Agenda

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

Meeting: Transportation Policy Alternatives Committee (TPAC) Workshop
Date: Wednesday, March 8, 2023
Time: 9:00 a.m. to 12:00 p.m.
Place: Virtual meeting held via Zoom
Connect with Zoom
Passcode: 810060
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
9:10 a.m.	**Committee & Public communications on agenda items**	
9:12 a.m.	**Consideration of TPAC workshop summary, Jan. 11, 2023** Edits/corrections sent to Marie Miller	Chair Kloster
9:15 a.m.	**Regional Freight Delay & Commodities Movement Study** Purpose: Present key findings from 2020 and 2045 modeling results and e-commerce and delivery technical memo.	Tim Collins, Metro Chris Lamm, Cambridge Systematics
10:15 a.m.	**2023 Regional Transportation Plan: Continue discussion of draft Chapter 3 policies** Purpose: Provide an update on work underway to update the policy chapter (Chapter 3) of the Regional Transportation Plan (RTP) and next steps.	Kim Ellis, Metro
11:25 a.m.	**Climate Smart Strategy Discussion** Purpose: Share updated results for the RTP climate analysis that account for the impact of teleworking on GHG emissions.	Kim Ellis, Metro Eliot Rose, 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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ការគោរពសិទ្ធិពលរដ្ឋរបស់ ។ សំរាប់ព័ត៌មានអំពីកម្មវិធីសិទ្ធិពលរដ្ឋរបស់ Metro ឬដើម្បីទទួលពាក្យបណ្តឹងរើសអើងសូមចូលទស្សនាគេហទំព័រ www.oregonmetro.gov/civilrights។
បើលោកអ្នកត្រូវការអ្នកបកប្រែភាសានៅពេលអង្គប្រជុំសាធារណៈ សូមទូរស័ព្ទមកលេខ 503-797-1700 (ម៉ោង 8 ព្រឹកដល់ម៉ោង 5 ល្ងាច ថ្ងៃធ្វើការ) ប្រាំពីរថ្ងៃ ថ្ងៃធ្វើការ មុនថ្ងៃប្រជុំដើម្បីអាចឲ្យគេសម្រួលតាមសំណើរបស់លោកអ្នក ។

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2023 TPAC Work Program

As of 3/1/2023

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

All meetings are scheduled from 9am - noon

TPAC meeting, March 3, 2023 Comments from the Chair: • Welcome to new TPAC community representatives (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Lobeck) • Fatal crashes update (Lake McTighe) • 2021-22 Annual Listing of Federally Obligated projects (Ted Leybold) **Agenda Items:** • **MTIP Formal Amendment 23-5319** Recommendation to JPACT (Lobeck, 10 min) • Draft 2023-24 Unified Planning Work Program (John Mermin, 35 min) • 2023 RTP: Introduce and begin discussion of draft Chapter 3 policies (Kim Ellis, Metro, 65 min) • Call for Projects Update (Kim Ellis, Metro, 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**TPAC workshop, March 8, 2023** **Agenda Items:** • Regional Freight Delay & Commodities Movement Study (Tim Collins, Metro/Chris Lamm, Cambridge Systematics; 60 min) • 2023 RTP: Continue discussion of draft Chapter 3 polices (Kim Ellis, Metro, 70 min) • Climate Smart Strategy Discussion (Kim Ellis/ Eliot Rose, Metro, 30 min.)

TPAC meeting, April 7, 2023 Comments from the Chair: • 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 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • **UPWP Resolution 23-****** Recommendation to JPACT (John Mermin, 20 min) • Carbon Reduction Program – Introduce Allocation Proposals (Leybold/Cho, Metro; 50 min) • 2024-2027 MTIP – Performance Evaluation Results and Public Comment (Cho, 30 min) • 2023 RTP: Draft High-level Project Assessment Findings (Eliot Rose, 45 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**MTAC/TPAC joint workshop, April 19, 2023** **Agenda Items:** • 2023 RTP: Draft high-level project assessment results (Eliot Rose, Metro, 90 min) • 2023 RTP: Draft Chapter 3 (Policy) – Continue discussion (Kim Ellis, Metro, 60 min) • 2024-27 STIP Region 1; 100% project lists and public comment (Chris Ford, ODOT; 20 min)

TPAC meeting, May 5, 2023

Comments from the Chair:

- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Ken Lobeck)
- Fatal crashes update (Lake McTighe)
- 2024-27 MTIP – Public Comment Report (Grace Cho)

Agenda Items:

- **MTIP Formal Amendment 23-XXXX** Recommendation to JPACT (Lobeck, 10 min)
- **Carbon Reduction Program – Funding Allocation** Recommendation to JPACT (Leybold/Cho/, Metro; 60 min)
- 2023 RTP: Discuss policymaker and public input and technical findings to develop recommendation on finalizing draft RTP and list of project and program priorities for public review (Kim Ellis, 90 min)
- Climate Smart Strategy (Kim Ellis/ Eliot Rose, Metro, 45 min)
- Recommended Projects for Implementing the 2021 TSMO Strategy (Caleb Winter, Metro/Kate Freitag, ODOT/A.J. O'Connor, TriMet; 45 min)
- Integrating Construction Careers Pathways in Metro's transportation work (Sebrina Owens Wilson, Metro; 30 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)

TPAC workshop, May 10, 2023

Agenda Items:

- High Capacity Transit Strategy Update: Draft Report (Ally Holmqvist, Metro; 30 min)
- 2023 RTP: Draft system analysis results (Kim Ellis and Eliot Rose, Metro, 90 min)

TPAC meeting, June 2, 2023

Comments from the Chair:

- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Ken Lobeck)
- Fatal crashes update (Lake McTighe)
- Cascadia Corridor Ultra High-Speed Ground Transportation program update (Ally Holmqvist)

Agenda Items:

- **MTIP Formal Amendment 23-XXXX** Recommendation to JPACT (Lobeck, 10 min)
- **2023 RTP: Finalizing draft RTP and list of project and program priorities for public review** Recommendation to JPACT (Kim Ellis, 90 min)
- 2024-2027 MTIP – Adoption Draft and Public Comment Report (Cho, 30 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)

MTAC/TPAC joint workshop, June 21, 2023

Agenda Items:

- Climate Smart Strategy Discussion (Kim Ellis/ Eliot Rose, Metro, 60 min.)
- Possible Urban Growth Boundary topic, (Ted Reid, Metro, 60 min.)

TPAC meeting, July 7, 2023 Comments from the Chair: • 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 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • **2024-2027 MTIP – Adoption Draft** Recommendation to JPACT (Cho, 30 min) • 2023 RTP: Public Review Draft RTP, Project List and Appendices (Kim Ellis, 45 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**TPAC workshop, July 12, 2023** **Agenda Items:** • Freight Commodity Study: Draft Finding (Tim Collins, Metro, 60 min)

TPAC meeting, August 4, 2023 Comments from the Chair: • 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 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • 2023 RTP: Draft Ordinance and Outline of Adoption Package (Kim Ellis, 45 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**MTAC/TPAC joint workshop, August 16, 2023** **Agenda Items:** • 2023 RTP: Begin discussion of public comments on Public Review Draft RTP, Project List and Appendices (Kim Ellis, 60 min)

TPAC meeting, September 1, 2023 Comments from the Chair: • 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 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • *Great Streets Program updates: Final project list (Chris Ford, ODOT; 30 min)* • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**TPAC workshop, September 13, 2023** **Agenda Items:** • 2023 RTP: Draft Public Comment Report and Recommended Changes in Response to Public Comment (Kim Ellis, 90 min)

TPAC meeting, October 6, 2023 Comments from the Chair: • 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 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • Ordinance 23-XXXX 2023 RTP: Adoption Package, Draft Public Comment Report and Recommended Changes in Response to Public Comment (Kim Ellis, 90 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	

TPAC meeting, November 3, 2023 Comments from the Chair: • 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 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • **Ordinance 23-XXXX on 2023 RTP, Projects and Appendices** Recommendation to JPACT (Kim Ellis, 90 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**TPAC workshop, November 8, 2023** **Agenda Items:** • Regional Transportation Safety Performance Report (Lake McTighe, 30 min)

TPAC meeting, December 1, 2023 Comments from the Chair: • 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 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	

Parking Lot: Future Topics/Periodic Updates

- Columbia Connects Project
- 82nd Avenue Transit Project update (Elizabeth Mros-O'Hara & TBD, City of Portland)
- Best Practices and Data to Support Natural Resources Protection
- Regional Emergency Transportation Routes Update Phase 2 (John Mermin, Metro & Carol Chang, RDPO)
- Cost Increase & Inflation Impacts on Projects
- TV Highway Corridor plan updates
- 82nd Avenue updates
- TSMO updates
- MTIP Formal Amendment I-5 Rose Quarter discussion (Ken Lobeck)
- I-5 Rose Quarter Project Briefing (Megan Channell, ODOT)
- I-5 Interstate Bridge Replacement program update
- Ride Connection Program Report (Julie Wilcke)
- Get There Oregon Program Update (Marne Duke)
- RTO Updates (Dan Kaempff)
- Update on SW Corridor Transit
- High Speed Rails updates (Ally Holmqvist)

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 January 11, 2023 | 9:00 a.m. to 12:00 p.m.
Place:	Virtual online meeting via Web/Conference call (Zoom)

Members Attending	**Affiliate**
Ted Leybold, Vice Chair	Metro
Karen Buehrig	Clackamas County
Allison Boyd	Multnomah County
Chris Deffebach	Washington County
Lynda David	SW Washington Regional Transportation Council
Jaimie Lorenzini	City of Happy Valley & Cities of Clackamas County
Mike McCarthy	City of Tualatin & Cities of Washington County
Tara O'Brien	TriMet
Chris Ford	Oregon Department of Transportation
Katherine Kelly	City of Vancouver
Shawn M. Donaghy	C-Tran System

Alternates Attending	**Affiliate**
Steve Williams	Clackamas County
Dyami Valentine	Washington County
Melissa Johnstone	City of Troutdale & Cities of Multnomah County
Neelam Dorman	Oregon Department of Transportation
Glen Bolen	Oregon Department of Transportation

Members Excused	**Affiliate**
Eric Hesse	City of Portland
Jay Higgins	City of Gresham & Cities of Multnomah County
Karen Williams	Oregon Department of Environmental Quality
Laurie Lebowsky-Young	Washington State Department of Transportation
Lewis Lem	Port of Portland
Jasmine Harris	Federal Highway Administration
Rob Klug	Clark County
Ned Conroy	Federal Transit Administration
Rian Sallee	Washington Department of Ecology

Guests Attending	**Affiliate**
Bryan Graveline	Portland Bureau of Transportation
Chris Smith	
Cody Field	City of Tualatin
Idris Ibrahim	
Jason Beloso	Washington State Department of Transportation
Jeff Owen	

Guests Attending	**Affiliate**
Jennifer Sellers	Oregon Department of Transportation
Jessica Pelz	Washington County
Tom Armstrong	City of Portland
Tom Shook	HRD

Metro Staff Attending
Ally Holmqvist, Daniel Audelo, Grace Cho, John Mermin, Kim Ellis, Lake McTighe, Marie Miller, Matt Bihn, Matthew Hampton, Shannon Stock, Thaya Patton, Tim Collins

Call to Order and Introductions
Vice Chair Leybold called the meeting to order at 9:00 a.m. Introductions were made. Reminders where Zoom features were found online was reviewed. The link for providing 'safe space' at the meeting was shared in the chat area.

Committee and Public Communications on Agenda Items – none received

Consideration of TPAC workshop summary, November 9, 2022 (Vice Chair Leybold) Edits or corrections were asked to be sent to Marie Miller. No edits/corrections were received.

High Capacity Transit Strategy Update: Corridor Investment Readiness Tiers (Ally Holmqvist, Metro) The presentation described the work done to date with partners to revise the draft policy framework, re-envision the network, and identify corridor investment priorities – milestones for this key policy focus area for the 2023 Regional Transportation Plan (RTP) Update.

While going through the process to apply the policy framework to develop the refined vision and the approach for assessing readiness, agency partners made additional recommendations for revising the policy framework to:
• Better reflect the role of high capacity transit as the backbone of the transportation network and that with rapid bus and streetcar that role expands to connecting major town centers;
• Support high capacity transit operating in exclusive guideway to the greatest extent possible, while recognizing that it may operate in mixed traffic, exclusive guideway, or some combination of the two;
• Incorporate network design spacing best practices and mode shift goals;
• Clarify high capacity transit's role in speed and reliability, as well as the definition of mobility corridor and clean fleet; and
• Better reflect quality of life and environmental justice in the policy language.

While all of the corridors in the vision are an important part of a broader system to meet our regional land use and transportation goals, they differ in their readiness for high capacity transit investment and not all are ready today. The expanded number of corridors in the refined vision went through additional system analysis and readiness evaluation to help better understand trips along the corridors, make additional adjustments, and assess these key indicators of readiness.

Readiness evaluation criteria measures and other key indicators of the success of planning activities for and implementation of a high capacity transit investment were described. Based on the assessment results, the team grouped the corridors by readiness into tiers also indicating the location and a representative mode for modeling.

For some of the corridors that are ready today, we have already started work to plan for new high quality transit connections in the nearer-term. These first-tier corridors either have a project with an adopted locally-preferred alternative or are actively working toward one now. The second tier identifies corridors where planning activities for high capacity transit investments could begin as soon as the next five years. Tier 2 corridors would be opportunities for 2045 constrained and strategic investments in the 2023 Regional Transportation Plan. Tier 3 corridors would be opportunities for additional 2045 strategic investments as feasible in the 2023 Regional Transportation Plan. Tier 4 corridors would continue to be identified in the transit vision rather than investment opportunities for the 2023 Regional Transportation Plan.

Between January and March, staff will be working with decision-makers, advisory committees' stakeholders, and community organizations to refine the investment priorities and identify additional considerations for high capacity transit investment readiness. The next and final upcoming milestone for the High Capacity Transit (HCT) Strategy update is the draft report. The report will summarize policy considerations, challenges and opportunities; vision development and outcomes; the corridor investment prioritization process; and actions and strategies for facilitating implementation of the HCT System vision.

Comments from the committee:

- Allison Boyd felt that all the pieces were coming together with better understanding. It was noted the order between evaluations and strategies built around readiness criteria is much like the chicken and egg scenario. It was felt some of the projects listed in tier 3 might not make it on the RTP project list. It was suggested to make sure projects with readiness evaluations ranked in top tiers be included in the RTP update. It was noted that possible high ranking scores with equity benefits may not have all the pieces in place for higher levels of evaluation.

  Ms. Holmqvist noted the balance between access to transit with other investments such as sidewalks. The strategy was not to be too restrictive in the criteria. Capacity today was studied but this does not totally preclude corridors where they might be constrained with meeting criteria. With this level of investment, there is a certain level of people needed for higher ridership or potential higher ridership, partly studied from land use analysis. Interim investments cover the transit spectrum with HCT just one tool. Tier 2 projects are more ready for funding process development. Looking for additional investments for opportunity with tier 3 and 4 projects will continue. It was added the 2040 grant program was an opportunity for corridor readiness strategy as well.

- Mike McCarthy noted the higher demand from people coming farther out of the region toward the center of the region (downtown) and into technology centers. We could reduce VMT if we could meet them at the edge of transit service. This is not reflected in the tiers. It was asked how these are included and how can be address them more. It was noted having 99W corridor to Tigard-Sherwood corridor listed as tier 4 was a surprise.

  Ms. Holmqvist noted the Tigard-Sherwood corridor did pop up as a regional priority, but compared to other Washington County corridors there was a difference seen from population demand expectations. Challenges to address on prioritizing corridors come from some outside the MPA boundaries where service districts look different and have different transit systems. The access to transit study will include this focus and look at the spectrum of transit options and opportunities.

Mr. McCarthy noted he was thinking more of the transit corridors that would fit this study. Demand is not being considered in the tiering of those corridors, and modeling is not capturing all the travel demand. Ms. Holmquist noted there is planned future refinement on corridors.

- Steve Williams asked about the McLoughlin corridor evaluation that scored high in readiness but low in the evaluation rankings. Ms. Holmqvist noted the readiness scored high for the work done on the policy side and transit development work already done, but conditions with the market where people live and equity issues kept the project ranked lower when compared to other corridors. Destinations on the corridor and supportive environments that high capacity transit requires also kept the evaluation score lower. FTA is focused on current conditions, but we will keep future connections in mind for federal funding eligibility.

  Mr. Williams noted the end of the Orange line ends with this corridor and clearly shows rising demand for transit on this corridor. With the next step in mind to encourage an increase in transit with capacity available, it was suggested to start to build high capacity transit in this corridor to meet the demand for ridership incrementally with service capacity. It was encouraged to move this corridor into tier 2. Ms. Holmqvist noted we are working to build the story for FTA to show how improvements would lead to increased ridership, for better competitiveness with funding. Staff will reach out to jurisdictions on data and information that can help increase opportunities for funding.

- Chris Deffebach noted hearing network spacing with important components. It was asked for clarity and what this means. It was advised no to include redundances with transit lines, noting some on maps with project locations. We have a list of projects but do not have a HCT strategy, understand how they fit and work together. We may have competing services without a comprehensive strategy. There are many HCT projects, but with transit deserts and other areas that show a lot of growth, we need to think more regionally with the intent to grow ridership where needed, prioritize for this strategy and look for funding of these corridors where the needs are and will be.

  It was suggested that more discussion was needed on corridor coordination in Chapter 8 of the RTP in matters of access to transit and statewide improvement program. Public and policy engagement is needed on options with various investment scenarios with Chapter 8 type studies. Ms. Holmqvist noted that with the level we are working at currently the focus is on identifying corridors and key connections first before planning possible solution through corridor planning studies.

  It was asked what the difference was between tier 1 and 2, and the implications placed in these categories. Ms. Holmqvist noted tier 1 is what's happening now and getting to the construction process. It was noted the tunnel project has been identified as part of the constrained priority list now. Tier 2 includes the planning activities already paid for in tier 1 with funding started, with constrained and strategic priorities planned now. The difference pertains to where we are in funding opportunities. It was noted that in network spacing we tried to avoid being too inclusive but have flexibility on where investments could help benefit where most needed.

- Chris Ford noted that tier 1 was with planning not, but what's next to advance projects in tiers? Are regulatory acts or other resources need? There is concern with slow moving projects that need help to advance, and concern the region will put effort into tier 2 planning and not be

able to advance to tier 1. It is critical to have a plan on how these will be prioritized. It was suggested to require an endorsement from relative agencies on tier 2 projects that would show commitment on funding efforts. With operation costs critical it was suggested to have agencies and jurisdictions weigh in on possible efforts early and if these efforts can be done. Regarding transit planning in outlying areas, the update to the 2040 growth plan is important. Planning land use and transit together should include design guidelines. It was noted that park & rides in outlying areas can be transfer points with multi modal choices. These are not seen currently in corridor planning.

- Tara O'Brien noted that how projects appear in the RTP in the constrained list is a challenge due to the fact that as of right now at least five tier 1 projects likely would not get entirely into the constrained list. To advance SW Corridor, partnership support is needed to point to expected levels of revenue for the project. There needs to be levels of revenue identified within these constrained lists with commitment to advance them. Regarding the tier 2 project list, the evaluation process can't point to scoring for absolute projects known. There is not enough consensus on the project list to show what projects are prioritized and come next.

Cascadia Corridor Ultra High Speed Ground Transportation: Overview and Update (Ally Holmqvist, Metro/ Jennifer Sellers, ODOT/ Jason Beloso, WSDOT) An overview of the Cascadia Corridor Ultra-High-Speed Ground Transportation Project was provided with a progress report on the work done to date to initiate the program and complete the activities identified in the Memorandum of Understanding. The Washington State Department of Transportation (WSDOT) is studying how ultra-high-speed (~250 miles per hour) ground transportation (UHSGT) might serve as a catalyst to transform the Pacific Northwest – stretching from greater Vancouver, British Columbia to metro Seattle, Washington to Portland, Oregon – with a fast, frequent, reliable and environmentally responsible transportation connection.

This enhanced interconnectivity would unite the Cascadia megaregion and allow to better manage population and economic growth potential and maximize public transportation benefits, resulting in better access to jobs, affordable housing, shared resources, increased collaboration, and economic prosperity.

As part of program initiation, President Peterson, Director Strickler, and staff have worked with fellow bi-country and state agency partners to reflect the goals, objectives, and principles from the Oregon State Rail Plan and ODOT Strategic Action Plan and Metro's 2040 Growth Concept, Regional Transportation Plan (RTP), Regional Transit Strategy (RTS), Climate Smart Strategy, and Strategic Plan to Advance Racial Equity within the work plan and in a developing vision that will ultimately guide the Cascadia Corridor UHSGT effort.

FRA established a new Corridor Identification and Development Program for the purpose of creating a pipeline of funding-ready new or improved intercity passenger rail projects for investment through President Biden's Bipartisan Infrastructure Law. Washington allocated $50 million to be used as matching funds for a grant application, as well as an additional $100 million to leverage federal funding opportunities over the next six years. In coordination with the partner committees, WSDOT and ODOT submitted a joint Expression of Interest for the program for a new ultra-high speed ground transportation system combined with substantial improvements and continued support for Amtrak Cascades service that work in tandem for an integrated Cascadia Corridor this August. The program team is working on developing a formal proposal to fund program initiation for submission late this year when the notice of funding opportunity (NOFO) is expected to be released.

The project timeline, corridor identification funding and future work planned was reviewed.

Comments from the committee:

- Chris Deffebach asked if funding for the project would be enough given the number of other projects we have for consideration currently. Mr. Beloso noted the applications reviewed in the presentation would ask for how much funding and what is the funding going to be used for. This appropriation of federal allocation is $2.3 billion. It is focused on capacity building development and making sure this can be supported in the region.
- Tara O'Brien asked what the expectations from the applications and next steps for partners are to know about in the process. Ms. Holmqvist noted it was important everyone was reached for knowing about the letter of interest on the project. Metro Council and JPACT calendars will be reviewed for presentations. Applications are due in March. And a report will go to the Washington legislature in June. More information will be provided to the committee as further developments are taken.

Committee comments on creating a safe space at TPAC – none received

Adjournment

There being no further business, workshop meeting was adjourned by Vice Chair Leybold at 11:00 a.m.
Respectfully submitted,
Marie Miller, TPAC Recorder

Item	Document Type	Document Date	Document Description	Document No.
1	Agenda	1/11/2023	1/11/2023 TPAC Workshop Agenda	011123T-01
2	2023 TPAC Work Program	12/29/2022	2023 TPAC Work Program as of 12/29/2022	011123T-02
3	Minutes	11/9/2022	Minutes for TPAC workshop, 11/9/2022	011123T-03
4	Memo	1/11/2023	TO: TPAC and interested parties From: Ally Holmqvist, Senior Transportation Planner RE: High Capacity Transit Strategy Update: Corridor Investment Readiness Tiers	011123T-04
5	Attachment 1	N/A	Attachment 1: Vision and Investment Fact Sheet	011123T-05
6	Attachment 2	December 2022	Attachment 2: Key Meeting Dates and Engagement Activities for Project Milestones	011123T-06
7	Memo	11/17/2022	TO: Ally Holmqvist, Metro From: Ryan Farncomb, Kirsten Pennington (KLP Consulting), Oren Eshel (Nelson\Nygaard) RE: Approach to assessing HCT corridor readiness, modes, and tiering	011123T-07
8	Report	December 2022	HCT Policy Framework – Regional Transit Network Policy Review	011123T-08
9	Memo	Nov. 17, 2022	TO: Ally Holmqvist, Metro From: Parametrix and Nelson/Nygaard RE: HCT Corridor Analysis Approach to Identify “Big Moves”	011123T-09
10	Memo	Nov. 23, 2022	TO: TPAC and interested parties From: Ally Holmqvist, Metro; Jennifer Sellers, ODOT; Jason Beloso, WSDOT RE: Cascadia Corridor Ultra-High-Speed Ground Transportation: Program Initiation Overview	011123T-10
11	Attachment 1	Nov. 16, 2021	Attachment 1: Memorandum of Understanding (MoU) On Committing to Advance Activities in Support of an Ultra-High-Speed Ground Transportation Project	011123T-11
12	Attachment 2	11/21/2022	Attachment 2: 2022 UHSGT Policy and Technical Committee Meetings – DRAFT SCHEDULE	011123T-12
13	Attachment 3	N/A	Attachment 3: Interim UHSGT Policy and Technical Committee Charter	011123T-13
14	Attachment 4	August 1, 2022	Attachment 4: Letter of Interest from WSDOT & ODOT	011123T-14
15	Presentation	1/11/2023	HCT Strategy Update: Vision & Corridor Readiness Tiers	011123T-15

Item	Document Type	Document Date	Document Description	Document No.
16	Presentation	1/11/2023	Cascadia Ultra-High-Speed Ground Transportation	011123T-16

Memo

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

Date: Wednesday, February 28, 2022
To: Transportation Policy Alternatives Committee (TPAC) members and alternates
From: Tim Collins, Senior Transportation Planner (Regional Freight Planner)
Subject: Commodities Movement Study - 2020 to 2045 growth rates (by percent increase) of Daily Regional Commodity amounts, for the March 8th TPAC workshop

This memo provides background material to review in anticipation of March 8th for the TPAC workshop agenda item on the Commodities Movement Study. The first PowerPoint presentation during the meeting will provide a look at the 2020 regional freight model results on commodity types, where commodities are moving on the regional freight network, and key regional and corridor level findings from the regional freight model. That prestation will also include a look at how we plan to use existing (INRIX) data on average travel speeds throughout the day to see where average speeds are not meeting draft regional mobility targets. The second presentation will be an update on e-commerce impacts in the Portland region.

The regional freight model is a tool that allows us to estimate where and how commodities (by category) are moving around the Portland region. *One purpose of the study is to evaluate the level (tonnage) and value of commodity movement on the regional freight network, and one of the objectives is to identify which mobility corridors are carrying comparatively high volumes and high values of commodities.* Looking at which commodities are dominant in a particular corridor, by their dollar value, has helped us understand both the dollar value of those commodities compared to other categories of commodities, and how those freight corridors play a key role in moving those commodities.

The commodities are grouped into these 10 categories: 1) Agriculture; 2) Chemicals and Fertilizers; 3) Coal, Oil, Waste, energy sector commodities; 4) Electronics (including computer microchips); 5) Food; 6) Gravel, Sand, Rock products; 7) Machinery; 8) Misc. manufactured goods; 9) Motor Vehicles and other commercial vehicles; and 10) Wood, Paper, etc. The model looks at commodities moved by trucks on the regional freight network.

The table below shows growth rates in daily regional commodity values and amounts, from 2020 to 2045 using model outputs at locations on the freight system for all 10 categories of commodities ('All Goods').

Growth rates by percent increase (2020 to 2045) on the regional freight network, for Daily Regional Commodity amounts (in $s and tons) of All Goods			
Location of Freight Flows	**Direction**	**Percent increase in Daily Dollars**	**Percent increase in Daily Tons**
I-5 at Hayden Island	Northbound	63.6%	16.1%
I-5 at Hayden Island	Southbound	56.6%	15.4%
I-5 at NE Fremont	Northbound	84.1%	45.5%
I-5 at NE Fremont	Southbound	72.9%	31.7%
I-5 north of Hwy. 99W	Northbound	54.8%	27.9%
I-5 north of Hwy. 99W	Southbound	59.3%	23.6%
I-5 north of OR 217	Northbound	60.3%	31.2%

Growth rates by percent increase (2020 to 2045) on the regional freight network, for Daily Regional Commodity amounts (in $s and tons) of All Goods			
Location of Freight Flows	**Direction**	**Percent increase in Daily Dollars**	**Percent increase in Daily Tons**
I-5 south of OR 217	Northbound	71.8%	31.8%
I-5 south of OR 217	Southbound	62.4%	23.1%
I-5 south of I-205	Northbound	56.0%	27.7%
I-5 south of I-205	Southbound	55.7%	20.8%
I-84 west of NE 122nd	Eastbound	58.6%	15.8%
I-84 west of NE 122nd	Westbound	47.1%	10.3%
I-84 at Troutdale/Wood Village	Eastbound	59.6%	23.1%
I-84 at Troutdale/Wood Village	Westbound	46.5%	13.6%
I-205 south of Sandy Blvd.	Northbound	108.7%	57.8%
I-205 south of Sandy Blvd.	Southbound	102.0%	45.0%
I-205 south of OR 224	Northbound	99.7%	50.6%
I-205 south of OR 224	Southbound	62.4%	23.2%
I-205 north of SE Sunnyside	Northbound	90.0%	64.0%
I-205 north of SE Sunnyside	Southbound	87.4%	50.2%
OR 224 (Sunrise Hwy.) plus OR 212 at SE 102nd	Eastbound	170.8%	95.7%
OR 224 (Sunrise Hwy.) plus OR 212 at SE 102nd	Westbound	226.2%	98.3%
US 26 (Sunset Hwy.) east of OR 217	Eastbound	95.9%	53.2%
US 26 (Sunset Hwy.) east of OR 217	Westbound	60.7%	34.5%
US 26 (Sunset Hwy.) west of Cedar Hills Blvd.	Eastbound	93.9%	36.8%
US 26 (Sunset Hwy.) west of Cedar Hills Blvd.	Westbound	63.0%	30.4%
N. Marine Drive west of I-5	Eastbound	147.3%	83.6%
N. Marine Drive west of I-5	Westbound	120.5%	30.6%
N. Columbia Blvd. plus N. Lombard St. near Terminal 4	Eastbound/ Southbound	56.3%	51.1%
N. Columbia Blvd. plus N. Lombard St. near Terminal 4	Westbound/ Northbound	154.5%	133.1%
N. Going St. bridge to Swan Island	Eastbound	7.9%	-21.7%
N. Going St. bridge to Swan Island	Westbound	7.2%	-33.9%
OR30 west of I-405	Eastbound	47.5%	21.1%
OR30 west of I-405	Westbound	77.2%	61.0%
St. Johns Bridge	Eastbound	123.4%	120.1%
St. Johns Bridge	Westbound	62.8%	43.4%

The table above shows growth rates of 'All Goods' as a percentage increase from 2020 to 2045, for both daily dollar value and daily tonnage. Most selected locations for looking at percentage increase are on the Interstate and State Highway system. In 2020, I-5, I-84 and I-205 (in that order) have the most dollar value and tonnage of commodities within the interstate and state highways that the Commodities Movement Study is examining. However, other locations like OR 30 west of I-405 and Marine Drive west of I-5 also have high dollar values and tonnage that are larger than those on US 26 (Sunset Highway), and various locations on I-205. Other location in the Rivergate to I-5 corridor also have significant 2020 daily dollar value and tonnage. Therefore, the location on OR 30 west of I-405 and the intermodal connectors in the Rivergate to I-5 corridor are included in the table above.

As the table above illustrates, the percentage increases for daily dollars are greater than the percentage increases for daily tons. This is an indication that the value of commodities traveling in the region will continue to be weighted by high-value commodities (like electronics or motor vehicles) growing faster than heavy commodities (like fertilizer, coal, oil, or wood). The percentages for dollar value and tonnage that show a growth of 80% or more within the 25-year period are highlighted in yellow. Most selected locations along I-205 in both directions, and the locations on US 26 eastbound, have met that 80% or higher increase for daily dollar value. OR 224 (Sunrise Highway) and OR 212 combined (around 102nd) have directional percentage increases for daily dollars that exceed 170%; and percentage increases for daily tonnage that exceed 95%. This indicates strong industrial growth and more medium and heavy trucks using this corridor in the future. Marine Drive west of I-5 (in both directions) has percentage increases for daily dollar value that exceed 120%. N. Columbia Blvd and N. Lombard Street (combined) near Terminal 4 (Westbound/Northbound) has percentage increases for both dollar value and tonnage that exceed 130%. This indicates a robust growth in commodities traveling by truck into and out of the marine terminals (4,5, and 6) and the industrial businesses in the Rivergate area.

