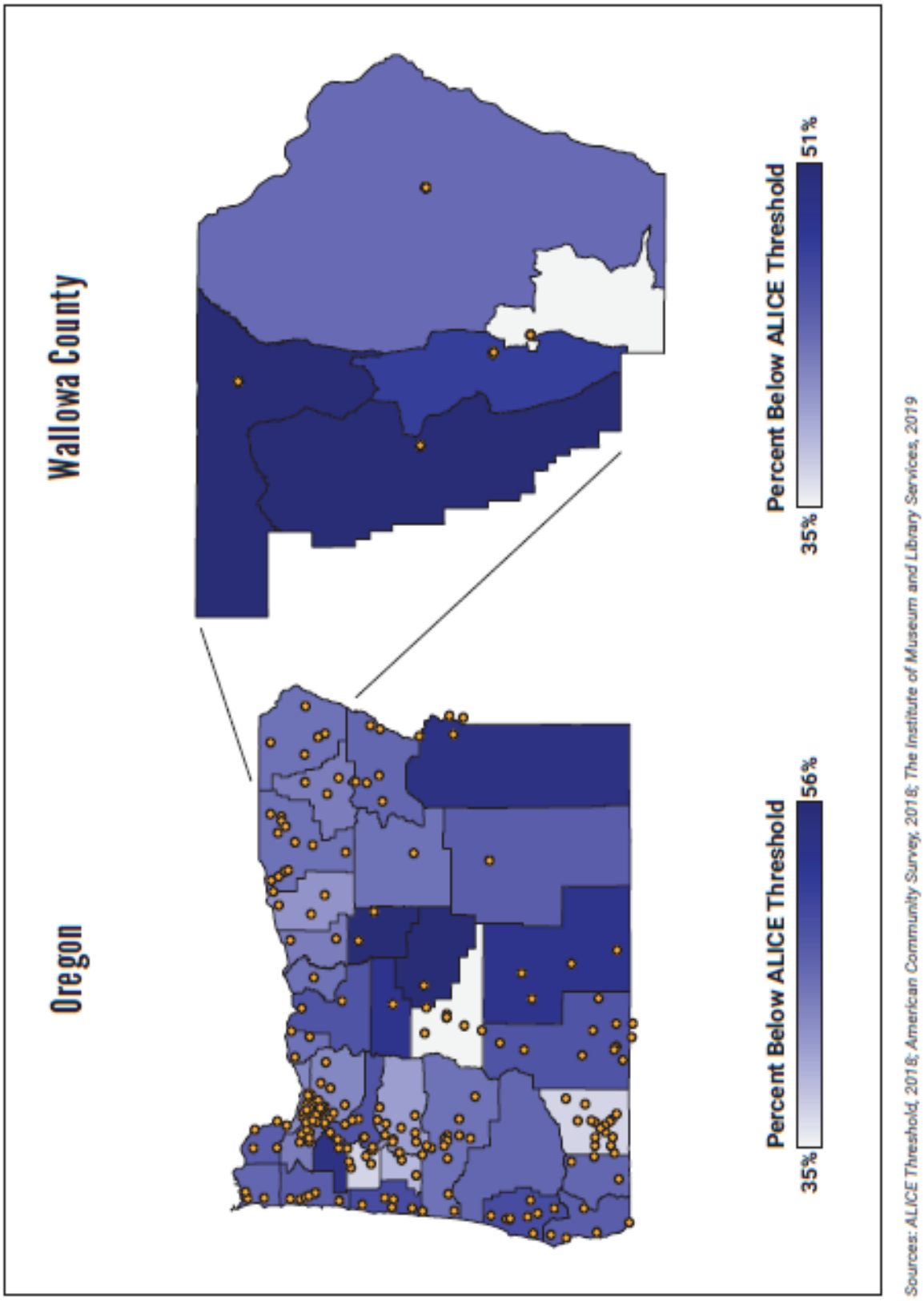
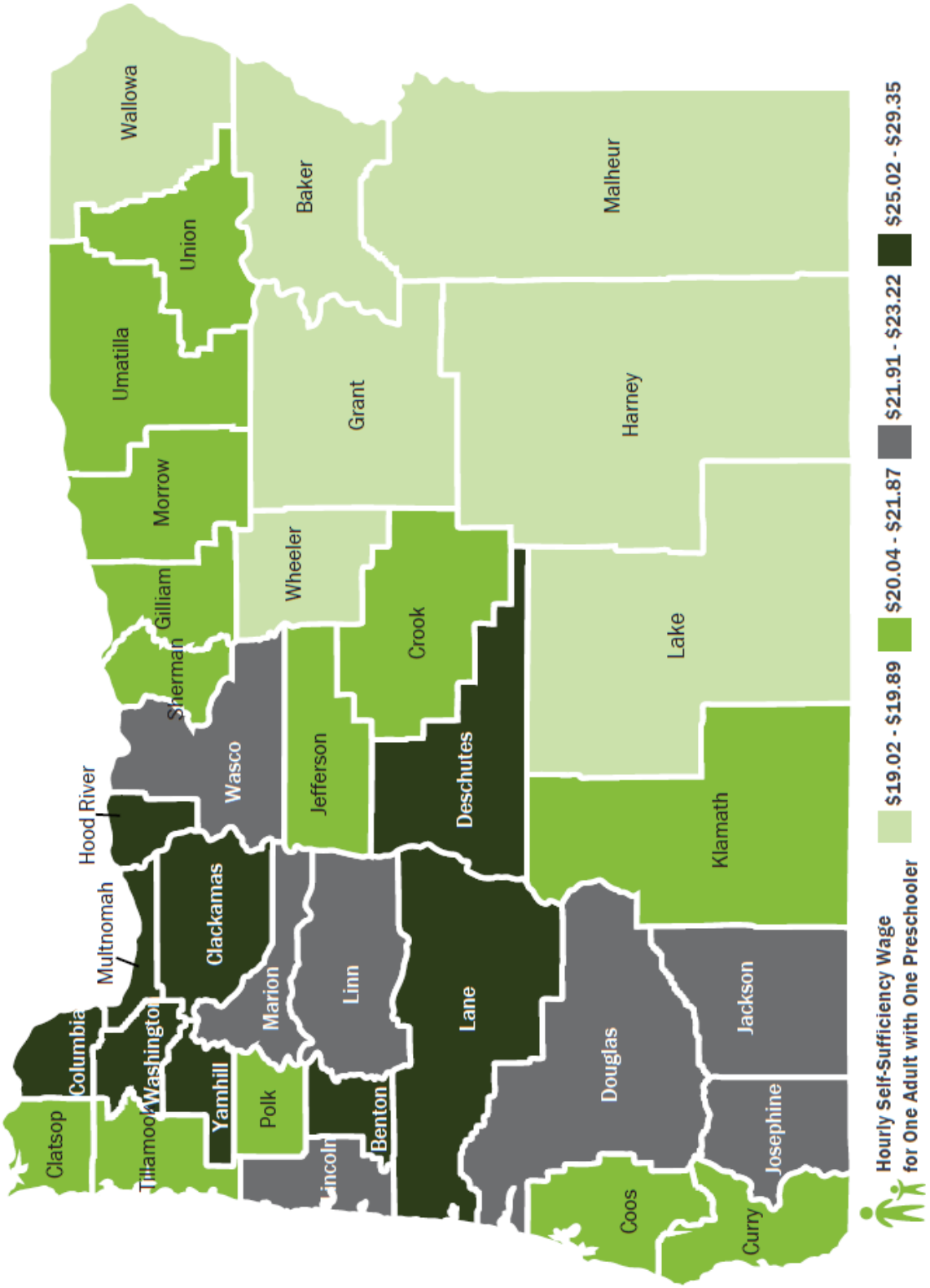


Figure A-3. The Self-Sufficiency Standard for Select Family Types (Multnomah County, Oregon 2021)

	1 ADULT	1 ADULT 1 PRESCHOOLER	1 ADULT 1 PRESCHOOLER 1 SCHOOL-AGE	2 ADULTS 1 PRESCHOOLER 1 SCHOOL-AGE
MONTHLY COSTS				
Housing	$1,327	$1,531	$1,531	$1,531
Child Care	$0	$1,258	$2,081	$2,081
Food	$306	$463	$701	$942
Transportation	$100	$100	$100	$200
Health Care Net	$168	$536	$574	$647
Premium	$95	$444	$444	$444
Out-of-Pocket	$73	$92	$130	$203
Miscellaneous	$190	$389	$499	$540
Taxes (Net)	$535	$793	$924	$930
Federal Income Taxes	$173	$397	$590	$540
Payroll Taxes	$204	$393	$497	$532
State Income Taxes	$159	$304	$387	$407
Federal Child Tax Credit (-)	$0	($300)	($550)	($550)
SELF-SUFFICIENCY WAGE				
Hourly**	**$14.92**	**$28.81**	**$36.42**	**$19.52 (per adult)**
Monthly	$2,627	$5,070	$6,409	$6,871
Annual	$31,521	$60,846	$76,912	$82,447
Emergency Savings Fund	$33	$119	$265	$65
TOTAL RESOURCES (YEARLY)				
Federal & Oregon Earned Income Tax Credit (EITC)	$0	$0	$0	$0
Federal Child and Dependent Care Tax Credit (CDCTC)	$0	$4,000	$8,000	$8,000
Oregon Working Family Household and Dependent Care Credit (WFHDC)	$0	$0	$0	$0
Net Resources	$31,521	$64,846	$84,912	$90,447

* The Standard is calculated by adding expenses and taxes and subtracting tax credits.
** The hourly wage is calculated by dividing the monthly wage by 176 hours (8 hours per day times 22 days per month). The hourly wage for families with two adults represents the hourly wage that each adult would need to earn, while the monthly and annual wages represent both parents' wages combined. Note: Totals may not add exactly due to rounding.

Figure A-4. Counties by Level of Hourly Self-Sufficiency: One Adult and One Preschooler (Oregon 2021)



Appendix B Decision-Making Framework for Type of Discount

A decision-making framework was developed to help evaluate the options made in this draft report with regard to the type(s) of benefits to provide, the method of enrollment, and the selection of income criteria. The following options were evaluated:

- Percentage discount
- Credit for a specific number of free trips per month
- Monthly credit
- Fixed discount

For each option, 11 metrics were evaluated at a high level, and each of the 11 metrics was assigned a percentage weight, with the weights adding up to 100%. This allows the framework to generate a score for each option. The metrics and weights are shown in Table B-1.

Table B-1. Framework Metrics and Percentages

Metric	Weight
User benefit:	**55%**
The net monetary benefit per household for highway users experiencing low incomes	5%
The decrease in how regressive tolls are for highway users experiencing low incomes (tolls are regressive if everyone pays the same—those with lower incomes spend a higher percentage of their income on a fixed cost)	10%
Encouraging the free or very low cost availability of a reliable trip for infrequent high-value trips, such as medical or childcare	20%
The increase in the share of time savings accruing to highway users experiencing low incomes	10%
Lessening the burden to highway users experiencing low incomes due to account minimums and automatic reloading events	10%
Program cost:	**20%**
Reduction in total toll payments as a result of the program	10%
Cost of program implementation (excl. toll impact and incl. temporary or permanent staff needs for enrollment)	5%
Ease of program implementation for implementing agency(s)	5%
Operational impact:	**10%**
Operational impact, including eroding travel time and environmental benefits of pricing	10%
Other feasibility:	**15%**
Easily explained to decision-making stakeholders and eventual program participants	10%
Are the stakeholders (legislature, implementing agencies, etc.) willing to support this option?	5%

The framework is designed to allow iteration based on feedback from stakeholders and outreach on the importance of different metrics, as well as the score of each option on each metric. Some high-level ideas that drove the initially selected scores include:

- It is anticipated the self-certification will increase enrollment in the program.
- People experiencing low incomes have a diverse set of travel needs, and their commute trips tend to be more broadly distributed at all hours of day, as opposed to being confined to the peaks.
- A credit or free trips option (as opposed to a discount) diminishes the burden of credit or debit card requirements, minimum account balances, and automatic reloading events.
- A multi-tier eligibility threshold makes tolling less regressive, but it requires additional explanation, is harder to understand for program users, and is costlier to implement. Stakeholders have emphasized the benefits of both options: that simplicity is critical, but as is acknowledging the different travel and budget needs of people experiencing very low incomes as opposed to people experiencing moderately low incomes.
- Given the early stage of the Oregon Toll Program, all discount options appear equally feasible from a tolling back-office perspective. Self-certification is much simpler for the implementing agency than a verification option.
- Percentage discounts and free trips incentivize traveling the in peak periods, whereas free trips and fixed discounts incentivize traveling in off-peak periods, and as such have lower operational impacts, but also less impact on making the time-saving distribution more equitable.
- Percentage discounts are easiest to understand and track, for program participants, but have other disadvantages.
- Stakeholders have been broadly supportive of percentage discounts, credits, and a fixed number of free trips.

The results of the framework are shown in full in Table B-2 and indicate that:

- Providing a recurring credit or a recurring number of free trips provides the greatest combined value, followed by a percentage discount.
- Self-certification on balance is more effective than actively verifying income on enrollment.
- Both one-tier and multi-tier options work well, with a slight edge to multi-tier program versions.

Table B-2. Framework Results

		Weight --->	100%	5%	10%	20%	10%	10%	55%	10%	5%	5%	20%	10%	10%	5%	15%
Discount Option	Enrollment	Tiered	Total	A1	A2	B1	B3	D2	User Benefit	E1	E2	E3	Cost	Operational Impact	D1	F1	Other Feasibility
% Discount	Self-Certification	One-tier	5.0	2	5	2	4	1	2.7	8	8	7	7.8	6.0	10	7	9.0
		Multi-tier	5.3	4	8	3	6	3	4.5	6	8	7	6.8	4.0	7	7	7.0
	Confirmed Eligibility	One-tier	3.6	1	3	1	2	1	1.4	9	3	3	6.0	8.0	5	7	5.7
		Multi-tier	3.7	2	4	2	3	2	2.3	8	2	3	5.3	7.0	4	7	4.7
# Free Trips	Self-Certification	One-tier	6.1	5	5	8	8	6	6.8	5	6	7	5.8	2.0	6	7	6.3
		Multi-tier	6.2	7	8	8	8	8	7.9	3	6	7	4.8	2.0	3	7	4.3
	Confirmed Eligibility	One-tier	4.1	3	3	4	4	3	3.4	8	2	3	5.0	6.0	3	7	4.3
		Multi-tier	4.1	4	4	4	4	4	4.0	7	1	3	4.3	6.0	2	7	3.3
Monthly $ Credit	Self-Certification	One-tier	5.7	6	5	8	6	5	6.4	4	6	7	5.3	4.0	4	7	5.0
		Multi-tier	5.8	8	8	8	6	7	7.5	2	6	7	4.3	4.0	1	7	3.0
	Confirmed Eligibility	One-tier	4.0	3	3	4	3	3	3.2	7	2	3	4.8	7.0	2	7	3.7
		Multi-tier	4.0	4	4	4	3	4	3.7	6	1	3	4.0	7.0	1	7	2.7
Fixed discount	Self-Certification	One-tier	4.7	2	5	2	2	1	2.4	8	8	7	7.8	8.0	8	4	6.7
		Multi-tier	5.0	4	8	3	4	3	4.2	6	8	7	6.8	6.0	5	4	4.7
	Confirmed Eligibility	One-tier	3.4	1	3	1	1	1	1.2	9	3	3	6.0	9.0	4	4	4.0
		Multi-tier	3.5	2	4	2	2	2	2.1	8	2	3	5.3	8.0	3	4	3.0

Note: *Blue numbers are formulas*

Appendix C Regional Mobility Pricing Project 2022 Spring Engagement Summary

Memo

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Date: Wednesday, July 6, 2022
To: Metro Transportation Policy Advisory Committee (TPAC)
From: Ally Holmqvist, Senior Transportation Planner
Subject: Introduction to the High Capacity Transit Strategy Update

Purpose

This memorandum provides an introduction to the High Capacity Transit Strategy Update to support discussion related to 1) the work plan approach and anticipated outcomes, 2) the developing engagement strategy and 3) key elements and policy considerations to address. Input will help shape development of the policy framework, vision and emerging strategies for high capacity transit, a key focus area for the 2023 Regional Transportation Plan.

Introduction

The 2023 Regional Transportation Plan (RTP) update recognizes that we are at a pivotal moment. The greater Portland region continues grow – steadily, diversely, and differently – in the face of challenges. Some of these challenges are enduring, such as climate change, systemic racism and inequity, job accessibility (e.g., jobs/housing balance, travel time and reliability), and affordability, while others are emerging such as the COVID-19 pandemic and the shift to more people working and shopping online.

As a result, transit in the Portland region looks different today than it did in 2018 when the last RTP was adopted. We know that transit service and ridership in our region, and nationally, have been severely impacted by an environment of increased pandemic-related costs, falling fare revenue, and operator shortages. This was especially true during commute hours and within the Central City as telework significantly increased for non-essential jobs. Metro's Emerging Trends Study and TriMet's Forward Together near-term service planning effort both indicate that transit ridership is expected to take several years longer than automobile traffic to return to pre-pandemic levels due to service cuts, changing travel patterns, lingering health and safety concerns, and other factors. We also know, even at pre-pandemic service levels, we need more and more frequent, faster, and more reliable service to more places to meet the needs of community members and to provide better alternatives to driving. Those needs include continuing to make the system safer and more equitable and accessible for people who rely on transit, including people with low incomes, people of color, people with disabilities, people who are older and single-parent families.

At the same time, change has also created new opportunities. Even within this new landscape we saw regional values at work as TriMet intentionally avoided cuts to routes serving equity areas where people are most likely to depend on transit and have the most pressing health and safety concerns. Because of that, Forward Together and the Emerging Trends Study have shown there were still many areas where transit ridership was more stable especially outside of typical commute times (such as mid-day), for industrial workers, and to centers and community places (such as schools, health care centers and commercial areas with grocery stores) outside the regional center. These trends reinforce why our shared vision to make transit more frequent, convenient, accessible and affordable for everyone is so important – something also reflected by new federal guidance (e.g., Federal Transit Administration Planning Emphasis Areas, Capital Investment Grant Program Policy Guidance).

We know we have a strong foundation to build from through our past work with partners and community to develop the 2018 Regional Transit Strategy and our previous work together to establish investment priorities for a regional transportation funding measure. We know there are still ways we can do better, but ultimately our vision has been leading us in the right direction.

We know that even during this challenging time, work is underway to make the transit system better – particularly "high capacity transit". High capacity transit is public transportation that moves a lot of people quickly and often such as MAX light rail, WES commuter rail or rapid bus. This type of transit makes fewer stops, travels at higher speeds, comes more frequently and carries more people more efficiently and often longer distances than a typical local bus line. It provides a higher quality of service with greater benefits to more people and is generally more similar driving in terms of convenience and travel time. Trains and/or rapid buses may run on a dedicated or a shared track or lane that includes improvements, such as a priority bus lanes that people driving cars can also use when turning, space at intersections and priority timing at traffic signals that allow buses to pass traffic. Routes also include enhanced features for riders - boarding via multiple doors and/or stations with covered waiting areas and information about when the next train or bus will arrive. Together, these features make high capacity transit more reliable, convenient and comfortable for people to use.

Division Transit – TriMet's first rapid bus line – will open this September (2022), while C-TRAN's The Vine on Fourth Plain in Vancouver, WA began service in 2017. Rapid bus planning efforts are also underway for Tualatin Valley Highway in Beaverton-Hillsboro, 82nd Avenue in Portland, and Mill Plain Boulevard in Vancouver. As the "missing middle" of transit, rapid bus offers great opportunities for cost-effectively expanding high quality service to support growing regional centers and educational and employment areas. Further, we know that new funding sources (e.g., Infrastructure Investment and Jobs Act) provide substantial opportunities for rapid bus in particular, while also supporting transit service recovery planned through Forward Together and other regional efforts (e.g., Washington County Countywide Transit Study, SMART Master Plan Update) more generally (within the RTP near-term horizon of 2030).

The future looks brighter long-term and increased transit service is a critical part of the overall solution to challenges facing the greater Portland region. We want to continue to plan in ways that support service recovery and ridership now, while also setting ourselves up to maximize opportunities for realizing our transit vision for the future in order to provide the greatest community benefit. If we want to become the region we envisioned in our 2040 Growth Concept, 2014 Climate Smart Strategy, and 2018 Regional Transit Strategy we must continue improving transit's accessibility, service, reliability, and reach. That means this is the right time to focus on transit yielding the highest outcomes for the most people in line with regional goals. The High Capacity Transit Strategy Update will bring together greater Portland partners and community members to expand and renew our shared vision for investing in a high capacity transit system that serves everyone (for more information see the fact sheet provided as Attachment 1).

Trains, buses, shuttles and other options are all important and work together as a larger system to help people get where they need to go. Different kinds of transit serve the diverse transportation needs of the Portland region. By updating our strategy for high capacity transit, we will envision a stronger backbone for the network that will set the stage for future work to look at potential solutions improving its connections (for more information see the fact sheet provided as Attachment 2).

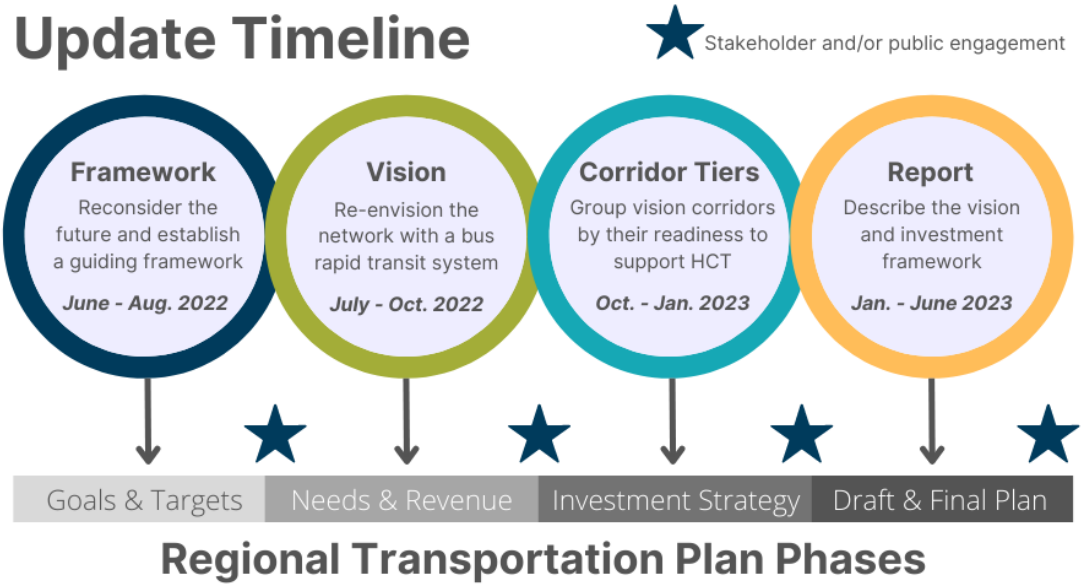
High Capacity Transit Strategy Update

The High Capacity Transit (HCT) Strategy, a component of the Regional Transportation Plan (RTP), is the framework for guiding regional high capacity transit system investments – categorizing

corridors where a higher quality of service would most benefit the most people. The update will re-assess and re-evaluate the region's high capacity transit system to address new policy questions around the future of high capacity transit in our region, re-envision the regional high capacity transit network with rapid bus, and build on the previous work done identifying community priorities to create a "pipeline" of corridor investments in the region competitive for federal funding. Work will include establishing policy recommendations, identifying additional corridors for consideration and refining the network vision, tiering corridor investments by readiness and identifying potential project opportunities (providing a framework for project prioritization within the 2023 RTP process), and developing a draft report including recommendations for implementation of the updated HCT Strategy. This work (described in greater detail in the work plan included as Attachment 4) will result in an updated strategy for achieving our goals and desired outcomes as we implement the high capacity transit network vision.

The update is led by a project management team including staff from Metro's Planning, Research and Development, Investment Areas and Land Use and Development Departments and TriMet's Mobility Planning and Policy and Major Projects Divisions. The team will meet regularly with a Transit Working Group that includes partner representatives from SMART, Portland Streetcar, City of Portland, Clackamas County, Multnomah County, Washington County, ODOT, C-TRAN and Southwest Washington Regional Transportation Council to share work and solicit feedback. The first of six meetings for the working group took place on June 30, 2022 (see Attachments 5 and 6 for the agenda and meeting minutes). Metro staff will also engage with other regional transit providers and interested organizations in engagement and formal consultation conducted as part of the 2023 RTP update.

The HCT Strategy will be updated in four key phases from June 2022 to November 2023 with staff returning to the working group, County coordinating committees, and Metro advisory committees and Council for input to inform each milestone (see Attachment 3 for a summary of these milestones and key touchpoints with stakeholders and decision-makers). This work plan and supporting public engagement approach were developed to align with the timeline, key milestones, and engagement efforts for and prepare final content for incorporation into the 2023 Regional Transportation Plan to be considered for adoption in November 2023.



Relationship to the 2023 Regional Transportation Plan Work Plan and Engagement

The 2023 Regional Transportation (RTP) Plan scoping phase process conducted with decision-makers, local, regional, state and community partners and members of the community identified the High Capacity Transit (HCT) Strategy Update as a focus area. The scope and funding for the update is reflected in the adopted Unified Planning Work Program for Fiscal Year 2022-2023.

Based on the policy context provided by the 2040 Growth Concept, Climate Smart Strategy, Regional Transit Strategy and 2018 Regional Transportation Plan, the scope of the High Capacity Transit Strategy Update includes considering how the regional high capacity transit network can:

- Advance RTP priorities for equity, climate, safety, and mobility and forward implementation of the region's 2040 Growth Plan and Climate Smart Strategy.
- Best recover from COVID-19 and recent operator shortages.
- Build from the "spoke and hub" light rail system to explore a complementary grid-based bus rapid transit system that leverages identified Enhanced Transit Corridors in support of the high capacity transit vision.
- Better serve transit-supportive equity focus areas and connect regional (and town) centers together.
- Be more people-focused, better responding to community needs and priorities related to how and where community members travel, particularly non-commute trips and be a safe, reliable, affordable, and convenient alternative to driving.
- Support mobility hubs and bus fleet electrification.
- Fit into a complete, integrated regional transportation system and statewide rail and inter-city transit system and integrate with a range of mobility services.
- Support affordable housing along corridors and in centers, preventing and/or limiting displacement through intentional actions supporting community development and stabilization, and improving quality of life for people of all incomes and backgrounds.

As a component of the 2023 RTP update, the HCT Strategy Update will be coordinated with the approach, engagement, formal consultation, and decision-making for that effort. JPACT and Metro Council approved a work plan, equity framework, and engagement plan for the 2023 RTP update informing work underway around goals, objectives, and targets. These documents serve as the guiding vision and goals for the updated HCT System Strategy and include additional information around the larger policy and strategic context for the RTP.

Key transit-related themes around feedback that we heard through the 2023 scoping process include:

- Transit is seen as essential for reducing congestion, improving transportation equity, and reducing greenhouse gas emissions. Investments and strategies that rebuild ridership will be an important near-term goal.
- Transit is critical to achieving the RTP Vision and will require greater focus to become a safer and more reliable transportation option.
- Transit is viewed as a consumer good instead of a public good.
- There is a need for increased transit access, frequency, routes connections and affordability.
- Transit doesn't feel like a welcome and safe space for people, especially: people with hidden disabilities and people of color.
- Focus on transit ridership and communities and how the pandemic has impacted access to transit or ridership. Transit dependent folks and frontline workers have been using transit during the entire pandemic. Rather than framing the discussion as how do we get ridership back, frame the discussion as: how do we support current riders?

Engagement for the HCT Strategy update will occur in each of the four major project phases: policy framework, network vision, corridor tiers, draft report. This engagement will be conducted in combination and/or close coordination with engagement for the 2023 RTP and through some engagement specifically focused on the HCT strategy, including the following activities:

- Online surveys, combined with 2023 RTP surveys as feasible, will offer opportunities for community members across the region to provide input on the HCT strategy. Online surveys will be supported with outreach conducted by community liaisons to reach under-represented communities. The first survey will launch in July 2022.
- Contracts with community based organizations (CBOs), coordinated with 2023 RTP CBO contracts, will support involving community members from communities of color, youth and people with disabilities, who have been historically underrepresented in decision making and are more likely to rely on transit. Up to four events and nine one-on-one, brief interviews with key organizations and other community stakeholders will inform major project milestones.
- Metro stories will amplify the voices and experiences of community members who have been historically left out of public decision-making processes and are affected by transportation policies and investment decisions. A Metro story focused on TV Highway will highlight an HCT corridor in the region and the community needs and ideas for that corridor.
- RTP engagement with businesses this in summer/fall 2022 will help to identify needs related to HCT.
- Input collected through 2023 RTP scoping process as well as recent transportation related engagement over the last five years will also inform development of the HCT policy framework.

Background

The first Regional High Capacity Transit (HCT) System Plan was developed in 2009 to guide future regional high capacity transit capital investments and support the goals and aspirations of the cities, counties, and regional partners that make up the Portland metropolitan area. The HCT Plan provided a framework on where to spend limited transportation dollars and where local jurisdictions have committed to supportive land uses, high quality pedestrian and bicycle access, management of parking resources and demonstrated broad based financial and political support. That work, conducted as part of the 2010 Regional Transportation Plan (RTP) update, identified and evaluated travel corridors for high-capacity transit potential and established tiers for investment priorities. The HCT Plan analyzed around 60 corridors, considering cost and ridership, transit markets, safety and security, land use, financial feasibility, traffic/freight impacts, and included a public and jurisdictional involvement process. A total of 18 potential high capacity transit corridors were prioritized and placed into tiers of near term regional priority corridors (Tier 1), next phase regional priority corridors (Tier 2), developing regional priority corridors (Tier 3) and regional vision corridors (Tier 4). The HCT System Plan network was reflected in the transit element of the 2010 RTP. Metro has updated the RTP twice, in 2014 and 2018, since the original HCT System Plan was adopted, which reflected the current priority outcomes of equity, climate, safety, and mobility and incorporated a number of other policies and studies.

The 2018 RTP and Regional Transit Strategy (RTS) incorporated the 2009 HCT Plan (2009) – identifying projects currently underway, upcoming, and to be completed in the future based on many factors including how "ready" they were to begin construction. Another major outcome of the RTS was classifying enhanced transit corridors where the region can invest in improvements to the street that result in "better bus". The approach centered improving transit speed and reliability on the most congested existing and planned frequent service bus or streetcar lines. Corridors that had the highest reliability issues (difference in travel times between free flow and peak period

conditions) and experiencing significant dwell and high ridership were identified as Enhanced Transit Concept (ETC) corridors. These corridors – prime for investments from better bus priority street improvements to corridor-based rapid bus to fixed guideway bus rapid transit – provide a starting point for exploring the regional rapid bus system. Already the ETC Pilot Program (Better Bus) is advancing nimble, low-cost improvements along congested blocks, intersections and bridges to make buses more reliable and convenient along ETC corridors.

The update to the High Capacity Transit Strategy will complement the RTS and revisit the corridor investment tier structure established in that plan. The 2018 Regional Transportation Plan includes a High Capacity Transit (HCT) component which includes the Regional Transit Network Vision (map and description of updates), HCT policies, List of 2027 and 2040 Fiscally Constrained and 2040 Strategic HCT Capital Projects, HCT Major Transit Projects and Project Development descriptions, and HCT Assessment and Readiness Criteria (see the background provided in Attachment 7).

Policy Context

2040 Growth Concept

The 2040 Growth Concept concentrates mixed-use and higher density development in urban centers, station communities, corridors and main streets that are well-served by transit. High capacity transit is a key element of the 2040 Growth Concept sets forth a vision for connecting the central city to regional centers like Gresham, Clackamas and Hillsboro with high capacity transit – connecting people with hubs of commerce and supporting development in dense areas with a mix of housing and jobs to support healthy, equitable communities and a strong economy. By moving people efficiently and comfortably over long distances, high capacity transit promotes the efficient use of land, public facilities and services and protects farms and forests.

Climate Smart Strategy

The Climate Smart Strategy affirmed the region's commitment to provide more transportation choices, keep our air clean, build healthy and equitable communities, and grow our economy – all while reducing greenhouse gas emissions. It provides clear direction to invest more in making our transit system more convenient, frequent, accessible and affordable in order to meet regional sustainability goals and objectives. Key focus areas include increasing service frequency, expanding the transit system to provide more access to jobs and community services, improving accessibility for people walking and rolling to transit stops, and making fares more affordable.

Fast, convenient and linked to the broader transit and transportation network – high capacity transit provides a viable, more affordable alternative to driving. This makes our transportation system more equitable for people who rely on transit, including people with low incomes, of color, with disabilities, who are older and single-parents. Fewer cars on the road leads to less air pollution, more physical activity, less time in traffic, fewer crashes and more reliability for moving people and goods – supporting the health, safety, mobility, economy and quality of life of our region. The Climate Smart Strategy identified the following near-term actions for Metro and partners to support high capacity transit:

- Implement plans and zoning that focus higher density, mixed-use zoning and development near transit.
- Expand partnerships with transit agencies to implement capital improvements in frequent bus corridors (including dedicated bus lanes, stop/shelter improvements, and intersection priority treatments) to increase service performance.
- Expand partnerships with cities, counties and ODOT to implement capital improvements in frequent bus corridors to increase service performance.

- Expand transit service to serve communities of concern, transit-supportive development and other potential high ridership locations.
- Seek and advocate for new, dedicated funding mechanism(s).
- Make funding for access to transit a priority.
- Research and develop best practices that support equitable growth and development near transit without displacement, including strategies that provide for the retention and creation of businesses and affordable housing near transit.

Regional Transportation Plan

The Regional Transportation Plan (RTP) sets regional transportation policy that guides local and regional planning and investment decisions to meet the transportation needs of the people who live, work and travel in greater Portland – today and in the future. It is a key tool for implementing the 2040 Growth Plan and Climate Smart Strategy. High capacity transit is critical to implementing the RTP investment priorities that support this blueprint for the future – equity, climate, safety and mobility. Expanding high capacity transit service provides people with transportation options and helps minimize congestion as our region continues to grow. The policy framework for high capacity transit focuses on creating strong connections between regional centers in line with these goals. Regional Transit Network Policy 4 also directs investment decisions to *"[m]ake transit more convenient by expanding high capacity transit; improving transit speed and reliability through the regional enhanced transit concept."*

In addition to over 30 other related policies (8 total for transit), the RTP includes additional direction for high capacity transit to:

- Provide a seamless, integrated, affordable, safe and accessible transit network that serves people equitably, particularly communities of color and other historically marginalized communities, and people who depend on transit or lack travel options.
- Preserve and maintain the region's transit infrastructure in a manner that improves safety, security and resiliency while minimizing life-cycle cost and impact on the environment.
- Make transit more accessible by improving pedestrian and bicycle access to and bicycle parking at transit stops and stations and using new mobility services to improve connections to high-frequency transit when walking, bicycling or local bus service is not an option.
- Use technology to provide better, more efficient transit service – focusing on meeting the needs of people for whom conventional transit is not an option.

Regional Transit Strategy

The 2018 Regional Transit Strategy (RTS) is an element of the 2018 RTP which supported the transit modal component of the plan. It was created to highlight the region's plans for meeting regional goals for transit as the region continues to grow steadily, as well as provide the region with a transit vision and policy framework for capital investments and operational improvements. Together, Metro and partners developed a regional shared vision to make transit more frequent, convenient, accessible and affordable for everyone. Key focus areas of the RTS vision include high capacity transit investments, such as light rail and bus rapid transit; and new transit enhancement strategies, such as transit signal priority, bus-only lanes and queue jumps. In addition to a number of recommendations related to affordability generally, it identified many actions for Metro and partners to take in supporting those focus areas, including:

- Invest in Enhanced Transit Concept improvements.
- Invest in High Capacity Transit corridors.
- Provide new community and regional transit connections to improve access to jobs and community services and make it easier to complete some trips without multiple transfers.

- Implement and coordinate with state, regional, neighboring cities and transit providers future service plans
- Design transit streets to prioritize curb access for transit vehicles and minimize conflicts with other modes.
- Provide programs and adopt policies that help increase transit usage and reduce drive alone trips, such as travel options information and support tools (e.g., trip planning services, wayfinding signage, bike racks at transit stops), individualized marketing, commuter programs (e.g., transit pass programs), and actively managing travel in downtowns and other mixed-use areas.
- Test and deploy connected vehicle technologies that help transit operate more efficiently, such as transit signal priority.
- Invest in repair and maintenance and critical transit bottleneck improvements to ensure the existing system functions effectively and efficiently.
- Facilitate service connections between transit modes and providers at transit hubs.
- Implement the TriMet Regional Transit Signal Priority Study recommendations, especially in congested corridors to improve on-time performance and reliability
- Coordinate and link transit-oriented development strategies with transit investments.
- Test and evaluate new mobility services like microtransit, ride hailing services and car/bike sharing to improve connections to high-frequency transit when walking, bicycling, or local bus service isn't an option.
- Coordinate transit investments with improvements to pedestrian and bicycling infrastructure that provide access to transit as service improvements are prioritized, in line with Regional Active Transportation Plan and TriMet's Coordinated Transportation Plan for Seniors and Persons with Disabilities.

Other Regional Planning Work by Metro

Consistent with the policy context, the HCT Strategy update will also be informed by, coordinated with and ultimately itself inform other recent regional study, planning efforts and/or work underway (summarized in Table 1 below).

Table 1. Regional Work Related to the HCT System Strategy Update

Informing Strategy Development	Coordinated with Strategy Development	To Be Informed by the Updated Strategy
• Mobility Corridors Atlas (2014) • Strategic Plan to Advance Racial Equity, Diversity and Inclusion and Equity Framework (2016) • Southwest Corridor Equitable Development Strategy (2017) and Locally Preferred Alternative (2018) • Division Transit Locally Preferred Alternative (2019) • Designing Livable Streets and Trails Guide (2019) • Regional Framework for Highway Jurisdictional Transfer (2021) • Regional Congestion Pricing Study (2021)	• Tualatin Valley Highway Corridor Study (2022-23) • 82nd Avenue Corridor Study (2023) • Transit-Oriented Development Strategic Plan Update (2022) • Emerging Transportation Trends Study (2022) • Climate Smart Strategy Update (2022) • 2020 MPO Boundary, Equity Focus Areas, and High Injury Corridor Designations 2023 RTP • Racial Equity Framework • Goals, Objectives, and Targets	2023 RTP Transit Strategy • Existing conditions • Regional Transit Policy Framework • Regional Transit System Needs • Regional Transit Network Concept and Functional Classifications • RTP Transportation Project and Program Priorities – RTP Call for Projects • Performance Measures

- Transportation System Management and Operations Strategy Update (2021)
- Regional Mobility Policy (2019-22)
- Regional Needs and Opportunities Analysis
- Safe and Healthy Urban Arterials Policies
- Affordability and Anti-Displacement Policies
- Equitable Finance Strategies
- Funding/Revenue Forecast
- Chapter 8 Scoping: Future Work Needed to Support Successful Implementation of the HCT System Strategy
- 2023 Climate Smart Strategy

Work by Regional Partners

Similarly, several local agencies and jurisdictions have completed or are currently working on transit development plans that are already expanding or will expand the transit network that will inform the HCT Strategy Update. Agency partners participating in the HCT Working Group will help ensure this recent work is reflected in the update. Additionally, the update will be coordinated with transit efforts currently underway (shown in bold on the list below):

- **Oregon Department of Transportation Oregon Transportation Plan** (anticipated 2023), **Oregon State Rail Implementation Plan** (underway 2022), and Oregon Passenger Rail Development Plan (2021) and Public Transportation Plan (2018)
- Clackamas County Clackamas to Columbia Corridor Plan (2020) and Transit Development Plan (2021);
- **Washington County Countywide Transit Study** (anticipated 2023) and **Transit Development Plan** (anticipated 2022);
- Southwest Washington Regional Transportation Council Clark County High Capacity Transit System Study (2008, Mill Plain rapid bus anticipated 2023);
- **TriMet Forward Together** (anticipated 2023), Reimagining Public Safety and Security Plan (2021), Better Bus/Enhanced Transit Concept Analysis (2020-21 with Metro), Coordinated Transportation Plan for Elderly and People with Disabilities (2020), Pedestrian Plan (2020), Unified Service Enhancement Plan (2018), Equity Lens/Index (2020), Red Line MAX Extension Transit-Oriented Development & Station Area Planning (2022) and Forward Together (FY2023 Annual Service Plan);
- City of Hillsboro Sunset Highway Corridor Study (underway 2022);
- City of Portland Enhanced Transit Corridors Plan (2018) and Transit and Equitable Development Assessment (2022); and
- **SMART Transit Master Plan Update** (anticipated in 2022) Bus on Shoulder Pilot (underway with ODOT)

ATTACHMENTS

1. Fact Sheet #1: About the High Capacity Transit Strategy Update
2. Transit 101 Fact Sheet
3. High Capacity Transit (HCT) Strategy Update Major Milestones and Meetings Outline
4. HCT Strategy Update Work Plan
5. HCT Strategy Update Working Group Meeting #1: Agenda
6. HCT Strategy Update Working Group Meeting #1: Minutes
7. 2018 Regional Transit Strategy HCT Background Information

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June 2022

High Capacity Transit Strategy Update

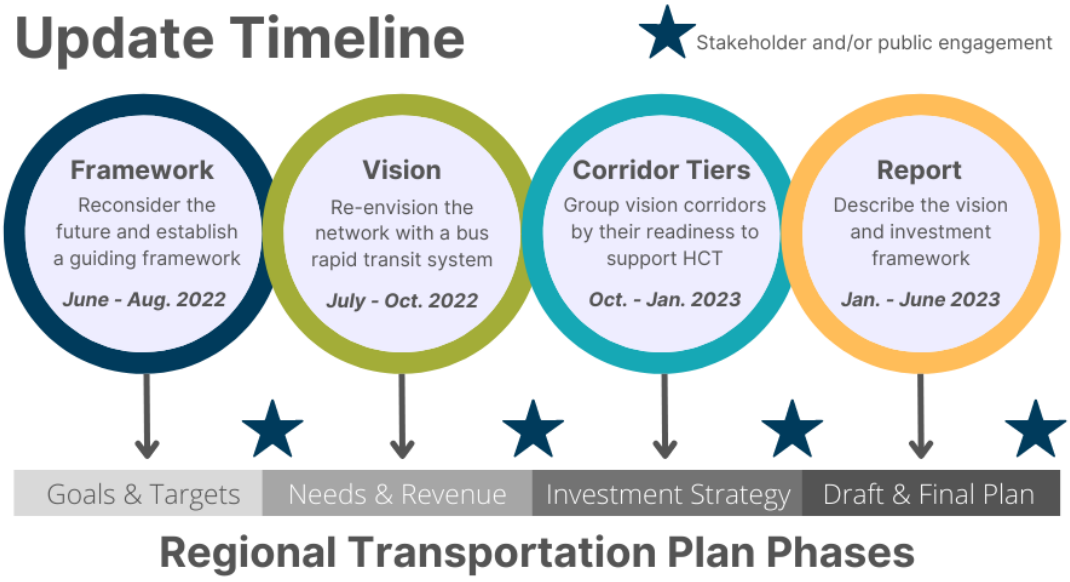
We're working on a strategy for providing high quality transit service that gets you where you need to go quickly, conveniently and reliably.

What is the update? Why do this work now?
We are working on an update to the high capacity transit component of the Regional Transportation Plan (RTP) – the framework for guiding regional high capacity transit system investments. The High Capacity Transit (HCT) Strategy identifies and categorizes corridors where a higher quality of service would provide the most benefit to the highest number of people.

The first HCT Plan (2009) was developed and incorporated into the Regional Transit Strategy as part of the RTP in 2018. It identified projects currently underway, upcoming, and to be completed in the future based on many factors including how "ready" they were to begin construction. The 2018 RTP also classified enhanced transit corridors where "better bus" improvements increasing speed, frequency and reliability are needed to serve growing regional centers and employment areas – including those supporting bus rapid transit.

Division Transit – the region's first bus rapid transit line – will open this September (2022) and will improve speed, reliability, capacity, and convenience for people riding on one of TriMet's busiest corridors. Bus rapid transit offers great opportunities for expanding high quality service to other areas to support growing regional centers and educational and employment areas.

This HCT Strategy update will build off of previous work to address new policy questions around the future of high capacity transit in our region, re-envision the network with the addition of bus rapid transit and establish a "pipeline" of corridor investments that will help us develop the future high capacity transit system. It will look to a future regional network that is people-focused – connecting community members with where they need to go – serving transit-supportive equity focus areas, supporting affordable housing along its corridors, and completing an integrated regional transportation system.



What is high capacity transit?

High capacity transit is public transportation that moves a lot of people quickly and often – think light or commuter rail or bus rapid transit. This type of transit makes fewer stops, travels at higher speeds, comes more frequently and uses larger vehicles to carry more people more efficiently than a typical local bus line.

Trains may run on a dedicated track or a track shared with other passenger or freight trains. Buses may run on a dedicated or a shared lane that includes improvements, such as a priority bus lanes that people driving cars can also use when turning, space at intersections and priority timing at traffic signals that allow buses to pass traffic.

The enhanced features for riders - boarding via multiple doors and/or stations with covered waiting areas and information about when the next train or bus will arrive - make high capacity transit more reliable, convenient and comfortable for people to use.

How does high capacity transit support our regional goals?

High capacity transit is a key element of the 2040 Growth Concept – connecting people with hubs of commerce and supporting development in dense areas with a mix of housing and jobs to support healthy, equitable communities and a strong economy. By moving people efficiently and comfortably over long distances, it promotes the efficient use of land, public facilities and services and protects farms and forests. High capacity transit is also critical to implementing the Regional Transportation Plan investment priorities that support this blueprint for the future – equity, climate, safety and mobility.

Fast, convenient and linked to the broader transit and transportation network – high capacity transit provides a viable, more affordable alternative to driving. This makes our transportation system more equitable for people who rely on transit, including people with low incomes, people of color, people with disabilities, people who are older and single-parent families. Fewer cars on the road leads to less air pollution, more physical activity, less time in traffic, fewer crashes and more reliability for moving both people and goods – supporting the health, safety, mobility, economy and quality of life of our region.

Who will be involved?

Metro and TriMet will be working closely with Portland Streetcar, SMART, and C-TRAN; ODOT; the Southwest Washington Regional Transportation Council; Clackamas, Multnomah and Washington counties and the City of Portland.

TriMet is currently taking a deep look at whether existing bus service is best serving our community: www.trimet.org/forward.

SMART and Washington County will also soon begin work on their transit plans. The High Capacity Transit Strategy Update will be coordinated with these efforts.

We will also be working with community organizations and members, as well as mobility groups to shape our vision for high capacity transit in the region.

How can I learn more?

For information on the High Capacity Transit Strategy, visit www.oregonmetro.gov/hct

This is a key policy area for the 2023 RTP Update. www.oregonmetro.gov/rtp

Metro

Printed on recycled-content paper.

Public Transit 101

June 2022

Different kinds of transit serve the diverse needs for transportation of greater Portland. Where a lot of people need to travel farther, quickly to major job centers MAX works best, but where some people live far from a bus or train stop or need to get to specific destinations a shuttle is better. Trains, buses, shuttles and other options are all important and work together as a larger system–like a skeleton–to help people get where they need to go. Our work to update the High Capacity Transit Strategy will envision a stronger backbone for the network, while also setting the stage for future work to look at potential solutions improving its connections.

Inter-City

Inter-city transit takes people long distances, usually between regions and states, with few stops along the way – think AMTRAK or Greyhound from Portland to Eugene or Seattle. It is an express train or bus that takes a similar amount of time as driving. It can also be high or ultra-high speed, traveling up to 374 miles per hour with only a few stops. Metro is participating in a partner effort led by the Washington Department of Transportation looking at ultra-high speed rail to connect Portland, Seattle and Vancouver B.C.

High Capacity

High capacity transit moves a lot of people quickly and often – our network's limbs and backbone. These trains or buses take a more direct route with fewer (but better) stops across longer distances. MAX or WES trains carry people between places within the region today, but could also move people between Portland and Salem in the future. TriMet's first rapid bus project, Division Transit, includes longer buses that carry more people and changes to the street that move buses faster.

Enhanced and Frequent

Enhanced transit includes streetcars and "better" buses. It comes more often and is more reliable and can get people to their destinations faster. Examples are the Portland Streetcar and frequent bus lines – where the bus arrives every 15 minutes or less most of the day, every day. This is where improvements to traffic lights that give buses priority and to the street that give buses their own space to travel or pass traffic have the biggest impact.

Bus

Buses are the "ribs" of our transit network that reach more people and places in the region. They have varying routes and schedules to serve different community needs. Buses take people to destinations within their neighborhood as well as other cities and counties. They connect to the MAX, Streetcar and WES (our network's "spine") and to each other. Buses may come more or less often (from every 20 minutes to an hour or more). They may have more or less stops, but) and generally stop more often than enhanced or high capacity transit.

Photo courtesy of SMART

Shuttles and Vans

Shuttles and vans play a key role in getting people to a particular job center or taking them their last mile home from the MAX or WES – more like fingers connected to an arm. They are smaller than a bus, moving less people, and often have more flexibility in their route – they may have areas with no stops where riders flag it like a taxi, may make a stop off-route by request, may take people door-to-door from their home to their desired destination or something in-between. This type of service changes based on requests made by riders by hand wave or phone – but microtransit is using new technology to allow people to schedule and track a pick-up and/or drop-off online or by phone app. Shuttles and vans can also be used for different purposes to meet specific community needs – vanpools where co-workers coordinate travel to job sites, shuttles with routes and schedules for shift or farming work, or door-to-door paratransit for people with disabilities or mobility issues.

Photo courtesy of Ride Connection

And more!

While these are the most common types of transit in our region and state, there are many other types of transit. The Portland Aerial Tram that connects the South Waterfront to the Oregon Health and Science University campus or the proposed Frog Ferry river taxi that could connect Vancouver, WA with central Portland in the future are just a few examples. We outline future work to consider new, innovative and improved transit solutions in our Regional Transportation Plan.

Metro

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HIGH CAPACITY TRANSIT STRATEGY UPDATE

Key Meeting Dates and Engagement Activities for Project Milestones

June/July 2022

Outcome: Introduction and feedback on work and engagement program and goals and policy considerations.

Date	Who
June 30	**HCT Working Group #1: Introduction, Goals, and Policy Considerations** • Work Plan • Engagement Plan Preview • Policy and Core Criteria Preview
July 6	East Multnomah County Transportation Committee TAC
July 7	Washington County Coordinating Committee TAC
July 13	**Transportation Policy Alternatives Committee (TPAC)**
July 18	Washington County Coordinating Committee (policy)
July 18	East Multnomah County Transportation Committee (policy)
July 20	**Metro Technical Advisory Committee (MTAC)**
July 26	**Metro Council (Work Session)**

May-July	• Project webpage tab launched (June)
	  ○ MetroQuest Survey: Needs (added mid- July to mid-August)
	• Fact Sheets:
	  ○ #0: Transit 101 (June)
	  ○ #1: About the HCT Strategy Update (June)
	  ○ *#2: Regional Transit Activities*

August 2022

Outcome: Feedback on policies and targets for 2023 RTP and corridor evaluation approach.

Date	Who
August 4	Clackamas County Coordinating Committee TAC
August 16	**HCT Working Group #2: Policy Framework and Corridor Evaluation Approach** • Policy Gap Analysis/Framework • Corridor Evaluation Framework • Systems Analysis Preview
August 18	**Joint Policy Advisory Committee on Transportation (JPACT)**
August 24	**Metro Policy Advisory Committee (MPAC)**

Late August/Early September	• Project webpage tab
	  ○ Policy Framework Memo
	• Fact Sheet #3: Policy Framework
	• Engagement Round 1: Policy Framework (August)
	  ○ What are the policy gaps to explore? Where are new areas of consideration since 2018?
	• RTP: TV Highway Snapshot (includes tie to HCT)
	• RTP Community Listening Session
	• RTP Info Session

September/October 2022

Outcomes: Review policy framework and systems analysis. Feedback on potential HCT investment corridors for refined vision and readiness assessment approach.

Date	Who
Early September TBD	**HCT Working Group #3: Potential Investment Corridors, Network Vision, and Readiness Tiers Approach** • Policy Framework Review • Systems Analysis • Vision • Corridors/Readiness Approach and Preview
September TBD	Washington County Countywide Transit Study TAC (alternative for WCCC TAC)
September 14	**Transportation Policy Alternatives Committee (TPAC)**
September 19	Washington County Coordinating Committee (policy)
September 21	**Metro Technical Advisory Committee (MTAC)**
September 23	WCCC TAC Workshop
September 28	**Metro Policy Advisory Committee (MPAC)**
September 29	**JPACT/Metro Council Workshop**
October 5	East Multnomah County Transportation Committee TAC
October 6 (tentative)	Clackamas County C-4 TAC (policy)
October 17	East Multnomah County Transportation Committee (policy)
October 19 (tentative)	Clackamas County C-4 subcommittee (policy)

September-October	• Project webpage
	  ○ MetroQuest Survey: Network Vision Review
	  ○ Vision/Systems Memos
	• Fact Sheet #4: What is the regional vision for HCT?
	• Stakeholder Meetings/Interviews Round 2 (September)
	  ○ What is the vision missing? Did we miss anything in thinking about how to evaluate readiness?
	  ○ RTP: PBA Workshop Roundtable Presentation

November/December 2022

Outcome: Review refined vision. Discuss 2023 RTP Needs and Revenue Forecast. Feedback on corridor readiness assessment and tiers.

Date	Who
Mid-November TBD	**HCT Working Group #4: Vision, Readiness Assessment, Needs and Revenue Forecast** • Vision Review • Corridor Readiness Assessment • Costs/RTP Revenue Forecast • RTP Investment and Future Priorities

November- December	• Project webpage
	  ○ MetroQuest Survey: Corridor Investment Tiers
	  ○ Evaluation/Assessment Memos
	• Fact Sheet #5: Where will we invest in HCT first?
	• Stakeholder Meetings/Interviews Round 3: Corridor Investment Tiers (November)
	  ○ How do you think these tiers look for investment priorities? What changes would you like to see? Why?

January 2023

Outcome: Review corridor investment tiers. Continue revenue discussion. Feedback on HCT report outline.

Date	Who
Mid-December TBD	**HCT Working Group #5: Corridor Investment Tiers, Future Priorities, and HCT Report** • Corridor Investment Tiers Review • RTP Investment and Future Priorities • HCT Report Outline and Preview
January 4 (tentative)	*East Multnomah County Transportation Committee TAC*
January 5 (tentative)	*Clackamas County Coordinating Committee TAC*
January 5 (tentative)	*Washington County Coordinating Committee TAC*
January 9 (tentative)	*East Multnomah County Transportation Committee (policy)*
January 9 (tentative)	*Washington County Coordinating Committee (policy)*
January 13	**Transportation Policy Alternatives Committee (TPAC)**
January 18 (tentative)	*Clackamas County C-4 subcommittee (policy)*
January 18	**Metro Technical Advisory Committee (MTAC)**
January 19	**Joint Policy Advisory Committee on Transportation (JPACT)**
January 24	**Metro Council (work session)**
January 25	**Metro Policy Advisory Committee (MPAC)**
December-January	• Project webpage updates

April/May 2023

Outcome: Feedback on the draft report. Discuss 2023 RTP investment strategy. Preview public review process.

Date	Who
Mid-April TBD	**HCT Working Group #6: Draft Strategy Report and RTP Investment Strategy** • HCT Report • RTP Investment Strategy • RTP Public Review Preview
May 3 (tentative)	*East Multnomah County Transportation Committee TAC*
May 4 (tentative)	*Clackamas County C-4 TAC*
May 4 (tentative)	*Washington County Coordinating Committee TAC*
May 12	**Transportation Policy Alternatives Committee (TPAC)**
May 15 (tentative)	*East Multnomah County Transportation Committee (policy)*
May 15 (tentative)	*Washington County Coordinating Committee (policy)*
May 17 (tentative)	*Clackamas County C-4 subcommittee (policy)*
May 17	**Metro Technical Advisory Committee (MTAC)**
May 18	**Joint Policy Advisory Committee on Transportation (JPACT)**
May 24	**Metro Policy Advisory Committee (MPAC)**
May 30	**Metro Council (work session)**

April-May	• Project webpage
	  ○ MetroQuest Survey: HCT Strategy
	  ○ Draft report documents
	• Fact Sheet #6: What is the region's strategy for HCT?
	• Stakeholder Meetings/Interviews Round 4: HCT Strategy
	  ○ Issues, Opportunities and Concerns

	• RTP: Snapshot Story on Transit (importance of HCT- queue project list)

June/July 2023

Outcome: RTP Priorities and Public Review (including HCT).