The PowerPoint presentation at the TPAC workshop on March 8th will include key finding for commodity groups on the regional freight network within mobility corridors. The table in this memo is intended as supplemental information that will provide additional context for a robust conversation about the modeled results and to highlight the importance of the commodities that move by truck throughout our region. I look forward to our discussion at the meeting.

cc: Chris Lamm, Principal Project Manager, Cambridge Systematics
Garth Appanaitis PE, Planning Group Manager, DKS Associates
Joe Broach, PhD, Senior Researcher & Modeler, Metro

Memo

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

Date: March 1, 2023

To: Transportation Policy Alternatives Committee (TPAC), Metro Technical Advisory Committee (MTAC) and interested parties

From: Kim Ellis, AICP, RTP Project Manager

Subject: 2023 Regional Transportation Plan – Draft Chapter 3 (System Policies) for TPAC and MTAC Review

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PURPOSE

This memo provides an update on work underway to update the policy chapter (Chapter 3) of the Regional Transportation Plan (RTP) and next steps. This work will continue through June 2023.

ACTION REQUESTED

Discussion and feedback on the draft policies and draft Chapter 3 provided in Attachments 1 and 2. In addition to providing feedback at the upcoming meetings, TPAC and MTAC members are invited to submit additional comments by March 24 to kim.ellis@oregonmetro.gov and lake.mctighe@oregonmetro.gov**.** The comments provided by this date will be reported and discussed at the April 19 workshop.

Questions for discussion:

- Do you have comments on the draft Chapter 3 overall?
- Do you have comments on any individual policy areas in Chapter 3?

Opportunities for TPAC and MTAC discussion are planned for March 8 (TPAC workshop), March 15 MTAC meeting) and April 19 (joint TPAC/MTAC workshop).

A word and/or track changes versions of the Draft Chapter 3 are available upon request.

BACKGROUND

A major update to the Regional Transportation Plan (RTP) is underway. The RTP is the state- and federally-required long-range transportation plan for the Portland metropolitan area. The RTP is the blueprint for transportation in our region and a key tool for implementing the region's 2040 Growth Concept and Climate Smart Strategy. Together, these plans will help ensure that greater Portland thrives by connecting people to their jobs, families, schools and other important destinations and by allowing business and industry to create jobs and move goods to market.

Chapter 3 of the RTP defines a broad range of policies for transportation equity, safety, , climate, pricing, and mobility as well as a vision and supporting policies for each component of the regional transportation system – motor vehicle, transit, freight, bike and pedestrian, and for the design and management of the system.

RTP policies are informed by stakeholder and community input, research and technical analysis, and Federal and State regulations, and are a key element of the RTP performance-based planning and decision making framework shown in Figure 1.

Figure 1. RTP performance-based planning and decision-making framework

Regional policies guide the transportation agencies that design and manage roadways, transit and trails to meet the transportation needs and priorities of the region and inform 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.

POLICY UPDATES FOR THE 2023 REGIONAL TRANSPORTATION PLAN

RTP policies are reviewed as part of each update to the plan to determine whether new or updated policies are needed. The RTP work plan adopted by JPACT and the Metro Council in May 2022 identified several policy updates to be addresed as part of the 2023 RTP update, including development of new and updated policies relate to pricing, mobility, climate, and high capacity transit.

In addition, the work plan for the 2023 RTP update called for a specific review of these policies:

- **RTP Network Maps:** The RTP network maps identify planned regionally-significant transportation facilities and the plan's vision for design and each element of the transportation system.
- **Transportation equity policies:** Review and update RTP transportation equity policies and actions related to consideration of affordability and anti-displacement strategies in transporation planning and project development activities.
- **Regional freight policies:** Review and update RTP freight policies as needed to address growth in e-commerce and delivery services and recommendations identified through the Regional Freight Delay and Commodities Movement Study.
- **Transportation System Management and Operations (TSMO) policies:** Review and update RTP TSMO policies to incorporate recommendations from the 2019 Regional Travel Options (RTO) needs assessment and the 2021 TSMO Strategy.
- **Transportation Resilience policies:** Review and update resilience related policies to further address the federal resilience planning factor, incorporate the Phase 1 Regional

Emergency Transportation Routes (ETR) update findings and recommendations accepted by JPACT and the Metro Council in 2021 (including the updated routes), and consider green infrastructure policy recommendations identified when the 2018 RTP was adopted in 2018. This work will also incorporate the Phase 1 ETRs in Chapter 3 of the RTP to define a network for targeted resiliency mitigation/ management funding.

Since adoption of the work plan in May 2022, TPAC, MTAC, JPACT, MPAC, other stakeholders and the Metro Council have developed new and updated policies related to pricing, mobility, climate, and high capacity transit through regular meetings and workshops.

- **Draft pricing policies.** New pricing policies were developed through a four-step process from May through December 2022. The process included a review of existing relevant RTP policies, a review of findings and recommendations from the Regional Congestion Pricing Study and input from an expert review panel, development of draft pricing policies and actions, and recommendations for updates to other policies and Chapter 8 in the RTP. The consolidated elements resulting from this process can be found at: https://www.oregonmetro.gov/sites/default/files/2023/02/24/Draft-2023-RTP-regional-pricing-policies-memo-Jan2023.pdf

- **Draft high capacity transit strategy policies.** Updates to the existing RTP transit policies were shaped by extensive discussions by Metro technical and policy advisory committees, county coordinating committees, the Metro Council and a technical work group convened by Metro in support of the High Capacity Transit Strategy update. More information about this work can be found at: https://www.oregonmetro.gov/public-projects/2023-regional-transportation-plan/transit

- **Draft regional mobility policies.** The draft policies were developed from 2019-2022 through a joint effort of Metro and the Oregon Department of Transportation (ODOT). Developed significant input from local, regional and state practitioners, Metro technical and policy advisory committees, other stakeholders and the Metro Council, In November 2022, JPACT and the Metro Council accepted the new draft policies and supported further development of the draft performance measures and targets during 2023 RTP system analysis. JPACT and the Metro Council also supported development of a clear, inclusive mobility corridor-based approach for needs and solutions evaluation and identification as part of the 2023 RTP update. More information about this work, including research that informed the draft travel speed targets for throughways can be found at:
  - https://www.oregonmetro.gov/sites/default/files/2023/02/24/Draft-2023-RTP-Regional-mobility-policy-overview-Jan2023.pdf
  - https://www.oregonmetro.gov/sites/default/files/2023/03/01/Regional-Mobility-Policy-Update-Reliability-Research-Process_0.pdf and
  - project website at: https://www.oregonmetro.gov/public-projects/regional-mobility-policy-update

RTP network maps updates: In summer 2022, Metro staff worked with local, regional and state agencies to review and begin to update the planned regional design and functional classifications of transportation facilities identified on the RTP Chapter 3 network mapsfor each of these networks – motor vehicle, freight, transit, bicycle and pedestrian and transportation system management and operations (TSMO) – to align local, regional and state classifications. Additional updates to the network maps have been identified by jurisdictional staff during the Call for Projects and will be reflected in the maps.

Other policy updates: Since December 2022, Metro staff also completed a review of existing regional transportation policies as part of updating Chapter 3 of the Regional Transportation Plan. The review was conducted to:

- reconcile inconsistencies and/or duplication across policies;
- update existing policy language, especially related to equity, to provide clarity and be consistent with current best practices;
- provide a consistent level of detail across all policies; and
- address new and revised Oregon Transportation Planning Rule requirements[1] that apply to the RTP and local transportation system plans where appropriate.

NEXT STEPS

March-June 2023	Metro continues to work with technical advisory committees to develop the 2023 RTP Public Draft Plan, including discussion of the draft Chapter 3 and individual policies at these meetings: • March 8 TPAC Workshop • March 15 MTAC meeting • April 19 TPAC/MTAC workshop
March 24	**Deadline for TPAC and MTAC to submit additional comments** to kim.ellis@oregonmetro.gov and lake.mctighe@oregonmetro.gov
June	TPAC, JPACT and Metro Council action on release of public review draft RTP (including Chapter 3)
July 10 to Aug. 25	45-day public comment period on the public review draft RTP with hearing(s)
Sept.-Nov. 2023	Metro staff document public comments received and work with TPAC and MTAC to develop recommendations for consideration by MPAC, JPACT and Metro Council
November 2023	JPACT and Metro Council consider adoption of the 2023 RTP (and updated project and program priorities)

For more information about the update, visit oregonmetro.gov/rtp.

/Attachment

1. TPAC Review Draft: Draft Policies for the 2023 Regional Transportation Plan (2/24/23)
2. Draft 2023 Regional Transportation Plan Chapter 3 (3/1/23)

[1] The Land Conservation and Development Commission amended the Oregon Transportation Planning Rule through the Climate Friendly Communities (CFEC) rulemaking process in 2022.

2023 Regional Transportation Plan Update

TPAC Review Draft

Draft 2023 Regional Transportation Plan (RTP) Policies

February 24, 2023

This document includes the adopted 2018 Regional Transportation Plan (RTP) policies, proposed changes to those policies, and new draft policies related to mobility, pricing, and high capacity transit that are proposed for inclusion in Chapter 3 of the 2023 RTP. Chapter 3 provides additional information on each policy included in this document, including background information and an explanatory narrative of each policy. Additionally, policies that did not orginate from a separate, stand-alone plan (such as the equity, mobility and pricing policies) may include a list of implementing actions. Policies that orginate from a separate planor strategy (such as the safety, climate smart and freight policies) do not include implementing actions in Chapter 3, as the implementing actions are captured in the original plan.

Metro staff completed a review of existing and new draft regional transportation policies as part of updating Chapter 3 of the RTP. The review was conducted to:

- reconcile inconsistencies and/or duplication across policies;
- update existing policy language, especially related to equity, to provide clarity and be consistent with current best practices;
- provide a consistent level of detail across all policies;
- address new and revised Oregon Transportation Planning Rule requirements[1] that apply to the RTP where appropriate.

Proposed changes are shown in blue underscore and ~~blue strikethrough~~.

[1] The Land Conservation and Development Commission amended the Oregon Transportation Planning Rule through the Climate Friendly Communities (CFEC) rulemaking process in 2022.

Metro

Draft 2023 Regional Transportation Plan Policies

Regional Transportation Equity Policies

The RTP team consulted with staff in Metro's Diversity, Equity and Inclusion department to review the Equity policies and develop suggested revisions, as directed by the 2023 RTP work plan.

Policy 1 Embed equity into the planning and implementation of transportation projects, programs, policies and strategies to achieve equitable outcomes by assessing ~~comprehensively consider~~ the benefits and impacts of transportation and eliminating ~~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 support community stability by anticipating ~~anticipate~~ and ~~minimize~~ minimizing 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~~Meaningfully engage ~~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 qualitative and quantitative 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.~~ Create living-wage career pathways for people of color and women into the construction industry and support the growth and participation of women and people of color owned firms on capital projects throughout the transportation system.

Policy map: Equity Focus Areas

Regional Safety and Security Policies

No changes to the policies in this section are proposed.

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 and maintenance of the transportation system, with a focus on reducing vehicle speeds.
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.

Policy map: High Injury Corridors and Intersections

Draft 2023 Regional Transportation Plan Policies

Climate Smart Strategy Policies

These policies are focused on climate mitigation. Three policies were edited to reflect the top three climate smart strategy priorities identified by JPACT and the Metro Council during a joint workshop in November 2022. The TSMO parking management policy was deleted to avoid duplication with Climate Policy 7. The parking policy language from the TSMO policy was used to replace the Climate Smart parking policy consistent with new Climate-Friendly and Equitable Communities (CFEC) rules. Additional work is needed to draft climate resilience related policies.

Policy 1 Implement adopted local and regional land use plans and strategies to reduce vehicle miles traveled per capita to meet regional targets.

Policy 2 Prioritize transportation investments that make transit convenient, frequent, accessible and affordable to significantly increase transit ridership.

Policy 3 Prioritize transportation investments that make biking and walking safe and convenient to significantly increase walking and bicycling mode shares.

Policy 4 Make streets and highways safe, efficient, reliable and connected.

Policy 5 Prioritize use of 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 policies and strategies.

Policy 6 Provide information and financial 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.~~ Manage parking in mixed-use centers and corridors that are 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.

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~~ implementation of the climate smart strategy.

Policy map: Regional Emergency Transportation Routes

Draft 2023 Regional Transportation Plan Policies

Draft Regional Mobility Policies (New)

The new draft mobility policies were developed through an extensive three-year process with significant input from local, regional and state practitioners, Metro technical and policy advisory committees, other stakeholders and the Metro Council. The new policies were accepted by JPACT and the Metro Council in December 2022. Further discussion of the mobility performance measures and targets is recommended following completion of the RTP system analysis in April 2022.

Policy 1 Ensure that land use decisions and investments in the transportation system enhance efficiency in how people and goods travel to where they need to go.

Policy 2 Provide people and businesses a variety of seamless and well-connected travel modes and services that increase connectivity, increase choices and access to low carbon transportation options so that people and businesses can conveniently and affordably reach the goods, services, places and opportunities they need to thrive.

Policy 3 Create a reliable transportation system that people and businesses can count on to reach destinations in a predictable and reasonable amount of time.

Policy 4 Prioritize the safety and comfort of travelers by all modes when planning and implementing mobility solutions.

Policy 5 Prioritize investments that ensure that Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other marginalized and underserved populations have equitable access to safe, reliable, affordable and convenient travel choices that connect to key destinations.

Policy 6 Use mobility performance measures and targets for system planning and evaluating the impacts of plan amendments including Vehicle Miles Travelled (VMT) per capita for home-based trips and VMT/employee for commute trips to/from work, system completeness for all modes, and travel speed reliability on the throughways.

Policy map: No policy map

Draft Regional Pricing Policies (New)

The draft regional pricing policies reflect significant discussion and input from Metro technical and policy advisory committees and the Metro Council from January to Oct. 2022. A memo documenting the Sept.-Oct. 2022 feedback and policies reflected below is available on the project website.

Policy 1 Improve reliability and efficiency of the transportation network, reduce VMT per capita, and increase transportation options through congestion management, investments in transit, bike, and pedestrian improvements, and transportation demand management programs.

Policy 2. Center equity and affordability into pricing programs and projects from the outset.

Policy 3	Address traffic safety and the safety of users of all modes, both on the priced system and in areas affected by diversion.
Policy 4	Minimize diversion impacts created by pricing programs and projects prior to implementation and throughout the life of the pricing program or project.
Policy 5	Reduce greenhouse gas emissions and vehicle miles travelled per capita while increasing access to low-carbon travel options.
Policy 6	Coordinate technologies and pricing programs and projects to make pricing a low-barrier, seamless experience for everyone who uses the transportation system and to reduce administrative burdens.

Policy map: No policy map

Regional Design and Placemaking Policies

The policies below are not new. Staff have reformatted existing policy language from the 2018 RTP and 2019 Metro Designing Livable Streets and Trails Guide into standard policy format used for other RTP policies.

Policy 1	Design the transportation system to implement the planned land uses and regional urban form envisioned in the 2040 Growth Concept.
Policy 2	Design a well-connected transportation system that serves all modes of travel.
Policy 3	Use regional street design classifications to guide development of streets that balance the needs of all users and functions of streets according to planned land use and desired outcomes.
Policy 4	Use transportation network and street design to help achieve regional goals and desired outcomes, including environmental and human health, climate action and resilience, a safe system, equitable transportation, mobility options, vibrant communities, and a thriving economy.
Policy 5	Avoid, minimize and mitigate environmental impacts of the transportation system using Green Infrastructure design, street trees, wildlife habitat or waterway crossing improvements and other approaches to the extent practicable.
Policy 6	Use a performance-based approach and decision-making framework to plan and design transportation projects and networks.

Policy map: Regional Design Classification Map (note: updates to map are underway, consistent with changes made to the Motor Vehicle classifications; design classifications correspond to land use and motor vehicle functional classifications)

Regional Motor Vehicle Network Policies

Three policies are removed because they are addressed by policies in the Safety and Design policy sections. Three policies are updated to reflect new policy direction in the pricing policies developed with significant input from Metro technical and policy advisory committees and the Metro Council and new requirements related to motor vehicle capacity in Oregon Transportation Planning Rule (OAR 660-012-0830).

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~~and auxiliary lanes where appropropriate between interchanges, to maintain mobility and accessibility and improve reliability for regional, statewide and interstate travel.
Policy 6	~~In combination with increased transit service, consider~~ If new capacity is being added, evaluate use of ~~value~~ pricing and increased transit service in conjunction with the new capacity to manage traffic congestion and reduce VMT per capita ~~and raise revenue when one or more lanes are being added to throughways~~.
Policy 7*[2]	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.~~

[2] *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.

~~Policy 11~~ ~~Incorporate complete street designs for safe and convenient pedestrian and bicycle access for regional and local roadways.~~

Policy ~~12~~ 9 Prior to adding new ~~throughway~~ 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 congestion~~ pricing, and transit service and multimodal connectivity improvements cannot meet regional mobility, safety, climate, and equity policies consistent with OAR 660-012-0830 ~~adequately address throughway deficiencies and bottlenecks~~.

Policy map: Regional Motor Vehicle Network Map

Regional Freight Network Policies

One new policy has been added to address findings from the Regional Freight Delay and Commodities Movement Study. The new policy is focused on addressing the continued growth in e-commerce and delivery trips and the need for industrial land that provides for an increase in distribution centers and fulfillment centers.

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.

Policy 8 Adapt future freight system investments to emerging technologies and shifts in goods movement, including the emergence of e-commerce and automated delivery systems.

Policy map: Regional Freight Network Map

Regional Transit Network Policies

Policy updates were developed by the High Capacity Transit Strategy Work Group with input from Metro technical and policy advisory committees and the Metro Council as part of the Regional High Capacity Strategy update.

Policy 1 — Provide a high-quality, safe, and accessible system that makes transit a convenient and comfortable transportation choice for everyone to use. ~~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 — Ensure that the regional transit network equitably prioritizes service to those who rely on transit or lack travel options; makes service, amenities, and access safe and secure; improves quality of life (e.g., air quality) and proactively supports stability of vulnerable communities, particularly communities of color and other marginalized communities.

Policy 3 — Prioritize our investments to create a transit system that encourages people to ride transit rather than drive alone and to support transitioning to a clean fleet that aspires for net zero GHG emissions, enabling us to meet our state, regional, and local climate goals.

Policy ~~2~~4 — Preserve and maintain the region's transit infrastructure in a manner that improves safety, ~~security~~ reliability and resiliency while minimizing life-cycle cost and impact on the environment.

Policy ~~4~~ 5 — High Capacity Transit ~~Make transit more convenient by expanding high capacity transit; improving transit speed and reliability through the regional enhanced transit concept.~~ Complete and strengthen a well-connected high capacity transit network to serve as the backbone of the transportation system. Corridors should generally be spaced at least one half-mile to one mile or more apart and serve mobility corridors with the highest travel demand. High capacity transit prioritizes transit speed and reliability to connect regional centers with the Central City, link regional centers with each other, and link regional centers to major town centers.

Policy ~~3~~ 6 — ~~Make transit more reliable and frequent by expanding regional and local frequent service transit and improving local service transit options.~~ Complete a well-connected network of local and regional transit on most arterial streets – prioritizing expanding all-day frequent service along mobility corridors and main streets linking town centers to each other and neighborhoods to centers.

Policy 7 — Through the Better Bus program, prioritize capital and traffic operational treatments identified in the Enhanced Transit Toolbox in key locations or corridors to improve transit speed and reliability for frequent service.

Policy ~~5~~8 Evaluate and support expanded commuter rail and intercity transit service to neighboring communities and other destinations outside the region.

Policy ~~6~~ 9 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~~ 10 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~~ 11 Ensure that transit is affordable, especially for people who depend on transit.

Policy map: Regional Transit Network Map (note: this map is still under development through the HCT strategy update)

Regional Bicycle Network Policies

No changes to the policies in this section are proposed.

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.

Policy map: Regional Bicycle Network Map

Regional Pedestrian Network Policies

No changes to the policies in this section are proposed.

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.

Policy 5 Ensure that the regional pedestrian network equitably serves all people.

Policy map: Regional Pedestrian Network Map

Transportation System Management and Operations Policies

Changes are recommended to the RTP TSMO policies to align with the 2021 TSMO Strategy, adopted by JPACT and the Metro Council in 2022. Changes also are made to only include the references to transportation demand management (TDM) and parking policies as they relate to TSMO. Pricing, TDM and parking related policies have been moved to other policy sections in Chapter 3 of the RTP and are noted in those sections. The Oregon Transportation Planning rule, as amended through the Climate Friendly Communities (CFEC) rulemaking in 2022, was also reviewed and referenced.

Policy 1 ~~Expand use of pricing strategies to improve reliability and efficiency by managing congestion, reducing VMT per capita, and increasing transportation options through investments in transit services and increased access to transit and bike and pedestrian infrastructure.~~ ~~m~~Manage ~~travel demand on~~ the transportation system in ~~combination with adequate transit service options.~~ for the effective and efficient use of publicly funded transportation assets while supporting mobility, multi-modal reliability, racial equity, safety and reductions in carbon emissions.

Policy 2 ~~Expand use of access management, advanced technologies, and other tools to actively manage the transportation system.~~ Take actions from the regional TSMO Strategy by supporting a program that conducts planning for operations, develops new operational concepts, assesses future needs for capabilities, identifies gaps in data and establishes a process for listening and accountability.

Policy 3 Optimize operations for reliability and mobility by coordinating and advancing operator capabilities with shared tools and interoperable technologies.

Policy ~~3~~4 Provide ~~comprehensive, integrated, universally accessible and~~ real-time traveler information data across devices and at physical locations that is comprehensive in serving the needs of ~~to~~ people ~~and~~ businesses and freight movement.

Policy ~~4~~5 Improve incident detection and clearance times on the region's transit and 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 increase 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 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.~~

Policy map: Regional TSMO Network Map (note: updates to this map are underway)

Transportation Demand Management Policies

Metro staff propose adding a new TDM policy section, separated out from the TSMO policy section, to provide clearer direction for how TDM helps achieve regional policy and which entities are responsible for delivering TDM programming. Several TDM-related policies from the TSMO policy section have been moved into this section with refinements.

Policy 1 Develop and refine regional and local TDM policies and implementation and action plans to help reach climate, mobility and modal targets.

Policy 2 Ensure adequate TDM resources and programming are deployed to meet the public's specific mobility needs for employment, education and essential services.

Policy 3 Provide and deliver TDM programming at a variety of scales; state, regional and local.

Policy 4 Focus TDM efforts on improving access to travel choices and eliminating barriers for marginalized communities, with a focus on communities of color and people with low incomes.

Policy map: No policy map

Emerging Technology Policies

No changes to the policies in this section are proposed. The section was moved from the front of Chapter 3 to the end.

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.

Policy map: No policy map

DRAFT

3/1/2023

Chapter 3
System Policies to Achieve Our Vision
2023 Regional Transportation Plan

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INTRODUCTION

Purpose

Transportation shapes our communities and our daily lives, providing access to opportunities and to meet daily needs. Chapter 3 provides overarching, network, and system management policies for the regional transportation system.

These polices support implementation of the vision, goals and objectives for the regional transportation system defined in Chapter 2 and help the region meet regional performance targets.

Policies 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 three sections. Regional partners have developed policies in this chapter over many decades. As a result, policy sections do not always follow the same format or include all the same elements. Some policies include more detail and implementing actions for regional, state, and local agencies and stakeholders. These policies, such as transportation equity, pricing, and mobility, were developed through the Regional Transportation Plan (RTP) update and do not exist in a separate plan. Implementing actions for policies that are derived from a separate plan, such as the safety and freight policies, are not included in this chapter. Instead, the separate plan is referenced in the text.

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. Overarching system policies correlate to regional goals and include policies for implementing the 2040 Growth Concept, advancing transportation equity, improving safety, climate leadership and resilience, using pricing, and supporting multimodal mobility. Overarching policies are those policies that impact every part of the transportation system and are essential to meeting regional goals.

3.3 Regional network visions, concepts and policies: This section provides the vision, network concepts, and policies and policy maps for regional street design and placemaking, the regional – motor vehicle, transit, freight, pedestrian and bicycling networks, and for transportation system management and operations, transportation demand management, and emerging technology.

3.1 REGIONAL TRANSPORTATION SYSTEM COMPONENTS

WHAT'S CHANGED? RTP staff moved a graphic of the transportation system networks to Section 3.3 to better link it to the network maps and policies.

The policies in this chapter apply to the regional transportation system of the greater Portland region. 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 in **Section 3.2.1**.

Regional transportation system components

The following facilities and areas make up the regional transportation system. Overarching system policies in Section 3.2 apply to these facilities.

1. Planned and existing throughways, highways and arterials shown on the regional motor vehicle network map, including:
    - All state-owned transportation facilities: interstate, statewide, regional and district highways and their bridges, overcrossings and ramps.
    - All city- or county-owned arterial roadways and their bridges.
2. All streets and transportation facilities, including bicycle and pedestrian facilities, within 2040 centers, corridors, industrial areas, employment areas, main streets and station communities shown on the 2040 Growth Concept map.
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).

The RTP designates these facilities 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.

3.2 OVERARCHING SYSTEM POLICIES

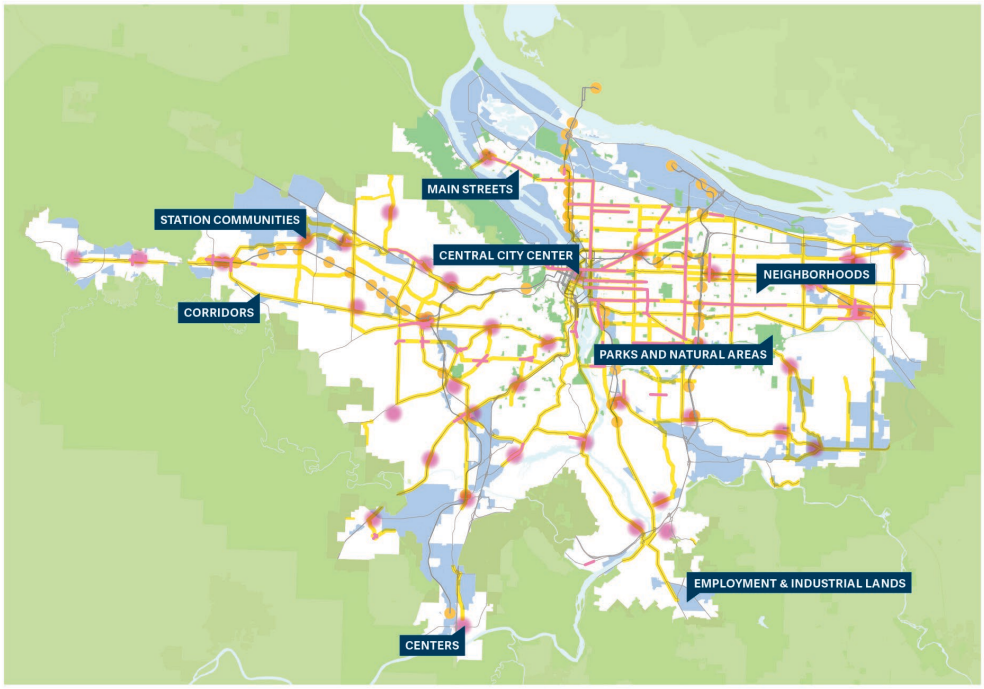
This section defines regional transportation system policies related to land use, transportation equity, safety, climate protection and resiliency, mobility, and pricing. These policies apply to the regional transportation system and to the networks in **Section 3.3.**

3.2.1 2040 Growth Concept – an integrated land use and transportation vision and strategy

WHAT'S CHANGED? Section 3.2.1 is a new section on the 2040 Growth Concept. RTP staff propose moving the information in this section from Chapter 2 into this chapter. No changes have been made to the text that was in Chapter 2. Figure 3.1 will be replaced with the most recently amended version of the 2040 Growth Concept map.

In 1995, the greater Portland region adopted the 2040 Growth Concept, the long-range strategy for managing growth that integrates land use and transportation system planning to preserve the region's economic health and livability in an equitable, environmentally sound and fiscally responsible manner.

Figure 3-1 Growth Concept – an integrated land use and transportation vision



Shown in **Table 3.1**, the 2040 Growth Concept includes land use and transportation building blocks that express the region's aspiration to incorporate population growth within existing urban areas as much as possible and expand the urban growth boundary only when necessary. It concentrates mixed-use and higher density development in urban centers, station communities,

corridors and main streets that are well served by transit. It envisions a well-connected street network that supports biking and walking for short trips. Employment lands serve as hubs for regional commerce and include industrial land and freight facilities for truck, marine, air and rail cargo sites that enable goods to be generated and moved in and out of the greater Portland region. Freight access to industrial and employment lands is centered on rail, the freeway system and other road connections.

Implicit in the 2040 Growth Concept is the understanding that compact development is more affordable, sustainable, livable and fiscally responsible than urban sprawl, and will help reduce the region's carbon footprint. Increased pedestrian and bicycle access and new transit and road capacity are needed to achieve the 2040 Growth Concept vision and support the region's economic vitality.

Transportation and the economy are closely linked and investments that serve certain land uses, or transportation facilities may have a greater economic return than others. Focusing transportation investments and other strategies to support the gateway function of our region's transportation system. This means ensuring reliable and efficient connections between intermodal facilities and destinations within and outside the region to promote the region's function as a gateway for trade and tourism.

3.2.1.1 2040 Growth Concept Land-use Design Types

The 2040 Growth Concept land uses, called 2040 Design Types, are arranged in a hierarchy. Regional Transportation Plan (RTP) investments are typically focused in the primary and secondary land uses, referred to as 2040 Target Areas. These are the areas expected to absorb a large share of the region's future growth. The hierarchy also serves as a framework for prioritizing RTP investments. Table 3-1 lists the 2040 design types based on this hierarchy.

Table 3-1 Growth concept and land use design

2040 Target Areas		
Primary land uses	**Secondary land uses**	**Other urban land uses**
• Portland central city • Regional centers • Industrial areas • Freight and passenger intermodal facilities	• Employment areas • Town centers • Station communities • Corridors • Main streets	• Neighborhoods
		Other land uses outside UGB
		• Urban reserves • Rural reserves • Neighbor cities

Different parts of the region are at different stages of implementing the 2040 Growth Concept. As a result, different areas may have different transportation investment needs and priorities that will require substantial public and private investment over the long-term.

Table 3-2 Priority infrastructure investment strategies

Stage of Development	**Developed Areas** Built-out areas, with most new housing and jobs accommodated through infill, redevelopment and brownfields development.	**Developing Areas** Redeveloping and developing areas, with most new housing and jobs being accommodated through infill, redevelopment and greenfield development.	**Undeveloped Areas** More recent additions to the urban growth boundary, with most new housing and jobs accommodated through greenfield development.
Infrastructure Investment Strategies	Operations, maintenance and preservation of existing transportation assets.	Operations, maintenance and preservation of existing transportation assets.	Operations, maintenance and preservation of existing transportation assets.
	Managing the existing transportation system to optimize performance for all modes of travel.	Preserving right-of-way for future transportation system.	Preserving right-of-way for future transportation system.
	Leveraging infill, redevelopment and use of brownfields.	Managing the existing transportation system to optimize performance for all modes of travel.	Providing a multimodal urban transportation system.
	Addressing bottlenecks and improving system connectivity to address barriers and safety deficiencies.	Leveraging infill, redevelopment and use of brownfields	Managing new transportation system investments to optimize performance for all modes of travel.
	Providing a multimodal urban transportation system.	Providing a multimodal urban transportation system.	Focusing on bottlenecks and improving system connectivity to address barriers and safety deficiencies.
	Completing local street connections needed to complement the arterial street network.	Focusing on bottlenecks and improving system connectivity to address barriers and safety deficiencies.	Completing local street connections needed to complement the arterial street network.
		Completing local street connections needed to complement the arterial network.	

3.2.2 Transportation Equity Policies

WHAT'S CHANGED? RTP staff proposed the following changes:

- Moved equity policies up in the chapter to directly follow the 2040 Growth Concept, to lead with equity.
- Consulted with staff in Metro's Diversity, Equity and Inclusion department to review the Equity policies and develop suggested revisions, as directed by the 2023 RTP work plan.
- Numbered equity actions to make them easier to reference.

The Regional Transportation Plan (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 marginalized communities, regardless of race, language proficiency, income, age, or ability.

Defining terms

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 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

The policies in this section provide direction to Metro, working in partnership with marginalized communities, jurisdictions, and other partners, to prioritize racial and transportation equity in regional transportation planning and decision-making.

Why is a focus on racial equity important?