Date	Who
TBD	TPAC
TBD	MTAC
TBD	JPACT
TBD	MPAC
TBD	Metro Council
June-July	• RTP Project webpage: Public review draft documents • RTP Public Review Period

November 2023

Outcome: RTP adoption.

Date	Who
TBD	Metro Council Work Session discussion
TBD	TPAC/MTAC workshop discussion
TBD	JPACT discussion
TBD	MPAC discussion
TBD	TPAC recommendation to JPACT
TBD	MTAC recommendation to MPAC
TBD	JPACT recommendation to Metro Council
TBD	MPAC recommendation to Metro Council
TBD	Metro Council considers action on MPAC and JPACT recommendations
October-December	• RTP Public Hearings • RTP Project webpage: Final documents

Metro

High Capacity Transit Strategy Update

Work Plan

June 2022

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Metro is the federally mandated metropolitan planning organization designated by the governor to develop an overall transportation plan and to allocate federal funds for the region.

The Joint Policy Advisory Committee on Transportation (JPACT) is a 17-member committee that provides a forum for elected officials and representatives of agencies involved in transportation to evaluate transportation needs in the region and to make recommendations to the Metro Council. The established decision-making process strives for a well-balanced regional transportation system and involves local elected officials directly in decisions that help the Metro Council develop regional transportation policies, including allocating transportation funds. Together, JPACT and the Metro Council serve as the MPO board for the region in a unique partnership that requires joint action on all MPO decisions. This means JPACT approves MPO decisions and submits them to the Metro Council for adoption. The Metro Council will adopt the recommended action or refer it back to JPACT with a recommendation for amendment.

The preparation of this report was financed in part by the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration. The opinions, findings and conclusions expressed in this report are not necessarily those of the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration

TABLE OF CONTENTS

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PURPOSE AND BACKGROUND

The purpose of this document is to outline the work plan, including the planning process and engagement approach, for updating the High Capacity Transit (HCT) component of the Regional Transportation Plan (RTP).

Background

Different kinds of transit serve the diverse transportation needs of the Portland region. High capacity transit is public transportation that moves a lot of people quickly and often – think light or commuter rail or bus rapid transit. This type of transit makes fewer stops, travels at higher speeds, comes more frequently and uses larger vehicles to carry more people more efficiently than a typical local bus line.[1] Dedicated right of way or street priority improvements coupled with enhanced features for riders make high capacity transit more reliable, convenient and comfortable for people to use. The High Capacity Transit (HCT) Strategy is the framework for guiding regional high capacity transit system investments – categorizing corridors where a higher quality of service would most benefit the most people.

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[1] *The 2018 Regional Transit Strategy defines high capacity transit as: "public transit that can have exclusive right of way, non-exclusive right of way, or a combination of both. Vehicles make fewer stops, travel at higher speeds, have more frequent service and carry more people than local service transit such as typical bus lines:*

- *Light rail uses high capacity trains (68 seats with room and design for several passengers to stand) and focuses on regional mobility with stops typically one-half to 1 mile apart, connecting concentrated housing or local bus hubs and employment areas. The service has its own right of way. Cars can be doubled, and service frequency increased, during peak hours.*
- *Commuter rail uses high capacity heavy rail trains (74 seats in a single car, 154 in doubled cars), typically sharing right of way with freight or other train service (though out of roadway). The service focuses on connecting major housing or local bus hubs and employment areas with few stops and higher speeds. The service may have limited or no non-peak service.*
- *Bus rapid transit uses coach-style or high capacity busses (40-60 seats with room and design for several passengers to stand). The service may be in the roadway with turnouts and signal priority for stops, have an exclusive right of way, or be some combination of the two. The service focuses on regional mobility, with higher speeds, fewer stops, higher frequency and more substantial stations than local bus, connecting concentrated housing or local bus hubs and employment areas. Service frequency can be increased during peak hours.*
- *Using the same technology as local streetcar, rapid streetcar focuses on regional mobility, offering fewer stops through less populated areas to connect housing areas to jobs or other destinations. Cars can be doubled, and service frequency increased, during peak hours. The service operates in mixed traffic, in exclusive right of way or a combination of the two."*

The first Regional High Capacity Transit (HCT) System Plan was developed in 2009 to guide future regional high capacity transit capital investments and support the goals and aspirations of the cities, counties, and regional partners that make up the Portland metropolitan area. The HCT Plan provided a framework on where to spend limited transportation dollars and where local jurisdictions have committed to supportive land uses, high quality pedestrian and bicycle access, management of parking resources and demonstrated broad based financial and political support. That work, conducted as part of the 2010 Regional Transportation Plan (RTP) update, identified and evaluated travel corridors for high-capacity transit potential and established tiers for investment priorities. The HCT Plan analyzed around 60 corridors, considering cost and ridership, transit markets, safety and security, land use, financial feasibility, traffic/freight impacts, and included a public and jurisdictional involvement process. A total of 18 potential high capacity transit corridors were prioritized and placed into tiers of near term regional priority corridors (Tier 1), next phase regional priority corridors (Tier 2), developing regional priority corridors (Tier 3) and regional vision corridors (Tier 4). The HCT System Plan network was reflected in the transit element of the 2010 RTP.

Metro has updated the RTP twice, in 2014 and 2018, since the original HCT System Plan was adopted. These updates introduced the current priority outcomes of equity, climate, safety, and mobility and incorporated a number of other policies and studies. More broadly, the transit planning environment looks different than it did in 2018. Some projects identified in the HCT System Strategy have been constructed, some were planned but not implemented, and others are currently in the planning process. Beyond other typical route and service adjustments to the system, transit in our region looks different within an environment of increased pandemic-related costs, falling fare revenue, and operator shortages. Metro's current Emerging Trends work for the 2023 Regional Transportation Plan and TriMet's Forward Together service planning effort both indicate that transit ridership is expected to take several years longer than automobile traffic to return to pre-pandemic levels due to service cuts, changing travel patterns, lingering health concerns, and other factors. Yet even this new landscape reflected regional values as TriMet intentionally avoided cuts to routes serving equity areas (identified using their Equity Index) for low-income people and people of color most likely to depend on transit and also with the most pressing health and safety concerns.

Increased transit frequency service, routes, connections, and accessibility are key partner and community priorities – reiterated in recent outreach conducted by Metro including in scoping the Regional Transportation Plan update. Several local agencies and jurisdictions have completed or are currently working on transit development plans that are already expanding or

will expand the transit network.[2] In particular, Division Transit –TriMet's first rapid bus line – will open this September (2022), while C-TRAN's The Vine on Fourth Plain began service in 2017. Bus rapid transit planning efforts are also underway for Tualatin Valley Highway in Beaverton-Hillsboro, 82nd Avenue in Portland, and Mill Plain in Vancouver. As the "missing middle" of transit, this type of high capacity transit offers great opportunities for expanding high quality service to support growing regional centers and educational and employment areas. New federal guidance (e.g., FTA Emphasis Areas, Capital Investment Grant Program Policy Guidance) and funding sources (e.g., Infrastructure Investment and Jobs Act) further support and maximize opportunities for bus rapid transit.

As a result, this is the right time to re-assess the region's high capacity transit system and re-evaluate the high capacity transit component of the Regional Transportation Plan, particularly with bus rapid transit in mind. Trains, buses, shuttles and other options are all important and work together as a larger system–like a skeleton–to help people get where they need to go. Our work to update the High Capacity Transit Strategy will envision a stronger backbone for the network, while also setting the stage for future work to look at potential solutions improving connections to it.

INTRODUCTION

This project will address new policy questions around the future of high capacity transit in our region, re-envision the regional high capacity transit vision, and build on the previous work done identifying community priorities to create a "pipeline" of corridor investments in the region competitive for federal Infrastructure Investment and Jobs Act funding as it becomes available. Work will involve re-evaluating future major regional high capacity transit investments including: potential new corridors; capacity, reliability and speed improvements to existing service; extensions to existing lines; and potential new system connections. The High Capacity Transit Strategy Update will inform the 2023 RTP (and will include memos documenting recommendations for content), considering how the regional HCT system can:

[2] *Including the Oregon Department of Transportation Oregon Transportation Plan (anticipated 2023), Oregon State Rail Implementation Plan (underway 2022), Oregon Passenger Rail Development Plan (2021), and Public Transportation Plan (2018); Clackamas County Transit Development Plan (2021); Washington County Countywide Transit Study (anticipated 2023) and Transit Development Plan (anticipated 2022); TriMet Coordinated Transportation Plan for Elderly and People with Disabilities (2020), Unified Service Enhancement Plan (2018), Equity Lens/Index (2020), Red Line MAX Extension Transit-Oriented Development & Station Area Planning (2022) and Forward Together (FY2023 Annual Service Plan); and City of Portland Enhanced Transit Corridors Plan (2018) and Transit and Equitable Development Assessment (2022); and Wilsonville Transit Master Plan Update (anticipated in 2023).*

- Advance RTP priorities for equity, climate, safety, and mobility and forward implementation of the region's 2040 Growth Plan and Climate Smart Strategy.
- Best recover from COVID-19 and recent operator shortages (e.g., ridership/demand, service).
- Build from the "spoke and hub" light rail system to explore a complementary grid-based bus rapid transit system that leverages identified Enhanced Transit Corridors in support of the high capacity transit vision.
- Better serve transit-supportive equity focus areas and connect regional (and town) centers together.
- Be more people-focused, better responding to community needs and priorities related to how and where community members travel, particularly non-commute trips (e.g., destinations, reliability, travel time, user experience) and be a safe, reliable, affordable, and convenient alternative to driving.
- Support mobility hubs and bus fleet electrification.
- Fit into a complete, integrated regional transportation system (e.g., high travel corridors) and statewide rail and inter-city transit system and integrate with a range of mobility services.
- Support affordable housing along corridors and in centers, preventing and/or limiting displacement through intentional actions supporting community development and stabilization, and improving quality of life for people of all incomes and backgrounds.

As a component of the 2023 RTP update, the HCT System Strategy will be coordinated with the approach, engagement, formal consultation, and decision-making for that effort. Metro Advisory Committees and Metro Council approved a work plan, equity framework, and engagement plan for the 2023 RTP update is informing work underway around goals, objectives, and targets. These documents will serve as the guiding vision and goals for the updated HCT System Strategy.

PROJECT TIMELINE AND DECISION MILESTONES

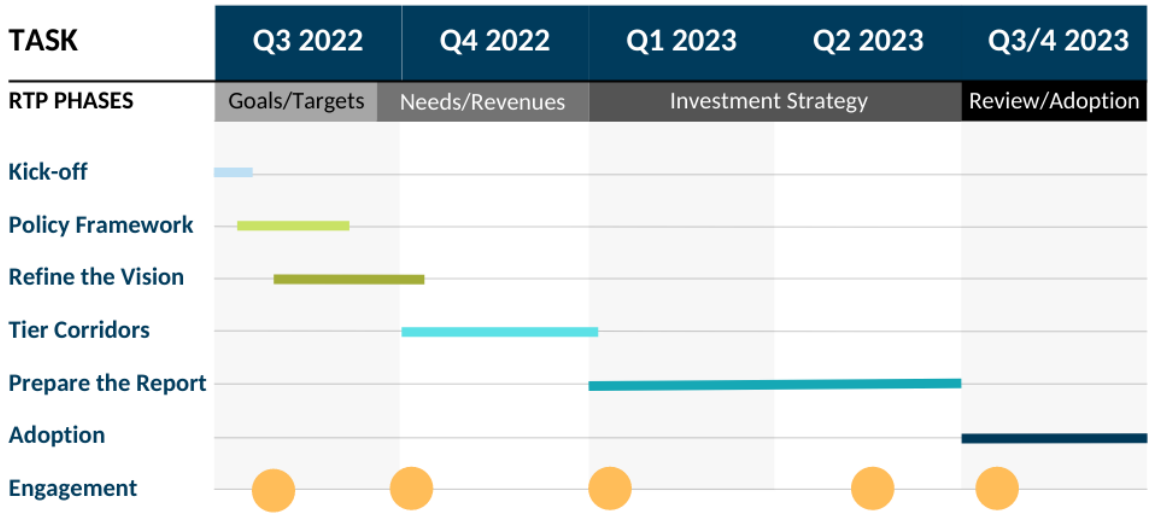
High Capacity Transit Strategy Timeline

The HCT Strategy will be updated in four key phases from June 2022 to November 2023. This work plan and supporting public engagement approach were developed to align with the timeline, key milestones, and engagement efforts for the 2023 Regional Transportation Plan.

Work will include establishing policy recommendations by summer 2022, identifying additional corridors for consideration and refine the network

vision by fall 2022, tiering corridor investments by readiness and identifying potential project opportunities providing the framework for project prioritization within the RTP process by early 2023, develop a draft report including recommendations for implementation of the updated High Capacity Transit Strategy by summer 2023, and prepare final content for incorporation into the 2023 RTP for adoption by November 2023.

Figure 1. Timeline for the High Capacity Transit Strategy Update



POLICY FOUNDATION AND GUIDANCE

2040 Growth Concept, Regional Transportation Plan and Climate Smart Strategy

The 2040 Growth Concept concentrates mixed-use and higher density development in urban centers, station communities, corridors and main streets that are well-served by transit. High capacity transit is a key element of the 2040 Growth Concept – connecting people with hubs of commerce and supporting development in dense areas with a mix of housing and jobs to support healthy, equitable communities and a strong economy. By moving people efficiently and comfortably over long distances, it promotes the efficient use of land, public facilities and services and protects farms and forests.

High capacity transit is also critical to implementing the RTP investment priorities that support this blueprint for the future – equity, climate, safety and mobility. Expanding high capacity transit service provides people with transportation options and helps minimize congestion as our region continues to grow. The policy framework for high capacity transit focuses on creating strong connections between regional centers. The 2018 Regional Transportation Plan includes a High

Capacity Transit (HCT) component which includes the Regional Transit Network Vision (map and description of updates), HCT policies, List of 2027 and 2040 Fiscally Constrained and 2040 Strategic HCT Capital Projects, HCT Major Transit Projects and Project Development descriptions, and HCT Assessment and Readiness Criteria.

The 2018 RTP incorporated the 2009 HCT Plan (2009) – identifying projects currently underway, upcoming, and to be completed in the future based on many factors including how "ready" they were to begin construction. The HCT Strategy update will revisit the corridor investment tier structure established in that plan. The 2018 RTP included building the Division Transit Project and the Southwest Corridor Transit Project, investing in the Red Line extension to Hillsboro, and analyzing Central City transit capacity in the 2027 Financially Constrained Project list. The 2040 Financially Constrained list also included investments in high capacity transit from the Expo Center to Vancouver, WA and improvements for the Steel Bridge Transit Bottleneck.

Table 1. Transit Capital Improvements by RTP Investment Strategy: High Capacity Transit

2027 RTP Financially Constrained	2040 RTP Financially Constrained *(2027 Constrained investments, plus)*	2040 RTP Strategic *(2040 Constrained investments, plus)*
High Capacity Transit	**High Capacity Transit**	**High Capacity Transit**
• Southwest Corridor Project • Division Transit Project • MAX Red Line Improvements Project • Central City Transit Capacity Analysis (*combined with Steel Bridge Transit Bottleneck*)	• Portland to Vancouver HCT • Steel Bridge Transit Bottleneck *(combined with Central City Transit Capacity Analysis)*	• HCT extension to Oregon City via McLoughlin Blvd. • HCT on I-205 (Clackamas to Bridgeport) • WES all-day service • WES extension to Salem • Sunset Highway HCT (Sunset transit center to Hillsboro Fairplex • HCT extension to Forest Grove

These projects did not complete the transit system as envisioned by the RTP to fully incorporate the HCT Plan and high speed rail – the following projects were not in the 2018 list, but are still included in the regional transit vision:

- **Transit needs on Powell Boulevard** – The Powell ETC project is identified for the first 10 years of the RTP to address near term reliability issues on Powell Blvd between the Willamette River and I-205. Further study is needed to define the alignment, transit mode terminus. This should be done through a multi-modal transportation study of the corridor.
- **Portland to Lake Oswego Transit Project** – A Locally Preferred Alternative (LPA) has been adopted for this corridor. However, the project was placed on hold and has not been identified in this current RTP.

- **HCT connection to Sherwood** – The original project boundaries identified in the HCT System Plan was Portland to Sherwood in the vicinity of Barbur/Highway 99E. Through the
- **Southwest Corridor Plan** – it was concluded that the light rail project would extend to Tualatin. The connection to Sherwood is a future consideration.
- **Connection between CTC and Washington Square, connecting Milwaukie and Lake Oswego** – An HCT connection on I-205 between Clackamas Town Center and Bridgeport is identified in the RTP Strategic Investment Scenario, which may provide a similar travel market. Further study is needed to identify the right alignment, transit mode and terminus is needed.
- **Tanasborne HCT extension** – This future HCT extension would provide an HCT connection between the existing Blue Line and the future Sunset Highway HCT through Tanasborne.

The Climate Smart Strategy, adopted by Metro in 2014, affirmed the region's commitment to provide more transportation choices, keep our air clean, build healthy and equitable communities, and grow our economy – all while reducing greenhouse gas emissions. It provides clear direction to invest more in our transit system in order to meet regional sustainability goals and objectives. Fast, convenient and linked to the broader transit and transportation network – high capacity transit provides a viable, more affordable alternative to driving. This makes our transportation system more equitable for people who rely on transit, including people with low incomes, of color, with disabilities, who are older and single-parents. Fewer cars on the road leads to less air pollution, more physical activity, less time in traffic, fewer crashes and more reliability for moving people and goods – supporting the health, safety, mobility, economy and quality of life of our region.

For a description of the 2040 Growth Concept and Climate Smart Strategy and more information about the Regional Transportation Plan, see the Regional Transportation Work Plan. Other recent regional work that will inform or be informed by the High Capacity Transit Strategy Update includes the following:

Table 1. Regional Work Related to the HCT System Strategy Update

Informing Strategy Development	Coordinated with Strategy Development	To Be Informed by the Updated Strategy
• Climate Smart Strategy (2014) • Mobility Corridors Atlas (2014) • Strategic Plan to Advance Racial Equity, Diversity and Inclusion and Equity Framework (2016) • Transit-Oriented Development Strategic Plan (2016) • Coordinated Transportation Plan for Seniors and Persons with Disabilities (2020) • Southwest Corridor Equitable Development Strategy (2017) and Locally Preferred Alternative (2018) • Enhanced Transit Concept Corridors (2018) • Division Transit Locally Preferred Alternative (2019) • Regional Framework for Highway Jurisdictional Transfer (2021) • Regional Congestion Pricing Study (2021) • Regional Mobility Policy (2019-22)	• Emerging Transportation Trends Study (2022) • Climate Smart Strategy Update (2022) • 2020 MPO Boundary, Equity Focus Areas, and High Injury Corridor Designations • Affordability and Anti-Displacement Policies • RTP Values and Outcomes • RTP Goals, Objectives, and Targets • RTP Regional Needs and Opportunities Analysis: Equity, Climate, Safety, Mobility • RTP Racial Equity Framework • RTP Safe and Healthy Urban Arterials Policies/Actions • Transit Strategies/ Actions • RTP Equitable Finance Strategies • RTP Funding/Revenue Forecast • Sunset Highway Corridor Study • Tualatin Valley Highway Corridor Study (2022-23) • Transit-Oriented Development Strategic Plan Update (2022)	2023 RTP Transit Strategy • Existing conditions • Regional Transit Policy Framework • Regional Transit System Needs • Regional Transit Network Concept and Functional Classifications • RTP Transportation Project and Program Priorities – RTP Call for Projects • Performance Measures • Chapter 8 Scoping: Future Work Needed to Support Successful Implementation of the HCT System Strategy • 2023 Climate Smart Strategy

Regional Transit Strategy

Our robust transit system plays a critical role in the effectiveness of our transportation system and also serves as a key component to the high quality of living residents of our region experience. The Regional Transit Strategy (RTS) was created to highlight the region's plans for meeting regional goals for transit as the region continues to grow steadily, as well as provide the region with a transit vision and policy framework for capital investments and operational improvements. Significant and coordinated investment is needed to continue to provide equivalent service as our region grows and increasing service and access will require dedicated funding, policies, and coordination from all jurisdictions. Investments in transit should increase access, provide more transportation

options for residents and workers, improve air quality, and reduce peak hour congestion.

The RTS was produced in conjunction with input from various workgroups, community feedback, and regional partnerships to create a regional framework for integrating service plans, regional plans and commitments, local priorities, and regional funding capacity. Together, Metro and partners developed a regional shared vision to make transit, for everyone, more:

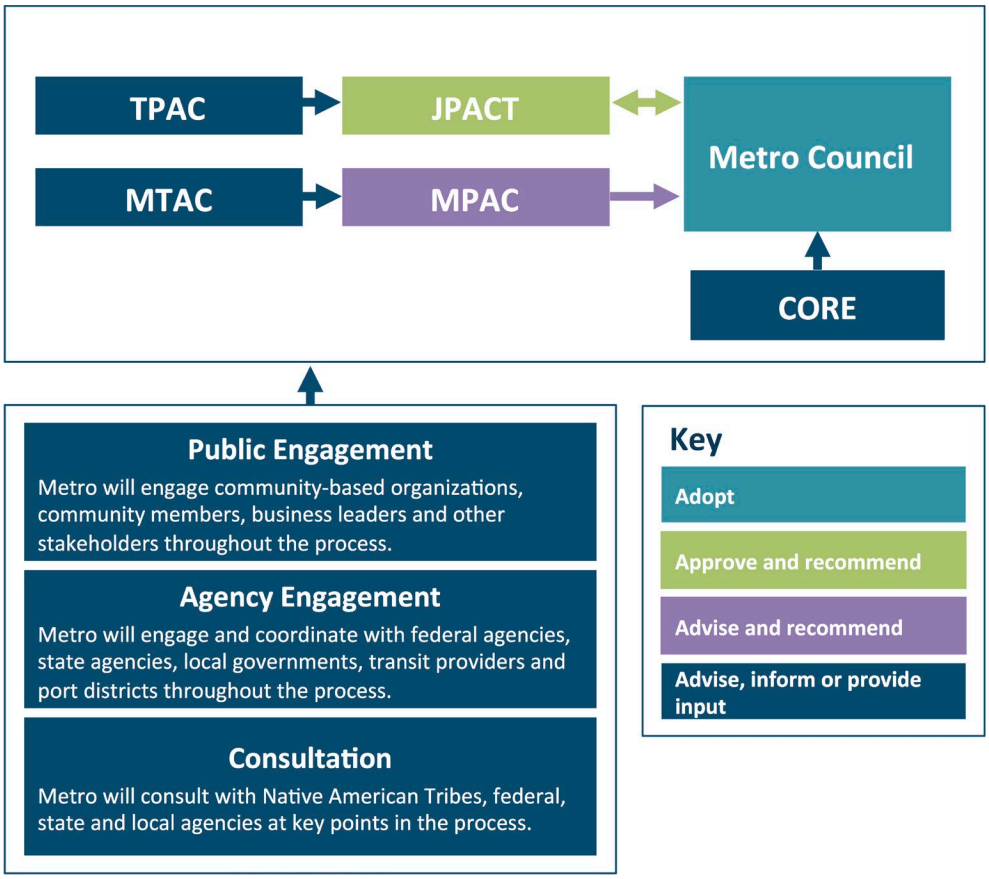
- **Frequent:** Align frequency and type of transit service to meet existing and projected demand in support of adopted local and regional land use and transportation plans.
- **Convenient:** Make transit more convenient and competitive with driving by improving transit speed and reliability through priority treatments and other strategies. Improve customer experience by ensuring seamless connections between various transit providers, including transfers, route and schedule information and payment options.
- **Accessible:** Provide safe and direct biking and walking routes and crossings that connect to transit stops to ensure transit services are fully accessible to people of all ages and abilities. Expand community and regional transit service across the region to improve access to jobs and community places.
- **Affordable:** Ensure transit remains affordable, especially for those who depend on it the most.

The 2018 Regional Transit Strategy (RTS) is an element of the 2018 Regional transportation Plan – the update to the High Capacity Transit Strategy will complement the RTS. A major focus in developing the strategy was to classify enhanced transit corridors where the region can invest in improvements to the street that result in “better bus”. The approach centered improving transit speed and reliability on the most congested existing and planned frequent service bus or streetcar lines. Corridors that had the highest reliability issues (difference in travel times between free flow and peak period conditions) and experiencing significant dwell and high ridership were identified as Enhanced Transit Concept (ETC) corridors. These corridors – prime for investments from better bus priority street improvements to corridor-based rapid bus to fixed guideway bus rapid transit – provide a starting point for exploring the regional bus rapid transit system. Already the ETC Pilot Program (Better Bus) is advancing nimble, low-cost improvements along congested blocks, intersections and bridges to make buses more reliable and convenient along ETC corridors including: bus-only lanes, bus priority signals, curb extensions at bus stops, and more.

REGIONAL TRANSPORTATION DECISION-MAKING FRAMEWORK

The 2023 RTP, of which the High Capacity Transit System update is a component, will rely on Metro's role as the federally mandated Metropolitan Planning Organization (MPO) designated by the governor for the Portland metropolitan region and its existing decision-making framework.

Figure 2. Regional Transportation Decision-Making Framework



For more information on the regional transportation decision-making framework, see the Regional Transportation Work Plan.

PROJECT OVERVIEW

To update the High Capacity Transit (HCT) component of the Regional Transportation Plan (RTP) we will build from prior work to reenvision the regional high capacity transit system with bus rapid transit in a way that advances RTP goals and supports the transportation system. This work will include reevaluating the broader high capacity transit vision to consider potential new corridors and system connections. It will also assess readiness to identify corridor investments competitive for federal funding that will provide guidance for decisions regarding high capacity transit projects for the 2023 RTP update.

The High Capacity Transit Strategy Update will involve a wide range of individuals, regional advisory committees, community-based organizations, business groups and other stakeholders. Metro, working in close partnership with TriMet, is ultimately responsible for coordinating development of the plan, public engagement and adoption of the final plan. A working group made up of agency partners including representatives from TriMet, SMART, Portland Streetcar, City of Portland, Clackamas County, Multnomah County, Washington County, C-TRAN, SW WA RTC, and ODOT will provide input throughout the process.

TASK 1 | KICK-OFF | JUNE TO JULY 2022

Desired outcome: Kick-off the project, introduce the work plan, and develop the engagement strategy.

The first task will involve engaging decision-makers, local, regional, state and community partners and members of the community to understand key trends and challenges for high capacity transit in the region and begin identifying outcomes for the update. Work will begin to develop tools and background data that will be used to document how the region is growing and changing and assess corridor opportunities for high capacity transit.

Opportunities for input will be provided in identifying additional considerations to be addressed by the work plan and in developing the engagement strategy.

Task 1 Key Tasks and Activities	
Planning	• Review work plan • Develop and review public engagement plan • Assess baseline and future conditions • Collect and develop data and methods to respond to identified needs and prepare for corridor evaluation and readiness assessment • Report on key trends shaping the region's future, highlighting where we have been, where we are now, and opportunities and challenges looking forward.
Engagement	• Begin engaging public, partners and regional advisory committees to identify needs and policy considerations. • Needs and policy considerations survey • HCT Working Group #1: Introduction, Goals, and Policy Considerations
Outcome	• Build a shared understanding of what is important for the update to address and define the planning and engagement process to better meet regional and community needs and priorities. • Inform the 2023 RTP Data Analysis.

Task 1 Key Tasks and Activities	
Key Products	• Work Plan • Data Needs List • Engagement Strategy • Transit 101 Fact Sheet • Fact Sheet #1: About the HCT Strategy Update (June) • Fact Sheet #2: Regional Transit Activities

TASK 2 | ESTABLISH THE POLICY FRAMEWORK | JUNE TO AUGUST 2022

Desired outcome: Identify policy gaps in the RTP and create a framework of policy considerations to inform future work. This task is aligned with RTP Phase 2: Data and Policy Analysis.