The goal of a racial equity focus is to reach a time when we no longer use race to predict life outcomes, and outcomes for all groups are improved. In the transportation context, this means addressing and closing the disparities gap for 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.

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.[1] This, in turn, will allow communities 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 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.[2]

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.[3]

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.

1 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

[2] 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.

[3] https://www.oregonmetro.gov/sites/default/files/2016/11/15/Strategic-plan-advance-racial-equity-diversity-inclusion-exec-summary-17063-20160613.pdf

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.

3.2.2.2 Regional Transportation Plan equity focus areas

The Regional Transportation Plan (RTP) focuses on three 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 Incomes – Persons with incomes equal to or less than 200% of the Federal Poverty Level

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 3-2 shows Equity Focus Areas, which are areas with double the regional average density of any one of the three groups listed above. The RTP directs certain investments toward these areas where they can benefit as many people in need as possible. More detail on how Metro created this map and on transportation equity in the region can be found in the Needs Assessment in Chapter 4.

Figure 3-2 Regional equity focus areas map

3.2.2.3 Transportation equity policies

The Transportation Equity policies in this section aim to eliminate transportation-related disparities and barriers[4] identified by marginalized communities as priorities to address through the RTP and regional transportation planning and decision-making processes.

Policy 1	**Embed equity into the planning and implementation of transportation projects, programs, policies, and strategies to achieve equitable outcomes for marginalized communities, particularly communities of color and people with low incomes.**
Policy 2	**Ensure investments in the transportation system support community stability by anticipating and minimizing the effects of displacement and other affordability impacts on 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 marginalized communities, with a focus on communities of color and people with low income.**
Policy 4	**Meaningfully engage communities of color and other marginalized communities to participate in the development and implementation of transportation plans, projects and programs.**
Policy 5	**Collect and assess qualitative and quantitative data to understand the transportation-related disparities, barriers, needs and priorities of communities of color and other 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 marginalized communities and the extent disparities are being eliminated.**
Policy 7	**Create living-wage career pathways for people of color and women into the construction industry and support the growth and participation of women and people of color owned firms on capital projects throughout the transportation system.**

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. These policies are consistent with Chapter 660

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

Division 12 of Oregon Administrative Rules (OAR).[5] These rules include additional guidance for equitable transportation planning and decision-making.

Because the Regional Transportation Equity Policies do not have a separate topical plan, specific implementing actions are 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 achieve equitable outcomes for marginalized communities, particularly communities of color and people with low incomes.

Transportation mobility and accessibility plays a significant intersectional role in reducing disparities, but historically, its development and operation has contributed to unequal benefits. 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, the development of the interstate freeway system displaced communities of color and lower-income homes, most notably the African American community.

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. Equity considerations must reflect the priorities these marginalized communities 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 they can advance equity. 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. A variety of actions can guide agencies in embedding equity into transportation processes. Many transportation agencies have organizational level equity policies that can support the implementation and incorporation of these actions. For example, existing policies and structures can support participation mechanisms, such as creation of committees in ways that address power imbalances among groups and stipends for community participation in decision making processes.

To implement Transportation Equity Policy 1 regional partners should take the following actions:

[5] See OAR 660-012-0130 (Decision-Making with Underserved Populations), OAR 660-012-0125(Underserved Populations) and OAR 660-012-0135 (Equity Analysis).https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3062

1. Examine the structure of decision-making processes, identify who participates (or doesn't) in decision making and how their input is linked to the outcomes of the decisions.
    a. Change the design of decision-making processes to increase access and opportunity to those who have been previously excluded. This includes prioritizing representation from Black, Indigenous and People of Color communities and equity leaders.
    b. Provide opportunities for direct interaction with decision makers and shift power inequities.
2. Use specific methods, analysis and tools in transportation planning and decision-making processes to eliminate exclusionary practices. This includes using tools, analysis and methods to check implicit bias and assess more clearly power dynamics in the effort, providing distinct participation mechanisms for those most impacted, considering who benefits and who is most impacted by decisions, and ultimately shifting the way decisions are made.
    a. Data collection and analysis: Assessment of current community conditions that may be impacted by the proposed decision with attention to demographics and historical, economic, and environmental conditions.
    b. Social and economic power analysis: A social power analysis is a tool that can be used to determine who has the decision-making power or influence, historically and today, to inform this decision, as well as who has the power to change this decision. This analysis is supported by data collection that consider who is positively and negatively affected by the proposed decision.
    c. Appointed representation: Appointed representation is a participation mechanism for appointing individuals from specific social groups who have the least influence and are most impacted by the proposed decision.
    d. Decision mapping: This tool supports the design of a process to include individuals and groups that lack access and opportunity to participate in decision making. Conceptual mapping of a process is used to determine how and when individuals or a group may be included in decisions and how their input is linked to outcomes. A key aspect of this is identifying decision points to inform how to situate participants to influence decisions rather than serve as a review body.
3. Reflective questions: Incorporating specific questions into decision making processes help address implicit bias and shift the way we make decisions. These may include questions such as: Who benefits and who is burdened by this decision? In addition, more extensive and in-depth questions may be tailored to the specific policies and programs.

Transportation Equity Policy 2. Ensure investments in the transportation system support community stability by anticipating and minimizing the effects of displacement and other affordability impacts on 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 certain transportation projects, such as a new rail line or a high-quality bicycle/pedestrian trail, can increase surrounding property values and contribute to displacement. 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. 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 marginalized communities at risk, and imbed funding commitments.

To implement Transportation Equity Policy 2 regional partners should take the following actions:

1. Plan capital transportation investments to include a compendium of strategies to avoid and minimize involuntary displacement.
2. Demonstrate how intersectional issues of housing affordability and displacement are being addressed proactively in plans and programs prior to capital investment in transportation infrastructure.
    a. In compendium, look at the land use solutions and survey what is necessary in land use policy to avoid and mitigate involuntary displacement.
    b. 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.
3. 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 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 marginalized communities include affordability, safety, access and environmental health. 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.

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 caused by a pervasive system which erected barriers and separated the level of benefit for certain communities over others. Eliminating the disparities 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 marginalized communities see the benefits, but the region will see benefits spread across all communities.

To begin to focus on the disparities, 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 RTP, engagement with 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 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 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*.

To implement Transportation Equity Policy 3 regional partners should take the following actions:

1. Seek opportunities to restore Black, Indigenous and people of color (BIPOC) and other marginalized communities harmed by past transportation decisions through collaborative re-investment and removal of harmful infrastructure.
2. Commit to and focus on systematically addressing disparities for marginalized communities, and measure and track progress.

3. Actively question and engage impacted communities to understand how the plan, program, policies, strategies, or action being undertaken contributes to reducing and eliminating disparities.
4. Actively recognize and put aside implicit partialities and biases.
5. More specifically for the outcomes of safety, access, affordability and public health, prioritize the following:
    a. 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.
    b. 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 marginalized communities.
    c. Implement the Regional Travel Options Strategy, including the new Safe Routes to School program, with emphasis to support new partnerships with organizations that serve marginalized communities.
    d. Prioritize the safety of the transportation system, especially in marginalized communities, but focus on addressing the systemic safety issues on high injury corridors which marginalized communities' traverse. Focus on increasing safety in high-risk locations and on high injury corridors that coincide with higher residential concentrations of marginalized communities.
    e. 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 marginalized communities. Place an emphasis on connecting marginalized communities to middle-wage employment opportunities.
6. Focus on different transit solutions transit that serve marginalized communities.
    a. This may include creative solutions such as community and job connector shuttle services.
    b. Focus increase in service on transit routes that serve a significant portion of marginalized communities.
    c. While not the most productive and efficient from a strict transit management view, consider coverage transit service routes to support marginalized communities as they navigate the shifting housing affordability dynamics.
    d. Support special needs transportation providers.
7. Complement affordable housing and transit-oriented development to support the integration of land use and transportation where marginalized communities have the ability to benefit.

a. Ensure the long-term sustainability of programs that make transportation affordable, including the adult low-income fare and student pass programs on transit.

b. Complement and cross-implement the strategies in the *Coordinated Transportation Plan for Seniors and People with Disabilities* in Appendix G.

8. Document existing disparities in exposure to transportation related air pollutants and evaluate whether projects reduce or exacerbate disparities.

Transportation Equity Policy 4. Meaningfully engage communities of color and other marginalized communities to participate in the development and implementation of transportation plans, projects and programs.

To achieve an equitable transportation system that eliminates disparities and barriers experienced by marginalized communities, meaningful engagement is critical to understand the perspectives and experiences of 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.

To implement Transportation Equity Policy 4 regional partners should take the following actions:

1. Reduce the barriers to participation in public processes for these communities.
    a. 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).
2. Identify funding and contracting opportunities for community outreach liaisons and community based organizations who are trusted members of marginalized communities and to help facilitate relationship-building, conversations, and meaningful engagement.
3. Dedicate resources that toward meaningfully engaging marginalized communities in planning and decision-making processes.
4. 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.

5. Look to Climate Friendly Equitable Communities (CFEC) for guidance/rules on inclusive decision making.

Transportation Equity Policy 5. Collect and assess qualitative and quantitative data to understand the transportation-related disparities, barriers, needs and priorities of communities of color and other marginalized communities.

Conventional data sources and analysis practices do not always capture and articulate the nature of disparities experienced by different marginalized communities. While national datasets or statewide statistics are able to provide a picture of disparities gaps in local data and information impacts the ability to assess the performance of transportation plans, programs, and policies on the outcomes and priorities identified 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 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 marginalized communities. The information collected helps to better represent and articulate the disparities experienced and needs of 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 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.

To implement Transportation Equity Policy 5 regional partners should take the following actions.:

1. Collect data in a manner that facilitates looking at outcomes with an equity lens.
    a. Collect localized disaggregated data.
    b. Emphasize collecting as much qualitative data as quantitative data.
    c. Collect data that is meaningful to marginalized communities.
2. Appropriately resource data collection and assessment to focus on outcomes with an equity lens.
    a. 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.
3. Appropriately resource the development of a disparities baseline looking at measures of affordability, safety, access, and environmental health to understand disparities of marginalized communities, in particular people of color.

4. Conduct meaningful engagement with marginalized communities to supplement and ground truth data and technical analysis findings.

Transportation Equity 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 marginalized communities and the extent disparities are being eliminated.

To know and to be accountable to whether transportation plans, programs, policies and strategies are making progress towards eliminating disparities, particularly in access, safety, affordability, community health and any other transportation-related priority identified by 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.

To implement Transportation Equity Policy 6 regional partners should take the following actions:

1. Resource evaluation methodology development appropriately.
    a. Disaggregate and evaluate data system-wide, as well as by individual project, program or community.
    b. Let the evaluation be led, guided and verified by marginalized communities and their lived experiences.
    c. Ground truth evaluation results through engagement.
    d. Utilize both qualitative and quantitative data in evaluation.
2. Be willing to use non-standard forms of evaluation.
    a. Clearly state assumptions and recognize what the method may be testing and the limitations of the evaluation.
3. Set up a long-term feedback loop of evaluation and monitoring.
    a. 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. Create living-wage career pathways for people of color and women into the construction industry and support the growth and participation of women and people of color owned firms on capital projects throughout the transportation system.

To Be ADDED: A call-out box that provides background on Construction Career Pathways, and/or link to the Construction Career Pathways webpage.

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. At the same time the construction industry is grappling with costly workforce shortages driven by an aging workforce and reality that women and people of color face significant barriers in entering the industry and building their careers.

Construction has 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, but it will also directly address issues of poverty and economic mobility within communities of color and working families in the region.

Transportation infrastructure projects 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 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 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 marginalized communities.

Metro's Construction Career Pathways is a coordinated strategy for growing and diversifying the region's construction workforce. This effort centers on a shared policy framework that provides a roadmap for public agencies to work with labor unions, workforce development organizations and contractors to create opportunities for women and people of color in the construction workforce. As more public agencies in the region join the effort, each agency's individual workforce development efforts are better positioned to succeed in cultivating a labor pool that strengthens their community and reflects the populations they serve.

To implement Transportation Equity Policy 7 regional partners should take the following actions:

1. Formalize reporting of minority, women-owned and disadvantaged businesses construction contracts and workforce diversity utilization on all Metro-funded transportation projects.

2. 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.
3. 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.
4. Develop mechanisms to incentivize partners to pursue recruitment and retention strategies on transportation projects that help grow and diversify the construction workforce.
5. Encourage apprenticeships with marginalized communities as part of contracts.
6. 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 Safety and Security Policies

WHAT'S CHANGED? No changes to the policies in this section are proposed.

Eliminating traffic related deaths and life changing injuries (often defined as fatalities, and severe or serious crashes) and increasing the safety and security of the transportation system is a top priority of the Regional Transportation Plan (RTP), 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.

What do we mean by safety and security?

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.

3.2.3.1 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.[6] Key findings from the analysis of crash data from 206-2020 can are in Chapter 4 of the RTP. More detailed findings are in the 2018 Metro State of Safety Report and the Safety Strategy.[7]

The Safety Strategy recommends **six strategies** to support achieving the region's adopted Vision Zero target for 2035, shown in Figure 3-3. Each strategy includes specific actions. The strategies

[6] The Regional Transportation Safety Strategy, adopted in December 2018, is a topical plan and appendix of the Regional Transportation Plan.

[7] 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.

and actions are evidence-based and were identified by the safety work group 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 3-3 Regional transportation safety strategies

3.2.3.2 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 3-4 Components of the Safe System approach

Source: Metro

Governments using the Safe System approach focus 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. Agencies using the Safe System approach have been more effective in reducing traffic deaths and severe injuries than more traditional approaches that focus on all crashes.[8]

The Safe System approach focuses on the following key guiding principles that shape how stakeholders address transportation safety (Figure 3-5).

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

Figure 3-5 Guiding principles of the Safe System approach

Source: Metro

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

3.2.3.3 Regional high injury corridors and intersections

Figure 3-6 shows the map of regional high injury corridors overlapping with Equity Focus Areas. Metro and regional partners identify regional high injury corridors and intersections to help prioritize safety near term investments. Metro will update this map every five years. In the interim, transportation agencies and stakeholders may identify other safety investments that warrant priority based on other data and analysis. The needs assessment in Chapter 4 provides more detail on how this map was created, along with other safety data.

Figure 3-6 Regional high injury corridors and intersections

Regional High Injury Corridors and Intersections

Top 1% High Injury Intersections
Top 5% High Injury Intersections
High Injury Corridors
Central city; Regional center; Town center
Employment/Industrial
County boundary
Urban growth boundary
Metropolitan Planning Area

See inset map

Inset map

0 Mile 1

0 5 10 Miles

Sources: ODOT and Metro

2/13/2023

2023 REGIONAL TRANSPORTATION PLAN

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3.2.3.4 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.

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, and maintenance of the transportation system, with a focus on reducing vehicle speeds.**
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 communities use enforcement, 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, and maintenance of the transportation system, with a focus on reducing vehicle speeds.

This policy requires that stakeholders integrate transportation safety 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 are 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.

Transportation agencies have proven that the Safe System approach reduces 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.

3.2.4 Climate Leadership Policies

WHAT'S CHANGED? RTP staff reviewed the policies and propose the following changes:
Three policies were edited to reflect the top three climate smart strategy priorities identified by JPACT and the Metro Council during a joint workshop in November 2022.

The TSMO parking management policy was deleted to avoid duplication with Climate Policy 7, which was slightly revised to incorporate some of the TSMO policy. The parking policy language from the TSMO policy was used to replace the Climate Smart parking policy consistent with new Climate-Friendly and Equitable Communities (CFEC) rules.

Other changes to this section reflect the work done since the 2018 RTP in the Emergency transportation Routes phase 1 project, including an updated map of regional emergency transportation routes and State Seismic lifeline routes.

These policies are focused on climate mitigation. Additional work is needed to draft climate resilience related 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.

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.

3.2.4.1 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, 2017, and 2022.

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.

3.2.4.2 Climate Smart Strategy policies

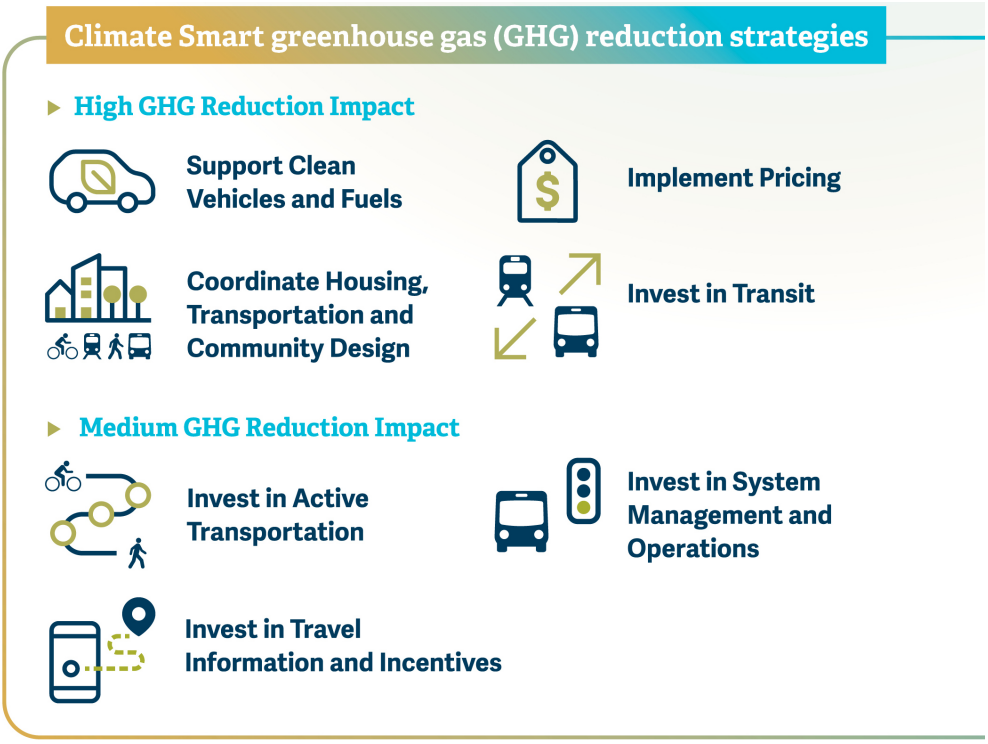
The Climate Smart Strategy is built around nine policies to demonstrate climate leadership by reducing greenhouse gas emissions from cars and small trucks while making our transportation system safe, reliable, healthy and affordable. The policies listed below complement other RTP policies related to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

Policy 1	**Implement adopted local and regional land use plans and strategies to reduce vehicle miles traveled per capita to meet regional targets.**
Policy 2	**Prioritize transportation investments that make transit convenient, frequent, accessible and affordable to significantly increase transit ridership.**
Policy 3	**Prioritize transportation investments that make biking and walking safe and convenient to significantly increase walking and bicycling mode shares.**
Policy 4	**Make streets and highways safe, efficient, reliable and connected.**
Policy 5	**Prioritize use of 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 policies and strategies.**
Policy 6	**Provide information and financial incentives to expand the use of 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 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.**
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 goal and implementation of the climate smart strategy.**

3.2.4.3 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.



Source: Metro

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.

3.2.4.4 Climate Smart Strategy monitoring

The Climate Smart Strategy also contained performance measures and performance monitoring targets for tracking implementation and progress. 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.

In 2018, **Appendix J** reports on implementation progress since 2014, and found the RTP 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. Additional funding and prioritization of Climate Smart Strategy investments and policies that substantially reduce greenhouse gas emissions will be needed.

3.2.4.5 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. 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 (CSZ) earthquake.

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.

In 2021 the Oregon Transportation Systems project assessed the resilience of Oregon's roadway, airport, and maritime port transportation system to a Cascadia Subduction Zone (CSZ) earthquake, and the ability of those system to support post-disaster response and recovery. A key finding is that very few airports and marine ports have conducted seismic vulnerability analyses of their facilities. More analysis is needed to better understand and enhance the resilience of these facilities in order to more efficiently and effectively support incident response.

Between 2019 and 2021, Metro and RDPO partnered to update the Regional Emergency Transportation Routes (RETR) for the five-county Portland-Vancouver metropolitan region (last updated in 2006). Over 300 miles of new routes were added. Regional Emergency Transportation Routes are travel routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris-removal. These routes would be used to move people, resources, and materials, such as first responders (e.g., police, fire and emergency medical services), patients, debris, fuel and essential supplies. These routes are also expected to have a key role in post-disaster recovery efforts.

The project developed a regionally accepted network that provides adequate connectivity to critical infrastructure and essential facilities, as well as the region's population centers and vulnerable communities. Over 75% of state and regional critical infrastructure and essential facilities are connected. Partners have established a comprehensive regional GIS database and online RETR viewer for current and future planning and operations. The data and on-line viewer provide valuable resources to support transportation resilience, recovery, and related initiatives in the region. **See Figure 3-7** which shows a map of the RETRs and State Seismic Lifeline (SSL) routes. Regional partners identify these routes to help prioritize them for near term investment.

Figure 3-7 Regional emergency transportation routes (ETR) map

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

- Partner with the RDPO on a second phase of the Regional ETR update to prioritize routes and develop operational guidelines for owners and operators. See Chapter 8 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

Regional Emergency Transportation Routes

Regional Emergency Transportation Routes
Oregon State Seismic Lifeline Route
Central city; Regional center; Town center
Employment/Industrial
County boundary
Metropolitan Planning Area
Urban growth boundary

See inset map

Inset map

0 Mile 1

0 5 10 Miles

Source: Metro

2023 REGIONAL TRANSPORTATION PLAN

Metro

2/13/2023

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.

3.2.5 Pricing Policies

WHAT'S CHANGED? This is a new policy section. The draft regional pricing policies reflect significant discussion and input from Metro technical and policy advisory committees and the Metro Council from January to Oct. 2022. A memo documenting the Sept.-Oct. 2022 feedback and policies reflected below is available on the project website.

Transportation pricing is a tool that can help our region reach its goals of better, faster transit, cleaner air, fewer hours sitting in traffic, and more equitable access to jobs and opportunities. To realize these outcomes, pricing programs will need to be carefully designed to ensure the process to develop them is equitable, revenue is reinvested equitably and to support regional goals, diversion on local streets is mitigated, and pricing strategies are interoperable throughout the region.

What is transportation pricing?

Transportation pricing is the use of a pricing mechanism, such as tolls or parking fees, to reduce traffic congestion and greenhouse gas emissions, encourage a shift to travel via different modes, a different route, or a different time of day, and raise revenue for transportation investments and mitigation for impacts resulting from pricing.

While parking pricing has proven to be an effective strategy in the region for many years, cordons, roadway pricing, and other pricing strategies are only beginning to be discussed and implemented as a strategy in the greater Portland region. However, these strategies have been effective in cities around the world. For many leaders and government agencies in the Portland metro region recognized pricing as a needed, high-impact, tool in the 2018 Regional Transportation Plan (RTP) and other plans.[9]

Table 3-3 outlines which local, regional, and state agencies could potentially implement various types of pricing strategies based on Oregon state law. Other federal, state, or local laws may provide additional guidance or restrictions on the use of pricing and the use of pricing revenues.

[9] 2018 Regional Transportation Plan, TSMO Strategic Plan (2010), Climate Smart Strategy (2014), The Federal Congestion Management Process, 2021 City of Portland Pricing Options for Equitable Mobility Final Report, 2018 Oregon Department of Transportation Value Pricing Feasibility Analysis.

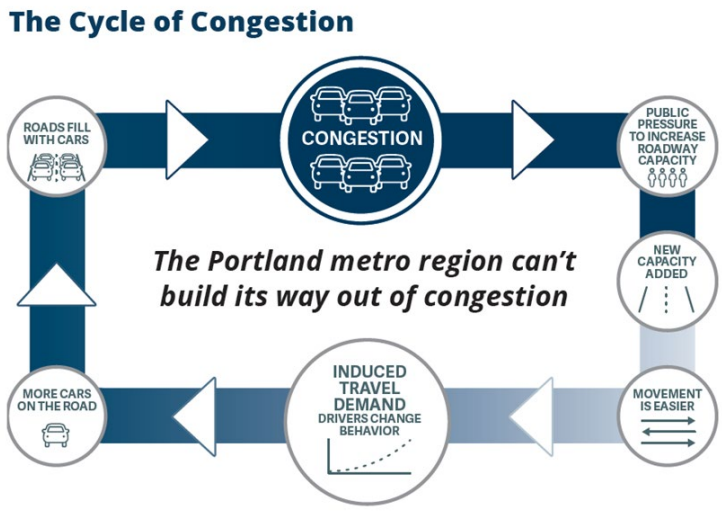
Table 3-3 Pricing and Implementing Agency

Type of Pricing	Definition	Implementing Agency
Road User Charge / Vehicle Miles Traveled Fee	Drivers pay a fee for every mile they travel	State DOT, potentially local roadway authorities
Cordon Pricing	Drivers pay a fee to enter an area, like downtown Portland (and sometimes pay to drive within that area)	City, County
Roadway Pricing and Tolling	Drivers pay a fee or toll to drive on a particular road, bridge, or highway	Local Roads: City, County Highways and Freeways: State DOT
Parking Pricing	Drivers pay to park in certain areas	City, County, Transit Agency (park-and-rides)

Why is pricing an important strategy for our region?

Congestion is a problem in the Portland metro region as outlined in the RTP Needs Assessment. Changing travel patterns and a growing population mean more traffic and less freedom to travel reliably around the region. Congestion can also have significant economic, social, and environmental impacts.

- Growing single occupancy vehicle miles traveled (VMT) leads to congestion.
- Greenhouse gas emissions are on the rise.
- Congestion impacts Metro's Equity Focus Areas most significantly.
- Travel patterns for people and goods are unreliable due to congestion.
- Our region is growing.



How can pricing help our region?

Transportation investments in the Portland metro region have a long history of contributing to racial inequity and neighborhood displacement. Decades ago, public agencies planned and built new highways that cut through Black communities, splitting neighborhoods, and contributing to poor air quality, noise pollution and safety issues. Transit investments have also been made without complementary affordable housing strategies, leading to gentrification and further displacement.

Today, while the region's residents all feel the impacts of congestion, historic inequities in the transportation system amplify impacts on people of color and low-income people:

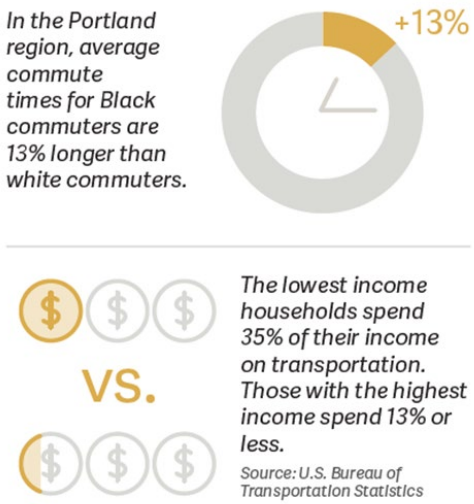
- Housing costs are increasing faster than incomes, pushing those with lower incomes to seek housing further away from the center of the region and making travel distances longer for people of color and low-income people.
- Communities of color and low-income communities have longer commutes that are made slower and more unreliable when roadways are congested.
- Major roads and freeways often run through communities of color and low-income communities, resulting in disproportionately high rates of air pollution, chronic illnesses, and traffic-related injuries and fatalities.

Pricing can be a key tool for jurisdictions as they seek to meet state, regional, and local goals around mobility, climate, safety, and equity.

Pricing that is designed and implemented through an equity and climate change lens has the potential to transform transportation in our region in a variety of ways. While pricing programs introduce new costs to users, they also lead to more efficient use of streets and highways and can help address current and historic inequities borne by people of color and people with low incomes.

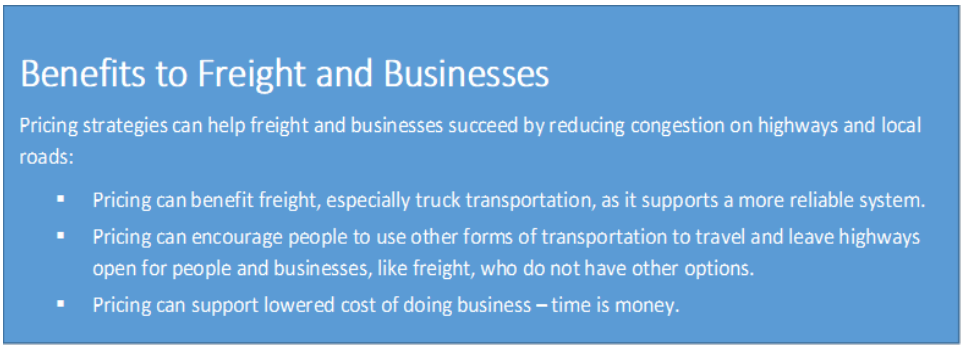
Pricing has been shown to encourage use of transit or other modes and reduce overall vehicle miles traveled (VMT). Lower VMT results in decreased congestion, reduced travel times for personal vehicles, freight and buses, lower greenhouse gas emissions, and localized air quality impacts. Pricing is more likely to be successful in areas where transit service elements are already well established and is improved in conjunction with pricing.

Pricing can also have positive impacts on safety. A combination of lower VMT as a result of pricing and reinvestment of pricing revenue in projects that increase safety can, in the long term, lead to decreases in crashes and injuries in and around priced facilities or areas.



Additionally, for many jurisdictions, pricing may be identified as a tool to raise revenue for specific projects and be a key element of a funding plan. This could include, for example, replacement of an aging bridge, or investments in multimodal infrastructure and transit supportive elements or amenities. However, in addition to raising revenue for specific projects, a program can successfully meet state, regional, and local goals by:

- **Reinvesting revenue where it matters most.** If designed thoughtfully, pricing programs that have built equity into the program can introduce progressive fee structures and reinvest revenue in the people and places that have historically been, and continue to be, the most negatively impacted.
- **Reinvesting revenue to support our region's goals.** Revenue collected from pricing programs can be reinvested to enhance transit service elements and access, safety improvements, and walking and bicycling networks. It can also be used to provide incentives and subsidies to increase the number of people biking, walking, and taking transit for more trips. With properly designed pricing programs, our region can have better, faster transit, cleaner air, fewer hours sitting in traffic, and more equitable access to jobs and opportunities.



3.2.5.1 Best Practices for Revenue Reinvestment

Equitable revenue reinvestment is a critical consideration from the outset of a pricing program. Reinvestment strategies should be guided by the purpose of the program, the expected costs and benefits, and input from community members impacted by the program. Revenue reinvestment should be focused on neighborhoods that do not have or could lose access to the priced facility or area. Increasing access to the priced facility or area, especially for places with limited access today or places that would see reduced access without reinvested revenues, should be a focus. Part of the revenue from pricing may need to be spent on operations, maintenance, and facility investment.

Key considerations related to revenue reinvestment include:

- Reinvestment should be prioritized in areas designated as Metro's Equity Focus Areas most affected by pricing programs.
- Revenues collected through the pricing program should be reinvested in a manner that helps meet state, regional, and local goals related to reductions in greenhouse gas emissions and congestion while improving mobility and safety.
- Revenue should not be reinvested in infrastructure solely for single occupancy vehicles but should be invested to improve the entire multimodal transportation system.
- Revenue should be reinvested in the region.

After paying for the administration and/or operating costs of a pricing program, revenue could be reinvested in several ways (Table 3-4). Implementing agencies will need to consider any state constitutional restrictions to revenue reinvestment, or other limitations based on federal or state funding or program approvals, based on the type of pricing program established. Agencies may use pricing to raise money for other things, like road improvements, seismic operations, and operations and maintenance.

Table 3-4 Potential Options for Revenue Reinvestment

Category	Description	Target Area or Population
Transit		
Infrastructure & speed and reliability improvements	Improved facilities, stops, passenger amenities, transit priority treatments, express services, expanded routes, and similar improvements	Regional Local communities especially equity areas, for example, Metro's Equity Focus Areas
Operation and maintenance	Operation and maintenance of existing and future transit assets and services	Regional
Active Transportation		
Access to priced facility or area	Improved bike, pedestrian, or micromobility access to transit or priced facility or area directly	Regional From/to equity zones, for example, Metro's Equity Focus Areas
Neighborhood access	Improved bike, pedestrian, or micromobility access to transit or neighborhood activity centers such as shopping centers and employment hubs	From equity zones, for example Metro's Equity Focus Areas, to transit or neighborhood activity centers
First/last mile to key employment hubs	Improved bike, pedestrian, or micromobility access to employment hubs from transit	Regional
Diversion mitigation	Prioritize safety enhancements on the high crash network and transit service elements along areas impacted by diversion	Neighborhoods impacted by diversion
Mode Shift and Single Occupancy Vehicle Alternative Programs		
Commuter Credits	Benefit to users of the pricing system who swipe their transit card during peak hours rather than drive	Regional; higher subsidy for transit deprived communities and vulnerable populations
Transit subsidy	Free or discounted transit pass or cash on transit card, i.e., TriMet's Fare Relief Program	Regional; higher subsidy for transit deprived communities and vulnerable populations
Other programs	Electric vehicle (EV) carshare subsidy, bikeshare subsidy, micromobility subsidy, carpool	Regional; higher subsidy for transit deprived

	benefit, benefit to drivers of EV vehicles	communities and vulnerable populations
Priced Facility		
Operations and Maintenance	Operations and maintenance of priced road	
Infrastructure investment	For tolled facilities, designed to be paid for by the pricing revenue	

Potential Revenue Opportunities and Limitations

Depending on the pricing model, the use of revenue generated from a pricing program may be subject to legal limits. For example, Oregon Constitution Article IX Section 3a limits the use of revenue from taxes on motor vehicle use and fuel. The principle underlying this language is that special taxes paid only by highway users should be used only for highway purposes. Whether a particular pricing model is subject to this constitutional restriction is determined by Oregon courts on a case-by-case basis. Recently, the Oregon Supreme Court concluded that Article IX section 3a's limit on use of tax revenue does not apply to a privilege tax imposed on vehicle dealers for the privilege of engaging in the business of selling taxable motor vehicles at retail. The Court found that the privilege tax was not based on the status of motor vehicle ownership, but rather on the activity of selling motor vehicles. Jurisdictions considering pricing should review all potential legal limits and structure the pricing model with these limits in mind.

3.2.5.2 What state and regional pricing work is underway?

Pricing strategies are being considered in the greater Portland Metropolitan Region, within the City of Portland, and along the Multnomah Falls and the Waterfall Corridor area. They are being used to combat traffic congestion and greenhouse gas emissions. This section provides a high-level overview of statewide legislation and rulemaking related to pricing and describes how the revenue from pricing is intended to support infrastructure in the region.

State Legislation & Rulemaking

House Bill 2017: House Bill 2017 invested millions of dollars to improve Oregon's transportation network. Part of that funding was allocated to implementing tolling. This directed the Oregon Transportation Commission to implement traffic congestion tolls on I-5, I-205, and in the Portland Metro region.[10]

House Bill 3055: House Bill 3055 created flexibility in allocating $30 million per year of funds to projects listed in House Bill 2017 including I-5, Boone Bridge, and toll program implementation.

[10] https://www.oregon.gov/odot/tolling/Pages/About.aspx

HB 3055 directed that tolling should be used to manage travel demand and congestion, reduce greenhouse gas emissions, raise revenue, make improvements or fund efforts on the tollway and on adjacent, connected, or parallel highways, and minimize and mitigate impacts to underrepresented and disadvantaged communities. It also required that an equitable tolling strategy be implemented before tolls are assessed, and for a low-income toll report to be provided to the Joint Transportation Committee and Oregon Transportation Committee.[11, 12]

Low-Income Toll Report: House Bill (HB) 2017 provided direction to implement tolling on I-5 and I-205 in the Portland metro area, and ODOT's Toll Program was established to oversee state-operated toll projects and policies throughout the state. The Low-Income Toll Report for the Oregon Toll Program was developed by the Oregon Transportation Department (ODOT) at the direction of the Oregon Legislature. The report presents options for consideration to develop a low-income toll program as part of the Oregon Toll Program, including:

- Providing significant toll discounts for households with incomes equal to or below 200% of the federal poverty level
- Providing a smaller, more focused toll discount for households with incomes above 200% and up to 400% of the federal poverty level
- Using a verification process that leverages existing programs and further explores self-certification to quality for toll discounts

ODOT, in collaboration with the Oregon Transportation Commission, will identify specific benefits for people experiencing low incomes to ensure benefits are in place before tolling begins. The Equity and Mobility Advisory Committee (EMAC) helped inform the report.

2023 Oregon Highway Plan Toll Policy Amendment

In January 2023, the Oregon Transportation Commission adopted an amendment to Goal 6 of the Oregon Highway Plan, which had last been updated in 2012. The amendment updated state policies related to tolling and congestion pricing policy, including defining terms and types of road pricing and clarifying the need and goals for tolling and congestion pricing. It also updated language related to equity and climate goals and provided guidance on rate setting and the use of revenues. The amendment will guide multiple major toll projects in the Portland metro region, as well as statewide rulemaking and toll rate setting.[13]

Climate-Friendly and Equitable Communities

Parking reform is part of the Oregon Land Conservation and Development Commission's Climate-Friendly and Equitable Communities (CFEC) rulemaking. The reform decreased required parking mandates for new developments near frequent transit and for certain development types with the

[11] https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureAnalysisDocument/61936

[12] https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/HB3055/Enrolled

13 https://www.oregon.gov/odot/Planning/Documents/OHP_Goal_6_Policy.pdf

intent of reducing costs. This was accomplished by unbundling parking packages in developments, implementing parking maximums, and incentivizing active transportation travel options. This parking mandate reform aimed to decrease congestion by discouraging driving and parking. This rule was published on July 15, 2022, and enacted for new development as of July 2022 and for existing developments in 2023.[14] This reform also required that parking lots include solar power or trees, pedestrian-friendly infrastructure, and 50% of new residential parking spaces equipped with electric vehicle charging.[15]

Figure 3-8 Regional Mobility Pricing Project Map as of November 2022

Pricing Projects and Committees in the Portland Metro Region

ODOT I-205 Toll Project: ODOT is planning to toll drivers on I-205 near the Abernethy and Tualatin River Bridges. The revenue from these tolls will be used to continue the construction of I-205 Improvement Project past Phase 1A, which aims to decrease congestion, reduce greenhouse gas emissions, increase active transportation, and provide facilities that are resilient to

14 https://www.oregon.gov/lcd/CL/Documents/CFECOverviewImplementation.pdf

15 https://www.oregon.gov/lcd/LAR/Pages/CFEC.aspx

earthquake damage. As part of a 2018 RTP amendment for this project, ODOT agreed to a series of commitments that would address regional concerns related to the I-205 toll project. See Chapter 8 for additional information.

ODOT Regional Mobility Pricing Project: The purpose of the Regional Mobility Pricing Project (RMPP) is to use congestion pricing on I-5 and I-205 to manage traffic congestion on these facilities in the Portland, Oregon metropolitan area in a manner that will generate revenue for transportation system investments (Figure 3)[16]. The fees would vary depending on time of day, income level, and type of car and would help fund critical multimodal projects in the region.

ODOT / WSDOT I-5 Bridge Replacement: The Interstate Bridge Replacement Program plans to toll drivers crossing I-5 as part of the funding to finance a replacement bridge on I-5 between Portland and Vancouver. The new bridge is intended to address congestion, earthquake vulnerability, safety, impaired freight movement, inadequate bike and pedestrian paths, and limited public transportation. Revenue from the tolls would be used to fund construction, maintenance, and operation of the bridge and associated improvements. [17]

ODOT Equity and Mobility Advisory Committee

The Oregon Department of Transportation (ODOT)'s Equity and Mobility Advisory Committee (EMAC) was created to directly advise the Oregon Transportation Commission (OTC) on how tolls on Interstate 205 and I-5 can address impacts and realize benefits for populations that have been historically and are currently underrepresented or underserved by transportation projects. The committee was chartered to addresses the following areas: equitable engagement, transit and multimodal access, affordability and impacts to people experiencing financial hardship, and impacts to neighborhood health and safety. EMAC and the OTC have established Foundational Statements and a set of recommendations to guide equity in the development of the projects.

PBOT Pricing Options for Equitable Mobility

Portland Bureau of Transportation (PBOT)'s Pricing Options for Equitable Mobility (POEM) task force explored if and how new pricing strategies could be used in the City of Portland to improve mobility, address the climate crisis, and advance equity for people historically underserved by the transportation system. In October 2021, Portland City Council accepted the POEM Task Force final recommendation report. This recommendation report includes principles of pricing for equitable mobility, nearer-term pricing strategies, longer-term pricing recommendations, and a suite of complementary strategies to advance alongside pricing. The Pricing Strategies explored through POEM included prices on parking, prices on vehicle-based commercial services (e.g., private for-

16 https://www.oregon.gov/odot/tolling/SiteAssets/Pages/Regional-Mobility-Pricing-Project-Documents/RMPP_NEPA_Proposed_Action_November_2022.pdf

17 https://www.oregon.gov/odot/tolling/Pages/I-5-Tolling.aspx

hire trips and urban delivery), highway tolling, cordons or area pricing, and road usage or per-mile charges.[18]

Multnomah Falls and the Waterfall Corridor Timed-Use Permits

While outside of the metropolitan planning area, timed-use permits at Multnomah Falls and the Waterfall Corridor provide a useful example of innovative parking pricing. ODOT, Oregon State Parks, U.S. Forest Service, and Multnomah County required that personal vehicles pay for a timed-use permit to access Multnomah Falls and federal lands adjacent to the Waterfall Corridor. The permits were required from May 24 to September 5, 2022, during peak hours (9am to 6pm) when data has shown crowds are busiest. The parking pricing strategy was used to limit the number of personal vehicles that enter the parking lot for environmental, safety, and emergency response reasons. The fee does not apply to those entering the park through active transportation modes, before or after peak hours, and same-day passes. The fee was used to pay for the online pricing system and does not generate additional revenue for other improvements. The Waterfall Corridor Timed-Use permits apply to visitors that exit I-84 from exit 28 through exit 35, while the Multnomah Falls timed-use permit applies to visitors to Multnomah Falls.[1]

Federal Pricing Programs

Section 129 of Title 23 of the U.S. Code and the Value Pricing Program are examples of pricing strategies that have worked. Since pricing is new to the Portland area, these two federal examples show the value of pricing, and how pricing programs can evolve over time.

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.[19] A new provision within the Infrastructure Investment and Jobs Act is expanding tolling eligibility requirements.[20]

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.

Value Pricing Pilot Program

18 https://www.portland.gov/transportation/planning/pricing-options-equitable-mobility-poem

19 https://www.fhwa.dot.gov/ipd/tolling_and_pricing/tolling_pricing/section_129.aspx

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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 sought 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. Once all the federal requirements are met, implementing agencies can use the revenue for any Title 23 project, which is aimed at the Federal-aid highways.[21] See https://ops.fhwa.dot.gov/congestionpricing/value_pricing/

What did Metro learn from the Regional Congestion Pricing Study?

In 2021 Metro completed the Regional Congestion Pricing Study (RCPS). Directed by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council in the 2018 RTP, the study evaluated a variety of pricing strategies to better understand if the region could benefit from pricing. The study found that pricing can be an effective strategy for reducing drive-alone trips and overall VMT, but its impacts can vary widely by geography and demographics, as well as by what specific strategy is implemented and how it is implemented.

Metro used its travel demand model to conduct in-depth modeling and analysis to help regional policymakers understand the potential performance of different types of pricing tools (VMT fee, cordon, parking, and roadway pricing). Each scenario was analyzed for how well it performed relative to the four regional priorities (safety, equity, congestion, and climate) using performance metrics grounded in the 2018 RTP.

Summary of Key Findings

The RCPS demonstrated that pricing has the potential to help the greater Portland region meet the priorities outlined in the 2018 RTP, including reducing congestion and improving mobility, reducing greenhouse gas emissions, and improving equity and safety outcomes.

All four types of congestion pricing could help address congestion and climate priorities. All eight scenarios that were tested reduced the drive alone rate, vehicle miles traveled, and greenhouse gas emissions, and increased daily transit trips. In fact, the projected improvements were comparable to modeled scenarios with much higher investment in new transportation projects. However, the geographic distribution of benefits, impacts, and costs varied by scenario.

Traffic diversion, travel time savings, and costs to travelers varied by location and by congestion pricing tool. For example, the two roadway pricing scenarios, which evaluated a toll on all the region's freeways, identified significant traffic diversion onto the arterial network, even as volumes and delay on the freeways fell. Without changes, some scenarios would have disproportionate impacts on equity communities and key geographies.

Geographic distributions of benefits and costs can inform where to focus investments and affordability strategies. In-depth analysis will be necessary to understand benefits (who and where) and costs (who and where) of any future projects. The study also identified tradeoffs for implementing pricing scenarios. Overall regional transportation costs and individual traveler costs

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varied by scenario. All eight scenarios that were tested increased the overall cost for travel for the region, but some scenarios spread the costs widely while others concentrated them on fewer travelers. Those that spread the costs also had the highest overall cost for travel in the region and the highest revenue potential. Higher overall transportation costs equal higher revenue, which can allow for investment in improvements to address safety and equity concerns.

Pricing and Equity

Today's transportation system puts more burdens on people of color and people with low incomes. Gas taxes and motor vehicle fees are not tied to a driver's ability to pay. Households with lower incomes spend 22 percent more of their income on transportation than households with higher incomes. People of color and people with low incomes are more likely to use transit and more likely to live further from employment centers. They may also need to commute between more than one job. Increasing congestion negatively impacts transit speed and reliability as buses sit in traffic. This increases commute times for transit users. Federal and state funding prioritizes auto infrastructure over investment in transit, favoring people with higher means and access to a vehicle.

Today's Transportation Funding is Inequitable

Pricing can improve or harm equity in the region. A pricing program designed with the goal of improving equity, rather than attempting mitigations later, has the potential to produce positive outcomes. Outcomes are determined by the way funds are collected and where and in whom they are reinvested. The Revenue Considerations and Policy sections below describe methods that can be used to lead to equitable outcomes and strategic reinvestment into pricing programs. The Regional Congestion Pricing Study found that without changes some scenarios harmed equity by increasing costs and decreasing access. A thoughtful and community-focused approach will be necessary as our region continues to explore pricing options.

3.2.5.4 Pricing policies

Pricing policies apply to the planning, implementation, monitoring and evaluation of pricing programs and projects in the region, as defined in Section 3.1.

Policy 1	**Improve reliability and efficiency of the transportation network, reduce VMT per capita, and increase transportation options through congestion management, investments in transit, bike, and pedestrian improvements, and transportation demand management programs.**
Policy 2	**Center equity and affordability into pricing programs and projects from the outset.**
Policy 3	**Address traffic safety and the safety of users of all modes, both on the priced system and in areas affected by diversion.**
Policy 4	**Minimize diversion impacts created by pricing programs and projects prior to implementation and throughout the life of the pricing program or project.**
Policy 5	**Reduce greenhouse gas emissions and vehicle miles travelled per capita while increasing access to low-carbon travel options.**
Policy 6	**Coordinate technologies and pricing programs and projects to make pricing a low-barrier, seamless experience for everyone who uses the transportation system and to reduce administrative burdens.**

Pricing Policy 1. Mobility: Improve reliability and efficiency of the transportation network, reduce VMT per capita, and increase transportation options through congestion management, investments in transit, bike, and pedestrian improvements, and transportation demand management programs.

The Metro Regional Congestion Pricing Study found that pricing has the potential to help the greater Portland region improve mobility and manage congestion. Pricing programs should be designed and implemented to maximize benefits related to improved access to jobs and community places, shift to sustainable modes of travel, and overall affordability.

Investments in transit and transit-supportive elements have been shown to improve regional mobility, especially in terms of access to jobs. Future transit investments, and investments into other modal alternatives, should take into consideration the geographic distribution of low-income populations (who may have less automobile access), existing access to jobs via transit, people who commute outside of peak periods, and people who trip-chain (i.e.: making multiple stops during one trip, such as dropping children off at school on the way to work). Policymakers and future project owners and operators should consider how mobility improvements will be received by populations and areas that have been historically marginalized. Mobility improvements can be measured by reduced peak period travel times, reduced daily vehicle miles traveled (VMT), reduced percentage of total daily trips undertaken by drivers without passengers, increased number of total daily transit trips, and total vehicle hours of delay during peak PM periods.

To implement Pricing Policy 1, agencies developing pricing programs or projects should take the following actions:

1. Set rates for pricing at a level that will manage congestion, reduce VMT per capita, and improve reliability on the priced facility and in areas affected by diversion.
2. Collaborate with relevant state, regional, and local agencies and communities when setting, evaluating, and adjusting program or project specific goals.
3. Reinvest a portion of revenues from pricing into modal alternatives both on and off the priced facility that encourage mode shift and VMT reduction per capita. Examples include, but are not limited to, transit improvements, bicycle and pedestrian improvements, and improvements to local circulation.
4. Identify opportunities to partner with other agencies to fund or construct transit, bike, and pedestrian improvements. Work with transit agencies and other jurisdictional partners, including consideration of opportunities identified in the High Capacity Transit Strategy and Regional 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 pricing revenues due to revenue restrictions.
5. Consider non-infrastructure opportunities to encourage mode shift and reduce VMT per capita, including commuter credits, funding for transit passes, bikeshare and/or micromobility subsidies, partnerships with employer commuter programs, and carpooling / vanpooling. Consider higher benefits, subsidies, discounts or exemptions for people with low-income or other qualifying factors based on equity analysis.

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

The Metro Regional Congestion Pricing Study found that pricing strategies have the potential to help the greater Portland region improve racial equity and benefit marginalized communities. Our current transportation funding system is inequitable. Regressive funding sources such as fixed tax rates and fees disproportionately impact low-income motorists, and negative health impacts from high automobile reliance disproportionately harm BIPOC and low-income communities.

Pricing programs with an equity framework should aim to increase access to opportunity, provide affordable options, create healthier and safer communities, and reduce income inequality and unemployment. Pricing has the potential to offer a suite of affordability programs, such as rebates, exemptions, or other investments. Reinvestment should be prioritized in areas designated as Metro's Equity Focus Areas most affected by pricing programs.

Policymakers and future project owners and operators should carefully consider how the benefits and costs of pricing impact different geographic and demographic groups. If not conducted thoughtfully, pricing could compound past injustices and harm BIPOC and low-income communities. By focusing engagement at every step in the process on historically impacted residents, agencies can reduce harm and increase benefits. The policy illustrates how equity can be incorporated into pricing programs.

To implement Policy 2, agencies developing pricing programs or projects should take the following actions:

1. Conduct general public engagement in a variety of formats, including formats that accommodate all abilities, all levels of access to technology, and languages other than English. Begin engagement at an early stage and re-engage the public in a meaningful manner at multiple points throughout the process.
2. Engage equity groups, people with low-income, and people of color in a co-creation process, beginning at an early stage, to help shape goals, outcomes, performance metrics, and reinvestment of revenues.
3. Use a consistent methodology across implementing agencies for defining equity groups and equity areas for pricing programs and projects, including but not limited to the methodology used for establishing the 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 areas should also be established across agencies. The methodology should consider a variety of factors, such as implementing agency, 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.
4. Establish feedback mechanisms, a communication plan, and recurring regular engagement over time with the public, and with equity groups that were involved in the co-creation process.
5. Provide a progressive fee structure which includes exemptions, credits, or discounts for qualified users. Base eligibility on inclusion in one or more population categories, such as low-income, and minimize barriers to qualification by building on existing programs or partnerships where applicable. Target outreach for enrollment in a discounts, credits, or exemptions in equity areas and communities with higher-than-average shares of people with low income and people of color.
6. Create varied and accessible means of payment and enrollment, including options for people without access to the internet or banking services.
7. Reinvest a portion of revenues from pricing into communities with high proportions of people with low-income and people of color, and/or in Equity Focus Areas. Use of these revenues should meet the transportation-related needs identified by the equity communities and people most impacted. Examples include commuter credits and free or discounted transit passes, or improved transit facilities, stops, passenger amenities, and transit priority treatments.
8. Enforcement of pricing and fine structures for non-payment should be designed to reduce the potential for enforcement bias and to minimize burdens on people with low incomes.
9. Create a process to measure how pricing programs achieve the actions items listed above to demonstrate accountability.

Pricing Policy 3. Safety: Address traffic safety and the safety of users of all modes, both on the priced system and in areas affected by diversion.

The Metro Regional Congestion Pricing Study found that pricing has a strong potential to help the greater Portland region improve safety outcomes and meet the safety priorities outlined in the

Regional Transportation Plan. Pricing programs can improve safety by reinvesting revenue into locally supported traffic safety improvements. The study recommends focusing safety improvements on eliminating traffic deaths and serious injuries on city streets, or a Vision Zero approach.

Safety challenges vary greatly across the region. Safety improvements should be assessed at a project scale and built into a pricing programs' definition to ensure that the core of the project addresses these community needs. Detailed project-scale analysis should provide insight into where safety investments are needed and should address any project-related safety concerns. Safety outcomes of a pricing program can be measured by the level of revenue reinvestment in improvements that address fatalities and serious injuries on high injury corridors or roadways.

To implement Pricing Policy 3, agencies developing pricing programs or projects should take the following actions:

1. Collaborate with relevant state, regional, and local agencies and communities when identifying traffic safety impacts and selecting mitigations associated with pricing.
2. Use a data-driven approach to identify potential traffic safety impacts on the priced system and in areas affected by diversion both during and after implementation of pricing programs and projects; monitor with real-time data after implementation.
3. Context-specific monitoring and evaluation programs should be conducted by implementing agencies in coordination with partner agencies and be on-going and transparent. Establish feedback mechanisms, incident resources, and a communication plan in advance for the community and decision makers.
4. Adjust safety strategies in coordination with partner agencies based on monitoring and evaluation findings.
5. Reinvest a portion of revenues on the priced system and in areas affected by diversion to manage safety issues caused by pricing programs and projects and to improve safety, for example, through investments in transit, bike, and pedestrian improvements, or other investments in known crash reduction factors.
6. Pricing programs and 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

Pricing Policy 4. Diversion: Minimize diversion impacts created by pricing programs and projects prior to implementation and throughout the life of the pricing program or project.

The Metro Regional Congestion Pricing Study found that pricing programs have the potential to lead to diversion impacts, as drivers shift from the freeway network to the arterials to avoid charges. Spillover/cut through traffic caused by a pricing program can exacerbate traffic safety concerns along other streets. Project designers should carefully consider the wide distribution of diversion impacts that may result from the program, particularly on regional high injury corridors. Implementing agencies can look to the City of Portland's identified high crash network of streets and intersections for which to prioritize safety improvements. It is important for pricing programs to mitigate the negative impacts of diversion. Diversion onto nearby streets could be

addressed with safety or transit improvements, for example. If pricing programs result in successful mode shift to transit, diversion impacts can be lessened.

To implement Pricing Policy 4, agencies developing pricing programs or projects should take the following actions:

1. Collaborate with relevant state, regional, and local agencies and communities when identifying diversion impacts and selecting mitigations associated with pricing.
2. Use a data-driven approach to define and identify diversion impacts both during and after implementation of pricing programs and projects. Following implementation monitor with real-time data.
3. Evaluate localized impacts of diversion including factors such as VMT per capita, VMT per capita in defined equity areas, noise, economic impacts to businesses, and localized emissions, water quality, air quality, and the completeness of safety infrastructure and non-vehicular modal networks
4. Context-specific monitoring and evaluation programs should be conducted by implementing agencies in coordination with partner agencies and be on-going and transparent. Establish feedback mechanisms and a communication plan in advance for the community and decision makers and ensure reinvestment is still applicable when impacted area changes
5. 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.
6. Reinvest a portion of revenues into areas affected by diversion caused by pricing programs and projects.

Pricing Policy 5. Climate and Air Quality: Reduce greenhouse gas emissions and vehicle miles travelled per capita while increasing access to low-carbon travel options.

The Metro Regional Congestion Pricing Study found that pricing has the potential to help the great Portland region reduce greenhouse gas emissions and achieve Metro's climate goals. All of the scenarios tested in the study showed reductions in greenhouse gas emissions through reducing overall VMT per capita. Pricing policies were found to be effective in encouraging drivers to change their travel behavior such as using more sustainable travel modes like transit, walking, or biking. These changes in behavior are key to reducing greenhouse gas emissions in the region.

Pricing programs should be designed to meet climate goals without adversely impacting safety or equity. Climate improvements can be measured by percent reduction of greenhouse gasses per capita, percent reduction of criteria pollutants and transportation air toxics, percent reduction of vehicle miles traveled per capita, and shifts in travel behavior. Implementing agencies should consider the geographic and demographic distribution of targeted climate improvements, particularly taking into consideration the health impacts of pollutants and transportation air toxics that disproportionately harm BIPOC and low-income communities.

To implement Pricing Policy 5, agencies developing pricing programs or projects should take the following actions:

1. Identify localized air pollutants and greenhouse gas emission impacts due to pricing and identify strategies for mitigation.
2. Set rates for pricing at a level that will reduce greenhouse gas emissions and improve air quality by managing congestion and reducing overall VMT per capita on the priced system and in areas affected by diversion.
3. Reinvest a portion of revenues from pricing into modal alternatives both on and off the priced facility that can reduce overall emissions by encouraging mode shift and VMT per capita reduction, including transit improvements as well as bicycle and pedestrian improvements and improvements to local circulation.
4. Develop and implement pricing so that it addresses and supports the RTP's Climate Smart Strategy and RTP policies, including through the Congestion Management Process. Pricing Policy 6. Technology and User Experience: Coordinate technologies and pricing programs and projects to make pricing a low-barrier, seamless experience for everyone who uses the transportation system and to reduce administrative burdens.

The Metro Regional Congestion Pricing Study details a wide range of technologies available that can be used in pricing programs to create a seamless and low-barrier experience. Programs can use electronic toll collection systems, mobile applications, short-range communication systems embedded in new vehicles, OReGO technologies that wirelessly connect to a vehicle's diagnostic ports, or online portals for self-reporting. The type of technology used will vary depending on the type of pricing program. Metro's study recommends a pilot phase for the region to trial one or more technologies before implementing a region-wide system.

There are several considerations to be taken when using technology in the implementation of a pricing program. First, emerging technologies can be more expensive than existing ones, yet existing technologies run the risk of becoming obsolete sooner. Second, some technologies (such as tolling systems) require a physical footprint that can take up limited physical space and create a visual aesthetic impact that may need design commission approval in some parts of the city. Further, technologies such as mobile apps or online portals that require users to take an action will likely be less accurate and reliable than automatic technologies. These technologies may also unfairly burden low-income travelers that do not have access to a mobile phone, computer, internet, or banking system. Technologies that enhance user experience while limiting barriers to use should be prioritized. Project designers should also consider a program's compatibility with existing pricing technologies used in the region (such as the Hop regional transit fare program or existing parking payment systems).

To implement Policy 6, agencies developing pricing programs or projects should take the following actions:

1. Coordinate technologies and user-friendly designs across pricing programs and projects 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.
2. Create varied and accessible means of payment and enrollment, including options for people without access to the internet or banking services.

3. Consider the upfront costs of technology investment balanced with long-term operational and replacement costs compared with expected revenue generation.

Key terms will be included in the RTP glossary.

Pricing: Motorists pay directly for driving on a particular roadway or for driving or parking in a particular area. 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. Rates may vary based on vehicle size or type, incomes, or other variables. Pricing within the Portland metropolitan context could include 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 pricing can be implemented in coordination with each other to provide greater systemwide benefits. Pricing can be implemented at the state, regional, or local level.

- Types of Pricing
  - Cordon
  - Low Emissions Zone
  - Parking
  - Road Usage Charge / VMT Fee / Mileage Based User Fee
- Roadway Rate Types
  - Flat
  - Variable
  - Dynamic

Road Usage Charge / VMT Fee / Mileage Based User Fee: Motorists are charged for each mile driven. A road usage 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 usage 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.

Low Emissions Zone Pricing: Similar to cordon pricing, drivers are charged when they enter a Low Emissions Zone, unless they have a vehicle that meets the requirements of the Low Emissions Zone, for example an electric vehicle that does not emit tailpipe emissions when only using electricity to run.

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. Additionally, flat rate tolling cannot be used for congestion pricing programs or projects authorized by the Value Pricing Pilot Program or Section 166 on interstate highways under Federal law.

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.

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, or whether they divert to or from the priced facility.

3.2.6 Mobility Policies

WHAT'S CHANGED? This is a new policy section. It updates and replaces the Interim regional mobility policy (Section 3.5.4 in the 2018 RTP). The new draft mobility policies were developed through an extensive three-year process with significant input from local, regional and state practitioners, Metro technical and policy advisory committees, other stakeholders and the Metro Council. The new policies were accepted by JPACT and the Metro Council in December 2022. Further discussion of the mobility performance measures and targets is recommended following completion of the RTP system analysis in April 2022.

Within the Portland metropolitan area, the State of Oregon and Metro have a shared goal of providing mobility such that 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.

The mobility policy is intended to achieve the following outcomes which are in alignment with ODOT and Metro strategic goals and priorities. They were identified by policymakers and stakeholders as critical to how we plan for, manage, and operate our transportation system.

3.2.5.1 Mobility policy outcomes and policies

- **Equity - Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other marginalized and underserved communities experience equitable mobility.** BIPOC and other marginalized communities have often experienced disproportionately negative impacts from transportation infrastructure as well as disparities in access to safe multimodal travel options. Addressing these disparities is a priority for ODOT and Metro.

The regional transportation system should support access to opportunities for everyone, not just people in motor vehicles. Equity can be enhanced through providing strong multimodal networks with priority provided to improvements benefitting marginalized and underserved communities.

- **Efficiency - Land use and transportation decisions and investments contribute to more efficient use of the transportation system meaning that trips are shorter and can be completed by more travel modes, reducing space and resources dedicated to transportation.** Efficiency in this context means that transportation requires less space and resources. Efficiency can be improved by shortening travel distances between destinations. Shorter travel distances to destinations enhance the viability of using other and more efficient modes of transportation than the automobile and preserves roadway capacity for transit, freight and goods movement by truck and for longer trips. Efficiently using land and planning for key destinations in proximity to the where people live and work, contributes to shorter trip lengths. The transportation efficiency of existing and proposed land use patterns and transportation systems can be measured by looking at "vehicle miles traveled (VMT) per capita" for home-based trips or "VMT per employee" for commute trips to/from work of an area.
- **Access and Options -People and businesses can conveniently and affordably reach the goods, services, places, and opportunities they need to thrive. People and businesses can choose from a variety of seamless and well-connected travel modes and services that easily get them where they need to go.** The viability of trips made by modes other than automobiles can be increased by investing in a connected, multimodal transportation system. Multimodal systems serve all people, not just those who have access to vehicles or the ability to drive them, and provide more route choices, increase safety and efficiency, and increase reliability. Closing gaps in networks, particularly pedestrian and bicycle networks, and closing special and temporal gaps in transit networks, can change travel preferences, reducing VMT/capita. Progress towards well connected, multimodal networks can be measured by mode with "system completeness."
- **Safety - People are able to travel safely and comfortably and feel welcome.** Unsafe transportation facilities can result in injury and loss of life and place a strain on emergency responders. Both unsafe conditions and perceived unsafe conditions can impact travel behavior, causing users to choose different routes or modes. Prioritizing investments that reduce the likelihood of future crashes and that improve safety and comfort for all users will

increase mode choices and improve reliability. System completeness by travel mode is useful in identifying needs and investments that could enhance safety and comfort.

- **Reliability - People and businesses can count on the transportation system to travel where they need to go reliably and in a reasonable amount of time**. In a reliable transportation system, all users, including people in automobiles and using transit, can reasonably predict travel time to their destinations. Reliability is impacted by travel conditions, safety, street connectivity, congestion, and availability of travel options. Investments in safety, street connectivity, transit, transportation system management and operations (TSMO), and demand management can yield significant benefits for managing congestion and increasing reliability for all travelers. System completeness can be used as a measure of the availability of reliable travel options, including walking and biking. Average travel speed can be used as a measure to forecast areas of congestion including looking at the number of hours a facility is congested and the percentage of a facility that is congested for multiple hours per day. Average travel speed can also be used to look at total travel time between origin-destination pairs and identify bottlenecks that are most impacting reliability on key travel routes for vehicle modes, including freight and transit.