This task will establish the policy framework for the update that will guide development of the vision for regional high capacity transit, identifying existing challenges and opportunities and how investments in high capacity transit could best further regional goals for climate, equity, safety and mobility. A draft memo will document the policy framework, including current policies, relevant work, policy considerations, and recommended policy revisions.

Opportunities for input will be provided in identifying policy gaps and considerations, shaping the policy framework and developing updated policy language for JPACT and Metro Council consideration.

Task 2 Key Tasks and Activities	
Planning	• Review recent regional work and policy updates. • Identify recent changes in state and federal policies and programs. • Consider community priorities and recent trends and developments influencing future HCT project planning. • Conduct a policy gap analysis and propose HCT policy updates.
Engagement	• Engage public, partners and regional advisory committees to develop the policy framework. • HCT Working Group #1: Introduction, Goals, and Policy Considerations • HCT Working Group #2: Policy Framework and Corridor Evaluation Approach
Outcome	• A guiding framework for addressing policy gaps and providing a clear vision for how high capacity transit policy will drive investment and operation practices that move the region toward key goals. • Updated policy language for JPACT and Metro Council consideration. • Inform the 2023 RTP Policy and Needs Analysis.

Task 2 Key Tasks and Activities	
Key Products	• Fact Sheet #3: Policy Framework • A memo documenting the policy framework for the HCT System Strategy update, including an analysis of 2018 RTP HCT policy gaps and recommendations for revisions. • Public engagement summary

TASK 3 | UPDATE THE NETWORK VISION | JULY TO OCTOBER 2022

Desired outcome: Identify potential corridors for high capacity transit investment and refine the network vision. This task is aligned with RTP Phase 3: Revenue and Needs Analysis.

This task will develop an updated regional vision for high capacity transit that addresses identified needs and gaps and leverages opportunities to create a network that supports how people need to travel. Work will develop and implement approaches for evaluating new corridors and re-evaluating the future system, particularly how the updated vision fits within the broader regional transit and transportation systems. Work will primarily build from the enhanced transit concept corridors established in the 2018 RTP and through recent collaboration with partners to identify corridor opportunities. This vision will provide a blueprint for future transit investment that will allow us to realize regional goals.

Technical memos will identify high capacity transit corridor opportunities and describe the evaluation methodology and results and describes the network vision – how the elements work together as a system and fit within the broader regional transportation network.

Opportunities for input will be provided in refining the corridor core criteria evaluation methodology, the approach to analyzing the system, and developing and refining the network vision.

Task 3 Key Tasks and Activities	

Planning	• Examine the existing and future transit system to determine current constraints, possibilities, and needs.
	• Consider past lessons learned, the current system environment, and feedback from partners and community stakeholders.
	• Identify corridor high capacity transit corridor opportunities.
	  ○ Consider 2040 Growth Concept designations and land use, transit-supportive markets, equity areas and focus areas based on findings from TriMet's Forward Together work.
	  ○ Identify gaps in the regional high capacity transit network between centers, employment areas and community

Task 3 Key Tasks and Activities	
	destinations; for transit-supportive markets; in connections within the broader transit and transportation system; and due to growth, development and changes in travel markets. ○ Identify additional operational and capacity concerns. • Develop an approach for and evaluate new potential corridor opportunities. ○ Identify minor refinements to the core criteria in the 2018 RTP HCT Assessment and Readiness Criteria (e.g., equity) and assessment approach. ○ Develop and execute an approach assessing performance of key corridors and outputs. ○ Make adjustments to improve performance in mobility and ridership, equity benefit, and environmental benefit and other factors. • Analyze and document how all of the identified corridors work together as a system to make additional refinements. ○ Assess whether any operational/service adjustments would improve connections between corridors. ○ Evaluate the combined effects of implementing the full vision. ○ Identify key elements that will make the HCT system vision work (e.g., major stop locations, O&M needs, termini) as well as access and user experience factors (e.g., major transfer nodes, potential park and ride locations, intersection with the cycling and walking networks). • Refine the 2023 RTP Transit Network Map.
Engagement	• Vision survey • Stakeholder Meetings/Interviews Round 2: What is the vision missing? Did we miss anything in thinking about how to evaluate readiness? • HCT Working Group #2: Policy Framework and Corridor Evaluation Approach • HCT Working Group #3: Potential Investment Corridors, Network Vision, and Readiness Tiers Approach • Engage public, partners and regional advisory committees to shape the network vision.
Outcome	• An updated High Capacity Transit network vision that illustrates and describes how the corridors work together as a system and how that system fits within the broader transit and transportation network and forwards regional goals in line with the policy framework. • Inform the 2023 RTP Needs Analysis.

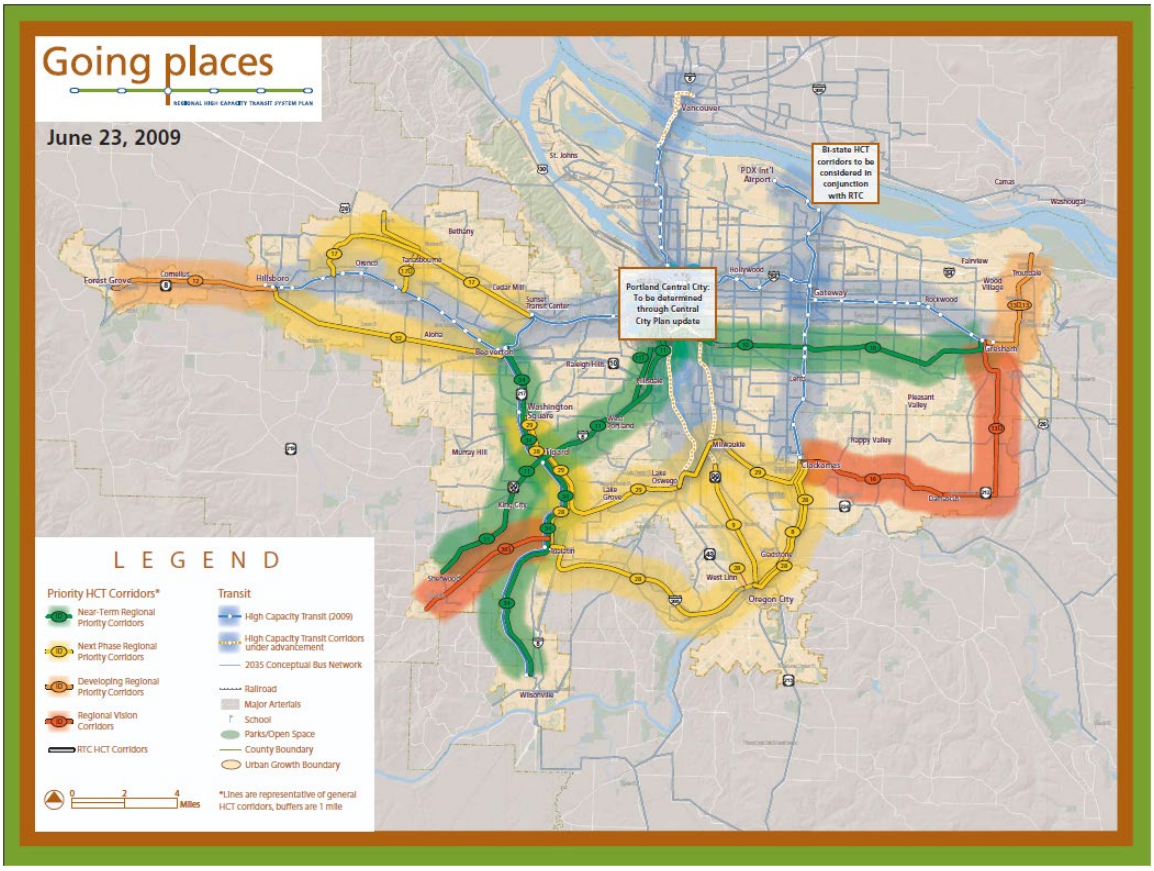
Task 3 Key Tasks and Activities	
Key Products	• Fact Sheet #4: What is the regional vision for HCT? • Technical memos describing the corridor HCT assessment methodology and results. • Technical memo describing the approach and results of the system analysis. • An HCT network vision map. • A memo describing the HCT network vision. • Public engagement summaries

TASK 4 | TIER CORRIDOR OPPORTUNITIES BY READINESS | OCTOBER 2022 TO JANUARY 2023

Desired outcome: Tier corridor investments by readiness, identifying likely mode and potential project type. This task is aligned with RTP Phases 3 and 4: Revenue and Needs Analysis and Shared Investment Strategy.

This task will identify potential modes and assess project opportunities to create readiness tiers that identify regional investments necessary to implement the HCT vision in the near-, mid- and longer terms and that best position the region for federal funding. Work will build from the priorities established in the 2018 RTP and through recent collaboration with partners to identify corridor opportunities. The result will identify corridor investments that are most likely to be implemented, particularly in the near and mid-term to provide a framework for regional decision-makers when considering decisions regarding high capacity transit projects for the 2023 RTP update.

Figure 3. 2009 High Capacity Transit Plan Priority Corridors



Similar to the 2009 HCT Plan, this milestone includes grouping and tiering corridors by investment readiness.

Technical memos will describe the HCT potential mode identification methodology and results, including an updated list of HCT System Corridors by potential range of modes and the tier structure (e.g., number, definitions) and the methodology for assigning tiers.

Opportunities for input will be provided in both the process for developing the approach for assessing and grouping corridors for readiness and in refining the resulting tiered corridor matrix.

Task 4 Key Tasks and Activities	
Planning	• Define potential corridor modes. • Consider past lessons learned, the current system environment and funding dynamic, and feedback from partners and community stakeholders. • Develop an approach to tiering corridors for readiness, including the tier structure (e.g., number, definitions) and the methodology for assigning tiers.

Task 4 Key Tasks and Activities	
	○ Consider political and public support, readiness for NEPA, and federal funding eligibility and competitiveness with a refined set of criteria that includes local support, commitment and partnership; capital cost, support for regional land use vision, level of design and complexity, environmental considerations; equity, GHG reduction, ridership, and other benefits; and alignment with Section 5309 CIG program criteria. • Assess corridors for readiness, including identifying a range of potential project types (e.g., New Starts, Small Starts) particularly for nearer-term, more ready corridors. • Document what would need to be in place for later-term, vision corridors to demonstrate HCT readiness and advance.
Engagement	• Corridor Investment Tiers Survey • Stakeholder Meetings/Interviews Round 3: How do you think these tiers look for investment priorities? What changes would you like to see? Why? • HCT Working Group #4: Vision, Readiness Assessment, Needs and Revenue Forecast • HCT Working Group #5: Corridor Investment Tiers, Future Priorities, and HCT Report • Engage public, partners and regional advisory committees to shape corridor investment tiers.
Outcome	• Tiered corridors, with potential modes and project types identified and grouped by investment readiness, providing a clear roadmap for the advancement of corridors into funding and design. • Inform the 2023 RTP Revenue Forecast and Shared Investment Strategy.
Key Products	• Fact Sheet #5: Where will we invest in HCT first? • Technical memos describing the readiness assessment methodology and results. • A draft corridor matrix with identified potential modes and project types grouped by readiness. • Cost estimates for HCT corridors. • Public engagement summaries

TASK 5 | PREPARE THE STRATEGY REPORT | JANUARY TO NOVEMBER 2023

Desired outcome: Draft High Capacity Transit Strategy Report and content for the 2023 Regional Transportation Plan. This task is aligned with RTP Phase 4 and 5: Shared Investment Strategy and Adoption Process and is intended to develop the HCT

Strategy and components of the RTP to be vetted as part of public review for the 2023 RTP update.

The final task of the update will provide the opportunity for review and input on the draft High Capacity Transit Strategy Report and related 2023 Regional Transportation Plan content prior to consideration by the MPAC, JPACT and the Metro Council (e.g., Chapter 8 future actions). This includes an intial draft for discussion and refinement before components are incorporated into the 2023 RTP released for public review in July.

A memo will document recommendations for the high capacity transit components of the 2023 Regional Transportation Plan, including considerations for the Finance Strategy and Action Plan.

A reader-friendly draft report will include infographics that make it easier to understand both the content and the process that has unfolded during the development of the High Capacity Transit System Strategy Update. The report will summarize the policy framework, vision development and outcomes, corridor investment prioritization, and opportunities, challenges and other considerations (e.g., infrastructure, land use and development, governance) for implementing the vision – including what actions we will need to take and best practices we should consider to realize the regional high capacity transit vision.

Task 5 Key Tasks and Activities	

Planning	• Compile technical information, prepare HCT Strategy Report and related RTP content for public review as part of the 2023 Regional Transportation Plan update process
	  ○ Describe the current system, environment and challenges and opportunities
	  ○ Communicate the policy framework and desired outcomes
	  ○ Describe the network vision and how it was developed
	  ○ Discuss what is needed to support and implement the vision
	  ○ Articulate corridor investment opportunities and roadmap for investment
	  ○ Present areas for future study and other strategies for implementation

Engagement	• HCT Strategy Survey • Stakeholder Meetings/Interviews Round 4: Issues, Opportunities and Concerns • HCT Working Group #6: Draft Strategy Report and RTP Investment Strategy • Engage public, partners and regional advisory committees to provide feedback on the draft High Capacity Transit Strategy

Task 5 Key Tasks and Activities	
	• Public review draft 2023 RTP for 45-day public comment period (including public hearings and consultation) • Engage regional advisory committees to finalize recommendations to the Metro Council on adoption of 2023 RTP
Outcomes	• HCT Strategy Report and HTC 2023 RTP content • MPAC makes recommendation to the Metro Council • JPACT considers adoption of 2023 RTP • Metro Council considers adoption of 2023 RTP
Key Products	• Fact Sheet #6: What is the region's strategy for HCT? • Draft and final HCT Strategy Report • Memo with recommendations for HCT content for the 2023 RTP, including the Finance Strategy and Action Plan (Chapter 8) • Comment log and compiled engagement appendix • Adoption legislation, including findings of compliance with Statewide Planning Goals and Federal mandates

If you picnic at Blue Lake or take your kids to the Oregon Zoo, enjoy symphonies at the Schnitz or auto shows at the convention center, put out your trash or drive your car – we've already crossed paths.

So, hello. We're Metro – nice to meet you.

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June 2022

Attachment 5

Agenda

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting:	High Capacity Transit Strategy Update: Working Group #1
Date:	Thursday, June 30, 2022
Time:	10:00 to 11:30 a.m.
Place:	Zoom
Purpose:	Kick-off! Discuss work and engagement plan and policy considerations.
Outcome(s):	Shared understanding of the work and engagement plans and working group charge, list of stakeholders for outreach, and updated list of policy considerations to inform the framework.

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10 a.m. Welcome! Meet the Project Management Team (Tom/Ally)

10:05 a.m. Group Introductions and Icebreaker (Tom/All)
- Name, Preferred Pronouns, Agency
- Briefly tell us about how you first started riding or working in transit!

10:20 a.m. Overview of the HCT Strategy and Update Work Plan (Ally)
- Questions, thoughts, and other ideas
- What stakeholders would you like to see engaged as part of the process?

10:50 a.m. HCT Working Group Charge, Roles, and Responsibilities (Ally)
- Questions, thoughts, and other ideas

11:00 a.m. HCT Challenges, Opportunities and Policy Considerations (Tom/All)
- What do you hope to get out of this process?
- What else should be considered or explored in this update?
- What have you been hearing from the public or learning through your work that is important for us to know?

11:20 a.m. Other items?

11:25 a.m. Next Steps: Policy Framework and Gap Analysis
- Anything we didn't cover?
- Working Group Meeting #2: August 16

Thank you!!

Meeting minutes

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting:	High Capacity Transit Strategy Update Working Group #1
Date/time:	Thursday, June 30, 2022 10-11:30 am
Place:	Zoom – Virtual meeting
Purpose:	Introductions and initial feedback on process/focus of work

Attendees
Ally Holmqvist – Metro PM
Andrea Pastor – Metro
Andrew Plambeck – Portland Streetcar
Brett Setterfield – Clackamas County
Dyami Valentine – Washington County
Eve Nilenders – Multnomah County
Eric Hesse – PBOT
Grant O'Connell – TriMet
Jackie Donovan – Metro
Jamie Snook – TriMet
Kelly Betteridge - Parametrix
Kelsey Lewis - SMART
Lynda David – SW RTC
Matt Bihn – Metro
Naomi Doerner –Nelson/Nygaard
Ryan Farncomb – Parametrix
Paul Lutey – Nelson/Nygaard
Tara O'Brien - TriMet
Taylor Eidt – C-TRAN
Tom Brennan - Nelson/Nygaard
Tom Kloster - Metro
Valerie Egon - ODOT Region 1

Absent
April Bertelson, PBOT

Topics
Group introductions
Overview of the HCT strategy and update work plan
HCT working group charge, roles, and responsibilities
HCT Challenges, opportunities, and policy considerations

Decisions
None

Actions agreed upon
- Clarity needed on defining project mode during this process and the nexus to the NEPA process
- Partner request - summary of feedback received about HCT and/or prioritizing projects

- Coordination with concurrent work is important. Consider providing updates on nexus to efforts like Climate Smart Communities, Westside multimodal project, etc. so all are on the same page about coordination of data, comments and timing of decisions.
- Encouraged to be focused and targeted while keeping coordinated with concurrent activities.
- All feedback will be tracked and is encouraged within the working group as well as the TACs, CCCs and Metro meetings

Next meeting

August 16, 2022 10:30-12:00 pm
Zoom

Purpose: Talk about identified policy gaps and provide feedback to inform the policy framework, discuss the core criteria and corridor evaluation framework for characterizing corridors, preview approach to systems analysis, and review next steps.

4.3.4 Policy 4 - Make transit more convenient by expanding high capacity transit and improving transit speed and reliability through the regional enhanced transit concept.

4.3.4.1 Expand high capacity transit, to serve transit dependent populations and improve system performance between key destinations

High Capacity Transit (HCT) investments help the region concentrate development and growth in its centers and corridors. The regional transit network concept calls for fast and reliable HCT service between the central city and regional centers. HCT service carries high volumes of passengers quickly and efficiently, and serves a regional travel market with relatively long trip lengths to provide a viable alternative to the automobile in terms of convenience and travel time.

High capacity transit provides greater connections between the Portland Central City, regional centers, and passenger intermodal facilities. It operates on a fixed guideway or within an exclusive right-of-way, to the extent possible. High capacity transit strives for frequencies of 10 minutes or better during the peak hours and 15 minutes during off peak hours. Passenger infrastructure at HCT stations and within station communities often include enhanced amenities, such as real-time schedule information, ticket machines, special lighting, benches, shelters, bicycle parking, civic art and commercial services.

To optimize and leverage transit supportive land uses, alignments and station locations should be oriented towards existing and future high density, mixed-use development. To this end, urban form and connectivity, redevelopment potential, market readiness, public incentives and infrastructure financing should all be considered during the corridor refinement and alternatives analysis phases of project development. High capacity transit investments are informed by the HCT assessment and readiness criteria (see performance measures chapter of this strategy).

Types of high capacity transit types, facilities and services include:

- Light Rail Transit (MAX)
- Rapid Streetcar (Streetcars running in mostly exclusive right-of-way so that they are able to travel faster safely)
- Bus Rapid Transit (majority of service operates in separate and dedicated right of way, defined stations, transit signal priority, short headways).
- On-Street Bus Rapid Transit (substantial transit investment, some separate or dedicated right of way, defined stations, transit signal priority, short headways).
- Commuter Rail (WES)
- Interurban Passenger Rail (e.g., Amtrak or regional rail systems in other regions)
- Intermodal Passenger Facilities (e.g., Union Station and Greyhound)
- Secure bicycle parking (Bicycle stations or Bike & Rides
- Park & Ride lots

- Transit Centers
- Transit Stations

Major infrastructure investments have implications within the communities they are located. Historic data shows that a major HCT investment contributes to both positive and negative outcomes for the communities they serve. It is critical that during the planning for a new HCT investment, a strategy should be developed that considers both the positive and negative impacts of the investment, particularly as it applies to the most at-risk populations. These tend to be people of color, low income, low English proficiency, seniors and youth. Additionally, these populations tend to be our most transit dependent. What this means is that their potential displacement from the economic pressures that the investment brings, ultimately leads to undermining the long-term effectiveness of the investment. By planning all new HCT lines through an equitable development framework, we can attempt to lessen the negative impacts of the investment, while enhancing the opportunity that these transit-dependent populations benefit from it, by limiting residential and business displacements and gentrification. The framework will vary for each project and should be developed at the time an HCT project is being considered through planning, engineering and construction.

Any HCT planning effort should directly incorporate community in the decision-making process. The process should also be informed and include an assessment of data with an equity lens. Where possible HCT projects should also enhance the contracting and job training benefits and opportunities for displaced and historically marginalized populations.

4.3.4.2 Improve transit speed and reliability through the regional enhanced transit concept

In order to meet the Portland Metro region's environmental, economic, livability and equity goals as we grow over the next several decades, we need to invest more in our transit system, particularly the frequent service bus network. There are many ways to increase transit speed and reliability throughout our system. The region should pursue opportunities as they arise to improve the efficiency of our system to support our transit riders.

The Enhanced Transit Concept (ETC) program, is one way to do this, which employs new public partnerships to service treatments that increase capacity and reliability, yet are relatively low-cost to construct, context-sensitive, and able to be deployed quickly throughout the region where needed.

ETC can be implemented through the coordinated investment of multiple partners and has the potential to provide major improvement over existing service or even our region's best frequent service, but less capital-intensive and more quickly implemented than large scale high capacity transit. Investments would serve our many growing mixed-use centers, corridors, and employment areas that demand a higher level of transit service but are not seen as short-term candidates for light-rail, or bus rapid transit.

ETC partnerships could also create more reliable, higher quality transit connections to connect low-income and transit-dependent riders to jobs, school and services. It would allow for a more

between free flow and peak period conditions) in addition to areas experiencing significant dwell and have high ridership were identified as ETC corridors.

4.2.1.3 High capacity transit

Our high capacity transit (HCT) system operates with the majority or all of the service in exclusive guideway. The high capacity transit system is meant to connect to regional centers and carry more transit riders than the local, regional and frequent service transit lines. HCT could include rapid streetcar, corridor-based bus rapid transit, bus rapid transit, light rail or commuter rail. Future planning studies are required to determine the specific mode. The Regional Transit Network map has been updated to include the 2009 HCT lines, with updates. These updates include:

- moving the I-5 HCT corridor from under development to a future HCT project
- moving the Portland to Lake Oswego Streetcar project from under development to a future HCT project
- Portland to Gresham in the vicinity of Powell Corridor remains a future HCT project, while the Portland to Gresham in the vicinity on SE Division St is an HCT project under development
- moved Portland to Sherwood in the vicinity of Barbur/Highway 99 Corridor from a future HCT to project under development
- modified the Clackamas Town Center to Damascus to connect to Happy Valley via the Columbia to Clackamas Corridor as a future HCT project

4.2.1.4 Intercity rail

Intercity passenger rail provides high quality rail service to communities outside of the region provides an important connection to our region. Intercity rail can connect regions and even states. This type of service goes beyond our regional boundaries and serves people traveling to destination in and out of our region.

Regional Transit Network

Figure 25. Regional Transit Network Map

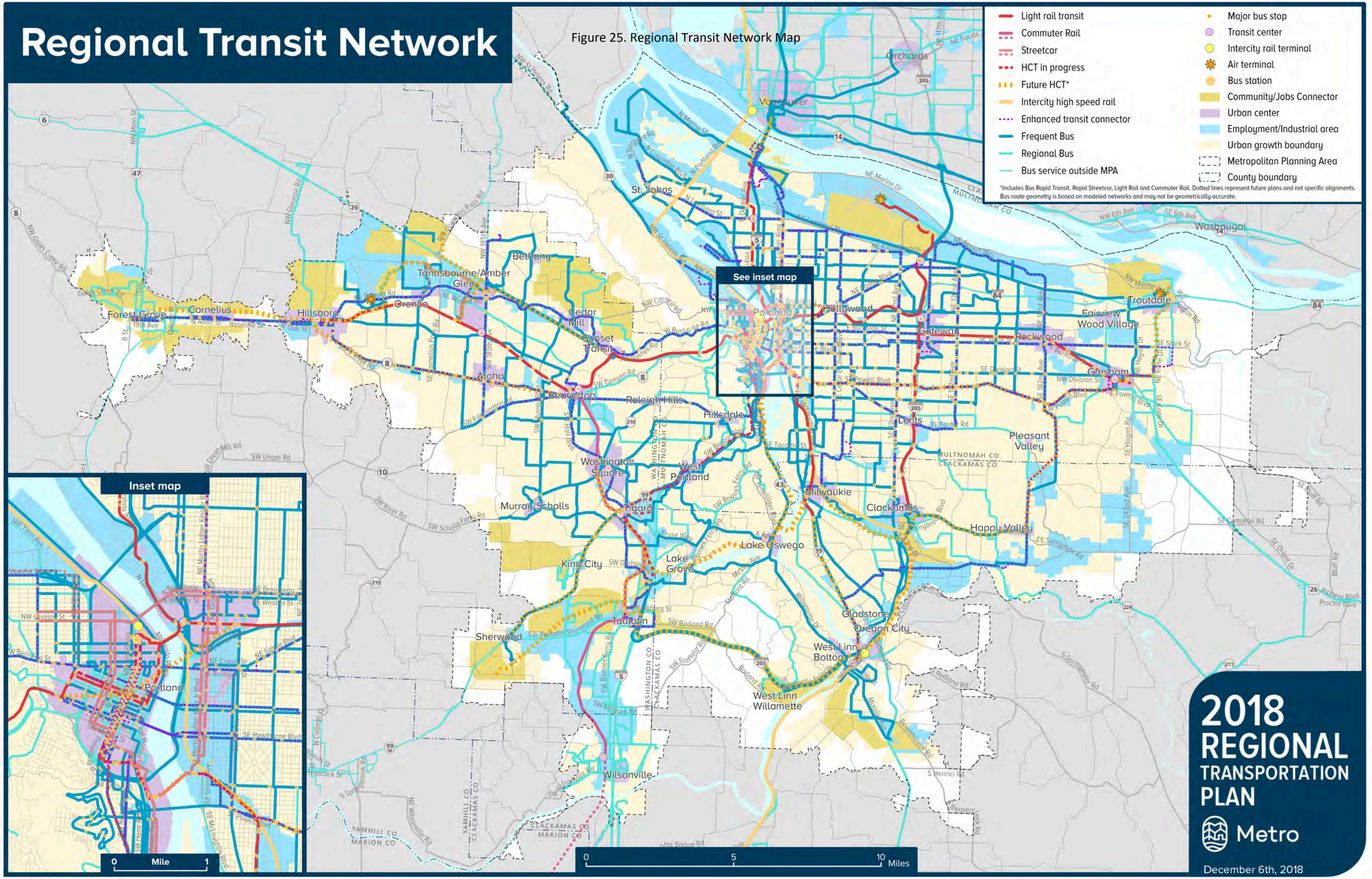


Table 16. Comparison of Climate Smart monitoring targets by investment strategy

Measure	2015 Baseline	2035 Monitoring target	2027 Constrained	2040 Constrained	2040 Strategic
Daily transit service revenue hours	5,900	**9,400**	8,100	9,500	11,700
Share of households within ¼ mile all day frequent service*	38%	**37%**	53%	58%	65%
Share of low-income households with ¼ mile of all day frequent transit *	46%	**49%**	63%	69%	74%
Share of employment within ¼ mile of all day frequent service*	68%	**52%**	67%	72%	78%

*Climate Smart Strategy calculated the access to transit as a ¼ mile from any transit stop or station, the RTP analysis was more tailored and calculated the access for a ¼ mile from bus stop, 1/3 mile from streetcar station and ½ mile from light rail station. Revenue hours does not include C-TRAN revenue hours and have been rounded.

Source: Metro Travel Demand Model

Investment in transit projects can also support higher density land development which reduces the distance and time people need to travel from place to place. Less distance means fewer emissions and cleaner air. Transit-oriented development also preserves land for other uses like parks, wildlife preserves, or agriculture.