  For Throughways, the essential function is throughput and mobility for motor vehicle travel, including transit and freight vehicles, to maximize movement of people and goods. Throughways serve interregional and interstate trips and travel times are an important factor in people and businesses being able to make long-distance trips to and through the region and access destinations of regional and statewide significance in a reasonable and reliable amount of time.

  For most Arterials, depending upon the street design classification and freight network classification, the essential functions are transit, bicycle and pedestrian travel and access, while balancing motor vehicle travel and the many other functions of arterials in intensely developed areas. Transit reliability on arterials can be improved with exclusive bus lanes, signal priority and other TSMO strategies. Improving automobile reliability through additional roadway capacity should follow the region's congestion management process and not come at the expense of non-motorized modes and achieving system completeness consistent with modal or design classifications in the RTP or achieving the VMT/capita target for the region or the jurisdiction.

  Within the Portland metropolitan area, the State of Oregon and Metro have a shared goal of providing mobility such that 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. The following policies aim to achieve these outcomes.

Mobility Policy 1	**Ensure that land use decisions and investments in the transportation system enhance efficiency in how people and goods travel to where they need to go.**
Mobility Policy 2	**Provide people and businesses a variety of seamless and well-connected travel modes and services that increase connectivity, increase choices and**

	access to low carbon transportation options so that people and businesses can conveniently and affordably reach the goods, services, places and opportunities they need to thrive.
Mobility Policy 3	**Create a reliable transportation system that people, and businesses can count on to reach destinations in a predictable and reasonable amount of time.**
Mobility Policy 4	**Prioritize the safety and comfort of travelers by all modes when planning and implementing mobility solutions.**
Mobility Policy 5	**Prioritize investments that ensure that Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other marginalized and underserved populations have equitable access to safe, reliable, affordable, and convenient travel choices that connect to key destinations.**
Mobility Policy 6	**Use mobility performance measures and targets for system planning and evaluating the impacts of plan amendments including Vehicle Miles Travelled (VMT) per capita for home-based trips and VMT/employee for commute trips to/from work, system completeness for all modes, and travel speed reliability on the throughways.**

These policies apply to:

- the state highway system within the Portland metropolitan area for
    - identifying state highway mobility performance expectations for planning and plan implementation; and
    - evaluating the impacts on state highways of amendments to transportation system plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060).
- throughways and arterials designated in the Regional Transportation Plan, which include state and local jurisdiction facilities, for identifying mobility performance expectations for planning and plan implementation.

Under this policy, Oregon Highway Plan volume-to-capacity ratio targets still guide operations decisions such as managing access and traffic control systems and can be used to identify intersection improvements that would help reduce delay, improve the corridor average travel speed, and improve safety. Local jurisdiction standards for their facilities still apply for evaluating impacts of amendments to transportation system plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060) and guiding operations decisions.

Three performance measures and targets as described in Table 3-5 will be used to assess the adequacy of mobility in the Portland metropolitan area for the regional networks based on the

expectations for each facility type, location, and function. These measures will be the initial tools to identify mobility gaps and deficiencies (needs) and consider solutions to address identified mobility needs. The subsequent actions describe how to apply these measures to system planning consistent with OAR 660-012, Sections 3.08.220 and 3.08.510 of the Regional Transportation Functional Plan (RTFP) and OHP Policy 1.G and assessing plan amendment consistent with OAR 660-012-0060.

Table 3-5 Draft mobility policy performance measure targets

Measure	Application	Target	
VMT/Capita for home-based trips and VMT/Employee for commute trips to/from work	System Planning	OAR 660 Division 44 ((Metropolitan Greenhouse Gas (GHG) Emissions Reduction rule)) and OAR 660 Division 12 set VMT/capita reduction targets with which the 2023 RTP update and local TSPs will need to comply. The VMT/capita targets are: 20% reduction by 2035, 25% reduction by 2040, 30% reduction by 2045 and 35% reduction by 2050 (from 2005 levels). 6 The 2023 RTP and TSPs that meet this regional target will establish 2045 baseline VMT/capita and VMT/employee. All subsequent applications of this policy shall not increase VMT/capita or VMT/employee above the future baseline.	
	Plan Amendments1	The plan amendment will have equal to or lower forecast VMT/capita for home-based trips and equal to or lower forecast VMT/employee for commute trips to/from work than the District.2	
System Completeness	System Planning	Complete networks and systems for walking, biking, transit, vehicles, freight, and implement strategies for managing the transportation system and travel demand (See Table 3 for guidance and Table 4 for completeness elements by facility type).[22] (The planned system, Strategic and Financially Constrained, will be defined in local jurisdiction TSPs and may not achieve completeness for all modes to target levels but the local jurisdiction TSP should identify future intent for all facilities given constraints and tradeoffs.)	
	Plan Amendments	100% of planned system Or Reduced gaps and deficiencies (See Table 5[23] for guidance)	
Travel Speed		RTP Motor Vehicle Designation	Target[5]
	System Planning3	Throughways - Expressways [4] I-205 I-84 I-5 OR 217	Average speed not below 35 mph for more than 4 hours per day

[22] See pages 10-11 of the Memo "Draft Regional Mobility Policy for the 2023 Regional Transportation Plan (10/28/22)" https://www.oregonmetro.gov/sites/default/files/2022/12/08/Draft-2023-Regional-mobility-policy-2023-RTP-10-28-2022.pdf Tables will be added to Appendix X in the final RTP

[23] See page 19 of the Memo "Draft Regional Mobility Policy for the 2023 Regional Transportation Plan (10/28/22)" https://www.oregonmetro.gov/sites/default/files/2022/12/08/Draft-2023-Regional-mobility-policy-2023-RTP-10-28-2022.pdf Tables will be added to Appendix X in the final RTP

		US 26 (west of I-405) I-405 OR 213 from Beavercreek Road to I-205 OR 212-Sunrise Expressway	
		Throughways – Non-Expressways [4] OR 99W west of Sherwood OR 99E Portland to OR 212 OR 99E from south of Oregon City OR 213 south of Beavercreek Rd US 30 OR 47 OR 224 OR 212 US 26 south of OR 212	Average speed not below 20 mph for more than 4 hours per day
	Plan Amendments	Same as system planning	Same as system planning

Table notes:

[1] Plan amendments that meet this target shall be found to not have a significant impact pursuant to the Transportation Planning Rule (OAR 660-12-0060).

[2] Metro will establish VMT/capita "Districts" that identify TAZ groupings (subareas) with similar land use characteristics and forecast VMT/Capita. A spreadsheet or similar tool will be developed to help assess potential changes to VMT/capita and VMT/employee and potential mitigations to minimize the need for application of the regional travel demand model for all plan amendments.

[3] Addressing motor vehicle congestion through additional throughway capacity should follow the RTP congestion management process, Sections 3.08.220 and 3.08.510 of the Regional Transportation Functional Plan and OHP Policy 1G, and should not come at the expense of achieving system completeness for non-motorized modes consistent with regional modal or design classifications or achieving the VMT/capita target for the region or jurisdiction.

[4] Throughways are designated in the Regional Transportation Plan and generally correspond to Expressways designated in the Oregon Highway Plan. Some throughways designated in the RTP are not Expressways in the Oregon Highway Plan but serve an important statewide function.

[5] The target is used to identify areas of poor reliability where due to recurring congestion, average travel speeds drop below specified speed and duration thresholds. It will be used as a target to identify needs (deficiencies) and to assess the percentage of the throughway that meets the target. It will not be applied as a standard that creates conflict with meeting OAR 660 Division 44 VMT per capita reduction targets. Solutions to address identified needs should follow the RTP congestion management process, Sections 3.08.220 and 3.08.510 of the Regional Transportation Functional Plan and OHP Policy 1G, and should not come at the expense of achieving system completeness for non-motorized modes consistent with regional modal or design classifications or achieving the VMT/capita target for the region or jurisdiction.

[6] Meeting these targets sets the region on a trajectory to meet state goals adopted in 2007 to reduce total GHG emissions from all sources to 75% below 1990 levels by 2050

How do the measures work together?

VMT/capita will be a controlling measure in both system planning and plan amendments to ensure that the planned transportation system and changes to the system support reduced

VMT/capita by providing travel options that are complete and connected and that changes to land use reduce the overall need to drive from a regional perspective and are supportive of travel options.

- For system planning, the final planned system must support OAR 660 Division 44 (Metropolitan Greenhouse Gas (GHG) Emissions Reduction rule) and OAR 660 Division 12 VMT reduction targets.
- For plan amendments, VMT/capita will be used to determine if the proposed plan amendment has a significant impact on regional VMT/capita that needs to be mitigated or not.

System completeness and travel speed reliability on throughways are secondary measures that will be used to identify needs and inform the development of the planned system. The policy requires that TSPs define the planned system for each mode using a variety of guidance documents. Additional RTP and state policies also guide the development of individual modal systems. It is important to note that the Regional Mobility Policy is one of many policies that inform the development of the Regional Transportation Plan and local transportation system plans in the Portland region.

The regional and local "planned" system may not achieve completeness for all modes but should identify future needs and expectations for all facilities given constraints and tradeoffs. Similarly, reliability on throughways will inform state and regional needs of the throughway system, and the target articulates the desired level of reliability for the throughway system designated in the RTP and OHP. Identifying solutions for locations that do not meet the throughways travel speed reliability target shall follow the RTP congestion management process[24] and OHP Policy 1G[25], and should not come at the expense of achieving the VMT/capita target.

3.2.5.2 Mobility policy system planning actions

A planned system that can be used to review system completeness is the primary outcome of system planning. VMT/capita and hours of congestion are applied to system planning to support the identification of the planned system. The Regional Mobility Policy does not dictate how Metro or local agencies conduct system planning. It is one tool to be used to identify needs and define the planned system. System planning includes updates to long-range transportation plans, including the Regional Transportation Plan and locally adopted transportation system plans. System planning also includes planning for the transportation system in smaller geographies through ODOT facility plans, corridor refinement plans as defined in the RTP and OAR 660-012-0190, and area plans, including concept plans for designated urban reserve areas. The following actions

[24] 2018 RTP Chapter 3 (pages 3-71 and 3-72) regarding RTP the Congestion Management Process state that "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). Appendix L to the RTP provides more detailed information. Sections 3.08.220 and 3.08.510 of the Regional Transportation Functional Plan further direct how cities and counties implement the CMP in the local system planning process.

[25] Policy 1G (Major Improvements) has the purpose of maintaining highway performance and improving highway safety by improving system efficiency and management before adding capacity.

describe how each of the performance targets shall be used in tandem in system planning, which is supported by the flow chart in Figure 3-9.

1. Division 44 GHG Emissions Reduction Rule) and OAR 660 Division 12 (Transportation Planning Rule) set a VMT/capita reduction target for the Portland metropolitan area.[26] The 2023 RTP will identify the strategies needed to achieve this target and result in 2045 baseline VMT/capita for the region. This future baseline shall be used to estimate future VMT/capita for home-based trips and VMT/employee for commute trips to/from work at the TAZ level. The TAZ data shall be aggregated to develop "Districts" [27]with similar land use and VMT characteristics by Metro through the 2023 RTP update and implementation process. The percent change in VMT/capita for the region must meet the reduction target in Division 44 (GHG Emissions Reduction Rule), but the percent change in VMT/capita for each district will vary.

2. For system planning at the sub-regional, local jurisdiction (TSPs), or subarea levels, VMT/capita for home-based trips and VMT/employee for commute trips to/from work shall be measured for the "Districts" covering the plan area to ensure that land use and transportation plan changes are working in tandem to achieve the region's VMT/capita reduction target, resulting in reduced need to drive, improved viability of using other and more efficient modes of transportation than the automobile, and preserving roadway capacity for transit, freight and movement of goods and services. At the first major TSP update after this policy is implemented, system plans shall demonstrate that the planned transportation system achieves the regional OAR 660 Division 44 (GHG Emissions Reduction Rule) and OAR 660 Division 12 (Transportation Planning Rule) targets and that future system plan updates maintain or reduce aggregate VMT/capita for home-based trips and VMT/employee for commute trips to/from work for the "Districts" in the plan area compared to the 2045 baseline set in the 2023 RTP. Projections of VMT/capita must incorporate the best available science on latent and induced travel of additional roadway capacity consistent with OAR 660-012-0160.

3. System completeness definitions in guidance documents shall be used to identify needs and ensure that the planned transportation system is increasing connectivity and improving safety of the multimodal network. The planned system shall be established in local transportation system plans consistent with the RTP and RTFP for each facility and will vary based on the modal functional classification and design classification. Table 3[28]

[26] The Division 44 VMT reduction targets cannot currently be measured using Metro's Regional Travel Demand Model (RTDM); however, baselines for VMT/capita for home-based trips and VMT/employee for commute trips to/from work can be established from the RTDM for the RTP scenario that meet the Division 44 VMT reduction targets as measured via a different tool.

[27] VMT/capita "Districts" will be established that identify TAZ groupings (subareas) with similar forecast VMT/capita, considering use of RTP mobility corridor geographies as a starting point.

[28] See pg 10 of the Memo "Draft Regional Mobility Policy for the 2023 Regional Transportation Plan (10/28/22)" https://www.oregonmetro.gov/sites/default/files/2022/12/08/Draft-2023-Regional-mobility-policy-2023-RTP-10-28-2022.pdf Tables will be added to Appendix X in the final RTP

provides guidance for defining the planned system and Table 4[29] identifies the elements that must be identified for each facility or service type.

4. Reliability for throughways based on average travel speed targets shall be used to assess performance of throughway facilities within the system planning study area for safe, efficient, and reliable speeds. Targets will include a target minimum average travel speed that shall be maintained for a specific number of hours per day, recognizing that the target average speed is not likely to be met during a number of peak hours, as described in Table 3-5. The percentage of the throughway system meeting the target may also be considered. These targets shall inform identification of transportation needs and consideration of system and demand management strategies and other strategies[30] but shall not be used as standards at the expense of non-motorized modes and achieving system completeness for other modes consistent with regional modal or design classifications or achieving the VMT/capita target for the region or jurisdiction. Analysis segmentation of facilities within the study area will be determined based on the analysis software or modeling tool utilized.[31] Projections of VMT/capita must incorporate the best available science on latent and induced travel of additional roadway capacity.

5. Interchanges shall be managed to maintain safe, efficient, and reliable operation of the mainline for longer trips of regional or statewide purpose through the interchange area. The main objective is to avoid the formation of traffic queues on off-ramps which back up into the portions of the ramps needed for safe deceleration from mainline speeds or onto the mainline itself. This is a significant traffic safety and operational concern as queues impact mainline operations and crashes affecting reliability. Deceleration space for vehicles exiting throughway mainlines can be improved by managing throughways for longer trips resulting in reducing off-ramp traffic volumes and by increasing capacity at the off-ramp terminal. Throughway off-ramp terminal intersection and deceleration needs shall be evaluated through system plans such as Interchange Area Management Plans, Corridor Plans, and Sub-area Plans.

6. In system plans, when identifying transportation needs and prioritizing investments and strategies, projects that create greater equity and reduce disparities between “Equity Focus Areas" and “Non-Equity Focus Areas” shall be prioritized. This action aims to improve equitable outcomes by burdening underserved populations less than and benefiting underserved populations as much or more as the study area population as a whole. Because the Equity Focus Areas as defined by the RTP are based on a regional

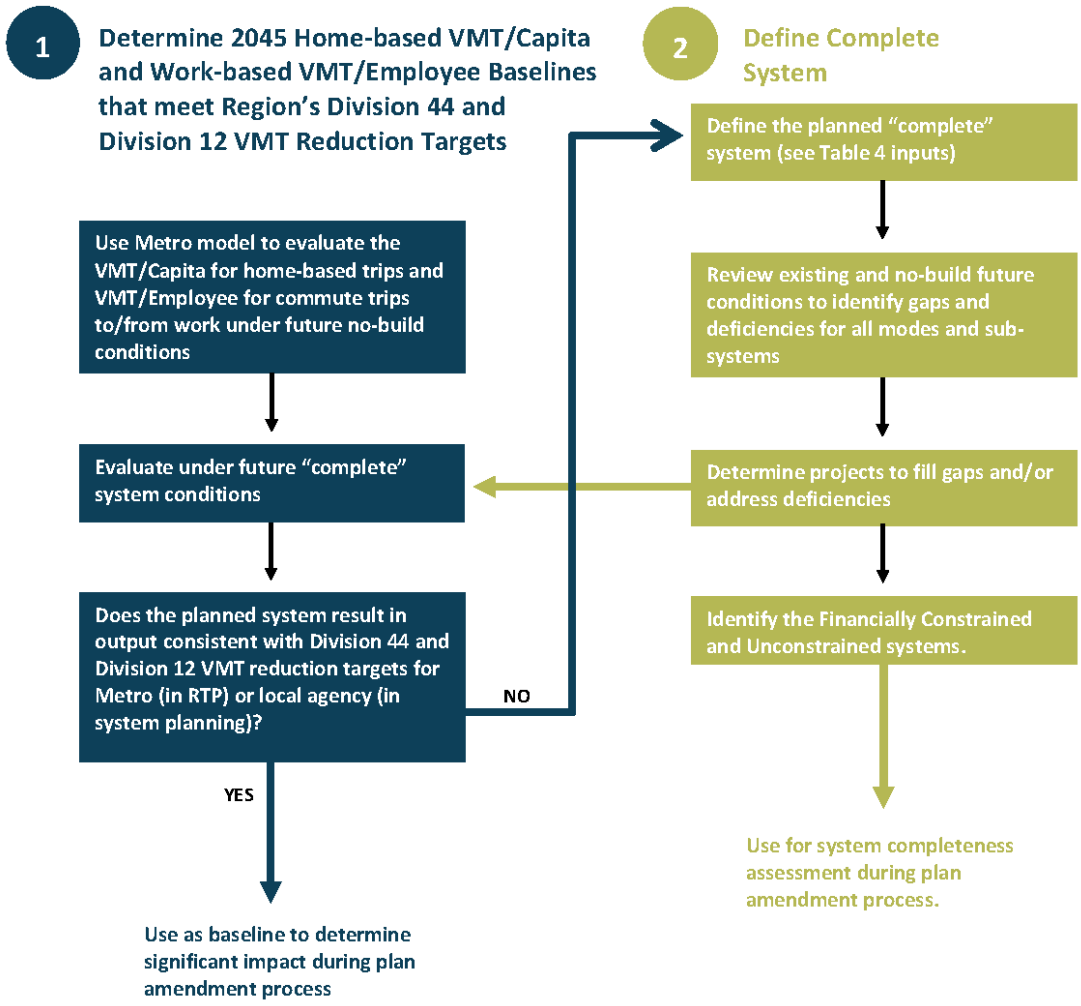
[29] See pg. 11 of the Memo “Draft Regional Mobility Policy for the 2023 Regional Transportation Plan (10/28/22)” https://www.oregonmetro.gov/sites/default/files/2022/12/08/Draft-2023-Regional-mobility-policy-2023-RTP-10-28-2022.pdf Tables will be added to Appendix X in the final RTP

[30] The RTP system sizing policies, regional congestion management process and OHP Policy 1F will be followed to determine mitigations that support meeting the hours of congestion threshold.

[31] Supporting documentation will be needed as part of implementation of the policy to define the segmentation methodologies based on analysis options.

average comparison, local governments shall conduct a more specific equity analysis at the local TSP scale consistent with OAR 660-012-0135.

Figure 3-9 System Planning Process Utilizing the Mobility Policy Measures



3.2.5.3 Mobility policy plan amendment evaluation actions

All three of the mobility policy measures are applied to the evaluation of plan amendments. The following actions describe how each of the performance targets shall be used in tandem in evaluating plan amendments consistent with the Transportation Planning Rule (OAR 660-012-0060) and is supported by the flowchart in Figure 3-9.

1. Comprehensive plan amendments that do not surpass the trip generation thresholds in the Oregon Highway Plan Policy 1F will be found to have no significant impact and are not required to further evaluate VMT/capita, hours of congestion, or system completeness.

2. In a jurisdiction with a TSP that has demonstrated compliance with achieving the region's Division 44 and Division 12 VMT reduction targets, comprehensive plan amendments that are forecast to maintain or lower VMT/capita for home-based trips and VMT/employee for commute trips to/from work compared to their 2045 baseline that achieve Division 44 targets, shall be found to have no significant impact consistent with the Transportation Planning Rule (OAR 660-12-0060)

3. Comprehensive plan amendments that have a significant impact because they a) increase VMT/capita for home-based trips or VMT/employee for commute trips to/from work or b) the jurisdiction has not demonstrated compliance with OAR 660 Division 44 and Division 12 VMT reduction targets shall mitigate that impact by adjusting their land use plan, supporting VMT/capita reduction through enhancing non-vehicular modes beyond what's in the financially constrained transportation system plan, and/or committing to travel demand management. Enhancing non-vehicular modes means increasing system completeness for non-vehicular modes within the impact area of the plan amendment for those modes. Within the impact area, the system gaps will be identified based on the planned system in the TSP.

4. Large plan amendments will be obligated to develop a funding plan that will address the system gaps and bring additional projects that support VMT/capita reduction into the financially constrained transportation system plan and that help the district meet their VMT/capita target or mitigate the safety impacts of additional vehicle trips. In addition to addressing system completeness, a large plan amendment that is found have a significant impact on VMT/capita that cannot be mitigated will be required to review the impact of the plan amendment on meeting the hours of congestion on Throughways target and mitigate the impact. Addressing the hours of congestion target shall follow the RTP congestion management process, Sections 3.08.220 and 3.08.510 of the Regional Transportation Functional Plan and OHP Policy 1G and shall not come at the expense of achieving the VMT/capita target for the region.

5. Small scale plan amendments will need to demonstrate their proportionate impact on increased VMT/capita in the district and agree to conditions on the plan amendment or future conditions of development approval consistent with the local jurisdiction development code and project funding mechanisms to support reduced VMT/capita such as land use, travel demand management, and/or off-site mitigations to support VMT reduction or mitigate safety impacts of additional trips.

6. System completeness assessment of comprehensive plan amendments shall identify the needs to meet the planned system for each mode, as established in regional and/or local system plans. For each mode, the completeness impact area will be defined based on

routing from the comprehensive plan amendment site for the specified distances in Table 5 [32]. Table 5 [33] provides guidance for identifying the needs within each modal completeness impact area. For the comprehensive plan amendment, a proportional share of additional projects in the unconstrained transportation system plan, not included financially constrained transportation system plan, will be established based on additional daily trips for the plan amendment for both multi-modal trips as well as the vehicular trips for which the increased VMT/capita is being mitigated, as described in Figure 3-10.

7. Comprehensive plan amendments that demonstrate either of the following for analysis segments within the vehicular impact area shall be found to require mitigation, and a proportional share of the identified needs will be established for the comprehensive plan amendment based on additional daily trips

8. Degrades the hours of congestion of an existing or planned transportation facility such that it would not meet the performance target identified Table 3-5; or

9. Degrades the travel speed of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in Table 3-5.

10. Interchanges within the vehicular impact area shall be assessed for off-ramp queuing to maintain safe, efficient and reliable operation of the mainline for longer trips of regional or statewide purpose through the interchange area under the forecast comprehensive plan amendment.

[32] See pg. 19 of the Memo "Draft Regional Mobility Policy for the 2023 Regional Transportation Plan (10/28/22)" https://www.oregonmetro.gov/sites/default/files/2022/12/08/Draft-2023-Regional-mobility-policy-2023-RTP-10-28-2022.pdf Tables will be added to Appendix X in the final RTP

[33] See pg. 19 of the Memo "Draft Regional Mobility Policy for the 2023 Regional Transportation Plan (10/28/22)" https://www.oregonmetro.gov/sites/default/files/2022/12/08/Draft-2023-Regional-mobility-policy-2023-RTP-10-28-2022.pdf Tables will be added to Appendix X in the final RTP

Figure 3-10 Guidance for Assessing Plan Amendment Impacts

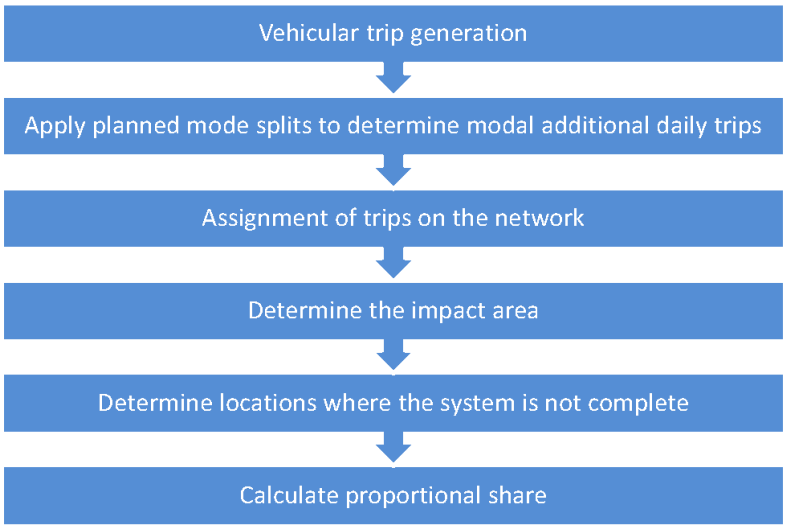
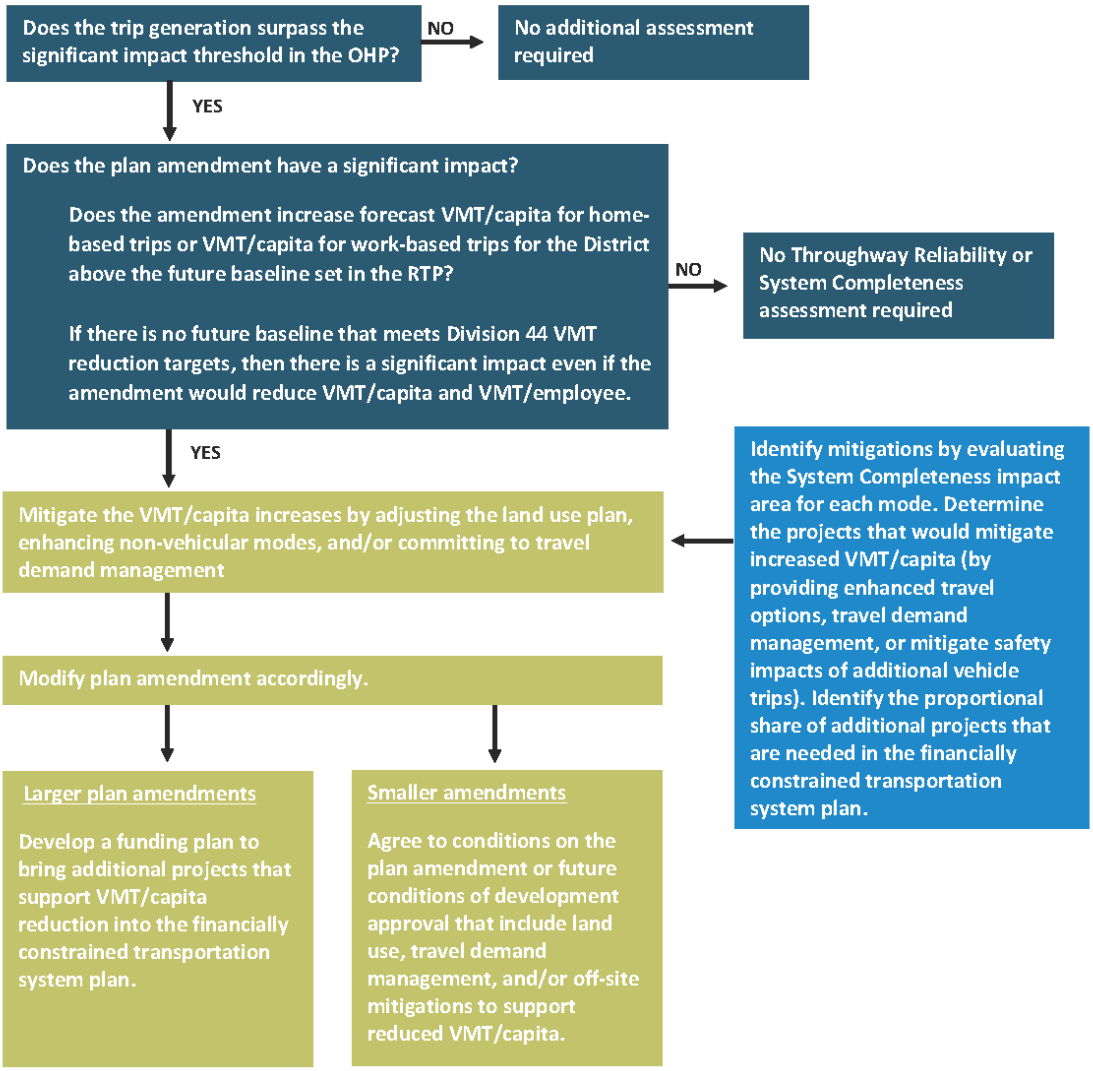


Figure Note: Vehicular trip generation with planned mode splits will be used until or unless mode specific trip generation resources become available.

Figure 3-11 Plan Amendment Process Utilizing the Mobility Policy Measures



WHAT'S CHANGED? Emerging technology policies (what was Section 3.2.4) was moved to later in the Chapter and is now Section 3.3.12)

3.3 REGIONAL NETWORK VISIONS, CONCEPTS AND POLICIES

WHAT'S CHANGED? Section numbers have changed. Changes specific to each policy are described before the policy.

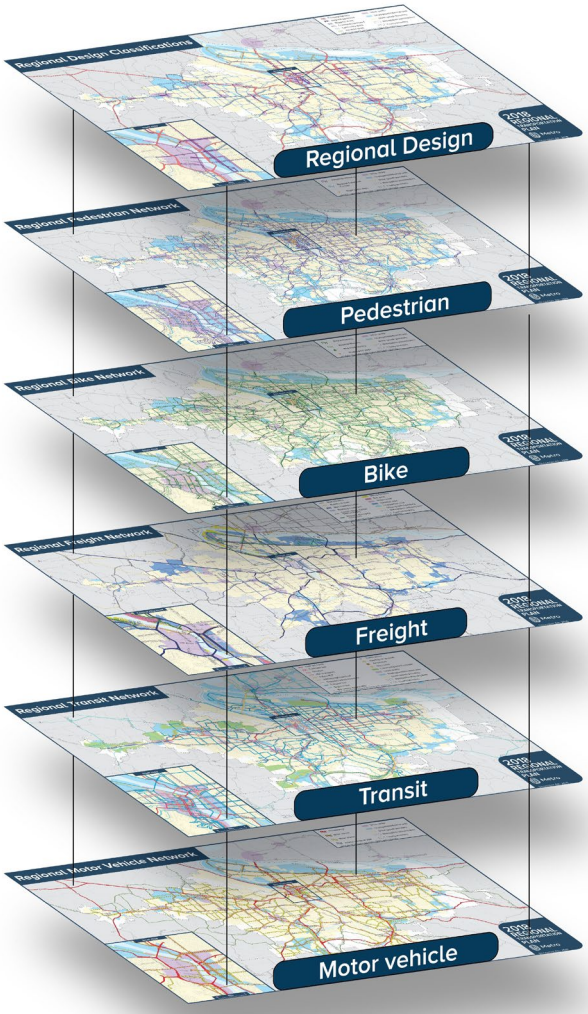
This section describes a network vision, concept and supporting policies for each component of the regional transportation system. The network vision, concepts and policies represent a complete urban transportation system that meets the plan goals and supports local aspirations for growth.

Rendering of a Regional Street
Source: Metro Designing Livable Streets and Trails Guide

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 networks of the regional transportation system. The transportation system components are shown in Figure 3-12.

Click on 2023 RTP Network Maps [LINK TO BE ADDED] for an online zoomable version of each map.

Figure 3-12 Regional transportation system components



3.3.1 Regional mobility corridor concept

WHAT'S CHANGED? This section was moved up, before the design policies. No other changes are proposed to this section.

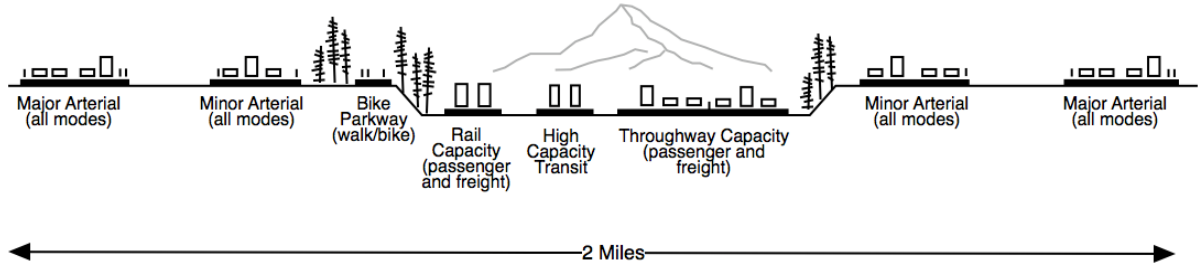
The regional mobility corridor concept envisions regional travel corridors defined by a central throughway and high capacity transit well supported by a network of arterial streets, frequent bus routes, freight/passenger rail and bicycle parkways to provide for regional, statewide and

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 connecting the region with the rest of the state and beyond. Mobility corridors also have a significant influence on the development and function of the land uses they serve. Mobility corridors are defined by the major centers of the 2040 Growth Concept. The regional mobility corridor concept calls for the consideration of parallel and interconnected facilities, different travel modes, and land use when identifying needs and solutions to improve mobility within a corridor. The concept of a regional mobility corridor is shown in Figure 3-13.

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.

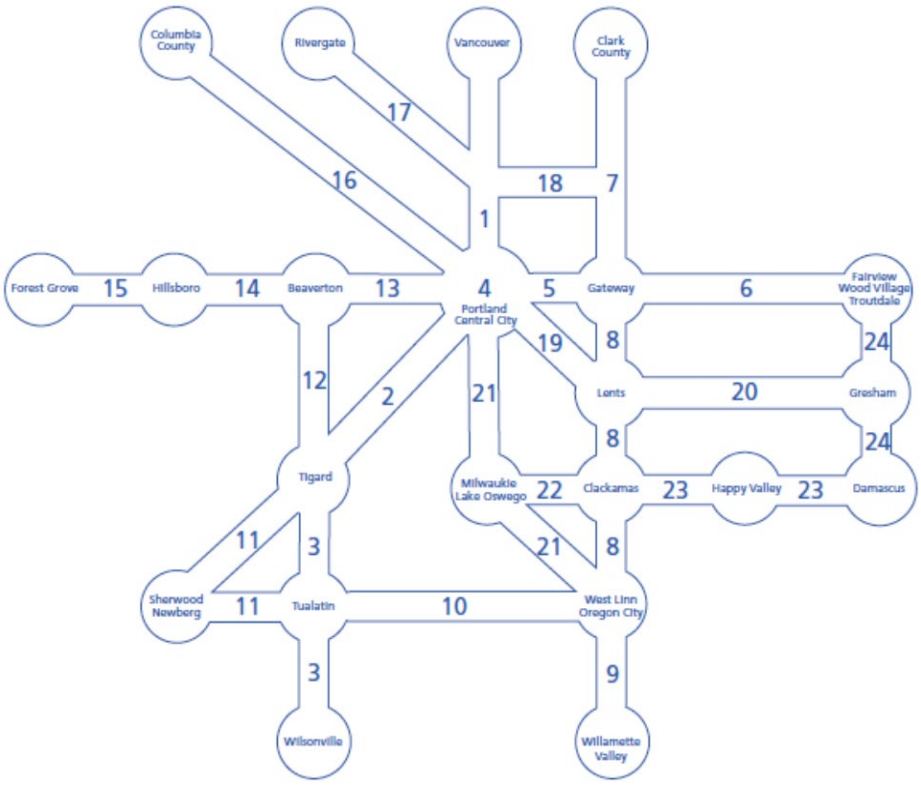
Figure 3-13 Regional mobility corridor concept



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 3-14 shows the general location of mobility corridors in the region.

Figure 3-14 Mobility corridors in the Portland metropolitan region



3.3.2 Regional Design and Placemaking Vision and Policies

WHAT'S CHANGED? Policies in this section are not new. Metro staff have reformatted existing policy language from the 2018 RTP and 2019 Metro Designing Livable Streets and Trails Guide into standard policy format used for all RTP policies. Two existing Motor Vehicle policies were moved into this section.

Over the next several decades, the challenges faced by communities in greater Portland and the burdens placed upon the transportation network will multiply in number and complexity. Greenhouse gas emissions from motor vehicles and serious traffic crashes are two of the most pressing transportation issues; addressing them will require a transportation system designed to serve multiple travel modes, especially public transit, walking, and bicycling. Additionally, streets and trails must function not only as corridors for moving people, goods and services, but also as stormwater management facilities, community gathering spots and public spaces to enhance community livability.

The regional transportation system design classifications and policies in this section address federal, state and regional transportation planning mandates and support implementation of the 2040 Growth Concept.

Figure 3-15 Metro's Designing Livable Streets and Trails Guide[34]

[34] Metro's Designing Livable Streets and Trails Guide complements existing national, state and local requirements and guidelines, and its recommendations are allowable under national guidance, including guidelines developed by the American Association of State Highway and Transportation Officials, the Federal Highway Administration and the National Association of City Transportation Officials. The Designing Livable Streets and Trails Guide has been developed based on current design guidance, case studies, best practices for urban environments, research and evaluation of existing designs, and professional review and input. It integrates design guidance for regional streets, regional trails, stormwater management and Greenstreet treatments into one guide to encourage a holistic and comprehensive approach to designing a complete transportation system.

Metro's Designing Livable Streets and Trails Guide provides 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.[35] 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.

The purpose of the Guide is to support implementation of the 2040 Growth Concept and the Regional Transportation Plan. Along with other local and regional plans and policies, this Guide is a resource for the agencies responsible for designing, constructing, and maintaining the region's transportation system. Metro intends the design guidance to assist in designing new and reconstructed streets and trails but may also be applied to maintenance projects that preserve and extend the service life of existing streets and structures when minor retrofits are needed.

3.3.1 Design and complete streets policies

Policy 1	**Design the transportation system to implement the planned land uses and regional urban form envisioned in the 2040 Growth Concept.**
Policy 2	**Design a well-connected transportation system that serves all modes of travel.**
Policy 3	**Use regional street design classifications to guide development of streets that balance the needs of all users and functions of streets according to planned land use and desired outcomes.**
Policy 4	**Use transportation network and street design to help achieve regional goals and desired outcomes, including environmental and human health, climate action and resilience, a safe system, equitable transportation, mobility options, vibrant communities, and a thriving economy.**
Policy 5	**Avoid, minimize and mitigate environmental impacts of the transportation system using Green Infrastructure design, street trees, wildlife habitat or waterway crossing improvements and other approaches to the extent practicable.**
Policy 6	**Use a performance-based approach and decision-making framework to plan and design transportation projects and networks.**

Design Policy 1. Design the transportation system to implement the planned land uses and regional urban form envisioned in the 2040 Growth Concept.

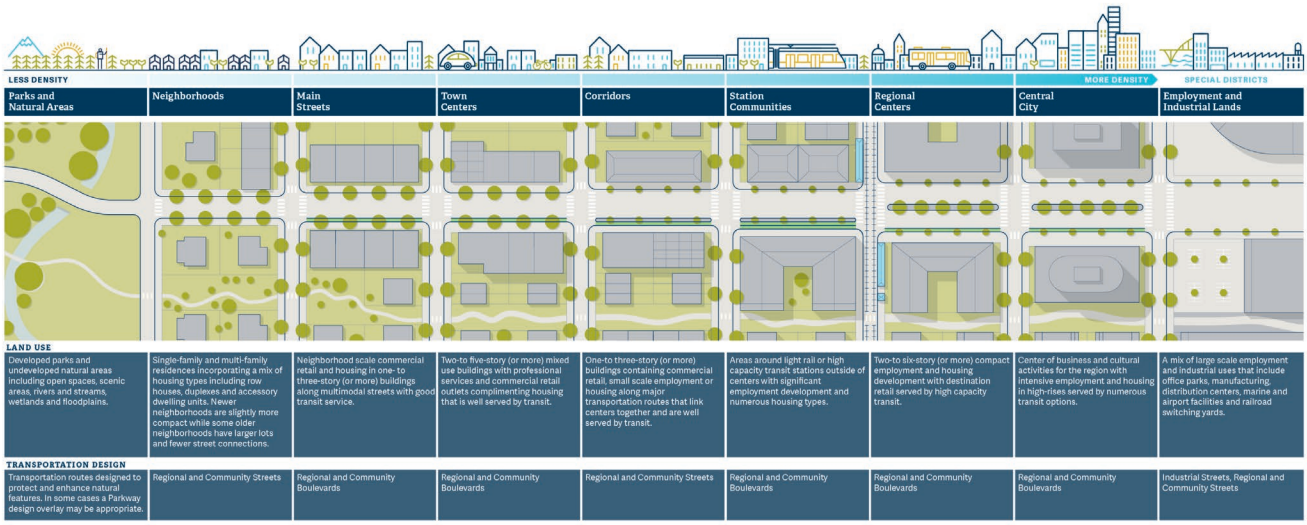
The 2040 Growth Concept directs most new development to mixed-use centers, corridors and main streets. Realization of the Concept relies on a balanced transportation system that adequately serves planned uses while reducing vehicle miles traveled. Regional street design

35 Find regional design guidelines and other resources here: https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails

classifications support 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.

Figure 3-16 illustrates how the design of transportation facilities should change in response to the surrounding land use.

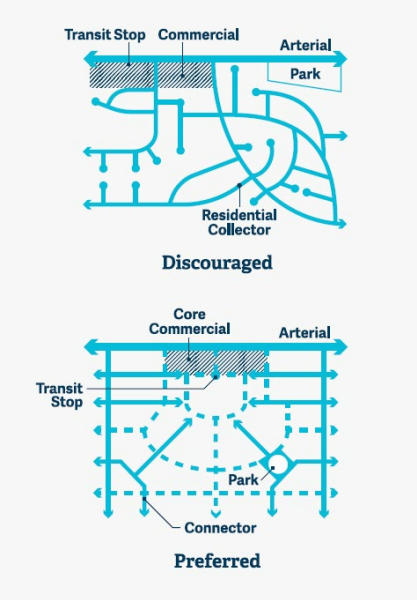
Figure 3-16 Land use and transportation transect



Design Policy 2. Design a well-connected transportation system that serves all modes of travel.

Consistent with the mobility corridor concept, a well-connected network of complete streets provides multiple and direct routes between destinations for people traveling in a variety of ways. Figure 3-17 illustrates a well-connected street network.

Figure 3-17 Street connectivity

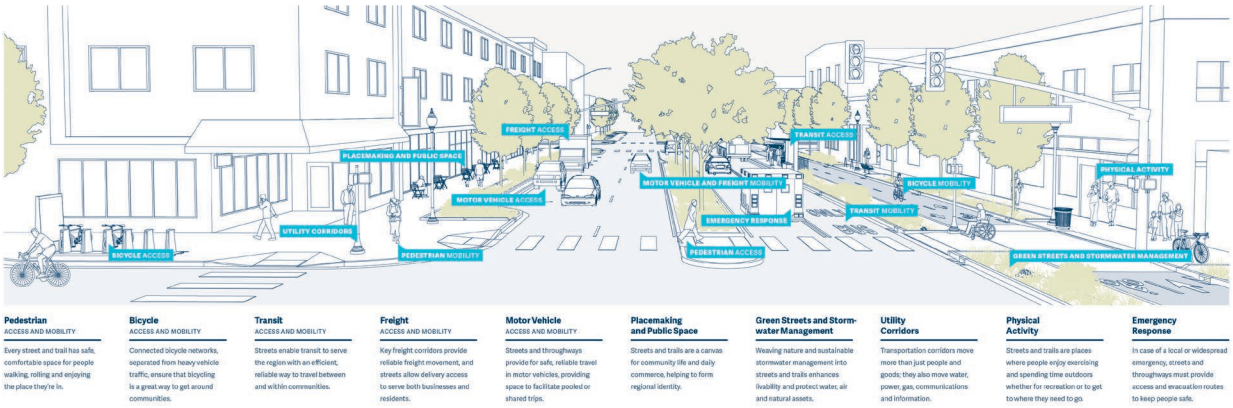


Because walking and biking are easier on a connected street network, a connected street network supports the 20-minute neighborhood concept, where all daily necessities are within a 20-minute walk of bike ride. Even where less-connected street networks have been established by jurisdictions, trails, paths, bridges, and midblock street crossings increase connectivity for people walking and bicycling. Emergency response also benefits from a well-connected street system.

Section 3.3.3.1 of the regional motor vehicle network policies provides regional street spacing standards. Environmental factors may impact street connectivity in some locations. Outside of centers, agencies should design street networks around, rather than through, environmentally sensitive lands and should mitigate impacts when they cannot be avoided. Street networks should allow for the preservation of continuous natural areas and parks.

Complete streets are transportation facilities that agencies plan, design, operate, and maintain to enable safe, convenient, and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation. Complete Streets serve many functions and allow for safe travel by those walking, bicycling, driving automobiles, riding public transportation, or delivering goods. Figure 3-18 illustrates the multiple functions that streets serve.

Figure 3-18 Livable streets and trails functions



Design Policy 3. Use regional street design classifications to guide development of streets that balance the needs of all users and functions of streets according to planned land use and desired outcomes.

Regional street design classifications provide an overall approach to design regional roadways based on its functional classification, the planned land use context, and achieving desired outcomes and community needs.

Table 3-6 summarizes typical design elements, including number of lanes and target and design speed, for different travel modes for each of the regional street design classifications and illustrates how street design corresponds to 2040 land use design types and motor vehicle functional classifications.

Table 3-6 Typical design components of regional street design classifications

2040 Land Use Design Type	Design Classification	Street Connections	Prioritized Travel Modes	Motor vehicle Functional Classification	Target and Design Speed	Number of Lanes	Medians and Turn Lanes	Flex Zone Uses	Pedestrian Design	Bikeway Design	Transit Design	Freight Design	Green Streets/ Stormwater Management
Any	Freeways	Limited Grade-separated	Motor vehicle, freight, transit	Throughway	45 to 60 mph	Up to six with auxiliary lanes in some places	Center barrier; no turn lanes	Shoulder for emergency use, bus on shoulder or carpool	Parallel facility; crossings on over- or underpasses; crossings every 200 to 1,200 ft.	Multiuse path; crossings on over- or underpasses	Bus on shoulder, express bus, light rail	Enhanced mobility	Vegetated landscaping and green streets treatments to manage stormwater
Any	Highways	Limited Some grade-separated, signalized	Motor vehicle, freight, transit	Throughway	35 to 50 mph	Up to six with auxiliary lanes in some places	Median, limited turn lanes in some locations	Shoulder for safety, emergency use, bus on shoulder or carpool	Parallel facility or buffered sidewalks; crossings on over- or underpasses; crossings every 200 to 1,200 ft.	Multiuse path or separated bikeway; crossings on over- or underpasses	Bus on shoulder, express bus, light rail	Enhanced mobility	Vegetated landscaping and green streets treatments to manage stormwater
Centers, station communities and some main streets	Regional and community boulevards	Many; access management emphasized	Pedestrian, transit, bicycle; access for all modes	Major arterial (regional boulevard) Minor arterial (community boulevard)	20 to 25 mph	Two to four lanes	Median desired, some turn lanes; minimize additional crossing width at intersections	None, or separated bikeway, enhanced bus, parking, green streets	Buffered sidewalks, enhanced crossings and access to transit; crossings every 200 to 530 ft. (1 to 2 blocks)	Separated bikeway; enhanced crossings	Accessible stations, priority bus treatments as appropriate	Access: loading and unloading	Vegetated landscaping and green streets treatments to manage stormwater
Corridors, neighborhoods, some main streets and employment and industrial areas	Regional and community streets	Some to many; access management as possible	Balanced and modal network priorities	Major arterial (regional street) minor arterial (community street)	20 to 30 mph	Two to four lanes	Median desired; some turn lanes; minimize additional crossing width at intersections	None, or separated bikeway, enhanced bus, parking, green streets	Buffered sidewalks, enhanced crossings and access to transit; crossings every 200 to 530 ft (1 to 2 blocks)	Separated bikeway; enhanced crossings	Accessible stations, priority bus treatments as appropriate	Mobility on freight corridors; access: loading and unloading	Vegetated landscaping and green streets treatments to manage stormwater
Employment and industrial areas	Industrial streets	Some; access management emphasized	Freight, motor vehicle, transit	Major or minor arterial	20 to 40 mph	Two to four lanes	Median in some instances; some turn lanes	None, separated bikeway or multiuse path, enhanced bus, parking, green streets	Sidewalk with buffer or multiuse path; enhanced crossings and access to transit; crossings every 200 to 530 ft. (1 to 2 blocks)	Separated bikeway or multiuse path; enhanced crossings	Accessible stations, priority bus treatments as appropriate	Priority freight treatments, wider lanes and intersections	Vegetated landscaping and green streets treatments to manage stormwater

Regional design classifications apply to local transportation system plans throughout greater

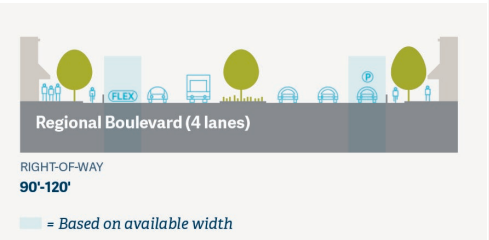
Portland. Cities or counties may adopt the classifications into their plans or provide a cross-reference if they use different terms. Regional street design classifications are assigned to all throughways and major and minor arterials in the regional transportation system as shown in Table 3-6 and Figure 3-21.

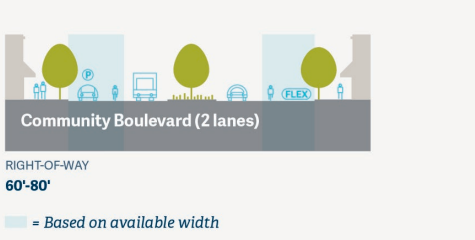
Regional street design concepts promote community livability and reliable travel by balancing all modes of travel and addressing the function and character of adjacent land uses. Linking land use and the physical design of transportation facilities is crucial to achieving state goals to limit reliance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

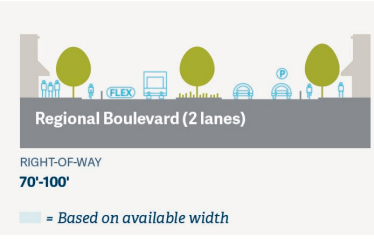
Freeways and highways

Freeways and highways connect major activity centers, including the central city, regional centers, industrial and employment areas, and intermodal facilities such as the Port of Portland. Freeways and highways provide intercity, interregional, and interstate connections. This design classification prioritizes long-distance and higher speed freight, motor vehicle and transit mobility. Freeways are grade separated; highways have a mix of grade-separated and at grade intersections. Freeways and highways cross all types of land uses, and buildings are typically not oriented to these facilities.

Regional and community boulevards







Regional and community boulevards serve the multimodal travel needs of the region's most intensely developed and developing activity centers, including the central city, regional centers, station communities, town centers and some main streets. Adjacent land uses and buildings should orient directly to the boulevard with ground-floor commercial activity, contributing to a pedestrian and bicycle-friendly environment. Buildings typically have designs, such as a storefront or arcade, which provide transition space from the street and support pedestrian access. Agencies design boulevards to prioritize pedestrian, bicycle, and transit travel.

Regional and community streets

Regional and community streets balance the multimodal travel and access needs of corridors, neighborhoods, and some main streets, along with employment and industrial areas. Regional and community streets can be located within residential neighborhoods as well as more densely developed corridors and employment centers. Development can be set back from the street. Regional and community streets can also serve as main streets with buildings oriented toward them at major intersections and transit stops.

Figure 3-21 shows design classifications for arterials and throughways.

Design Policy 4. Use transportation network and street design to help achieve regional goals and desired outcomes, including environmental and human health, climate action and resilience, a safe system, equitable transportation, mobility options, vibrant communities, and a thriving economy.

Transportation agencies can design facilities to achieve desired outcomes and support the health, safety, and economic and environmental sustainability of communities in the region. Practitioners refer to this approach as performance-based design.

Table 3-7 illustrates how design characteristics of urban arterials that can either promote or hinder desired outcomes.

Table 3-7 Design characteristics of healthy urban arterials[36]

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

Design principles to achieve desired outcomes

- **Design with a safe system approach**: Use the safe systems approach in street design, managing speeds for safety, lowering speeds in areas where people are walking, bicycling, and accessing transit and separating users. Separation means creating physical barriers between people moving at different speeds. As speed differentials increase, so should the level of separation. Medians, access management treatments, protected bicycle lanes and other street design elements can minimize crashes.
- **Design for safe speeds**: Design streets to encourage safe speeds for all users – the safe target speed. Evaluating minimum sight distance, horizontal curvature, vertical curves and other design factors is based on the design speed. To achieve a safe target speed, the design speed should align with the target speed. Ultimately, posted speed should also align. Transportation agencies can achieve a desired target speed by street design elements. Wider, more open roadways encourage higher operating speeds. Conversely, a roadside with buildings, separated bikeways, parked cars and street trees can provide cues to drivers to encourage lower speeds.
- **Design for all users**: Design for people of all ages and abilities, as well as the design vehicle for a specific facility. Before developing a design, practitioners should consider each of type of user and how they will navigate the street. Agencies should design streets keeping the green transportation hierarchy in mind. The hierarchy prioritizes functions for a typical street in this order: walking, bicycling, transit, freight, carshare/ taxi/commercial transport, and private automobiles. The selection of a design vehicle is an essential part of developing street and intersection designs. The design vehicle is the largest vehicle that is anticipated to use the street or intersection on a regular basis. Because the selection of a design vehicle influences

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

street dimensions such as turning radii, which in turn can impact safety and operating speeds, practitioners should choose the smallest possible design vehicle. Occasional larger vehicles can still be accommodated in the design by encroaching on opposing lanes or using multiple point turns. Likewise, agencies can use design features such as speed cushions or truck aprons to accommodate emergency vehicles and large trucks while providing speed management treatments that reduce overall traffic speeds.

- **Design for personal security and equity**: Use design to create streets where people of all races, genders, ages and abilities feel safe from crime and harassment. Because street design has been used to oppress and criminalize Black communities, communities must be engaged in the design process. Streets should be intuitive and easy to use regardless of race, income, age, ability, cultural background, or language.
- **Design to protect the environment**: Use green infrastructure design to avoid, minimize and mitigate the harmful environmental impacts of transportation facilities and achieve a healthier, more resilient landscape.
- **Design for the future**: Factor in rapid technological change and innovation. Agencies should consider allocating street space to the functions that matter most, and not necessarily to the newest technology. Street designs should also be flexible enough to support piloting new innovations.
- **Design with fiscal stewardship in mind**: Use innovative and creative design approaches to reduce costs and conserve resources for construction and life cycle costs, including operation, maintenance, and replacement costs. Include external costs, such as climate change impacts, to capture the full cost of specific design treatments.

Design Policy 5. Avoid, minimize and mitigate environmental impacts of the transportation system using Green Infrastructure design, street trees, wildlife habitat or waterway crossing improvements and other approaches to the extent practicable.

The effect that transportation infrastructure has on the health of the natural environment, particularly urban waterways, and habitat connectivity, is well documented. Transportation infrastructure 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 through the application of Green Infrastructure design treatments.[37] 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 follows 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.

All streets and trails must manage stormwater, treating runoff to reduce pollution and infiltrate water into the ground, limiting how much stormwater and pollutants eventually make their way into vulnerable natural waterways. By incorporating green infrastructure treatments such as vegetated medians, planters, curb extensions and street trees, streets and trails can function as urban green corridors that not only manage stormwater but mitigate the harmful impacts of transportation on air, water, and wildlife habitat and connectivity. This function of streets and trails is imperative to human and environmental health.

One of the distinct advantages of having streets and trails function as green streets over "grey infrastructure" for stormwater management is their superior treatment of pollutants running off from roadways. While grey infrastructure options may have smaller footprints, they are typically

[37] 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, screening sensitive habitats from noise and light, enhancing vegetation associated with wetlands and waterways for wildlife, limiting fill within wetlands, constructing bridges or open bottom culverts, creating new wetland areas, and restoring or rehabilitating damaged wetlands and waterways, using pervious materials and preserving, maintain 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.

more expensive to maintain and fail if not maintained. In addition, separate grey infrastructure elements are almost always needed to manage runoff quality and quantity.

Street trees and other green streets infrastructure provide a wide array of benefits in addition to stormwater management, offering wildlife habitat, improving air quality, providing shade and reducing the urban heat island affect, beautifying the surroundings, promoting human well-being and calming traffic.

On streets with high levels of walking and bicycling, street trees provide buffers from traffic and air pollution. The green streets function can be further supported by using dark skies approaches to minimize the impact of street lighting on wildlife, human health, and the natural environment. Designing streets and trails for stormwater management can also incorporate and enhance other functions, such as placemaking. Agencies can use green street elements to create a stronger sense of place and make walking and biking more enjoyable.

The following list identifies the types of environmetal, tribal, cultural and historical data that transportation agencies consider during development of projects:

- 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

Figure 3-19 Examples of how green infrastructure can help achieve regional goals

RTP Goal	Examples of how Green Infrastructure can help achieve regional goals
Thriving Economy	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. Protecting the environment and natural resources today can save money for the future and reduce infrastructure construction and maintenance costs.
Mobility Options	Green streets can promote active travel and access to transit by providing enjoyable routes that are shaded and buffered from traffic. 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.
Safe System	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.
Climate Action and Resilience	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. 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.
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 marginalized communities. 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. 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.

Design Policy 6. Use a performance-based approach and decision-making framework to plan and design transportation projects and networks.

As the demands on the transportation system increase, so does the need for flexibility in how roadways are designed. Performance-based planning and design expands design parameters to be more flexible. Performance-based planning and design incorporates many performance measures **to** assess how well a project will achieve desired outcomes. Measures and related goals may be

weighted to ensure that a project supports priority outcomes, for example reducing serious traffic crashes, identified in adopted plans and policies and through community engagement.

A performance-based design decision-making framework helps practitioners and stakeholders track decisions throughout the life of a project, as illustrated in Figure 3-20. This documentation process provides flexibility to choose the best design for a given context, while providing an effective way to manage risk when designing new or reconstructed roadways. The framework includes documenting the design considerations, and alternatives that were evaluated, based on clearly outlined project goals and meanigful stakeholder engagement.

Performance-based planning and design starts with a well-defined project need, accompanied by goals and related objectives. It then works to align design decisions with the project objectives and desired systemwide outcomes. This approach relies on developing and comparing design alternatives, using performance measures and analysis to assess progress toward achieving project objectives, and applying engineering judgment, informed by a multidisciplinary team, to reach a preferred design. Refer to Chapter 6 of the Designing Livable Streets and Trails Guide for a step-by-step guide and tools to address trade-offs and constraints.

Figure 3-20 The performance-based design decision-making framework

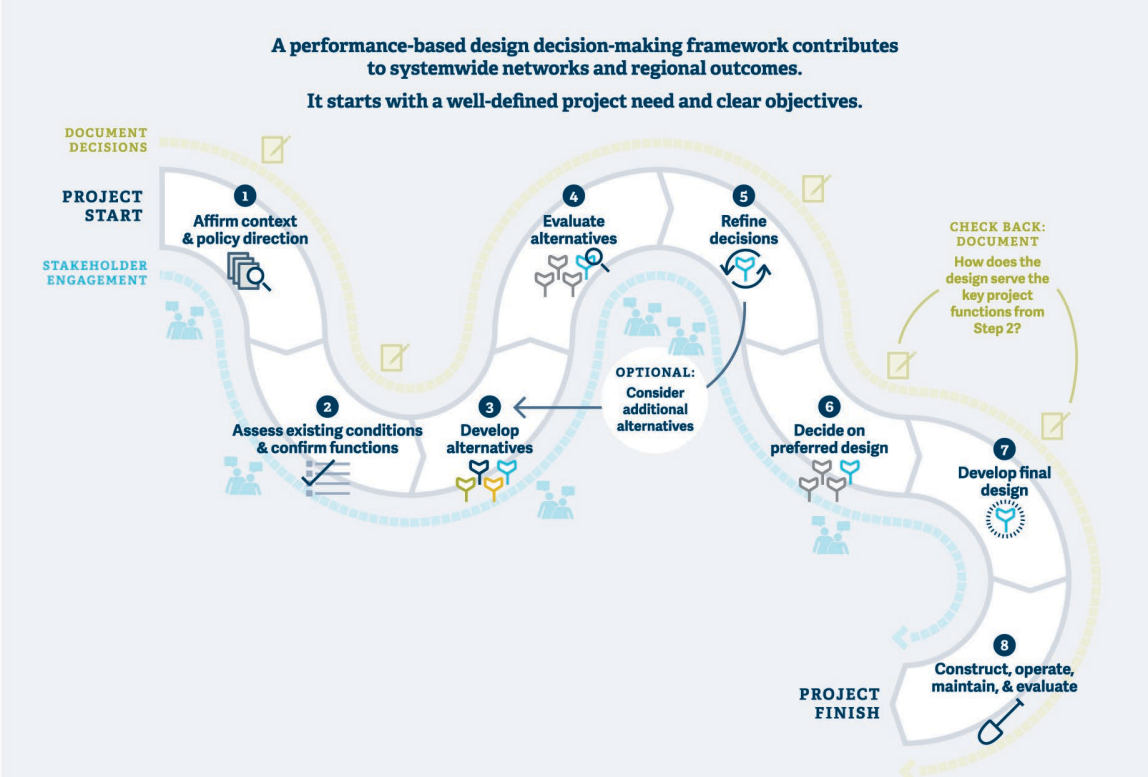


Figure 3-21 Regional design classifications map - TO BE ADDED

3.3.3 Regional motor vehicle network vision and policies

WHAT'S CHANGED? Three policies are removed because they are addressed by policies in the Safety and Design policy sections. Three policies are updated to reflect new policy direction in the pricing policies developed with significant input from Metro technical and policy advisory committees and the Metro Council and new requirements related to motor vehicle capacity in Oregon Transportation Planning Rule (OAR 660-012-0830).

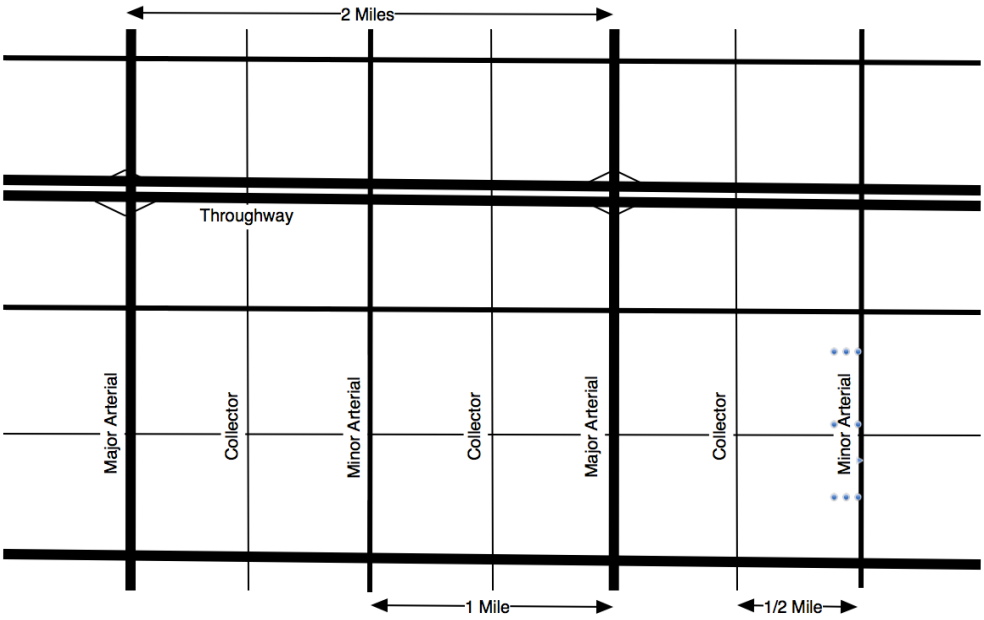
Though our region has changed dramatically over the past century, the shape of the major road network serving our region has not. Most of our regional streets were once farm-to-market roads, established along Donation Land Claim boundaries at half-mile or mile spacing. The region's throughway system 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.