If preserving the region's natural beauty for generations to come is a shared objective, reducing negative environmental impacts must be collaborative effort. Transit use is a tool proven to work. There is still a lot of work to do if we want to reach our goals, but a region wide effort makes the task less daunting.

7.4 High Capacity Transit (HCT) Assessment and Readiness Criteria

The HCT Assessment and Readiness Criteria is an update to the Transit System Expansion Policy, adopted in 2009, as part of the Regional High Capacity Transit Plan. The HCT assessment and readiness criteria f provides a framework for the region to screen and prioritize major capital investments in transit. This concept was originally developed in 2009 as part of the Regional High Capacity Transit System Plan.

This framework aims to identify transit corridor capital projects that best meet regional outcomes and position projects for potential federal and other funding opportunities. The outputs of this assessment can help illustrate the strengths and weaknesses of each project and will allow project sponsors to understand opportunities to enhance how a given project will score in future evaluations.

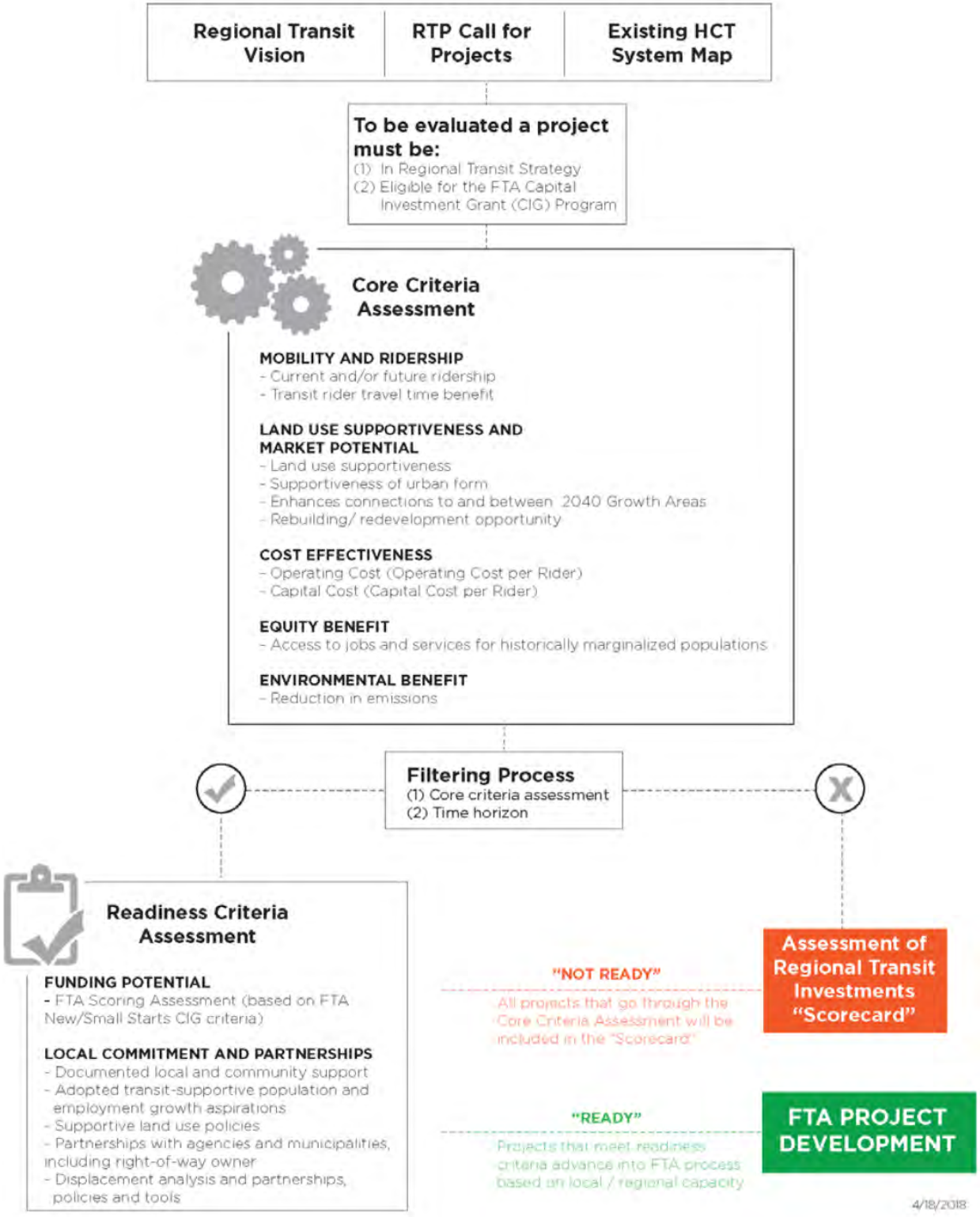
The HCT assessment and readiness criteria includes a multi-phased evaluation that includes core criteria as well as readiness criteria. The Core Criteria is comprised of measures that describe the benefit of the projects consistent with regional values, as well as assess the competitiveness of projects for funding through the FTA CIG program. The Readiness Criteria is the second filter and is evaluated separately from the core criteria when a project is better positioned for implementation. Project readiness factors include funding potential (a simulated scoring based on the FTA CIG program criteria) and local aspirations (measure of local commitment and established agency partnerships to ensure successful project delivery).

The HCT assessment and evaluation criteria align with recent regional priorities including the six desired outcomes for the Portland metropolitan region, the Climate Smart Strategy outcomes related to transit and the RTP System Performance Measures. It also aligns with the FTA Capital Investment Grant (CIG) program, which provides capital funding for high-capacity transit projects.

This process applies to any projects that are seeking Federal funding through the FTA Capital Investment Grant Program. This information along with local support is meant to help guide the regional decision making process to advance HCT investments. This additional assessment would only apply to those investments seeking FTA Capital Investment Grant (CIG) program funding (e.g. New Starts, Small Starts or Core Capacity).

Figure 77 below identifies the process, including how projects are defined (e.g., which projects are run through this process), the criteria, and the outcomes of the process.

Figure 77. HCT Assessment and Readiness Criteria Process



Source: Nelson\Nygaard Consulting Associates, Inc.

Regional transit investments assessment and readiness criteria

Table 17 describes the proposed evaluation criteria and identifies the rationale and other notes related to the proposed analytical methods.

Table 17 High Capacity Transit (HCT) assessment and readiness criteria

Criteria	Measures
Mobility and Ridership	▪ Current and/or future ridership ▪ Transit rider travel time benefit
Land Use Supportiveness and Market Potential	▪ Land use supportiveness ▪ Supportiveness of urban form ▪ Enhances connections to, within, and between 2040 Growth Areas ▪ Rebuilding/ redevelopment opportunity
Cost Effectiveness	▪ Operating Cost (Operating Cost per Rider) ▪ Capital Cost (Capital Cost per Rider)
Equity Benefit	▪ Access to jobs and services for historically marginalized populations ▪ Reduction in emissions
Funding Commitment/ Partnerships/Local Support (Readiness Phase)	▪ Local Commitment and Partnerships ▪ Funding Potential

Source: Nelson\Nygaard Consulting Associates, Inc

This analysis helps inform the conversations regarding advancing a project forward towards implementation. This process is not meant to represent a detailed corridor analysis, but rather a high level assessment of the project based on benefits and readiness. Individual corridor modeling and analysis typically happens when a corridor is defined and there is a planning process for that specific corridor. During the project planning phase, the regional travel demand model, as well as other planning tools, can be utilized at a corridor level to identify specific benefits and tradeoffs.

The following table describes the high capacity transit and enhanced transit projects identified in the RTP. In the first 10 years of the RTP, the region is following through on the commitments to build the Division Transit Project and the Southwest Corridor Transit Project. The Red Line extension to Hillsboro is another HCT investment proposed for the first 10 year period of the plan. The first 10 years also includes several ETC improvements and two streetcar extensions.

Table 6. Transit capital improvements by RTP investment strategy

2027 RTP Financially Constrained	2040 RTP Financially Constrained *(2027 Constrained investments, plus)*	2040 RTP Strategic *(2040 Constrained investments, plus)*
High Capacity Transit	**High Capacity Transit**	**High Capacity Transit**
• Southwest Corridor Project • Division Transit Project • MAX Red Line Improvements Project • Central City Transit Capacity Analysis (*combined with Steel Bridge Transit Bottleneck*)	• Portland to Vancouver HCT • Steel Bridge Transit Bottleneck *(combined with Central City Transit Capacity Analysis)*	• HCT extension to Oregon City via McLoughlin Blvd. • HCT on I-205 (Clackamas to Bridgeport) • WES all-day service • WES extension to Salem • Sunset Highway HCT (Sunset transit center to Hillsboro Fairplex • HCT extension to Forest Grove
Enhanced transit concept	**Enhanced transit concept**	**Enhanced transit concept**
• Streetcar upgrades on Grand Avenue in Portland • Central City Portals (downtown Portland bridges) • 82nd Avenue ETC (NE Killingsworth Street to SE Clatsop Street) • Powell Boulevard ETC (SE Portland to I-205) • 122nd Avenue ETC (Lents to Parkrose transit center) • Martin Luther King Jr. Boulevard ETC (Portland Central City to N Vancouver Boulevard) • Sandy Boulevard ETC (Portland Central City to Parkrose TC) • 82nd Avenue ETC (Swan Island to Clackamas town center) • Hawthorne Boulevard/Foster Road ETC (downtown Portland to Lents town center) • Streetcar to Montgomery Park in NW Portland	• Inner North Portland ETC (Portland Central City to N Lombard Street) • Caesar Chavez ETC (Sandy to Powell) • Lombard Street ETC (St. Johns to MLK Jr. Boulevard) • SE Hawthorne/50th Avenue ETC (Willamette River to SE Powell) • Tualatin Valley Highway multimodal project (Maple Street to 160th Avenue) • E. Burnside/SE Stark Street ETC (Portland to Gresham) • Tualatin Valley Highway ETC from Beaverton to Forest Grove • Beaverton-Hillsdale Highway ETC from Portland to Washington Square • Cornell/Barnes ETC (Sunset transit center to Hillsboro TC) • 185th/Farmington Road ETC (PCC Rock Creek to Beaverton transit center) • Streetcar on NE Broadway to Hollywood town center	• SE Powell Boulevard ETC (Portland to extent TBD) • Lombard/Caesar Chavez ETC (St. Johns to Milwaukie town center) • Belmont Street ETC (Portland to Gateway transit center) • Streetcar on Martin Luther King Jr. Boulevard in NE Portland • Streetcar in AmberGlen in Hillsboro • Streetcar to Johns Landing in SW Portland

planning projects that have been initiated locally (e.g., Pleasant Valley TSP Refinement Project, Happy Valley Pleasant Valley/North Carver Comprehensive Plan, 172nd Avenue/190th Drive Corridor Management Plan and the Clackamas County TSP Update), and evaluate packages of multimodal improvements that will improve mobility and access along the corridor to jobs, housing and key commercial and industrial areas. This effort will identify a preferred package of transportation improvements and detail how they can be phased for implementation. This effort will also provide recommendations on urban street design as well as recommend amendments to local TSPs and the Regional Transportation Plan to implement the preferred multimodal package.

Potential Solutions

This effort will recommend a shared mobility corridor investment strategy, including long-term needs and improvements for auto, bicycle, freight, pedestrian, and transit mobility and connectivity. This effort will expand on already adopted planning efforts in the corridor to create a multi-jurisdictional implementation strategy that provides a clear path from existing conditions to desired transportation improvements that support community and regional goals for equity, housing, economic development, environmental protection and access to nature. The planning process will include extensive public involvement and identify a set of potential improvements that would be subsequently advanced for further study and potential project development and funding.

The study will include a needs assessment for auto, freight, transit, bicycle and pedestrian modes within the corridor to identify existing gaps and system deficiencies. The assessment and solutions will address completing regional trails gaps, including the Troutdale to Springwater Trail, the Sunrise Corridor Trail and the Butler Buttes Trail - to provide a continuous off-street active transportation route through the length of the mobility corridor. A full list of recommended projects from other related transportation planning efforts will be developed. Data for key performance metrics will be collected from the related transportation plans and analyzed. If necessary, additional projects will be identified and proposed if unmet needs are found. The projects will then be evaluated, and recommended projects will be grouped into investment packages and grouped geographically. The preferred investment packages for all modes will then be fully documented in the final plan along with implementation strategies focusing on timelines and funding strategies.

More information is available at: https://greshamoregon.gov/Clackamas-to-Columbia-Corridor.

8.3 Transit Projects and Project Development

Major transit projects have been identified through the 2009 HCT Plan and local and regional planning efforts. Major transit projects, refers to project that may go through the FTA CIG Program for funding. Project planning and project development is completed jointly by Metro, the transit agency and the local governing jurisdictions. Major projects typically have a high level of public and require an environmental analysis through the National Environmental Protection Act (NEPA).

8.3.1 Transit Projects underway

The HCT Plan identified the near term HCT priorities to move forward, including the Division Transit Project and the Southwest Corridor Project. The region is committed to advancing and continues to implement these two regionally significant transit projects. Another project that is currently underway is the MAX Red Line Improvement Project, to improve the capacity and reliability of the light rail system through the Gateway Transit Center as well as extending the Red Line to Hillsboro.

8.3.1.1 Division Transit Project

The Division Transit Project will improve travel between Downtown Portland, Southeast and East Portland and Gresham with easier, faster and more reliable bus service. The Steering Committee recommended a Locally Preferred Alternative (LPA) in November and was adopted by the local jurisdictions in December 2016. The LPA for the transit project includes the transit mode (bus rapid transit), the route (from downtown Portland on the transit mall to Southeast Division Street to the Gresham Transit Center), and the general stop locations (approximately 1/3 mile apart). The project began the NEPA process by documenting potential impacts and benefits in accordance with federal requirements. With local adoption of the LPA, TriMet is leading the design, traffic analysis, and outreach with support from Metro and other project partners. In June 2017, the Metro Council adopted the LPA by Resolution No. 17-4776 at the same time the Council amended the 2014 RTP by Ordinance No. 17-1396 to include the LPA in the plan.

TriMet is working with partners to finalize the project's design, and Metro is leading the NEPA process by conducting a Documented Categorical Exclusion. The land use investment strategy is being led by Portland and Gresham, moving forward on their locally adopted Local Action Plans. The Local Actions Plans outline their vision for implementing land use and economic development that complements the transit investment. Construction is anticipated to begin in 2019 with a targeted opening date of fall 2022.

Additional project information is available at: www.trimet.org/division.

8.3.1.2 Southwest Corridor Transit Project

The Southwest Corridor Plan is a comprehensive effort focused on supporting community-based development and placemaking that targets, coordinates and leverages public investments to make efficient use of public and private resources. In August 2011, the Metro Council adopted Resolution 11-4278 that appointed the Southwest Corridor Steering Committee, and a charter defining how the partners will work together was adopted by the Steering Committee in December 2011.This work has been guided by a Steering Committee comprised of representatives from the cities of Beaverton, Durham, King City, Portland, Sherwood, Tigard and Tualatin, Multnomah and Washington County; ,TriMet, ODOT and Metro. Steering Committee members agreed to use a collaborative approach to develop the Southwest Corridor Plan and a Shared Implementation Strategy to align local, regional, and state policies and investments in the corridor.

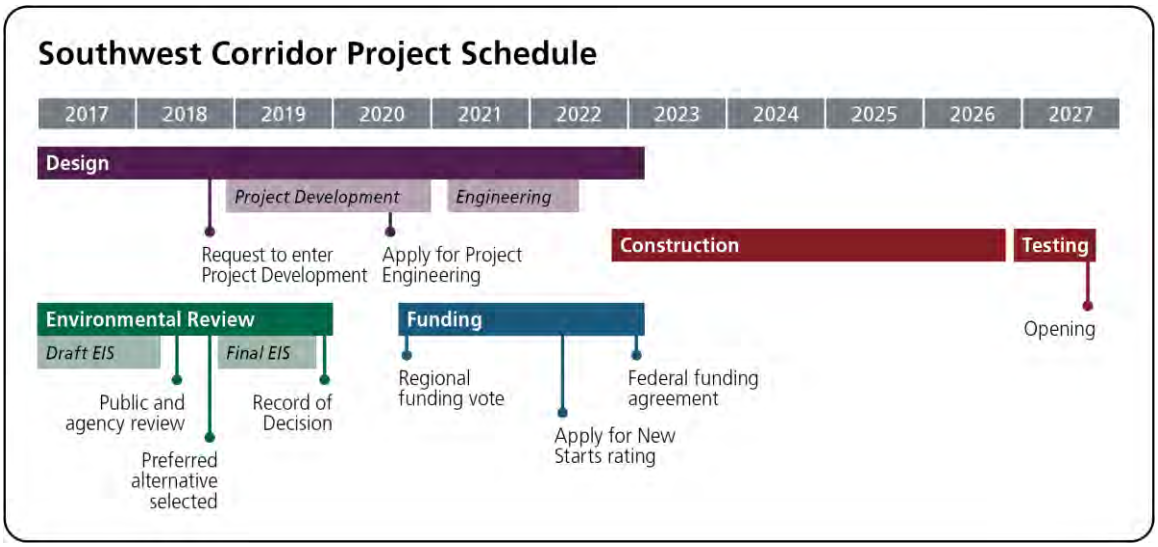
In October 2013, the Metro Council adopted Resolution No. 13-4468A, endorsing the Southwest Corridor Shared Investment Strategy and directing staff to coordinate and collaborate with project partners on refinement and analysis of HCT alternatives and local connections in the Southwest Corridor, along with associated roadway, active transportation and parks/natural resource projects that support the land use vision for the corridor. This resolution also directed staff to work with project partners to involve stakeholders at key points in the process and seek input from the public.

In June 2014, the Metro Council adopted Resolution No. 14-4540, which included direction to staff to study the Southwest Corridor Transit Design Options under NEPAin collaboration with the Southwest Corridor Plan project partners and with the involvement of stakeholders and public, pending Steering Committee direction on the results of the focused refinement analysis

The Southwest Corridor Light Rail Project has emerged as the preferred high capacity transit investment of the Southwest Corridor Shared Investment Strategy. The project is a proposed 12-mile MAX light rail line serving SW Portland, Tigard, Tualatin and the surrounding communities. The proposed project also includes bicycle, pedestrian and roadway projects to improve access to light rail stations. In compliance with NEPA, and at the direction of the Metro Council, an Environmental Impact Statement (EIS) will be prepared by Metro, TriMet and the FTA to identify the significant positive and negative impacts the project could have on the built and natural environment, and to determine options to avoid, minimize or mitigate those impacts. The Draft EIS released in summer 2018, assessed the project alternatives remaining from over three years of analysis refinement and suggested ways to avoid, minimize or mitigate significant adverse impacts. The information disclosed in the Draft EIS and public and agency comments on the Draft EIS, informed the Southwest Corridor Steering Committee in its recommendation of a Locally Preferred Alternative (LPA).

TriMet anticipates requesting entry in Project Development with FTA late in 2018. TriMet will be furthering the transit project design while Metro completes the final EIS. The final EIS will analyze and disclose the benefits and the adverse impacts of the preferred alternative, including the effects of mitigation measures identified in the Draft EIS and selected for inclusion in the project. Upon completion of the final EIS, TriMet will request a Record of Decision (ROD) from FTA, which authorizes lead agencies to proceed with design, land acquisition, and construction based on the availability of funds. The general schedule for the Southwest Corridor Light Rail Project is shown below, with anticipated opening in fall 2027.

Figure 82. Southwest Corridor Project schedule



More information is available at www.oregonmetro.gov/public-projects/southwest-corridor-plan.

8.3.1.3 MAX Red Line Improvement Project

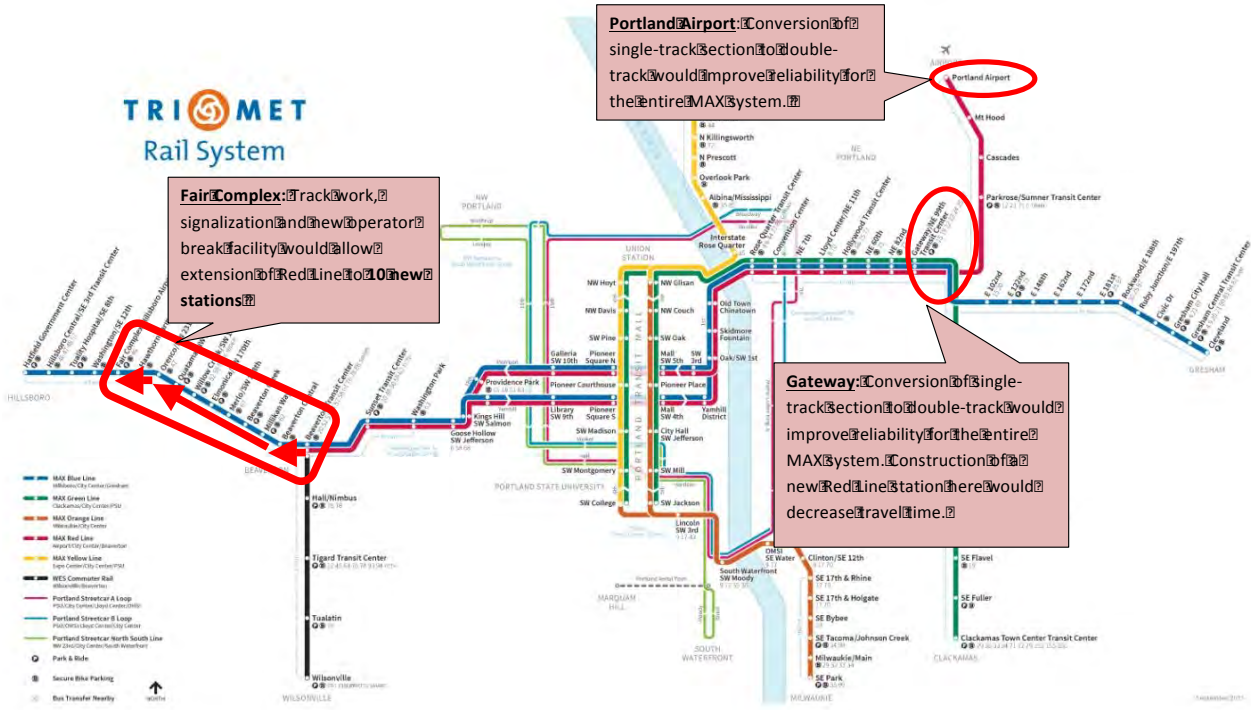
The MAX light rail system provides high capacity transit connecting the major centers of our region. The MAX Red Line has connected the City of Beaverton, downtown Portland, Gateway Regional Center, and Portland International Airport since 2001. Since its opening, there has been substantial growth in the corridor and more demand for reliable transit connecting these important centers. Currently, the Red Line has two single-track sections near Gateway/99th Ave and Portland International Airport, which result in inbound and outbound trains having to wait for each other. If a train is off schedule, these wait times can impact the entire MAX System as trains rely on the same tracks to serve different parts of the region. Adding a second set of tracks in these areas will reduce delays for riders on all five lines. In addition, MAX riders west of Beaverton Transit Center have been requesting Red Line service to better connect this growing part of the region.

The Red Line improvements west of the Beaverton Transit Center include improving track and switches, adding signals and a new operator break facility at the Fair complex/ Hillsboro Airport MAX Station, allowing Red Line trains to serve ten more west side stations. These stations are currently served by the Blue Line, which is often overcrowded.

This project will complete a 2-year design process for the MAX Red Line double tracking and other improvements to increase light rail reliability on all five MAX lines and to improve carrying capacity to meet transit demand west of the Beaverton Transit Center. TriMet and Metro will work with the local jurisdictions and the Port of Portland to scope the project to improve access to major transit origins and destinations, improve reliability of the entire MAX system. TriMet and Metro will also consult with the federal agencies during the scoping phase. TriMet is coordinating with local jurisdictions to avoid and minimize any potential impacts associated with improving

the Red Line. NEPA is expected to be complete in 2019 with construction of improvements in the 2021-2023 timeframe. Completion is targeted for 2023. This work will improve mobility and transit performance throughout the region.

Figure 83. MAX Red Line improvement project area map



More information is available at: www.trimet.org/redlineimprovements.

8.3.2 Other major project development underway

The 2018 RTP identifies other major project development projects underway. These projects are not transit specific but may have an important transit component or consideration. For more information about this project, see the *2018 Regional Transportation Plan Update, Chapter 8 Implementation.*

8.3.2.1 I-5/Rose Quarter Project

ODOT and the City of Portland are ongoing partners on the I-5 Rose Quarter Improvement Project, which implements the recommendations of the I-5 Broadway-Weidler Facility Plan and the N/NE Quadrant Plan. The purpose of the I-5 Rose Quarter Improvement Project is to improve the safety and operations on I-5 between I-84 and I-405, the Broadway/Weidler interchanges, and adjacent surface streets in the vicinity of the interchange. In achieving the purpose, the Project also supports improved connectivity and multimodal access in the vicinity of the interchange.

Figure 84. I-5/Rose Quarter project area

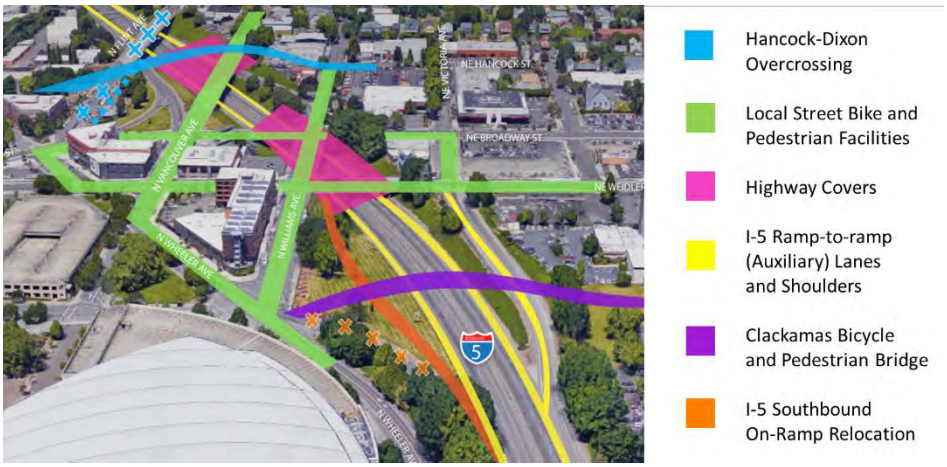
Figure 84 shows the project location and **Figure 85** illustrates the project features.

The I-5 Rose Quarter Improvement Project is intended to make travel more convenient, reliable, and safe for people driving on I-5, or biking, walking, or taking public transit in the Rose Quarter area. The Project will add:

- one new auxiliary lane in each direction on I-5 between I-84 and I-405 to improve traffic weaves and reduce frequent crashes
- full shoulders in each direction on I-5 between I-84 and I-405 to create space for disabled vehicles to move out of through traffic and allow emergency vehicles access
- relocating the I-5 southbound on-ramp from NE Wheeler to NE Weidler
- highway covers over I-5 at Broadway/Weidler and Vancouver/Hancock to provide space for wide sidewalks, separated bike lanes, roads, and new community spaces
- a bicycle- and pedestrian-only bridge over I-5 from NE Clackamas Street to the Rose Quarter
- new, direct road connection over I-5 between N Hancock Street and N Dixon Street
- new, upgraded pedestrian and bicycle paths in the area of the Broadway/Weidler interchange
- improved pedestrian and bicycle access to transit, including Portland Streetcar and TriMet bus and MAX lines

More information is available at www.i5rosequarter.org.

Figure 85. I-5/Rose Quarter Project features



ODOT initiated the federal environmental review process for the I-5 Rose Quarter Improvement Project in December 2016, with expected publication of an Environmental Assessment by the end of 2018. Project design is scheduled to begin in 2019, with construction beginning as early as 2023.

The I-5 Rose Quarter Improvement Project is one of the projects of statewide significance included in House Bill 2017, with the majority of Project funding provided by this Bill. Per House Bill 2017, ODOT will present a Cost to Complete Report to the State Legislature prior to the programming of State funding.

8.3.2.2 I-205 South Widening and Seismic Improvements Project

Preliminary design work is underway to widen I-205 between OR 213 and Stafford Road and improve the I-205/Abernethy Bridge to ensure it remains functional after a catastrophic earthquake. The design work was funded through HB 2017. However, construction funding for this project has not been identified.

The I-205 South project widens I-205 to add a third lane in each direction between Stafford Road and OR 213 and an auxiliary lane across the Abernethy Bridge in each direction. The I-205/Abernethy Bridge project provides for seismic upgrades of the Abernethy Bridge and includes seismic retrofit or replacement of eight additional bridges in the corridor. The project also adds Active Traffic Management System improvements, such as Traveler Information Signs, throughout the corridor.

The OTC approved a Cost to Complete Report for the project that was shared with the Oregon Legislature in January 2018, as mandated by HB 2017. The Cost to Complete Report defines the project scope and recommends a project delivery method and phasing plan to complete the project by 2025. Read the report and find more project information at www.i205corridor.org.

Figure 86. I-205 South Widening and Seismic Improvements Project Area Map

8.3.3 Other Transit needs

In addition to the projects that are underway, there are other transit needs and projects that are under consideration in the RTP. The following describes the transit project identified under the 2040 Financially Constrained Investment Scenario.

8.3.3.1 Portland to Vancouver project

This heavily traveled route is the main connection between Portland and Vancouver and identified as a need to address. In July 2008, the Metro Council approved a Locally Preferred Alternative for the Columbia River Crossing Project (CRC). It creates a multi-modal solution for the Interstate 5 corridor between Oregon and Washington to address the movement of people and freight across the Columbia River. The LPA includes a replacement bridge with three through lanes in each direction, reconstructed interchanges and, tolls priced to manage travel demand. It would also provide financing of project construction, operation and maintenance, light rail transit to Vancouver, and bicycle and pedestrian investments for this corridor.

More generally in the I-5 corridor, the Portland Metro region should:

- consider the potential adverse human health impacts related to the project and existing human health impacts in the project area, including community enhancement projects to address environmental justice
- consider managed lanes or pricing systems to help manage congestion
- maintain an acceptable level of access to the central city from Portland neighborhoods and Clark County
- maintain off-peak freight mobility, especially to numerous marine, rail and truck terminals in the area
- ensure that there is safe, reliable, affordable, and efficient transit connections between the growing downtown of Vancouver and key job sites in the Portland metropolitan region, including downtown Portland and Washington County

- consider new arterial connections for freight access between Highway 30, port terminals in Portland and port facilities in Vancouver, Washington
- maintain an acceptable level of access to freight intermodal facilities and to the Northeast Portland Highway
- address freight rail network needs.
- develop actions to reduce through-traffic on MLK and Interstate to allow main street redevelopment
- explore opportunities to support economic and land use goals with the Columbia Connections Strategy
- inform and coordinate with the Regional Transportation Council (RTC) and the Bi-State Coordination Committee prior to JPACT and Metro Council consideration of projects that have bi-state significance

8.3.3.2 Strategic needs

We have more transit needs than we can afford. The financially constrained investment scenario helps us achieve our Climate Smart Strategy goals. However, we are still able to implement our regional vision and meet all of our needs. The Strategic investment scenario include the largest number of HCT projects. **Table 19** highlights the transit projects that are identified in the RTP Strategic investment scenario.

Table 19. Transit projects in the RTP Strategic Investment Scenario

Safety and access improvements	Operating Capital Improvements	Enhanced transit concept	High Capacity Transit
• Downtown Milwaukie Transit Center improvements • Gresham Transit Center access & design enhancements • TriMet bike and ride facilities, Phase II • TriMet bus stop amenities, Phase II • TriMet pedestrian access improvements, Phase II • Union Station, Phase III	• HCT optimization, operations and reliability improvements • Merlo bus garage expansion • PDX light rail station/track realignment • SMART Central Informational Center at Wilsonville Station • SMART property acquisition • Transit priority on frequent service routes (Washington County) • TriMet electrification of bus fleet Phase II • TriMet Park& Ride facilities, Phase II	• SE Powell Boulevard ETC (Portland to extent TBD) • Lombard/Caesar Chavez ETC (St. Johns to Milwaukie town center) • Belmont Street ETC (Portland to Gateway transit center) • Streetcar on Martin Luther King Jr. Boulevard in NE Portland • Streetcar in AmberGlen in Hillsboro • Streetcar to Johns Landing in SW Portland	• HCT extension to Oregon City via McLoughlin • HCT on I-205 (Clackamas to Bridgeport) • Expansion of WES to all-day service • WES extension to Salem • Sunset Highway HCT (Sunset transit center to Hillsboro Fairplex • HCT extension to Forest Grove

8.3.3.3 HCT needs not addressed

The projects in the RTP do not complete the transit system as envisioned by the 2027 constrained, 2040 constrained and 2040 strategic project lists in the RTP. The project list does not complete the adopted HCT Plan and does not include high speed rail. The Regional HCT System Plan was an extensive effort throughout the region to identify the HCT vision and we are continuing to implement the regional vision. The following projects are not in the RTP, but are still included in our transit vision:

- Transit needs on Powell Boulevard – The Powell ETC project is identified for the first 10 years of the RTP to address near term reliability issues on Powell Blvd between the Willamette River and I-205. Further study is needed to define the alignment, transit mode terminus. This should be done through a multi-modal transportation study of the corridor.
- Portland to Lake Oswego Transit Project – A Locally Preferred Alternative (LPA) has been adopted for this corridor. However, the project was placed on hold and has not been identified in this current RTP.
- HCT connection to Sherwood – The original project boundaries identified in the HCT System Plan was Portland to Sherwood in the vicinity of Barbur/Highway 99E. Through the Southwest Corridor Plan, it was concluded that the light rail project would extend to Tualatin. The connection to Sherwood is a future consideration.
- Connection between CTC and Washington Square, connecting Milwaukie and Lake Oswego – An HCT connection on I-205 between Clackamas Town Center and Bridgeport is identified in the RTP Strategic Investment Scenario, which may provide a similar travel market. Further study is needed to identify the right alignment, transit mode and terminus is needed.
- Tanasborne HCT extension - This future HCT extension would provide an HCT connection between the existing Blue Line and the future Sunset Highway HCT through Tanasborne.

8.4 Next Steps

While our region continues to be leader in the world of transit planning, there are always opportunities to grow, improve, and innovate. If our objective is to continuously improve the quality of life for communities that call this region home, thoughtful consideration must be placed on our transit system. Exceptional transit planning and investment are critical to a safer, healthier, and happier future.

Successful regional planning requires dedicated effort from a wide range of actors. The region, as a whole needs to come together, from community members to elected officials and cyclist to freight truck drivers, a holistic approach must be taken in an effort to see real change.

This strategy offers a significant starting point and highlights where the region is doing well and highlights opportunities for improvement. As a region we have continuously proved our dedication to positive change, through a united regional effort toward the continued growth of our transit system and services. This is an opportunity to continue our legacy of leadership and ingenuity.

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Materials following this page were distributed at the meeting.

RTP Needs Assessment: proposed approach

TPAC workshop

July 13, 2022

About the Needs Assessment

Goal: provide a **snapshot of current conditions** within the region and highlight **key transportation challenges and needs**.

Location: **chapter 4** of the RTP.

Timeline: now through the end of 2022.

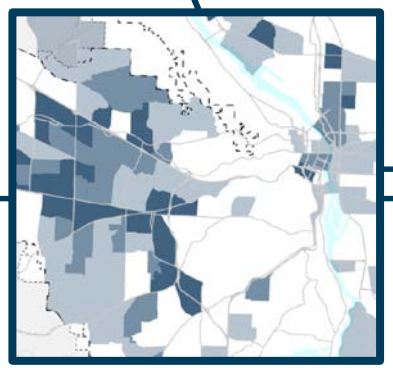
The RTP must "*confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends.*" - 23 Code of Federal Regulations §450.324

The RTP process, simplified

Engagement & research

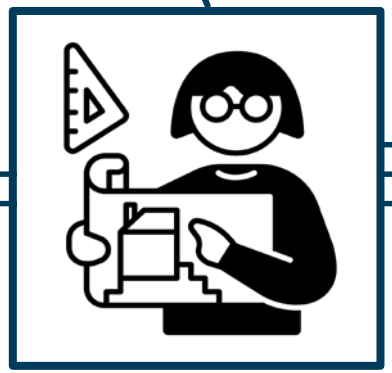
Vision, goals and policies (June-Oct ‘22)

Data & analysis (base year)



Needs assessment (July-Dec ‘22)

Partner agency projects



Project list (Jan-Feb ‘23)

Data & analysis (future)

Performance analysis (Mar-Jun ‘23)

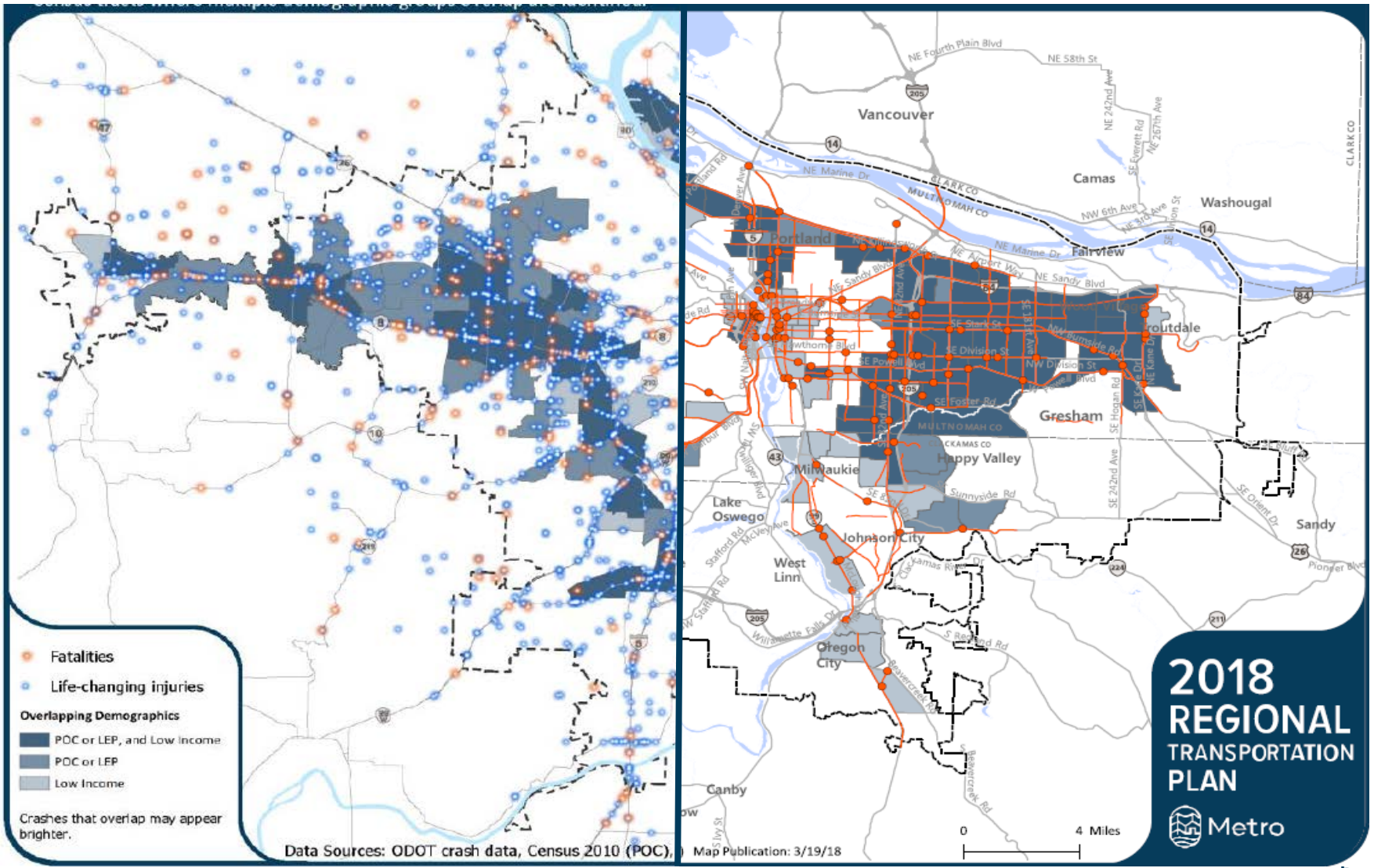
Organize by RTP priority

The currently adopted 2018 RTP priorities are:

- **Mobility** (formerly known as Congestion)
- **Safety**
- **Equity**
- **Climate**

Our outreach so far has confirmed that these are still high-priority issues. More priorities may be added based on ongoing discussions at Metro Council and JPACT.

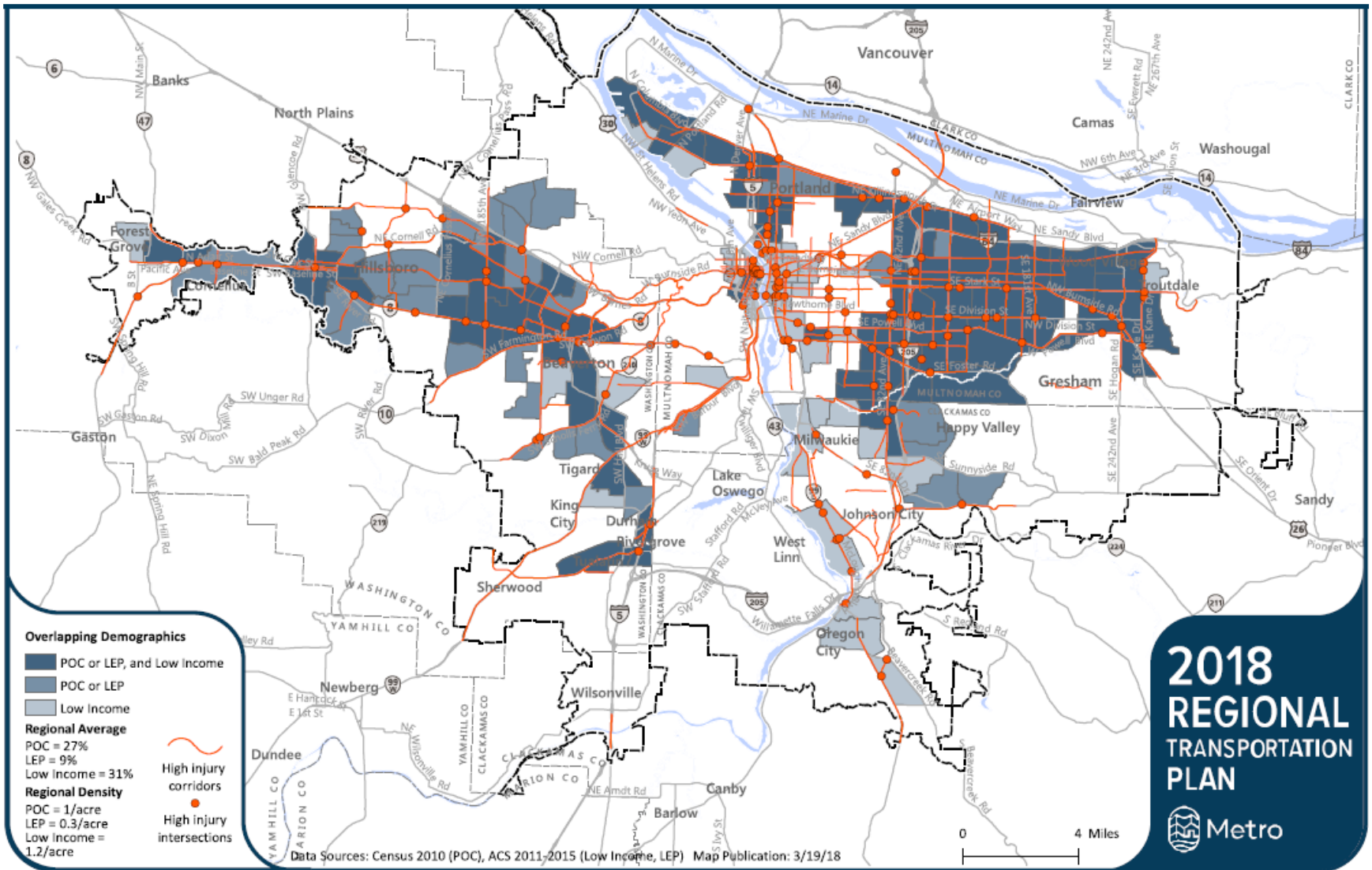
Clear and actionable information



From all fatal / injury crashes…

to High Injury Corridors.

Synergies among priorities and goals



Overlaying High Injury Corridors (safety) and Equity Focus Areas (equity)

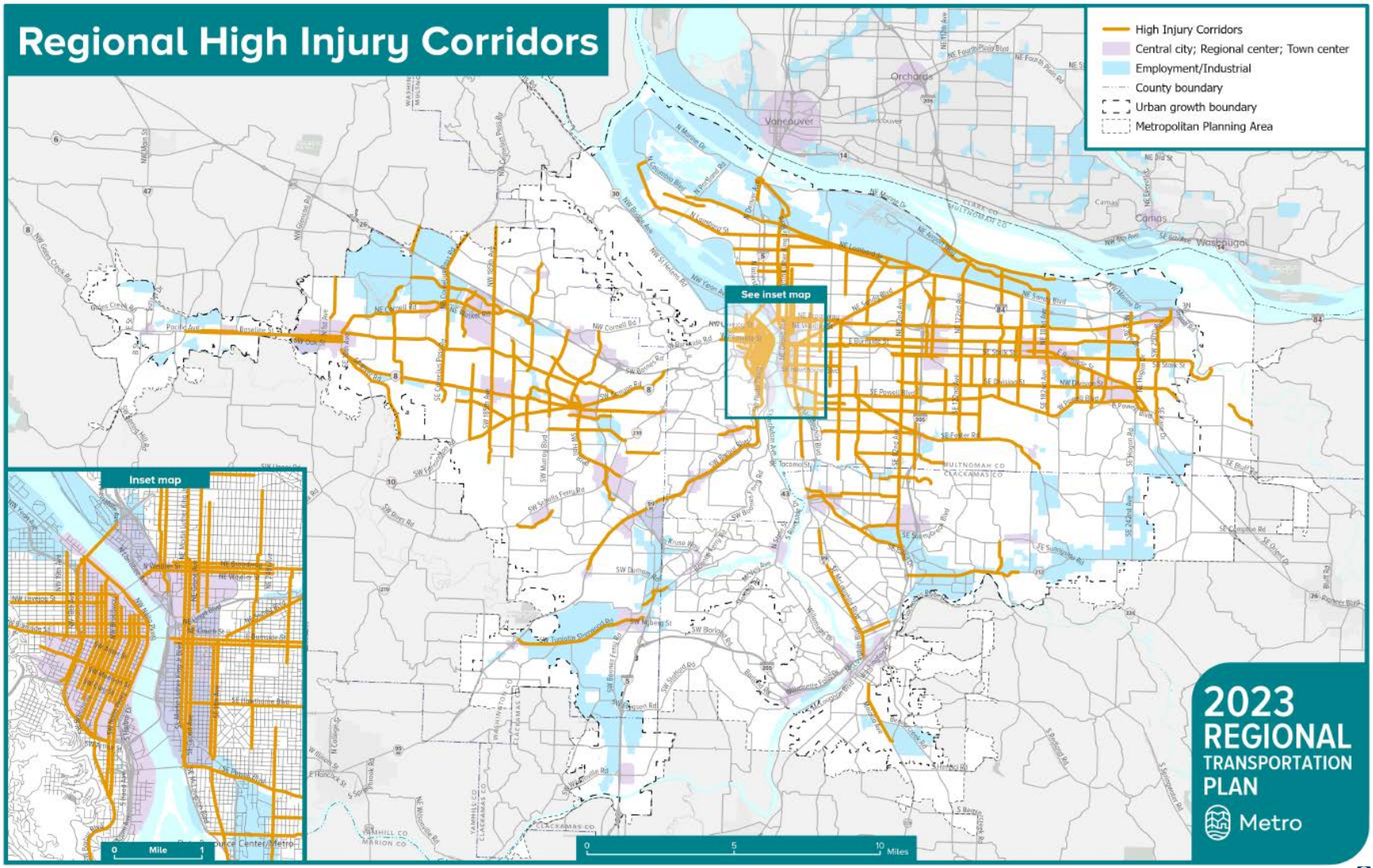
Safety: policy guidance

Safety Policy 2: Prioritize safety investments, education and equitable enforcement on high injury and high risk corridors and intersections, with a focus on reducing speeds and speeding.

Key findings from the 2018 Needs Assessment:

- Traffic deaths are increasing and are disproportionately impacting people of color, people with low incomes and people over age 65.
- Traffic deaths are disproportionately impacting people who are walking.
- A majority of traffic deaths are occurring on a subset of arterial roadways.

Draft update to High Injury Corridors



The updated map is based on new data (2016-2020 vs. 2011-15) and includes HICs on arterial, collector, and local roads.

Other proposed Safety analyses

- Analysis of crashes by mode
- Analysis of crashes by Equity Focus Area vs. other communities
- Providing detailed corridor-level injury scores
- Exploring how High Injury Corridors overlap with other transportation investments
- Analyzing current progress toward Vision Zero

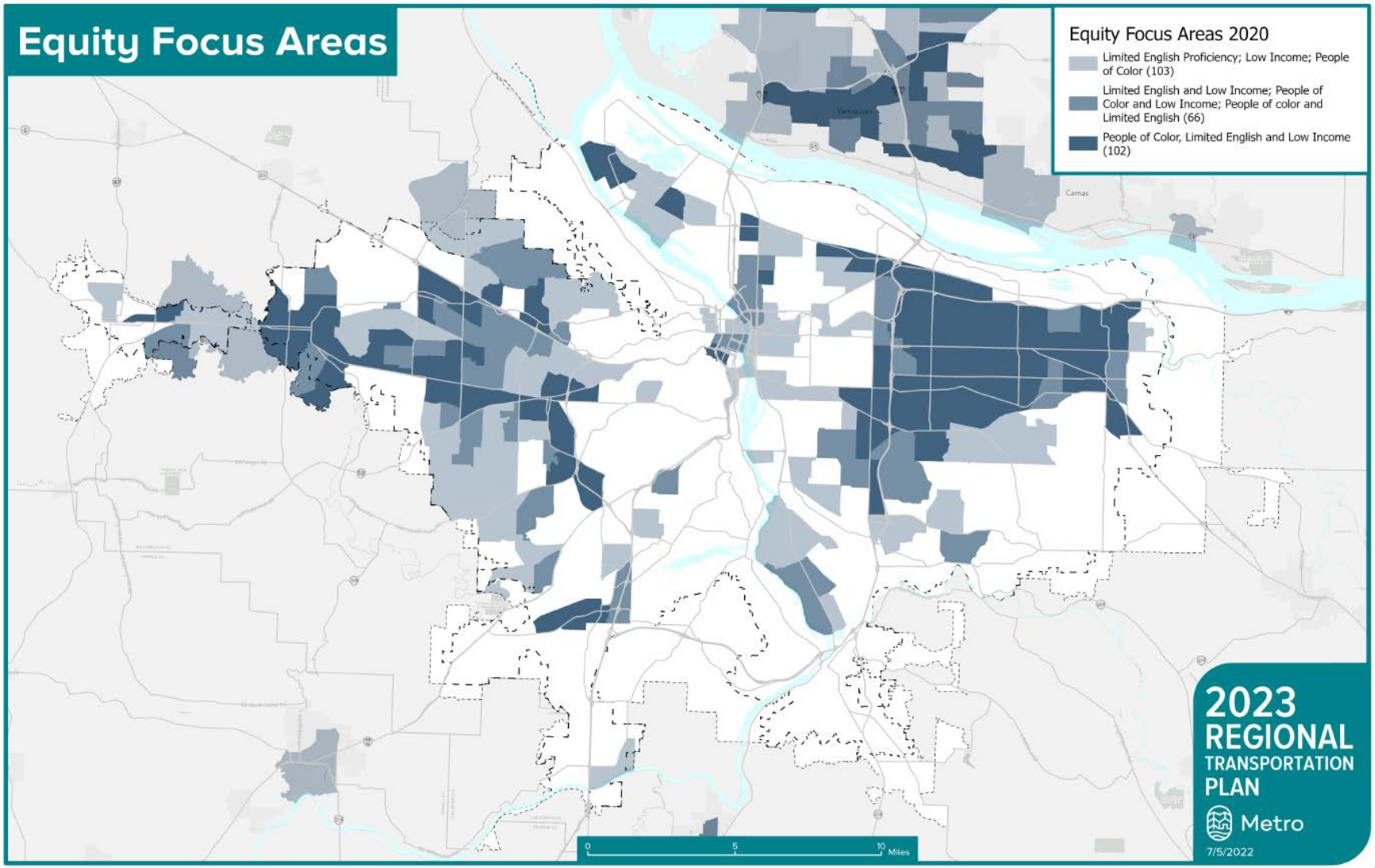
Equity: policy guidance

Equity policies 3 and 5: Use engagement and data to understand the transportation needs and priorities of historically marginalized communities, with a focus on communities of color and people with low income, and prioritize meeting these needs.

Metro has heard from these communities that they need:

- More fast, frequent and reliable transit service
- More affordable transit that connects people to the places and things they need to thrive.
- Better conditions for walking and biking.

Draft update to Equity Focus Areas



The updated map is based on new data (2016-2020 American Community Survey and 2020 Census vs. 2011-15 ACS).

Other proposed equity analyses

- Highlight gaps in the transit and active transportation system within Equity Focus Areas.
- Map how access to jobs via transit varies throughout the region and within Equity Focus Areas.
- Overlay Equity Focus Areas with other maps to highlight opportunities to advance both equity and other priorities.

Mobility: policy guidance

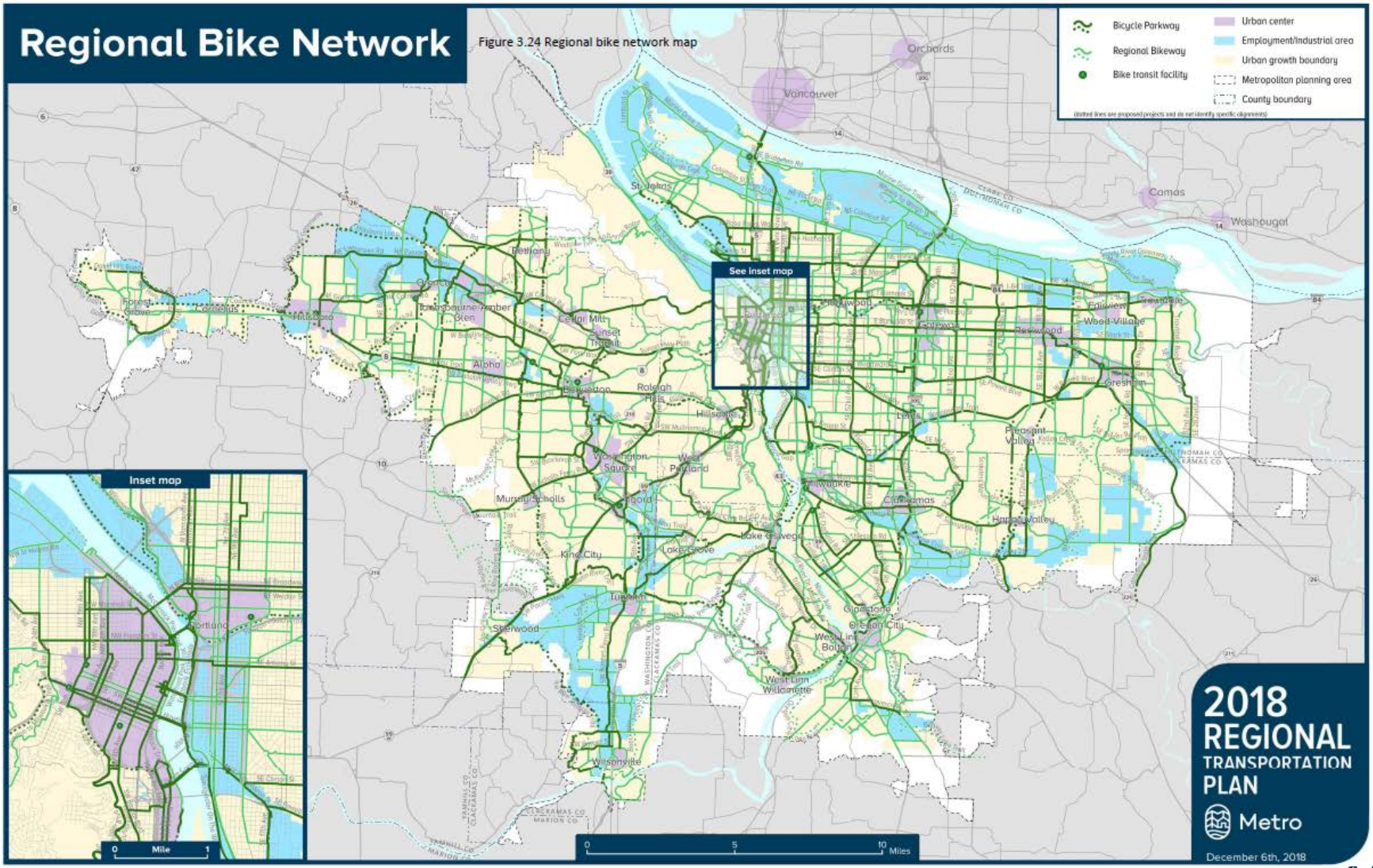
The Regional Mobility Policy update, now in progress, will guide the assessment of mobility-related needs.