3.3.3.1 Regional motor vehicle network concept

The Regional Motor Vehicle Network Concept shown in Figure 3-22 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 3-22 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.

3.3.3.2 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.

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 and auxiliary lanes where appropriate between interchanges to maintain mobility and accessibility and improve reliability for regional, statewide, and interstate travel.**
Policy 6	**If new capacity is being added, evaluate use of pricing and increased transit service in conjunction with new capacity to manage traffic congestion and reduce VMT per capita.**
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.[38]**
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	**Prior to adding new capacity, demonstrate that system and demand management strategies, including access management, transit and freight priority, pricing, and transit service and multimodal connectivity improvements cannot meet regional mobility, safety, climate and equity policies consistent with OAR 660-012-0830.**

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

[38] 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.

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.

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 all 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 3-22, 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 3-6 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.

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. Travel speeds vary depending on the surrounding and planned land use. 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. As part of the 2023 RTP update, a policy brief was developed that highlighted the importance of major arterial streets for equity, safety, land use/economic development and mobility (especially for transit). It also articulated many funding, design and policy challenges to improving them. The brief can be downloaded here.[39]

Streets designated with an arterial functional classification are shown in Figure 3-24 and include Boulevard and Streets described in Table 3-6.

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

[39] https://www.oregonmetro.gov/sites/default/files/2022/10/24/Safe and healthy urban arterials policy brief.pdf

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

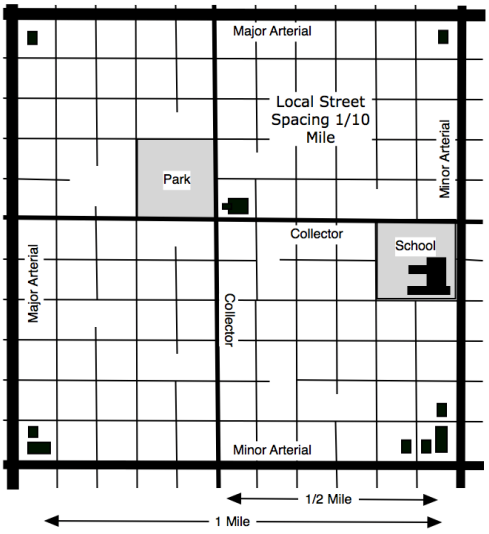
Collector and local street connectivity

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 3-23 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 3-23, 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.

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.

3.3 Regional motor vehicle network classifications and map

The Regional Motor Vehicle Network is shown in **Figure 3-24**. Click on 2023 RTP Regional Network Maps for online zoomable version of map.

Figure 3-24 Regional motor vehicle network map

Regional Motor Vehicle Network

- Throughway
- Proposed Throughway
- Major arterial
- Proposed Major arterial
- Minor arterial
- Proposed Minor arterial
- Arterial Outside UGB
- Proposed Arterial Outside UGB
- Employment/Industrial
- Central city; Regional center; Town center
- County boundary
- Urban growth boundary
- Metropolitan Planning Area

See inset map

Inset map

0 Mile 1

0 5 10 Miles

Source: Metro

2023 REGIONAL TRANSPORTATION PLAN

Metro

2/13/2023

3.3.4 Congestion management process

WHAT'S CHANGED? No changes have been proposed for this section.

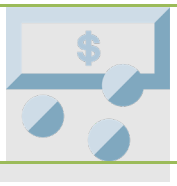
The RTP calls for implementing system and demand management strategies and other strategies prior to building new motor vehicle capacity, consistent with the Federal Congestion Management Process (CMP), Oregon Transportation Plan policies (including Oregon Highway Plan Policy 1G) and Section 3.08.220 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 3-8.

Table 3-8 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** • 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
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.

3.3.5 Regional transit network vision and policies

WHAT'S CHANGED? Policy updates were developed by the High Capacity Transit Strategy Work Group with input from Metro technical and policy advisory committees and the Metro Council as part of the Regional High Capacity Strategy update.

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. But the COVID-19 pandemic disrupted both transit use and service in the region. To achieve the regional vision in the 2040 Growth Concept and Climate Smart Strategy, we need to refocus the transit system around how people now travel, while continuing to realize the Regional Transit Vision to make transit more convenient, accessible, affordable and frequent for everyone, especially those who rely on it.

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 priority treatments.

Make transit more accessible by promoting transit-oriented development of station areas and 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.

3.3.5.1 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 provides regional transit service connecting Wilsonville to Portland and communities in Washington and Clackamas counties. Clackamas, Multnomah, and Washington Counties have also contracted to provide shuttle service to provide service within regional centers and to regional station areas, town centers, and employment areas.

Bus service in other surrounding areas, all with connections to the regional network, 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). Just outside of the greater Portland region, Sandy Area Metro (SAM) and Canby Area Transit (CAT) provide transit service for Sandy and Canby.

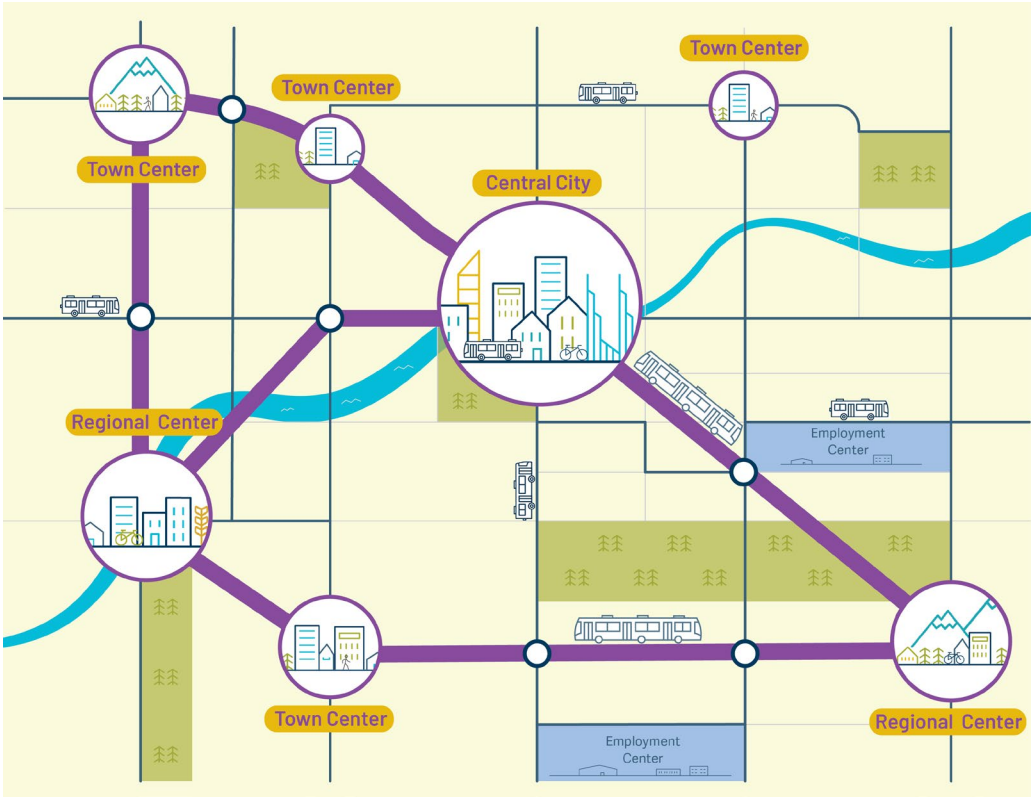
Transit is key to supporting the region's 2040 Growth Concept, which calls for focusing future growth in regional and town centers, station communities and 2040 corridors. A regional transit network, coupled with transit-supportive development patterns and policies that support taking transit, biking,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

- be less dependent on automobiles
- more equitably serve communities of color and other marginalized communities
- 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 3-25 shows how the regional transit system concept would connect the 2040 centers.

Figure 3-25 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 3-9.

Table 3-9 Effects of land use 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, which 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.

3.3.5.2 Regional transit network functional classifications and map

The Regional Transit Network includes future regional and local bus, better bus corridors, high capacity transit and intercity rail, reflecting the region's future transit vision as identified by Portland Streetcar System Concept Plan, TriMet's Service Enhancement Plans, SMART's 2017 Transit Master Plan (update currently underway), as well as local Transportation System Plans. Shown in Figure 3-27, the Regional Transit Network map has been updated to include new connections envisioned in the 2023 High Capacity Transit Strategy update and future transit service. The map also highlights areas planned to be served by community-job connector shuttles, including future routes identified in Clackamas and Washington County's Transit Development Plans. Click on RTP Regional Network Maps for online zoomable version of map. [LINK TO BE ADDED]

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 workhorses 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.

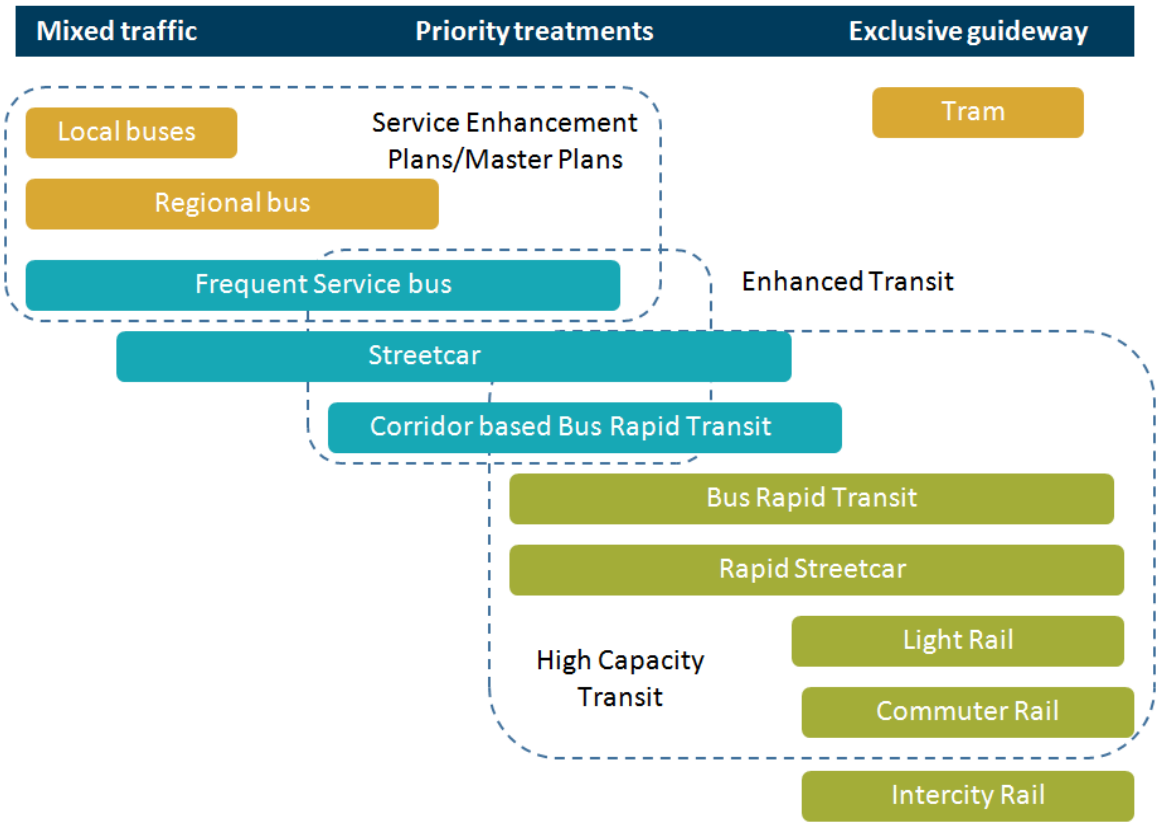
Our bus system operates in mixed traffic and provides service across the region. Alongside our bus system, we have implemented streetcar and corridor-based rapid bus. These services, along with frequent bus service, can and do include a variety of transit priority treatments. These tend to be more frequent and carry more transit riders than the regional and local bus system. The better bus program, new to our region, provides that transit priority to help improve transit speed and reliability above 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 the backbone of the broader transportation network, 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 six lines over a 75-mile network that serves more than 130 stations in the city of Portland, and the communities of Beaverton, Clackamas, Gresham, Hillsboro,

and Milwaukie; and Portland International Airport. **Figure 3-26** shows the broad transit spectrum that exists or is planned for regional transit system.

Figure 3-26 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.

Figure 3-27 Regional transit network map - TO BE ADDED

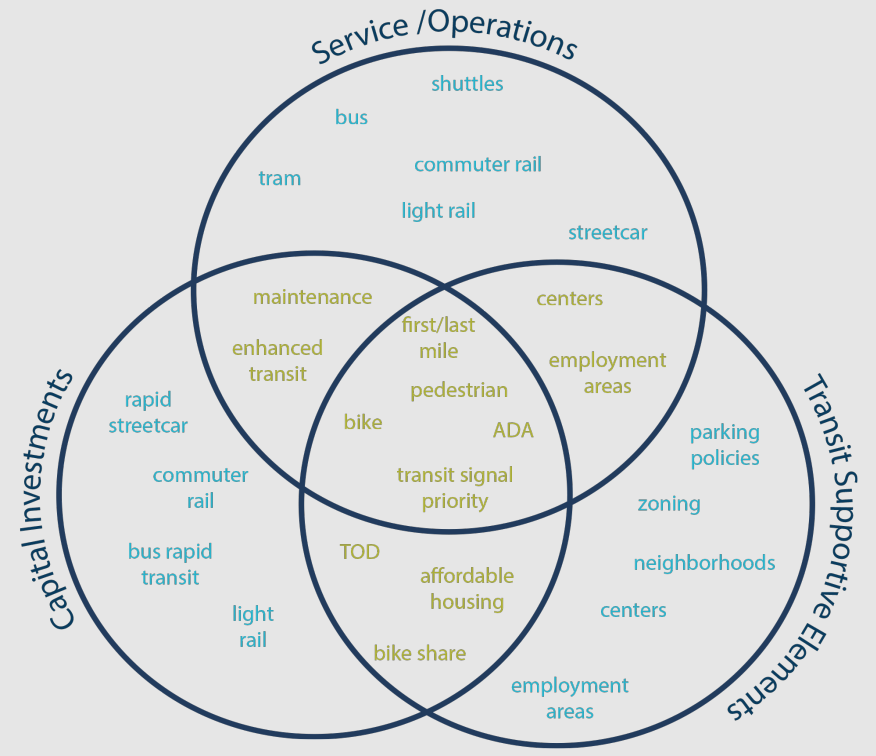
Implementation of the regional transit vision

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 3-28 shows the relationships between these different types of investments.

Figure 3-28 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.

3.3.5.3 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. Together, these policies support all five RTP goals.

Policy 1	**Provide a high-quality, safe and accessible transit network that makes transit a convenient and comfortable transportation choice for everyone to use.**
Policy 2	**Ensure that the regional transit network equitably prioritizes service to those who rely on transit or lack travel options; makes service, amenities, and access safe and secure; improves quality of life (e.g., air quality); and proactively supports stability of vulnerable communities, particularly communities of color and other marginalized communities.**
Policy 3	**Prioritize our investments to create a transit system that encourages people to ride transit rather than drive alone and to support transitioning to a clean fleet that aspires for net zero GHG emissions, enabling us to meet our state, regional, and local climate goals.**
Policy 4	**Preserve and maintain the region's transit infrastructure in a manner that improves safety, reliability and resiliency while minimizing life-cycle cost and impact on the environment.**
Policy 5	**Complete a well-connected network of local and regional transit on most arterial streets – prioritizing expanding all-day frequent service along mobility corridors and main streets linking town centers to each other and neighborhoods to centers.**
Policy 6	**Complete and strengthen a well-connected high capacity transit network to serve as the backbone of the transportation system. Corridors should generally be spaced at least one half-mile to one mile or more apart and serve mobility corridors with the highest travel demand. High capacity transit prioritizes transit speed and reliability to connect regional centers with the Central City, link regional centers with each other, and link regional centers to major town centers**
Policy 7	**Through the Better Bus concept, prioritize capital and traffic operational treatments identified in the Enhanced Transit Toolbox in key locations and/or corridors to improve transit speed and reliability for frequent service.**
Policy 8	**Evaluate and support expanded commuter rail and intercity transit service to neighboring communities and other destinations outside the region.**

Policy 9	**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 10	**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 11	**Ensure that transit is affordable, especially for people who depend on transit.**

Transit Policy 1. Provide a high quality, safe and accessible system that makes transit a convenient and comfortable transportation choice for everyone to use.

The region's economic prosperity and quality of life depend on a transportation system that provides every person and business in the region with access to safe, efficient, reliable, affordable and healthy travel options. But recovering from the pandemic-era ridership slump and meeting the region's transit ridership goals will require broader action, potentially including rethinking how transit serves the region's centers, finding resources to increase service, and redesigning streets to keep buses moving.

Figure 3-29 Tools for building a high quality transit system

[GRAPHIC TO BE ADDED]

Rapid streetcar has less stops and more street priority for regional mobility between centers. Streetcar extends the reach of the high capacity transit network by facilitating mobility within major centers.

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 rider's 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 and leverage electronic, integrated ticketing systems.

Transit Policy 2. Ensure that the regional transit network equitably prioritizes service to those who rely on transit or lack travel options; makes service, amenities, and access safe and secure; improves quality of life (e.g., air quality); and proactively supports stability of vulnerable communities, particularly communities of color and other marginalized communities.

As greater Portland continues to grow in both population and diversity, embracing this growing diversity means providing service that is equitable. The region's transit and broader transportation system should provide every person and business with equitable access to have the same opportunity to thrive, regardless of their race or ethnicity. Ridership during the pandemic held steadier on routes that have more people of color and people with low incomes and routes that serve arterials with a mix of jobs, housing, shops and other destinations. Making these trips more convenient and reliable means that people who are more likely rely on transit today will have better travel options. A regional transit system focused on mobility and access that addresses the transportation disparities faced by communities of color has the ability to open opportunities which can dramatically improve outcomes for people of color. By addressing the barriers faced by communities of color, outcomes for other disadvantaged communities will improve as well.

Using equity as a lens to guide decisions more broadly will ensure that the transit system benefits those who rely on it the most. Beyond network and service improvements, an equity lens can address disparities in:

- **Access:** New development and gentrification can lead to displacement, of which people of color and low-income are disproportionately affected by. As housing and transportation costs increase, households are being forced to move to areas with less transit service. To address this, projects should be prioritized in equity focus areas.
- **Safety and security:** People with low-income and people of color across the country disproportionately suffer from well-documented racial bias in and bear the burden of policing. Racial disparities exist in enforcing transportation laws and rules and issuing penalties for violations. Further, fines are not based on an individual's ability to pay, meaning that the penalty has greater impact for people with low-income and could lead to compounding consequences such as debt. At the same time, people of color are increasingly likely to be concerned for their safety when traveling due to fear of harassment and discrimination. Agencies should continue to pursue alternatives to policing (e.g., TriMet's Safety Response Team) that discourage harassment without enforcement.
- **Technology:** As more transit fare collection systems embrace contactless payment, accessibility challenges can arise for people, especially people with low incomes or who are undocumented, underbanked or unbanked. Agencies should continue to monitor and pursue strategies to reduce barriers to accessing digital fare systems.

Offering ample opportunities for meaningful public engagement and input is critical to hearing diverse perspectives on goals, policies and projects. Continuing to strengthen existing partnerships with local community organizations can provide more individuals with voices that may not have had the platform to be heard. Any transit planning effort should directly incorporate community in the decision-making process.

Further, major infrastructure investments have implications within the communities they are located. Historic data shows that high capacity transit investments such as light rail contribute to both positive and negative outcomes for the communities they serve. It is critical during planning for a new major transit investment that a strategy be developed that considers both the positive and negative impacts, particularly as it applies to the most at-risk populations who also tend to be the most transit dependent. Their potential displacement from the economic pressures that the investment brings ultimately undermines its long-term effectiveness.

Planning for all new high capacity transit connections through an Equitable Development Framework can potentially lessen the negative impacts of the investment and increase the benefits to transit-dependent communities – limiting residential and business displacements and gentrification. The framework will vary for each project and should be developed at the time the project is being considered through planning, engineering and construction. Key focus areas should include affordable transit-oriented housing opportunities and contracting and job training benefits and opportunities for displaced and marginalized populations.

Transit Policy 3. Prioritize our investments to create a transit system that encourages people to ride transit rather than drive alone and to support transitioning to a clean fleet that aspires for net zero GHG emissions, enabling us to meet our state, regional, and local climate goals.

Transit is a critical part of meeting regional goals for climate leadership and clean air, and an integral part of implementing the Climate Smart Strategy. Improving and expanding the transit system and use of transit in greater Portland will continue to play a significant role in reducing transportation-related air pollutants, including greenhouse emissions. 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 scheduled time, consistently, and it must be easy to use. The route would ideally be a one-seat ride or have seamless connections and fares between trains, buses, shuttles or streetcar, regardless of the provider. It should be just a short walk or bicycle ride away via a safe, comfortable connection that is easy to find and navigate. Information about schedules, transfers and real time arrivals would be readily available and easy to access both on-board and at stops and stations. Most importantly, it needs to be a viable option in regard to travel times. The region should continue to pursue strategies that prioritize transit and make the bus run better (e.g., signal priority and bus lanes), integrate service, information, trip planning, and payment platforms across transit agencies, improve sidewalk, crossing and bicycle facilities, and adopt technology to make transit more predictable and user-friendly (e.g., electronic fare and real-time monitoring systems). By providing both more and better transit connections between where people live and where they need to go, more people who drive today will be more likely to choose to use transit to travel instead.

Ongoing efforts to convert bus fleets to low and zero-emissions vehicles will further reduce emissions in the region. Electric trains and hybrid diesel/electric buses have been part of the regional fleet for many years and battery-electric buses have been added more recently. Both House Bill 2017 and the Low or No Emissions Buses and the federal Bus Facilities Grant Program funded by the 2021 Bipartisan Infrastructure Law have provided an opportunity to further invest in clean vehicles. As transit agencies in the region move toward a fleet without emissions, many are switching to renewable biodiesel fuel to reduce emissions in the interim. TriMet has pledged to stop purchasing diesel buses by 2024 toward being net-zero by 2050. Similarly, SMART's fleet is already composed of 40% alternative fuel vehicles and plans to be net-zero by 2028. C-TRAN has the goal to be net-zero by 2040. Further, renewable electricity from natural resources like sun and wind can be used to power both transit vehicles and facilities. Cleaner alternative fuels are the future of transit, and the region should continue to support the transition to a clean transit fleet and facilities. As more people are encouraged to ride on an improved and expanded transit network using clean vehicles, greater Portland will see emissions reduced for the transportation system more broadly as well.

Transit Policy 4. Preserve and maintain the region's transit infrastructure in a manner that improves safety, reliability 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 to maintain a state of good repair. 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.

According to the FTA, the average useful life of a bus, or when it may need to be replaced, is 12 years, or 500,000 miles. In 2002, buses and streetcars close to replacement age in regional fleets were none for TriMet, 2% for Portland Streetcar, 19% for C-TRAN[40], and 43% for SMART. Another area of investment for TriMet is the MAX system, parts of which are more than 35 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. In 2020, about 18% of light rail vehicles were close to replacement age and about 8% of the tracks were also in need of 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

[40] This number includes vehicles beyond buses.

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.

Transit Policy 5. Complete a well-connected network of local and regional transit on most arterial streets – prioritizing expanding all-day frequent service along mobility corridors and main streets linking town centers to each other and neighborhoods to centers.

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 – varying in type and level based on needs and demand. Beyond bus service, types of local transit services include para-transit service for people with disabilities, deviated "On-Demand" routes, shuttles (e.g., community and job connectors, employer-run or sponsored, community event), and the tram.

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 expand 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.

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 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.

More focus is needed on the local transit needs of suburban and rural areas of the region – identifying transit gaps and exploring innovative strategies like microtransit to improve transit access and reduce service fragmentation. Chapter 8 Moving Forward Together provides more information about the future Connecting First and Last Mile: Transit Mobility Study.

Expand regional and local frequent service transit

Providing regional transit along most arterial streets is another key piece of a high-quality network better serving existing and growing communities. 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.

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 along corridors and main streets.

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.

Key considerations for investments in frequent service are ridership, productivity, and lines that provide 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.

Transit Policy 6. Through the regional Better Bus concept, prioritize capital and operational improvements identified in the Enhanced Transit Toolbox in key locations and/or corridors to improve transit speed and reliability for frequent service.

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 to reduce time spent traveling by transit for people riding. The region should pursue opportunities as they arise to improve the efficiency of our system to support our transit riders.

The Better Bus 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. Better bus would 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.

Better bus 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 rapid bus (those identified as Developing or Future corridors in the 2023 High Capacity Transit Strategy). This creates a potential path for growing better bus into high capacity transit over time – starting with incremental, smaller-scale improvements that can be leveraged later when implementing a large-scale capital infrastructure investment.

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 3-10 describes the different types of treatments that have the potential to improve reliability. Providing transit priority on the roadway and/or at signals that help buses avoid delay and/or bypass traffic mean trips on these routes stay on schedule and/or are faster. These features, combined with other preferential treatments, such as covered bus shelters, special lighting, enhanced sidewalks and bicycle facilities, and protected crosswalks, are fundamental to making the Better Bus network function at its highest level.

Table 3-10 Better Bus treatments to enhance frequent transit service

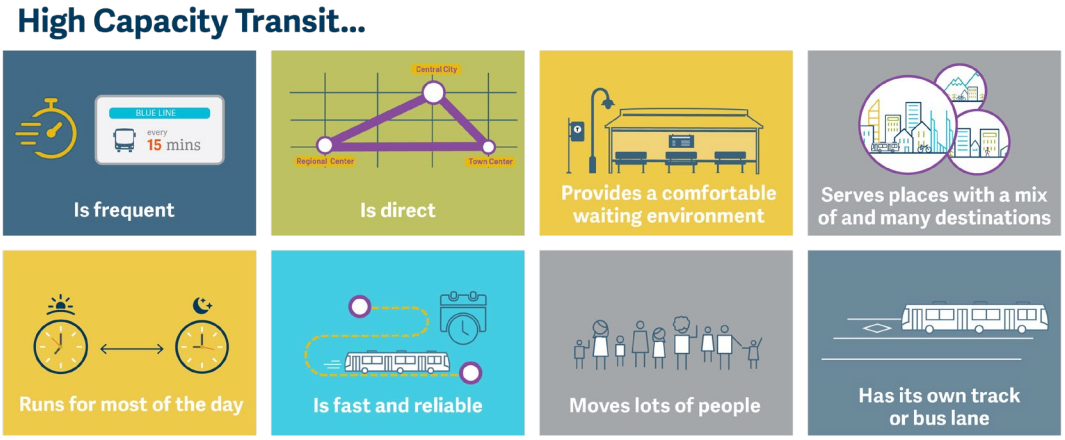
Regional	Hotspot
Bus on shoulder	Dedicated bus lane
Transit signal priority and signal improvements	Business access and transit (BAT) lane
Headway management	Intersection queue jump/right turn except bus lane
Corridor	Transit-only aperture
Level boarding	Pro-time (peak period only) transit lane
All door 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 7. Complete and strengthen a well-connected high capacity transit network to serve as the backbone of the transportation system. Corridors should generally be spaced at least one half-

mile to one mile or more apart and serve mobility corridors with the highest travel demand. High capacity transit prioritizes transit speed and reliability to connect regional centers with the Central City, link regional centers with each other, and link regional centers to major town centers.

High Capacity Transit (HCT) investments help the region concentrate development and growth in its centers and corridors. It serves as the backbone of the transportation network, connecting people to the central city, regional centers and major town centers with high-quality service (i.e., fast, frequent, safe and reliable). Linking these activity centers and station communities better connects people with essential jobs, services, commerce and other major destinations (e.g., colleges, hospitals, affordable housing). Generally, high capacity transit corridors should be about a half-mile to a mile apart to make more broad connections across the region where the bus or other types of transit make connections and provide complementary services to fill in the network.

This type of service carries more transit riders more quickly, efficiently and comfortably than local, regional and frequent service transit lines. In the regional transit network concept, high capacity transit serves regional routes where the most people need to travel to get where they need to go, often with relatively long trip lengths, to provide a viable alternative to the automobile in terms of convenience and travel time.



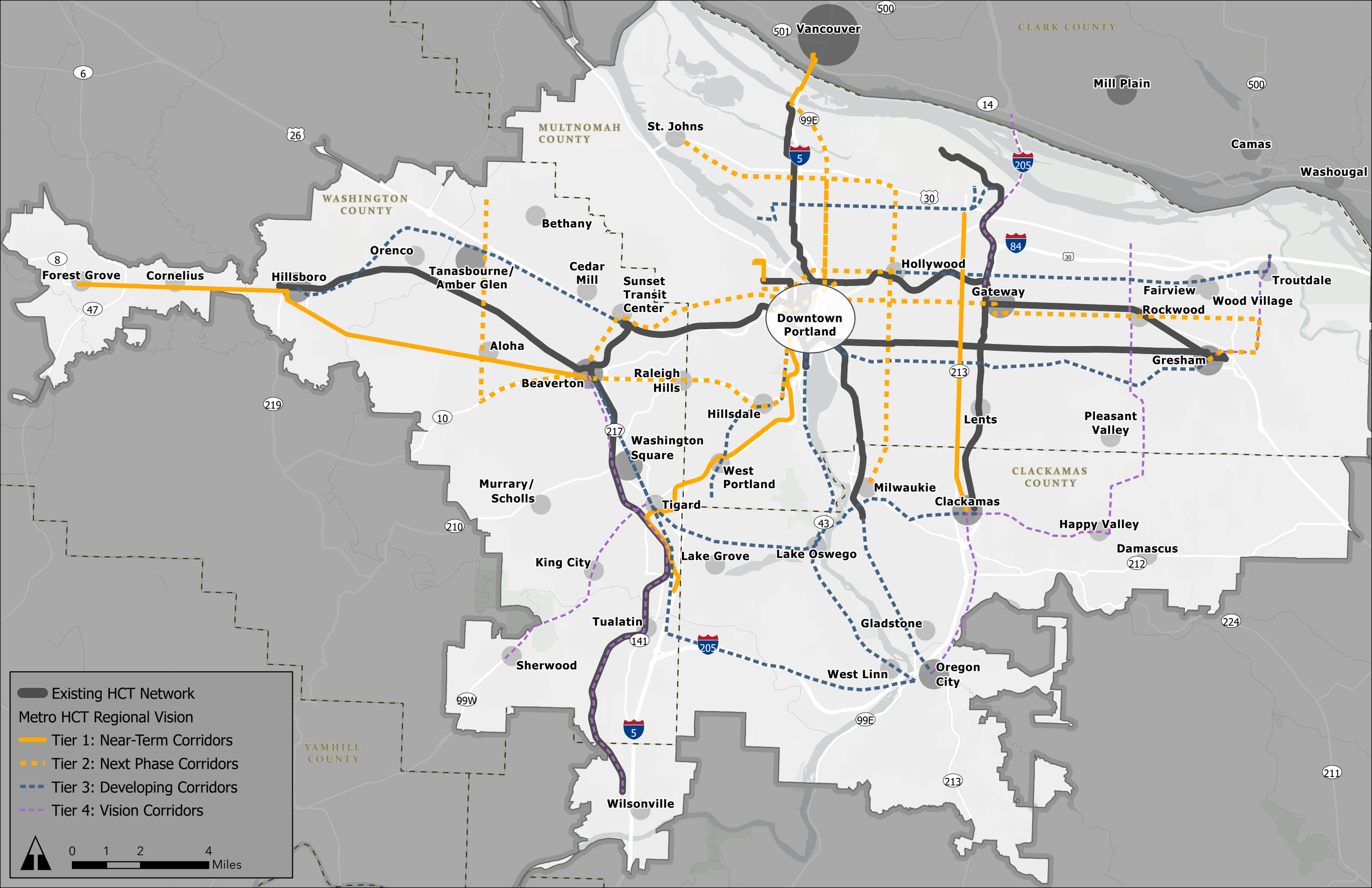
High capacity transit has both a level of enhanced amenities and transit priority that work together to move more people, more comfortably than other types of regional or local transit. Enhanced amenities refer to features that make high capacity transit more efficient, convenient, and comfortable: vehicles that are larger and allow boarding from all doors, transit centers and stations with near-level boarding, and frequent service (striving for frequencies of 10 minutes or better during the peak hours and 15 minutes during off peak hours). It also refers to transit centers and stations with covered waiting shelters, benches, schedule and real-time bus and train arrival information and special lighting. Other amenities could include ticket machines, restroom facilities, bicycle parking (e.g., bicycle stations or bike & rides), civic art and commercial services. Enhanced priority investments refer to dedicated tracks or lanes in the street that improve speed

and/or reliability, getting people to destinations faster and on-time. Light rail operates along dedicated tracks, but rapid buses may operate in a mix of dedicated and shared street space. High capacity transit operates on a fixed guideway or within an exclusive right-of-way, to the greatest extent possible. High capacity transit investments take existing strong transit connections to the next level in accessibility and priority on the roadway and at the signal – while shining a light on the corridor in which it travels to improve safety, access and livability for current and future riders.