Four performance measures are currently being explored:

- Vehicle miles traveled (VMT) per capita
- **System completeness**
- Travel speed on throughways
- Equity (comparing results between equity focus areas and non-equity focus areas)

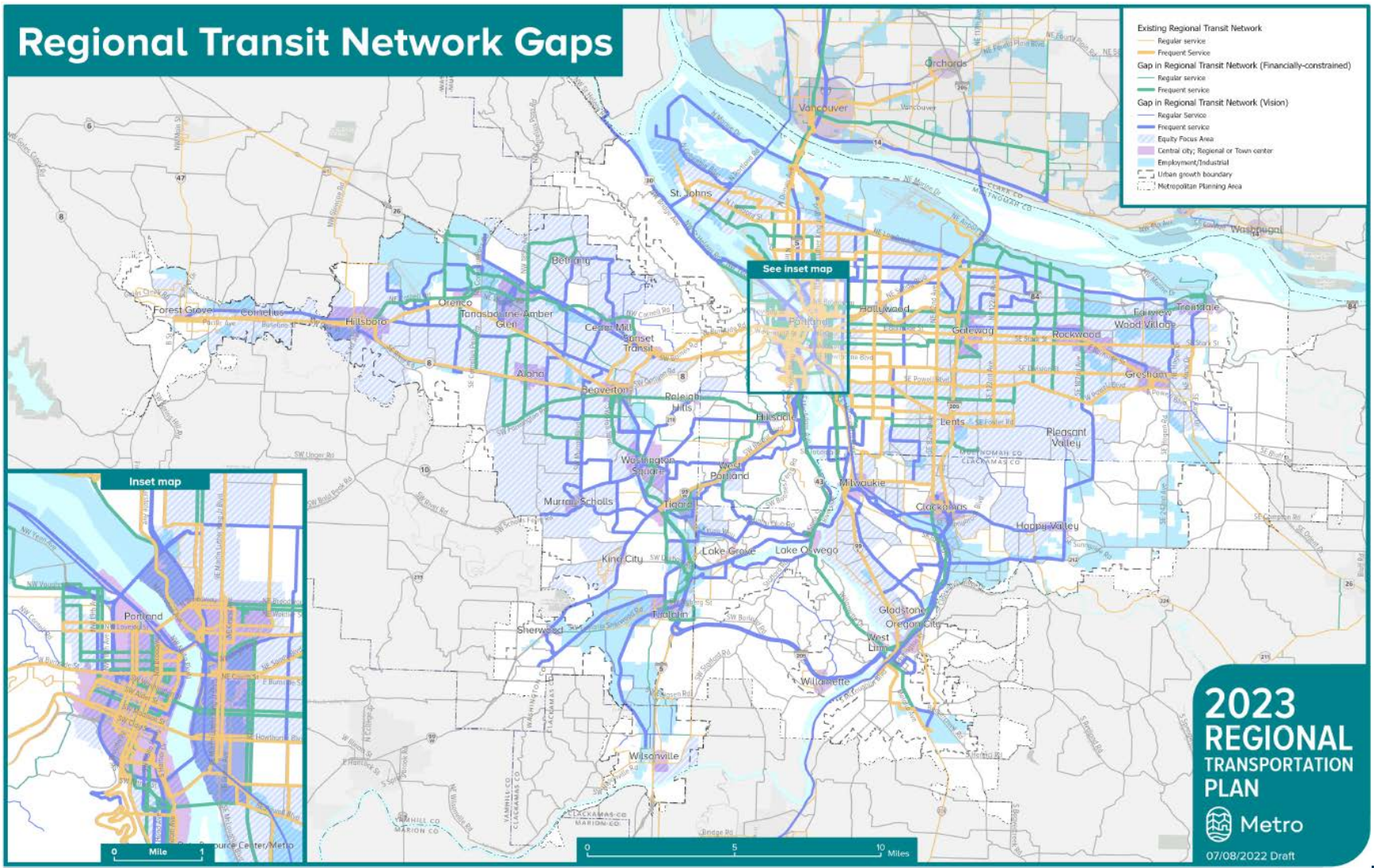
We expect to recommend a draft policy and performance measures in **September**.

System completeness: gap maps



The 2018 RTP identifies gaps in the transportation system by comparing the planned system to current conditions.

Draft transit network gap map



This map compares the transit system as of early 2020 to the transit network plan from the 2018 RTP.

Other proposed mobility analyses

- Full set of current network gap maps
- Base year information for recommended Regional Mobility Policy performance measures (e.g., maps of VMT per capita, travel speeds on throughways)
- Maps highlighting gaps in bike/ped access to transit and other inter-modal connections

Climate: policy guidance

The Climate Smart Strategy establishes a plan to meet greenhouse gas reduction targets set by the State. It identifies high- and moderate-impact climate actions.

Climate Smart Strategy | Largest potential carbon reduction impact*

Vehicles and Fuels (Investment)
- Newer, more fuel efficient vehicles
- Low- and zero-emission vehicles
- Reduced carbon intensity of fuels

Pricing (Policy)
- Carbon pricing
- Gas taxes
- Per-mile road usage charges (e.g., OReGO)
- Parking management and pricing
- Pay-as-you-drive private vehicle insurance

Community Design (Policy with Investment)
- Walkable communities and job centers facilitated by compact land use in combination with walking, biking and transit connections

Transit (Investment)
- Expanded transit coverage
- Expanded frequency of service
- Improvements in right-of-way to increase speed and reliability of buses and MAX

Climate Smart Strategy | Moderate potential carbon reduction impact*

Active Transportation (Investment)
- New biking and walking connections to schools, jobs, downtowns and other community places

Travel Information and Incentives (Investment)
- Commuter travel options programs
- Household individualized marketing programs
- Car-sharing and eco-driving techniques

System Management and Operations (Investment)
- Variable message signs and speed limits
- Signal timing and ramp metering
- Transit signal priority, bus-only lanes, bus pull-outs
- Incident response detection and clearance

Climate Smart Strategy | Low potential carbon reduction impact*

Street and Highway Capacity (Investment)
- New lane miles (e.g, general purpose lanes, auxiliary lanes)

The 2018 RTP made satisfactory progress implementing Climate Smart and increased transit service as planned, but it did not meet VMT reduction targets.

It's a busy time for climate action

- **Changes to the climate are happening more rapidly** than expected.
- The State has adopted new climate and VMT reduction requirements through the **Climate Friendly and Equitable Communities** rules.
- Agencies are advancing **congestion pricing** policy and implementation.
- The State has adopted new policies and programs to speed **adoption of clean vehicles and fuels**.
- USDOT is in a rulemaking process for evaluating GHG emissions from transportation,

Proposed climate analyses

We will be sharing in-depth initial results of the climate analysis at the 8/17 TPAC/MTAC workshop, including:

- Updated forecasts of regional GHG emissions, taking into account new state, regional and local policies.
- Map showing how VMT/capita varies throughout the region.
- Progress report on Climate Smart Strategy implementation to date.
- Discussion of opportunities to further reduce GHG emissions.

Next steps

Other proposed elements of the Needs Assessment include:

- General changes in population, demographics, employment and travel patterns
- Freight and goods movement
- Infrastructure conditions

We will be returning in September to share draft results of the needs assessment and collect feedback. We plan to focus on the proposed analyses that we have discussed today – as well as other ideas that emerge from this conversation.

Discussion and feedback

- Do you have questions or comments about the overall proposed approach to the Needs Assessment?
- Do the analyses that we're proposing today capture the region's key needs with respect to Safety, Equity, Mobility and Climate?
- What types of maps and analyses might help us better understand needs and opportunities with respect to transit service or other modes and priorities?

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RTP Congestion Pricing Policy Development

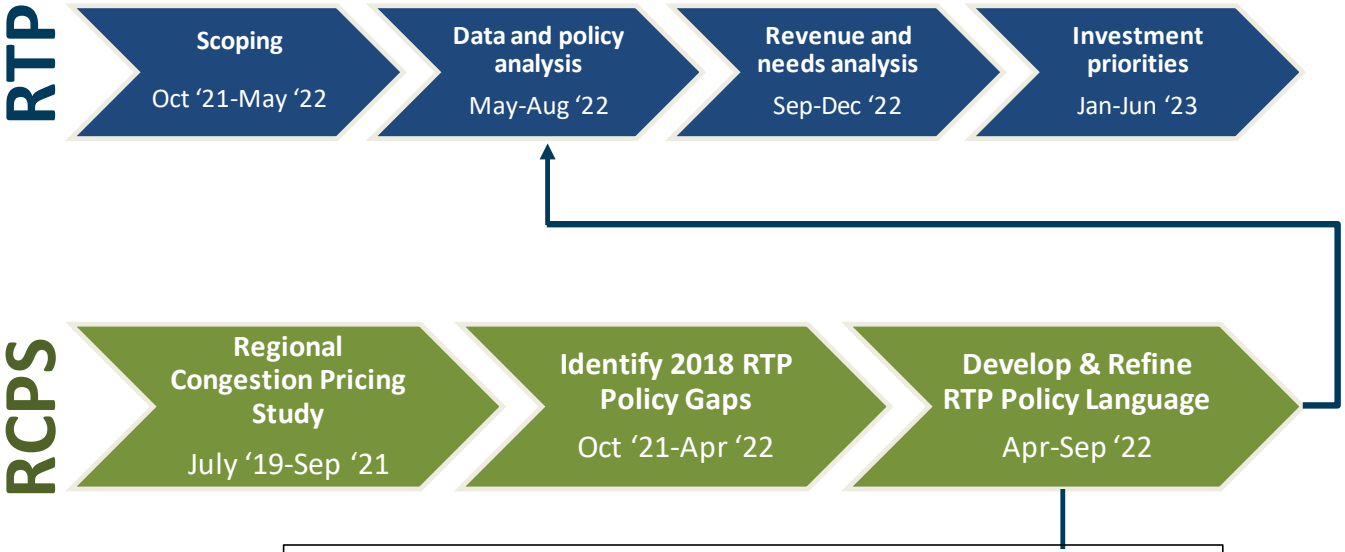
TPAC

July 13, 2022

Congestion Pricing Policy Development

- Schedule for 2023 RTP update
- Review June TPAC meeting
- Revised 2023 RTP policy recommendations
- ODOT update on Oregon Highway Plan Tolling Policy Amendment and the Low Income Toll Report
- Next Steps

2023 RTP Update Schedule



Congestion Pricing Policy Development

- Work with TPAC and MTAC to review existing congestion pricing policy language in the 2018 RTP and identify policy gaps to be addressed in the 2023 RTP update
- Develop and refine draft congestion pricing policy language
- Incorporate congestion pricing policy language into the 2023 RTP update

June 3, 2022 TPAC Meeting

- Provided draft 2023 RTP congestion pricing policy recommendations
- Requested input from TPAC on draft policy recommendations

Reminder: Summary of Recommendations

- NEW Ch. 3 congestion pricing section
  - UPDATE definitions for pricing terms
  - NEW congestion pricing policies
  - Additional information
- UPDATE other RTP Goals, Objectives, and other sections to include pricing
- REVIEW approach to congestion pricing in mobility corridors
- NEW Equitable Funding work; incorporate pricing

1) Mobility
2) Equity
3) Safety & Diversion
4) Climate
5) Emerging Technologies

What We Heard from TPAC - Addressed

- Create new section in Chapter 3 for congestion pricing
- Refine definitions and terms
- Safety and diversion should have separate policies, and there should be additional detail/clarity on diversion
- Address revenue reinvestment in the policies
- Further clarify the motor vehicle network policies
- Include additional language on partnerships and pricing obstacles

What We Heard from TPAC – Not Yet Addressed

- Reference economic impacts from pricing, and role of freight
- Address role of pricing as revenue generation tool
- Consider other types of pricing programs (i.e. Multnomah Falls timed-use permits) and other spatial contexts (i.e. river or airspace travel)
- Consider a vision or strategy for applying multiple pricing tools in a coordinated manner
- Other feedback referred to appropriate Metro staff

Summary of Revised Recommendations

- Safety and Diversion are now separate policies
- Revised new policies & other goals, objectives, policies and sections
- Added new draft action items for each new policy
- Revised definitions/terms and new definitions/terms:
  - Section 166
  - Low-carbon travel options
  - Transit-supportive elements
  - Diversion

Questions for TPAC

- Are there still gaps in the revised congestion pricing policy that you would like to see addressed?
- What specific changes would you like to see to improve the revised policy language?

Mobility

Improve reliability and efficiency by managing congestion, reducing VMT, and increasing transportation options through investments in modal alternatives, including transit-supportive elements and increased access to transit.

Transit-supportive elements: Transit-supportive elements include programs, policies, capital investments and incentives such as Travel Demand Management and physical improvements such as sidewalks, crossings, and complementary land uses.

Equity

Integrate equity and affordability into pricing programs and projects from the outset.

Safety

Ensure that pricing programs and projects reduce overall automobile trips and address traffic safety and the safety of users of all modes, both on and off the priced system.

Diversion

Minimize diversion impacts before, during, and after pricing programs and projects are implemented, especially when diversion is expected on the regional high injury corridors.

Diversion: Diversion is the movement of automobile trips from one facility to another because of pricing implementation. All trips that change their route in response to pricing are considered diversion, regardless of length or location of the trip.

Climate

Reduce greenhouse gas emissions and vehicle miles travelled while increasing access to low-carbon travel options when implementing a pricing program or project.

Low-carbon travel options: Low-carbon travel options include walking, rolling, biking, transit, and electric vehicles.

Emerging Technologies

Coordinate emerging technologies and pricing programs to create an integrated transportation experience for the users of the system.

Regional Motor Vehicle Network Policies (3.5)

Policy 6 – ~~In combination with increased transit service, consider~~ If new capacity is being added after completing analysis under Policy 12, evaluate use of ~~value~~ pricing and increased transit service in conjunction with the new capacity to manage traffic congestion and reduce VMT ~~and raise revenue when one or more lanes are being added to throughways.~~

Policy 12 – Prior to adding new motor vehicle capacity ~~beyond the planned system of motor vehicle through lanes~~, demonstrate that system and demand management strategies, including access management, transit and freight priority, ~~and value~~ congestion pricing, and transit service and multimodal connectivity improvements cannot meet regional mobility, safety, climate, and equity policies ~~adequately address arterial or throughway deficiencies and bottlenecks.~~

Discussion

- Are there still gaps in the revised congestion pricing policy that you would like to see addressed?
- What specific changes would you like to see to improve the revised policy language?

Coordination with Oregon Highway Plan Tolling Policy Amendment

- Metro and ODOT required to coordinate on the RTP and OHP through a "continuing, cooperative, and comprehensive (3 C)" planning process
- On-going coordination between Metro and ODOT staff
- RTP Update and OHP Tolling Policy Amendment occurring on parallel tracks
- Concurrent updates to Metro committees on RTP + OHP
- Align language and policy goals to the extent possible

TPAC Workshop

Garet Prior
Erik Havig

Oregon Department of Transportation
July 13, 2022

Urban Mobility STRATEGY

Oregon Department of Transportation

Oregon Highway Plan Amendment

Oregon Highway Plan (OHP) Overview

- Oregon's guiding document for highway and road system
  - Provides vision for system
  - Reflects the Oregon Transportation Plan
  - Guides decision making
- Provides framework
  - Policies & actions
  - Classifications, designations and targets
- Amended since 1999
  - Reflects needs and opportunities
  - Goal 6 Tolling adopted in 2012

OHP Toll Amendment Purpose

- Define terms and types of road pricing
- Clarify the need and goals
- Address evolving equity, climate, safety, modernization, and funding goals
- Provide guidance on rate setting and use of revenues

Initial Analysis of State and Regional Congestion Pricing Policies

Overall, Many Areas of Agreement

- Why we need congestion pricing
- Mobility goals are addressing the same factors
- Collaboration with regional and local agencies, equitable engagement, and working with transit and multimodal alternative providers
- Interoperability between payment services and transportation service providers
- Program with benefits to address impacts to people experiencing low-incomes (cash-based option)
- Designing for an accessible system, with knowledge of different abilities, languages, and access to technology
- Coordination with new technology and other demand management technologies or strategies

Areas of Difference

- Dedication of revenues (5 different areas identified in Metro proposed policies)
- Rate setting outcomes
- Monitoring and evaluation

Fine Tuning

- Define terms and types of road pricing
- Transit investment language and increased transit and transportation options
- Need to fund infrastructure is missing
- Unsure how these policies will apply to non-roadway types of congestion pricing
- Definitions need some work – diversion and congestion pricing

Contacts

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Low Income Toll Report

Engagement and Input

- Survey on low-income options
- Discussion groups with people experience low incomes
- Stakeholder interviews

Options for Consideration

- Provide a significant discount (e.g., credits, free trips, percentage discount, or full exemption) for households equal to or below 200% Federal Poverty Level.
- Provide a smaller, more focused discount (e.g., credits or free trips) for households above 201% and up to 400% of the Federal Poverty Level.
- Use a certification process that leverages existing programs for verification and further explore self-certification.

Income Thresholds

2021 Federal Poverty Level (FPL)

Size	200% FPL	400% FPL
1	$27,180	$54,360
2	$36,620	$73,240
3	$46,060	$92,120
4	$55,500	$111,000
5	$64,940	$129,880
6	$74,380	$148,760
7	$83,820	$167,640
8	$93,260	$186,520
9	$102,700	$205,400
10	$112,140	$224,280
11	$121,580	$243,160
12	$131,020	$262,040
13	$140,460	$280,920
14	$149,900	$299,800

Source: U.S. Department of Health and Human Services. 2022. *HHS Poverty Guidelines for 2022*. https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines.

FPL = federal poverty level

More Work is Needed

- The Oregon Transportation Commission will establish a rate structure that will include income-based adjustments
- More work is needed to identify implementation and operations costs
- Wherever possible the Low-Income Toll Program will leverage existing systems to streamline implementation and operations

Next Steps

- Targeted stakeholder engagement – June and July
- Summarize feedback and refine report – August
- Presentation to Oregon Transportation Commission – September 14
- Deliver report to Joint Committee on Transportation – September 15

Next Steps – RTP Update

- Friday, July 29 - Provide written feedback
- Wednesday, July 27 - MPAC
- Thursday, July 28 - Joint Metro Council/JPACT workshop
- Return to TPAC this Fall to review revised RTP policy language/guidance
- Early fall: related work on RTP financially constrained revenue forecast and RTP finance chapter, including congestion pricing assumptions and equitable funding background research

Learn more about the Regional Transportation Plan at:

oregonmetro.gov/rtp

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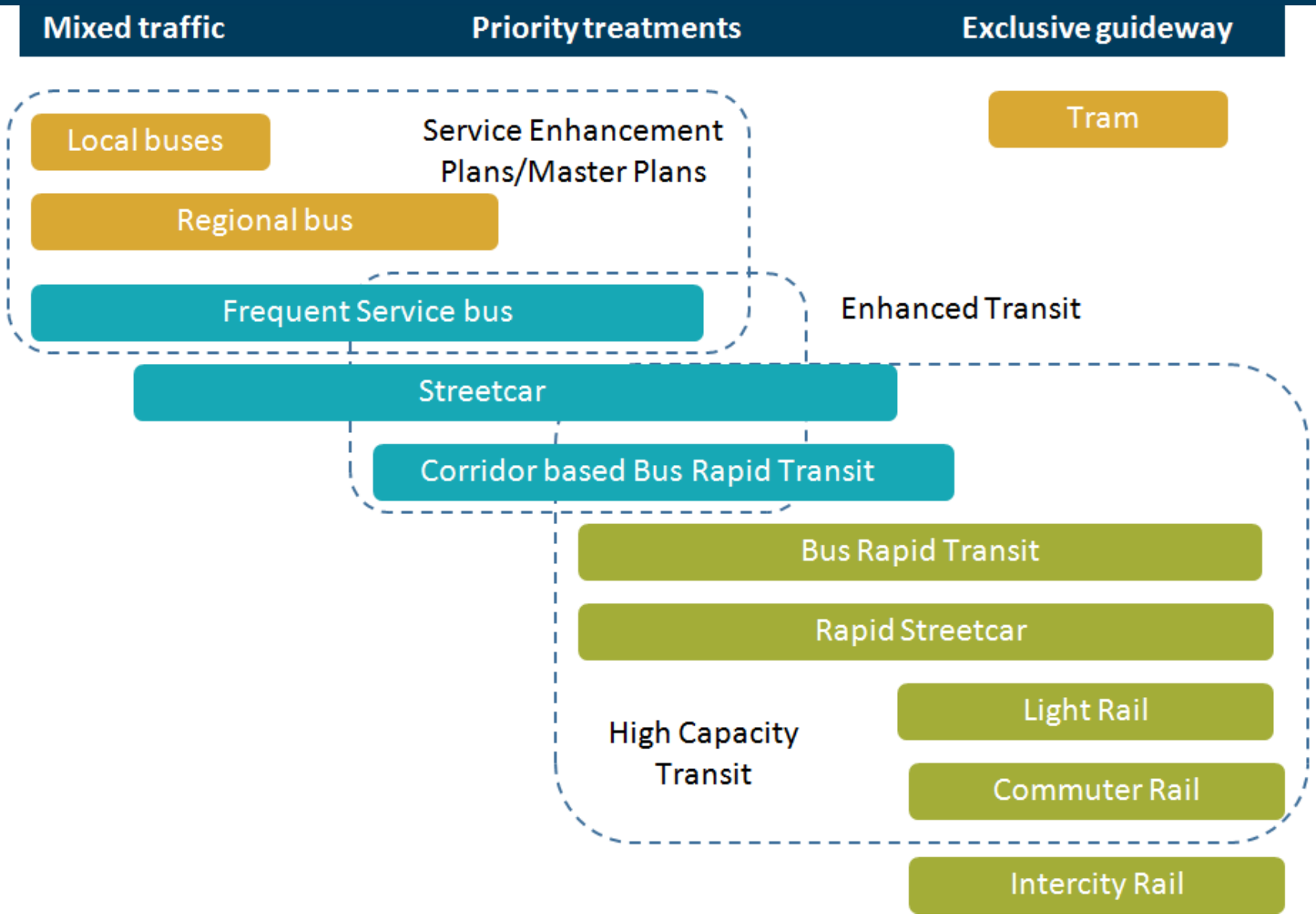
Kim Ellis, RTP Project Manager: kim.ellis@oregonmetro.gov

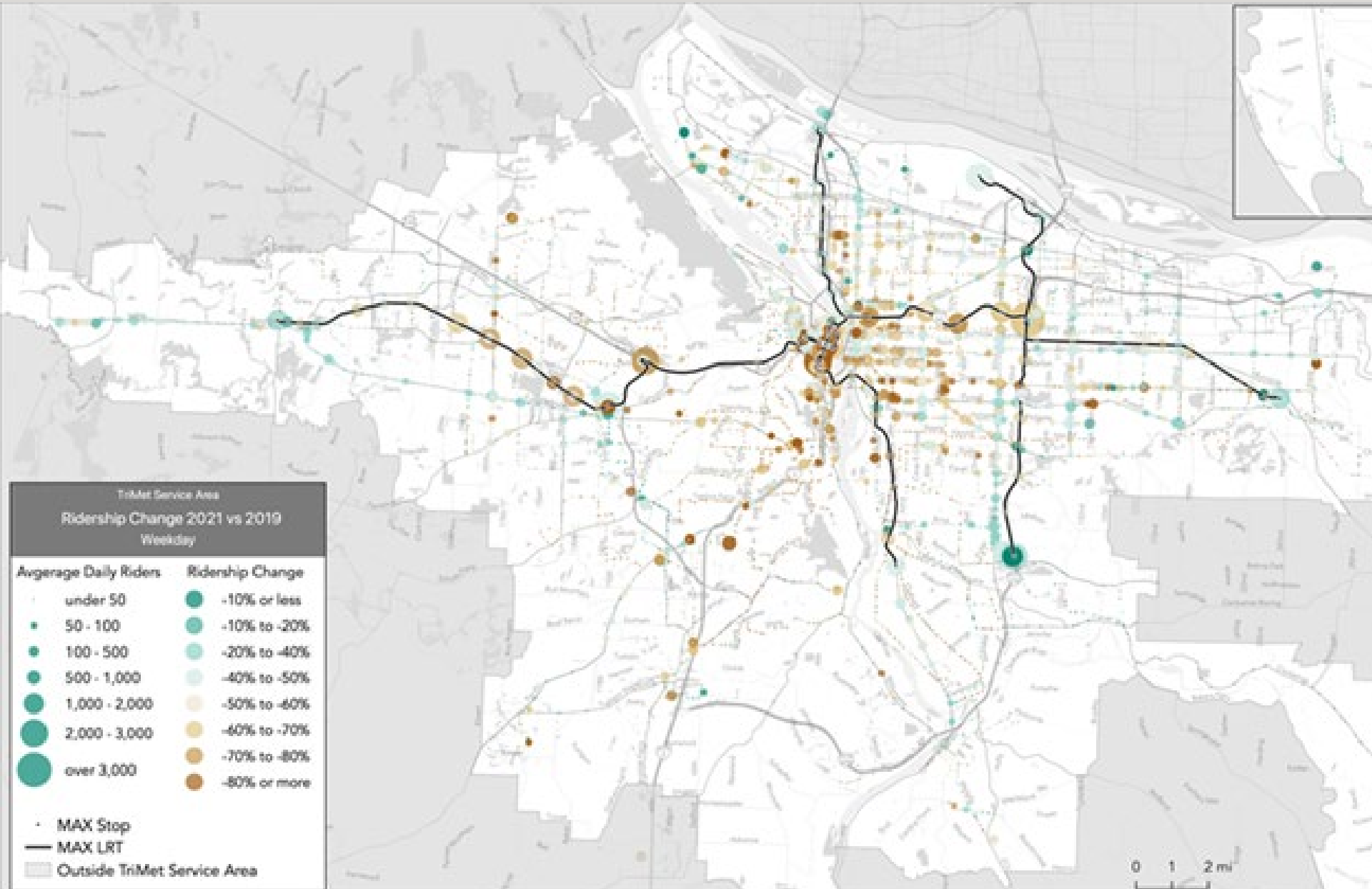
Metro

HCT Strategy Update: Introduction

What we are starting from…



Where we are today…



What we want to do…

- address new policy questions around the future – bus rapid transit
- re-envision regional high capacity transit
- create a “pipeline” of corridor investments

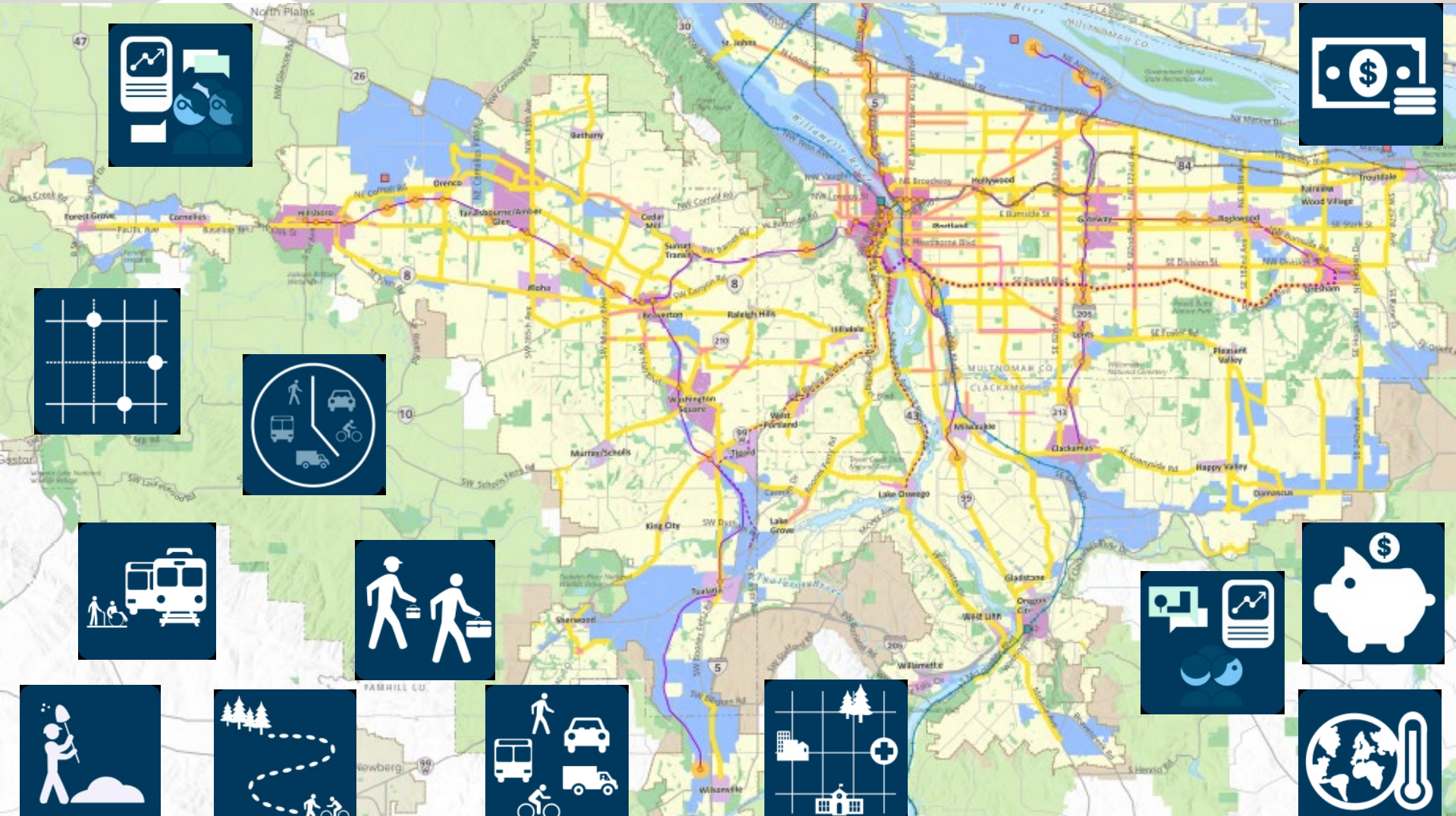
Who we're working with…

How it fits in with regional work…

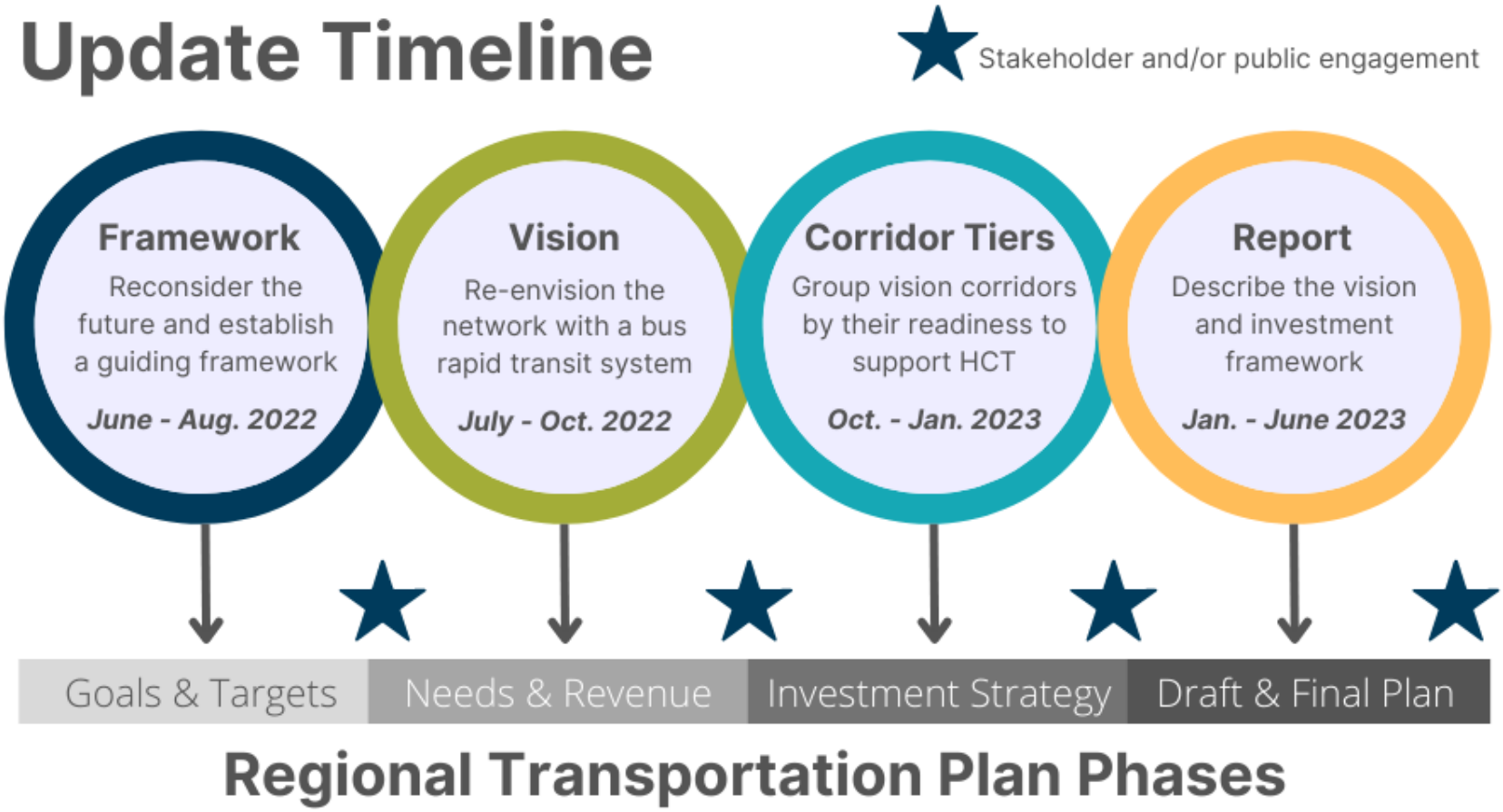
- 2040 Growth Concept
- Regional Transportation Plan
- Regional Transit Strategy
- Climate Smart Strategy

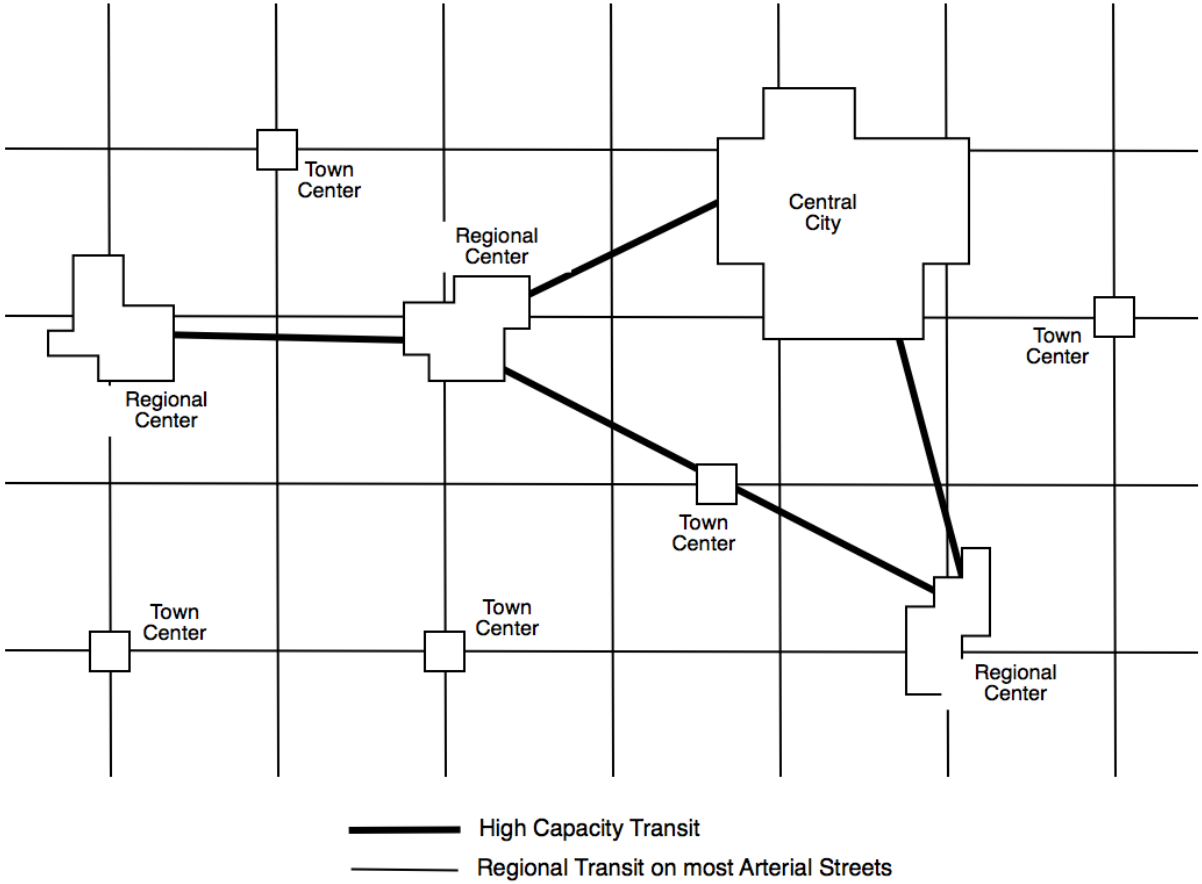
Transit should be safe, reliable, affordable, and convenient

What we are considering…



How the work is organized…



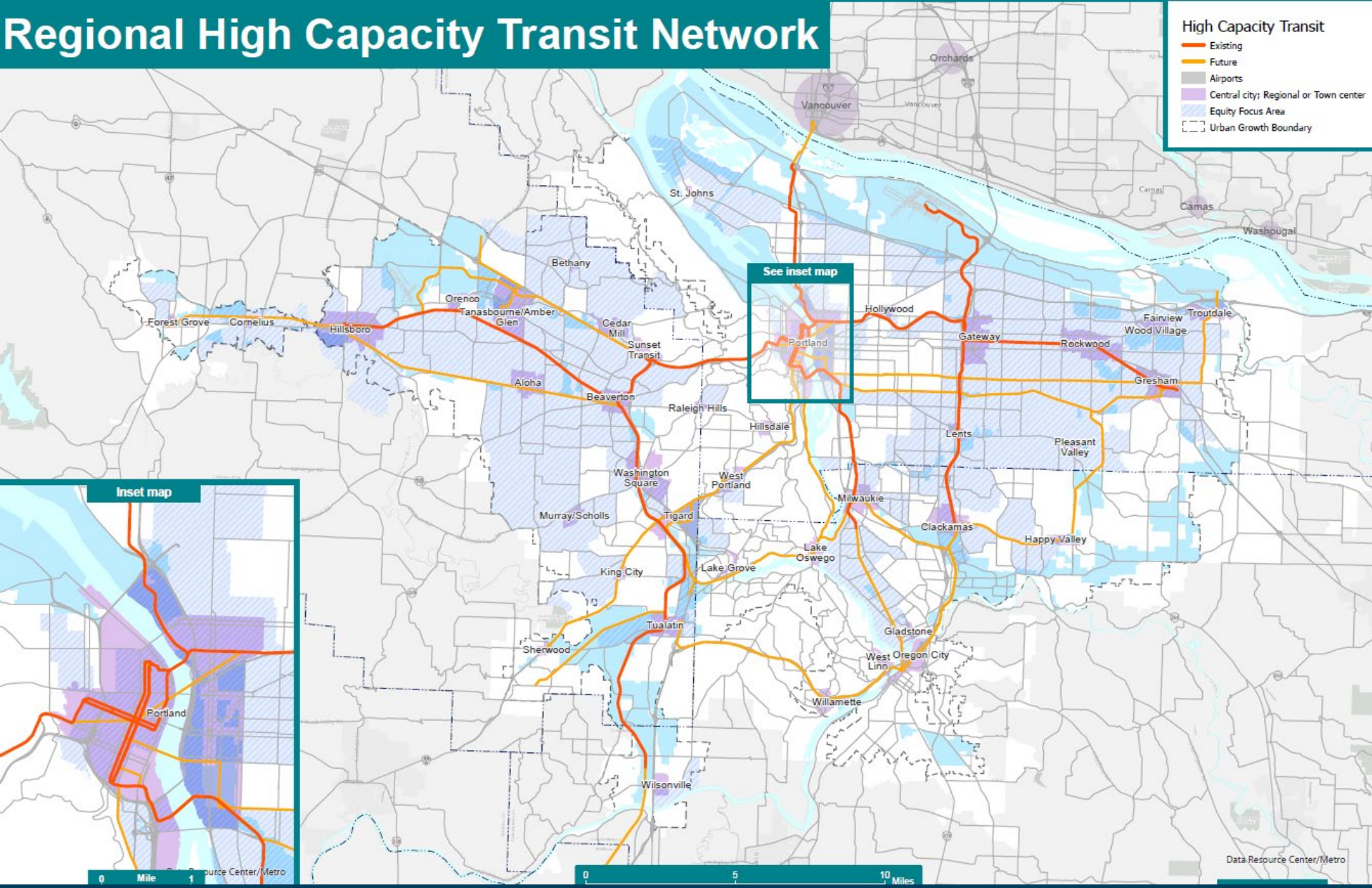


***Regional Transit Network Policy 4**: Make transit more convenient by expanding high capacity transit; improving transit speed and reliability through the regional enhanced transit concept.*

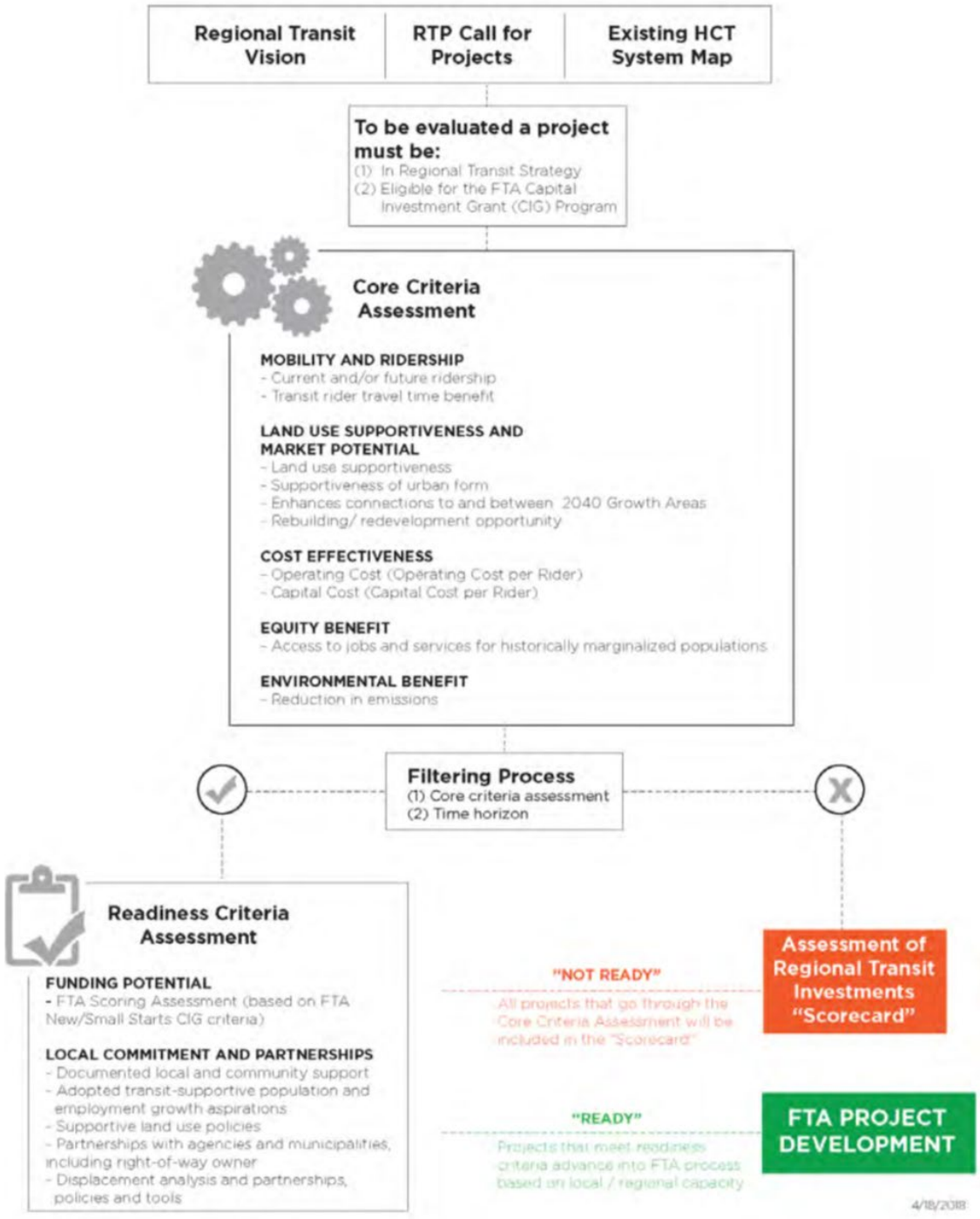
HCT Policy Framework

What we've heard…

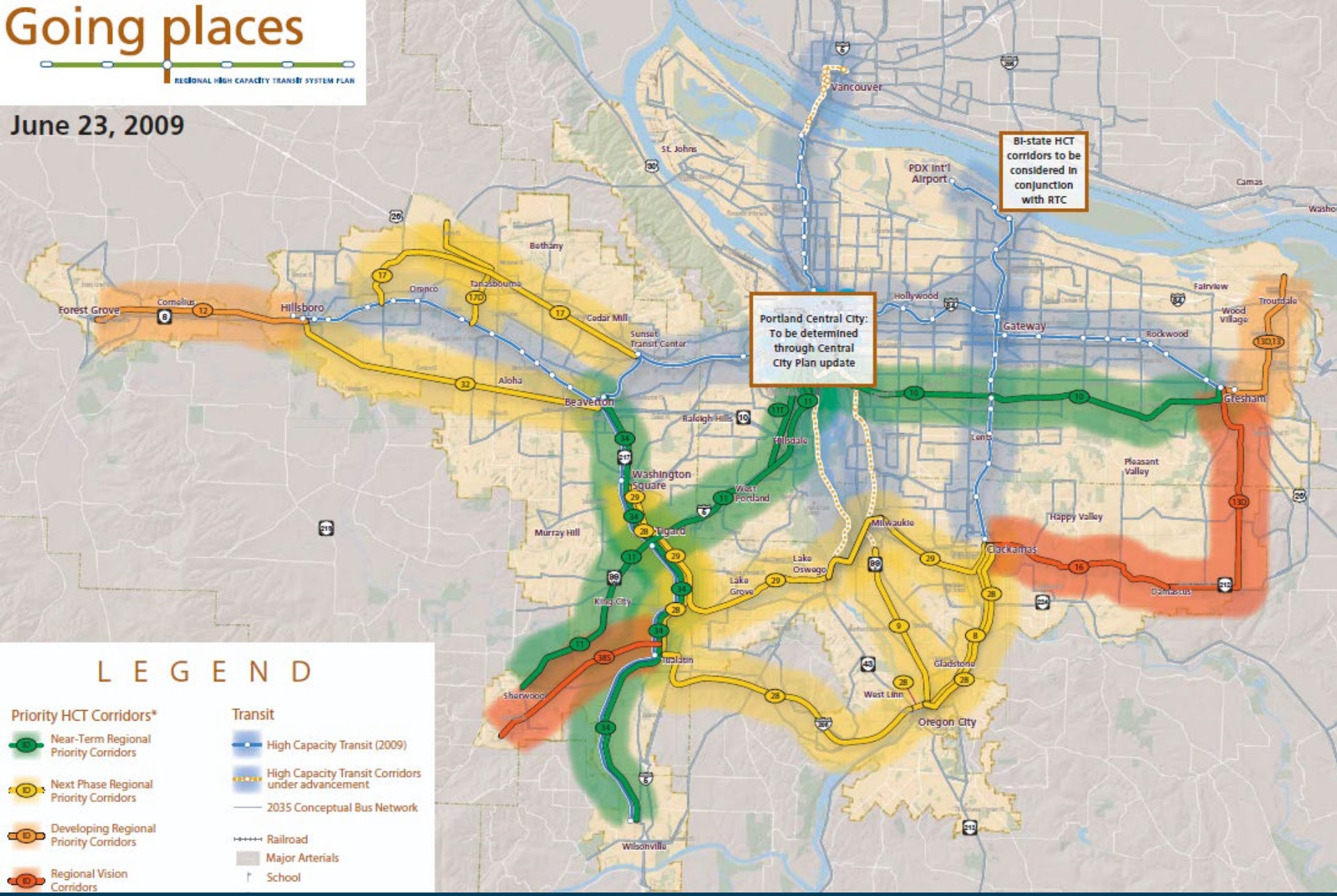
Regional High Capacity Transit Network



HCT Vision

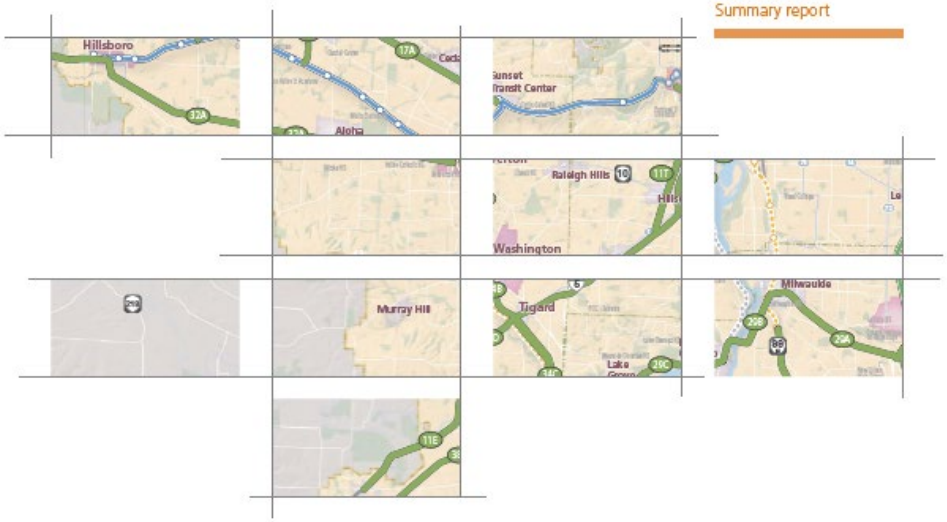


What guidance the RTP provides for criteria…



HCT Tiered Corridors

June 2010
Summary report



REGIONAL HIGH CAPACITY TRANSIT SYSTEM PLAN

2035

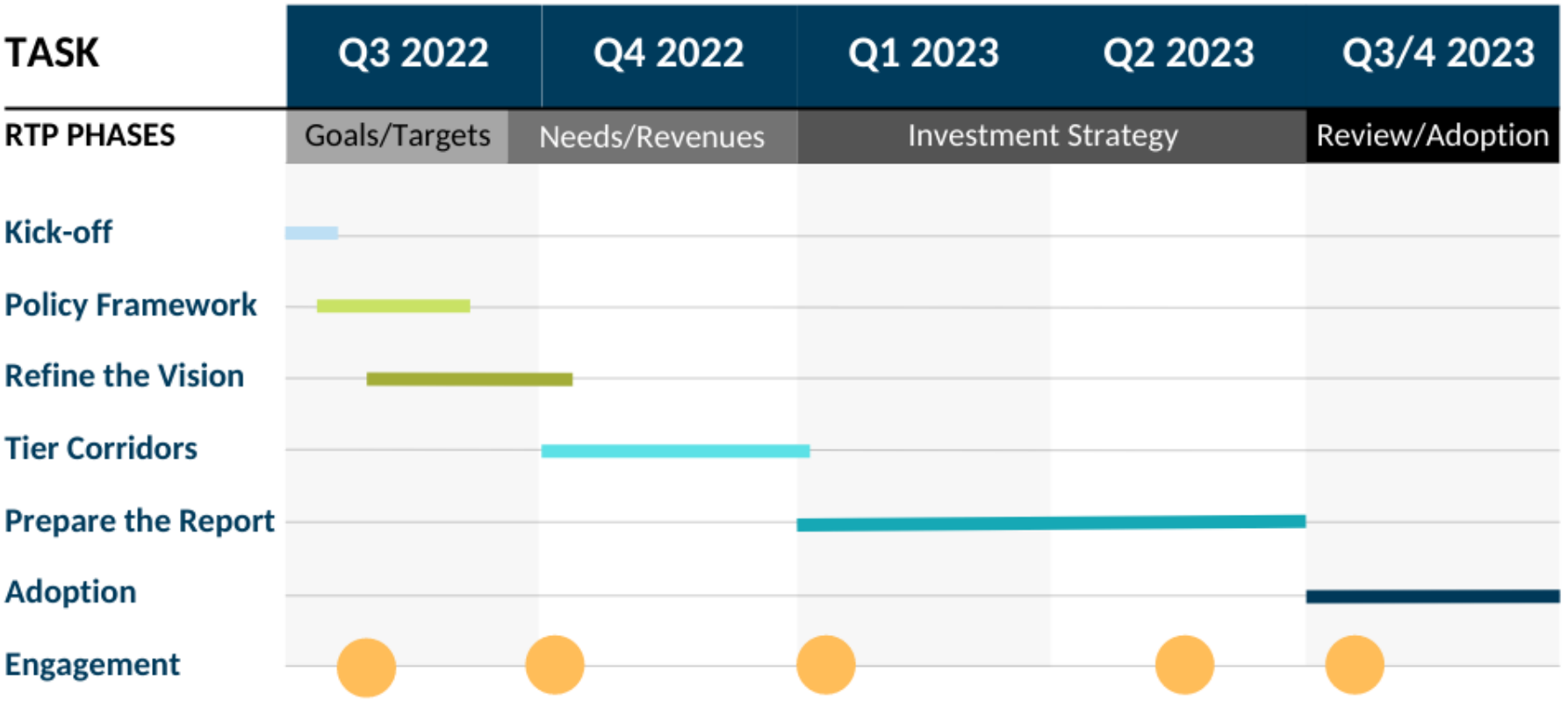
Summary report

June 2010

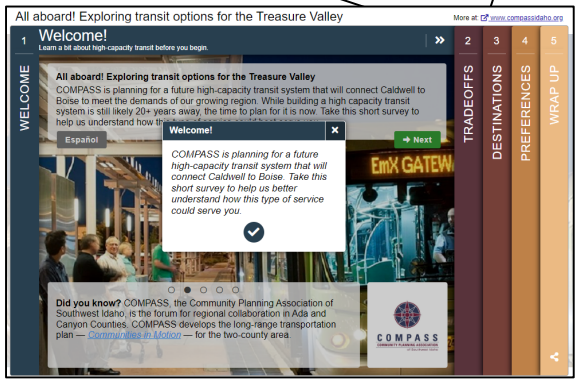
Metro | *Joint Policy Advisory Committee on Transportation*

HCT Strategy Report

What the schedule looks like…



What's coming up…



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