To be prioritized for high capacity transit in the near-term, a corridor must have a high "activity density" or people and/or jobs nearby, most of the elements of a transit-supportive environment (described in Table 3.8 above), a high cost-effectiveness of and potential for funding, and demonstrated community and stakeholder support and local agency commitment. Together, these factors indicate where there is the greatest need for and most potential benefit in making higher cost, higher quality transit investments. The High Capacity Transit Strategy prioritizes investments over the span of decades - categorizing corridors by their readiness for investment - where high capacity service supports the cost-effective use of regional resources to build a high capacity transit system. The high capacity transit assessment and readiness criteria, described in more detail in Chapter 7 of the Regional Transit Strategy, provides a framework to inform advancing high capacity transit projects identified in the RTP and Regional Transit Strategy.

The region should continue to pursue coordinated partnerships in planning for and investing in these major capital improvements that prioritize transit over other modes, construct features that improve speed, reliability, and access to transit, and address community needs and gaps. Adopted transit-supportive land use and transportation policies and strategies, such as high-density and mixed-use zoning, reduced parking requirements, and affordable housing incentives are critical to ensuring a corridor is ready for high capacity transit investment. To optimize and leverage transit supportive land uses, alignments and station locations should be oriented towards existing and future high density, mixed-use development and connect intermodal passenger facilities. 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.

Figure 3-30 High capacity transit map


Vancouver
CLARK COUNTY
Mill Plain
Camas
Washougal
MULTNOMAH COUNTY
St. Johns
WASHINGTON COUNTY
Bethany
Orenco
Forest Grove
Cornelius
Hillsboro
Tanasbourne/ Amber Glen
Cedar Mill
Sunset Transit Center
Hollywood
Gateway
Fairview
Troutdale
Wood Village
Rockwood
Downtown Portland
Aloha
Gresham
Beaverton
Raleigh Hills
Hillsdale
Lents
Pleasant Valley
Washington Square
West Portland
Murrary/ Scholls
Tigard
Milwaukie
Clackamas
CLACKAMAS COUNTY
Happy Valley
Damascus
Lake Grove
Lake Oswego
King City
Tualatin
Gladstone
Sherwood
West Linn
Oregon City
Wilsonville
YAMHILL COUNTY
Existing HCT Network
Metro HCT Regional Vision
Tier 1: Near-Term Corridors
Tier 2: Next Phase Corridors
Tier 3: Developing Corridors
Tier 4: Vision Corridors
0 1 2 4
Miles

Transit Policy 8. 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. Current travel patterns are showing a rising demand for intercity transit service solutions for improving passenger rail in the future in response to rising demand, while also balancing similarly increasing freight service needs.

The following corridors have a high likelihood to support intercity or commuter rail service in the future: Portland-Newberg, Portland-Astoria, Portland-California and Chicago to Seattle via Salt Lake City and Portland (formerly Amtrak Pioneer). Metro, regional partners and corridor communities should consider right-of-way preservation for these corridors and consider land use planning activities that focus on transit-supportive development around potential future station areas.

When developing inter-regional rail service, this corridor alignment should take priority for improving passenger rail service between Eugene and Portland in the nearer-term future.

In the longer-term future, providing a fast, frequent, reliable and environmentally responsible high-speed transit connection could serve as a catalyst to transform the Pacific Northwest. The Pacific Northwest Corridor provides an important intercity rail connection between Eugene, Oregon and Vancouver, British Columbia. It is one of eleven corridors shown in Figure 3-31 identified for improved inter-city rail connections and potential high-speed rail investments to better connect communities across the U.S. Ultra-high-speed rail on the corridor should complement and bolster the broader intercity passenger rail system – for instance, Amtrak Cascades could connect smaller cities (including Salem and Eugene nearer-term) to the corridor and the regional hubs connected by it.

In 2021, the Governors of Oregon and Washington and the Premier of British Columbia signed a Memorandum of Understanding (MOU) to initiate program to advance activities in support of an ultra-high-speed rail project with speeds up to 250 miles per hour allowing for travel between each city in under an hour. The agreement established the goal of laying the groundwork for the creation of a formal, legal entity to continue project development while seeking community engagement and input, gaining critical support from decision makers, and positioning the corridor for future funding opportunities and an efficient environmental process. More information about current efforts to support high speed rail are described in Chapter 8 Moving Forward Together.

Figure 3-31 U.S. High speed intercity passenger rail network

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

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 broadly. Additional collaboration and funding are needed to support development of this level of service.

Transit Policy 9. 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 and helps the transit network function at its highest level. 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 3-27 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.

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 trip planning tools (e.g., Get There Oregon, TriMet's Trip Planner);
- co-locating bike and scooter sharing facilities at transit stations to improve active transportation connections;
- linking modal systems in regional and local transportation plans; and
- reducing the amount of parking near stations by managing or pricing existing spaces and reducing the number of spaces that developments near transit are required to provide a safer, more active transportation-oriented environment near stations. The Climate Friendly and Equitable Communities (CFEC) rules require many cities in the region to reduce or eliminate parking requirements and manage or price parking in areas with high levels of transit service.

Explore new ways to improve connections to high frequency transit

Advances in technology have given rise to new transportation services that make it easier for people to share vehicles and have the potential to work alongside transit to significantly extend the range and convenience of car-free trips in the region. Many of these options, including ride-hailing and bike, e-bike, scooter, and car sharing, are available and widely used in certain parts of the region. These new services can help bridge the gap for first and last-mile high frequency and, particularly, high capacity transit access. There are several actions that Metro and its transportation agency partners can take to improve connections and interactions between shared mobility and transit.

- Ensure designated transit streets are designed and managed to prioritize transit and shared travel. Ride-hailing and e-commerce delivery vehicles are using an increasing amount of curb space in some congested areas. Agencies can manage the curbside to prioritize ride-hailing services carrying more than one passenger and avoid conflicts with transit vehicles.

- 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 drop-offs 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 support shared connections to transit stations. Several communities already fund 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 subsidize or promote trips via these modes to transit stations. The City of Portland's Transportation Wallet, which offers credits that people can use to pay for transit and a variety of new mobility services to residents in Parking Districts, affordable housing sites, and new multi-family buildings. These programs allow people access to a suite of options that can complement existing options or connect them to transit when the bus or train only covers part of their journey.
- Make it easy to plan, book, and pay for trips that combine transit and shared mobility. Smartphone apps are now the most common way for people in the Portland region to access information about their transportation options, and are well-suited to provide the type of real-time information that people need to coordinate trips using multiple modes while accounting for potential transit delays, changes in the availability of shared vehicles, and the changing landscape of new mobility services in the region. TriMet's Open Trip Planner integrates data on transit routes, schedules and real-time arrivals and tracking; bicycling and walking travel times; and shared mobility options so that riders can easily plan multimodal trips using an interactive map platform optimized for smartphones. Other private travel information apps offer similar services; transit agencies can make schedule and route information available in the format that these tools use to allow their services to how up in these apps.

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 those services. 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 or don'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. These travelers often need to overcome both cultural barriers (for example, limited English proficiency and concerns about personal safety when traveling in public) and technological ones (such as a lack of access to smart phones or data plans that allow for easy

online access to information from anywhere) in order to access the increasing number of online travel information and shared transportation services.

As tolling and congestion pricing moves forward in the region, discounts or exemptions should be considered to incentivize multimodal travel behavior and reduce impacts, including exemptions for public transit and reduced pricing for higher occupancy vehicles such as shuttles, vanpools, and carpools (Oregon Highway Plan Policy 6.10).

Transit Policy 10. 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.

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.

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. Similarly, people commuting to employment centers in more suburban or exurban areas at the regional edges also often rely on slower, often infrequent buses or may not be served by existing bus service. The growth in new mobility technologies include new real-time fleet management and route optimization tools as well as trip planning services and ride matching services that can help people identify a transportation service that meets their needs or someone with whom they can share a ride. These technologies can be used to increase the quality and/or productivity of infrequent or high-cost services, or to help people find a service that meets their needs when conventional transit isn't available to them.

Transit Policy 11. Ensure that transit is affordable, especially for people who depend on transit.

The cost of transportation burdens many households in the metropolitan region and is usually the second largest share of household costs (after housing). People of color, with limited English proficiency, with low-income, with disabilities, age 65 or older and 18 or younger are more transit-dependent and those most affected by transportation costs. It is therefore important to ensure that transit is affordable, particularly for the riders that need it the most (i.e., riders who do not have access to cars and low-income households who often have the longest distances to travel). Ensuring that transit is affordable alleviates the cost of owning automobiles.

C-TRAN and TriMet offer reduced fares for youth, seniors, people on Medicare, and people with low incomes. Most SMART buses are free – there is a fee for Dial-a-Ride service and for the 1X to

Salem which also offers a reduced fare. Broadening these programs to further reduce or even eliminate some fares or offering other financial assistance that could be applied to costs of fees would help alleviate cost-burden for those who rely on transit.

One way to do that is by making transit free for youth – a clear community priority identified during the Get Moving 2020 transportation funding measure process and something C-TRAN has already done for local service. Research has shown that people form opinions about transit early on, with early use being a key indicator of ridership in the future. Austin's Capital Metro free fare pilot program for K-12 students both boosted ridership and benefited local communities and was made permanent in 2020.[41] Another way is by allowing more groups to qualify for reduced fare programs. One example being C-TRAN's reduced fare program which also extends to refugees, attendants assisting honored riders and veterans. Revenue impacts of expanding reduced fare or fareless programs should be examined collaboratively, including identifying funding to offset any potential loss of revenue.

Reduced fare programs

Removing barriers to acquiring reduced or free transit fares can make it possible for individuals with limited access to documents, identification, or internet to receive these benefits. Fare capping, an approach utilized by TriMet's Hop Fastpass, allows people to pay for a reduced monthly pass by the ticket rather than all at once up front. Programs like TriMet's Access Transit, which provide fares to non-profit and community-based organizations at lower to no cost to distribute to clients, help to further increase the reach and accessibility of reduced fare programs. The region should build partnerships with non-profit and human service providers to support expanding these types of programs, disseminate more information about reduced fare programs and work through ways in which these programs can be more effective. The City of Portland's BIKETOWN for All program is one example of how access to increase integration of free or reduced fare programs by including students receiving federal aid (FAFSA) and people receiving food assistance (Oregon Trail Card, SNAP). 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.

[41] Capital Metro. May 11, 2020. Free Faires for K-12 Students Now Permanent. https://www.capmetro.org/news/details/2020/05/11/free-fares-for-k-12-students-now-permanent

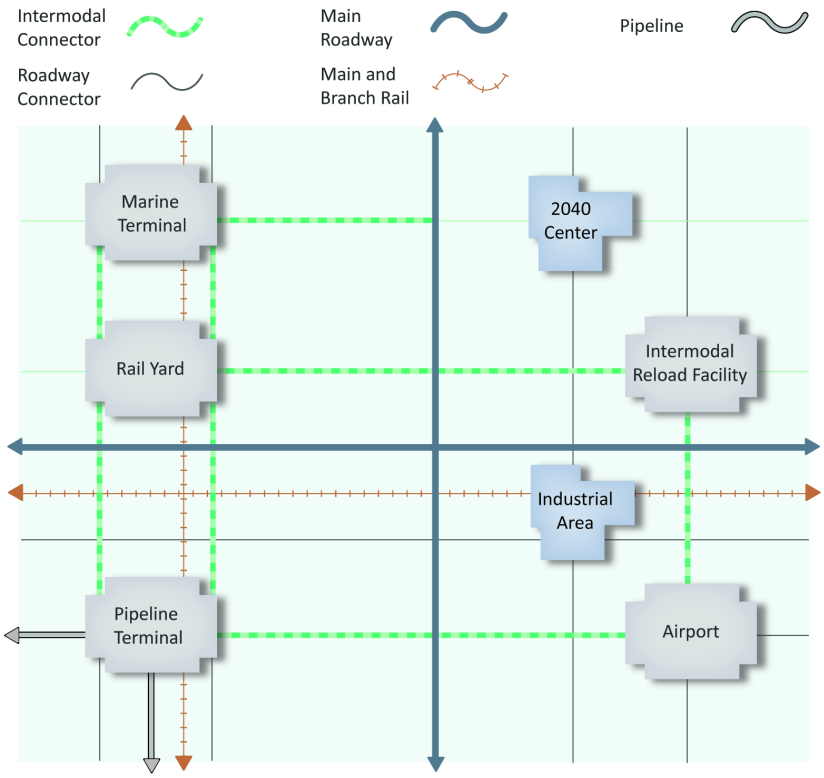
3.3.6 Regional freight network vison and policies

WHAT'S CHANGED? One new policy has been added to address findings from the Regional Freight Delay and Commodities Movement Study. The new policy is focused on addressing the continued growth in e-commerce and delivery trips and the need for industrial land that provides for an increase in distribution centers and fulfillment centers.

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.

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 3-32 shows the components of the regional freight system and their relationships.

Figure 3-32 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.

3.3.6.2 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.

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.**
Policy 8	**Adapt future freight system investments to emerging technologies and shifts in goods movement, including the emergence of e-commerce and automated delivery systems.**

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.[42] The region's forecasted population and job growth – an additional 917,000 residents and 597,000 jobs to be added between 2010 and 2040[43] – 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.

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.

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.

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

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

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.

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.[44] 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.

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

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.

Freight Policy 8. Adapt future freight system investments to emerging technologies and shifts in goods movement, including the emergence of e-commerce and automated delivery systems.

This policy is focused on addressing the continued growth in e-commerce and delivery trips and the need for industrial land that provides for an increase in distribution centers and fulfillment centers.

3.3.6.3 Regional freight network classifications and map

The Regional Freight Network map, shown in Figure 3-33 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 RTP Regional Network Maps for online zoomable version of map. [LINK TO BE ADDED]

The regional freight network has a functional hierarchy like 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 Washington 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.

The different functional elements of the regional freight network are:

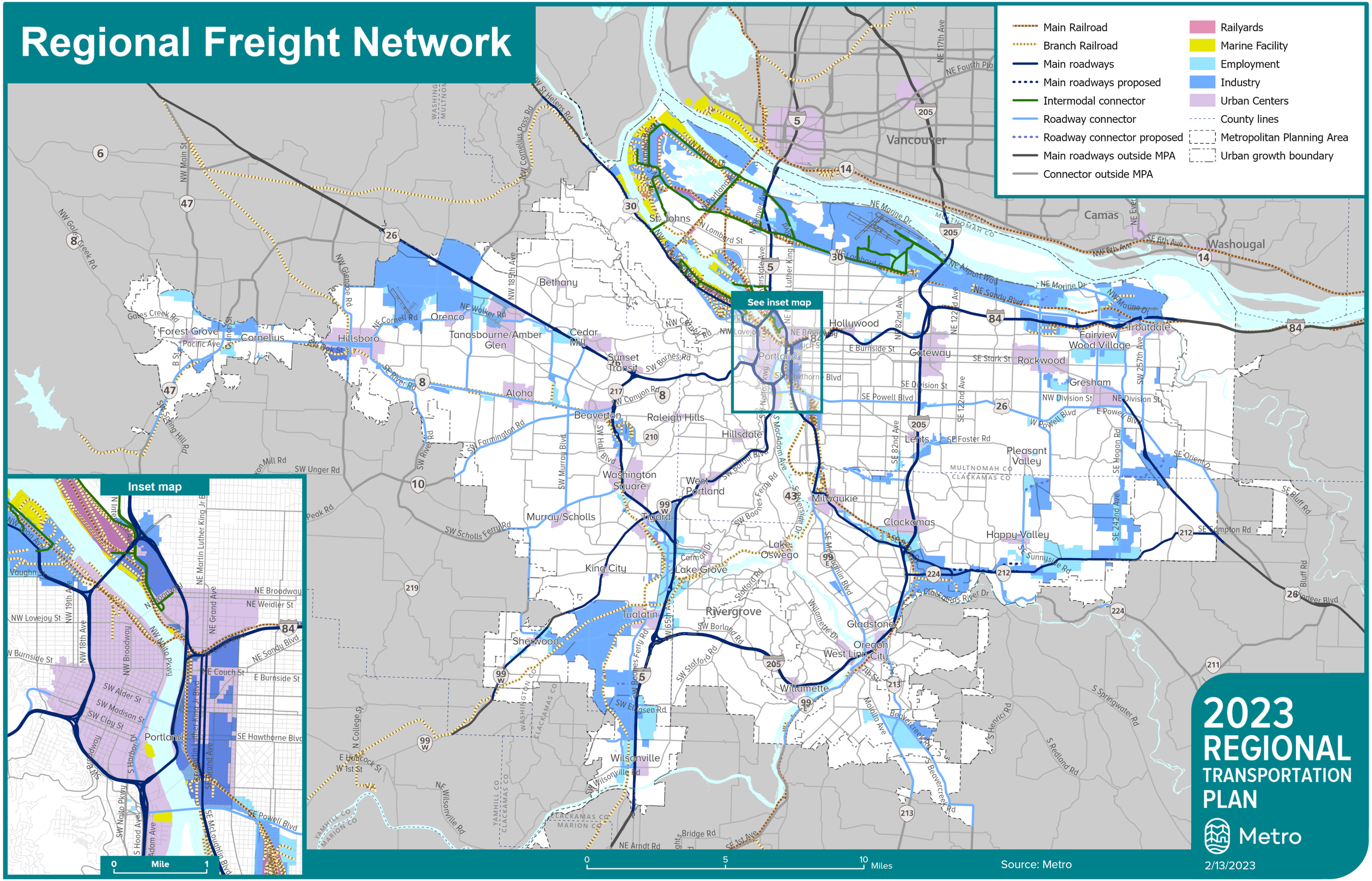
- **Main line rail –** Class I rail lines (e.g., Union Pacific and Burlington Northern/Santa Fe).
- **Branch line rail –** Non-Class 1 rail lines, including short lines (e.g., Portland and Western Railroad).
- **Main roadway routes –** Designated freights routes that are freeways and highways that connect 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 facilities –** 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 3-33 Regional freight network map

Regional Freight Network



2023 REGIONAL TRANSPORTATION PLAN

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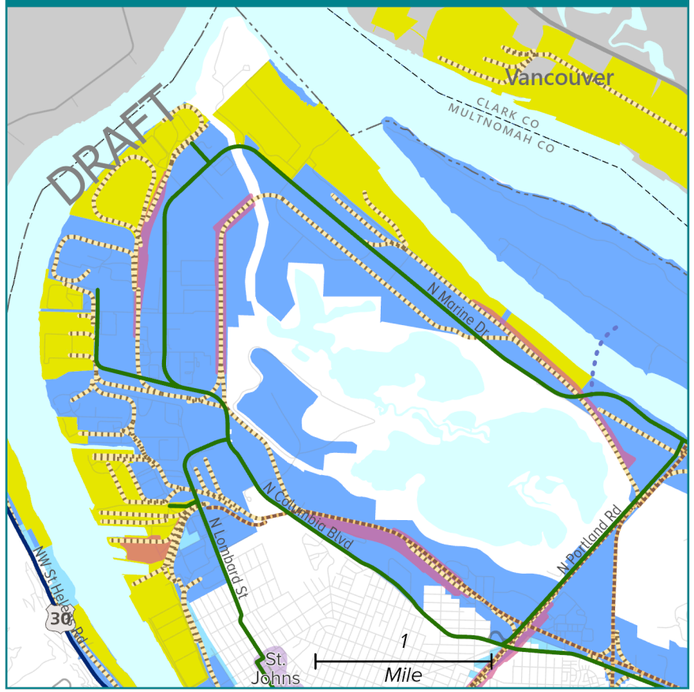
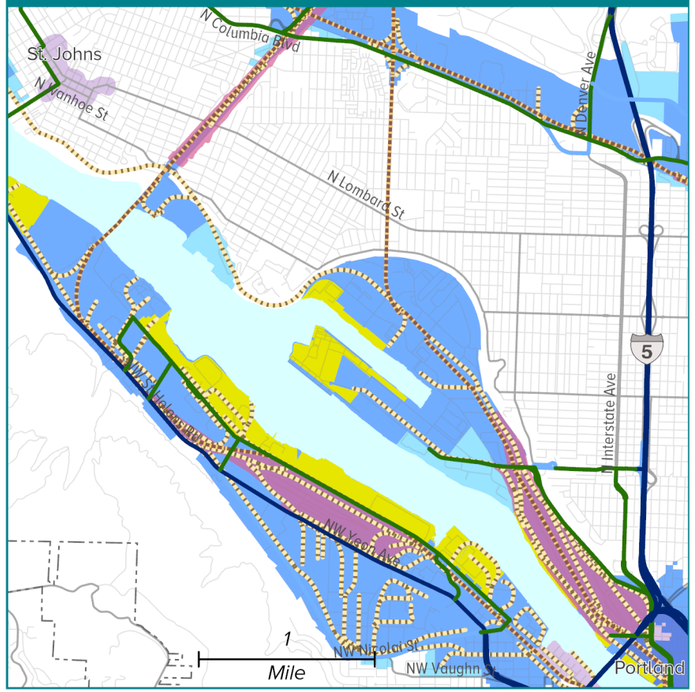
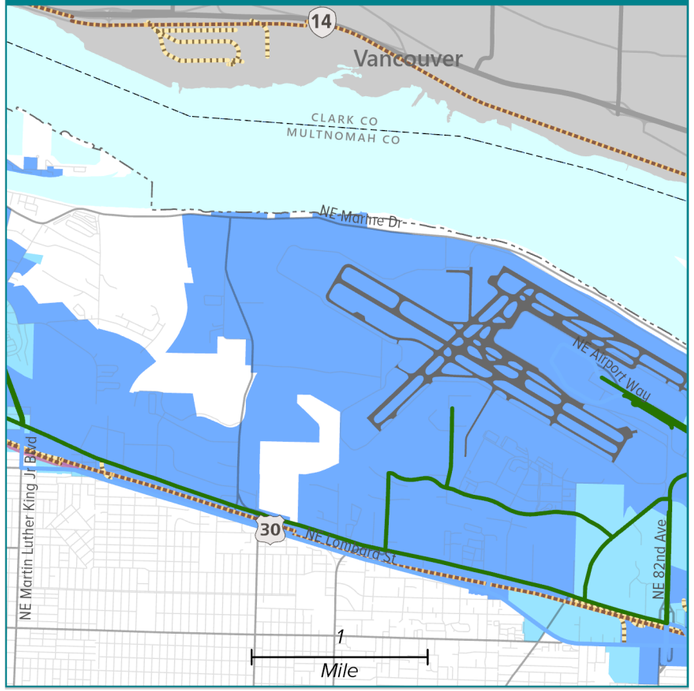
1. North Portland Marine Terminals



2. NW Industrial and Swan Island



3. Portland International Airport



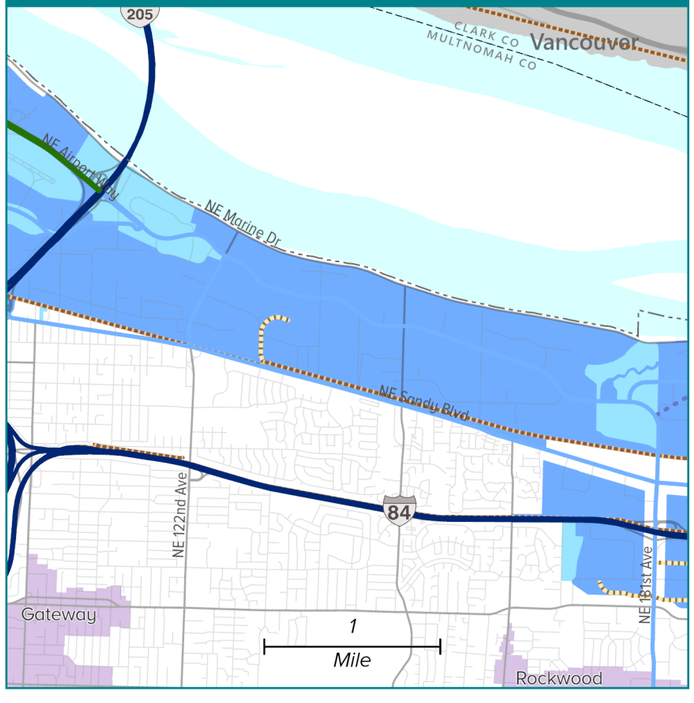
Legend

(dotted lines are proposed projects and do not identify specific alignments)

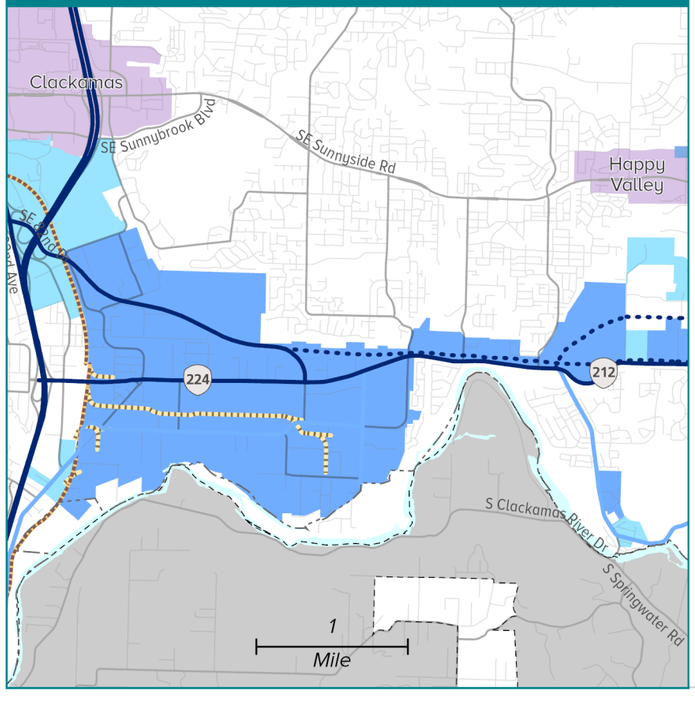
- Main Railroad
- Branch Railroad
- Main roadway routes
- Roadway connectors
- Freight routes outside MPA boundary
- Intermodal connectors
- Marine Facility
- Railyards
- Urban centers
- Industrial area
- Employment area
- County lines
- Urban growth boundary
- Metropolitan planning area

Source: Metro

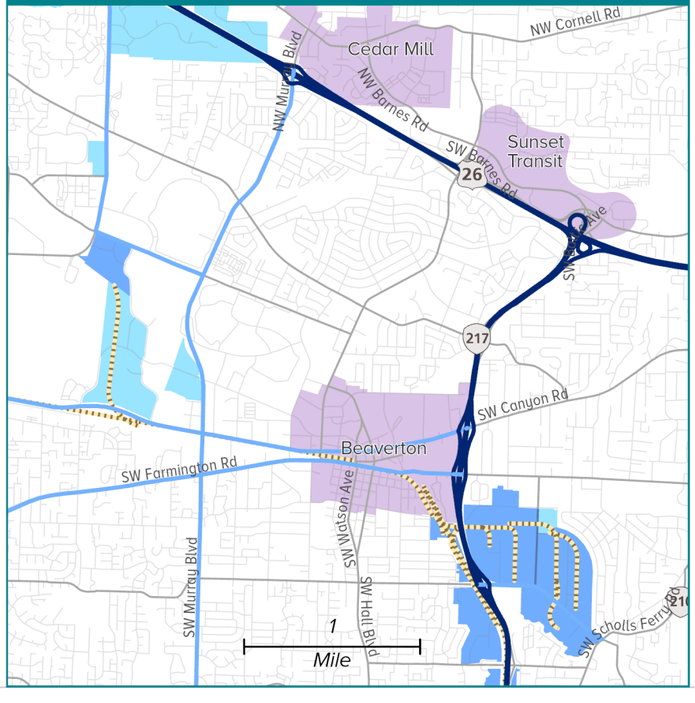
4. Kenton Rail Line/Columbia Corridor



5. Clackamas Industrial Area



6. Beaverton Industrial Area



3.3.7 Regional active transportation network vision

WHAT'S CHANGED? No changes to the policies in this section are proposed. Information on the Regional Active Transportation Plan was moved from the Bicycle Policies section into this section, under 3.3.7.1.

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. 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.[45]

3.3.7.1 Regional Active Transportation Plan (2014)

The Regional Active Transportation Plan and the Designing Livable Streets and Trails Guide 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.

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

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.

3.3.8 Regional bicycle network concept and policies

WHAT'S CHANGED? No changes to the policies in this section are proposed.

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.

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.

3.3.8.1 Regional bicycle network concept

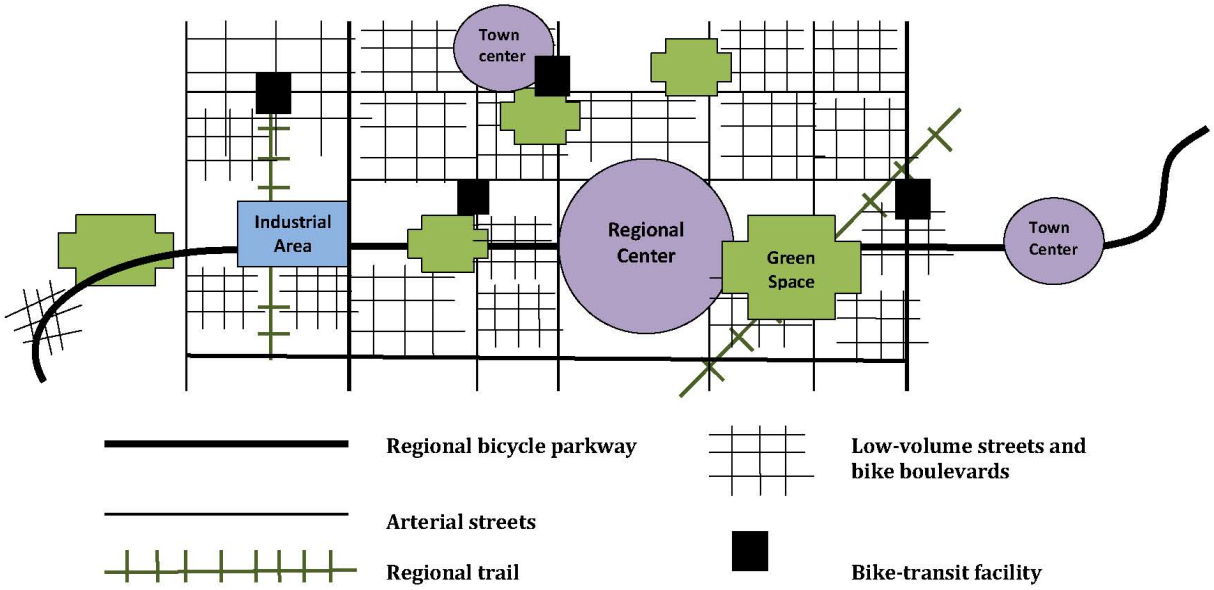
The regional bicycle network concept includes:

- 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 3-34 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 3-34 Regional bicycle network concept



3.3.8.2 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.

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.[46] 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.[47] 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. 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. [48]

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

[46] 2011 Oregon Household Activity Survey.

[47] 2011 Oregon Household Activity Survey. Vehicle trips by length for trips wholly within Clackamas, Multnomah, Washington and Clark Counties.

[48] Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law

190 percent since 1995.[49] 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:

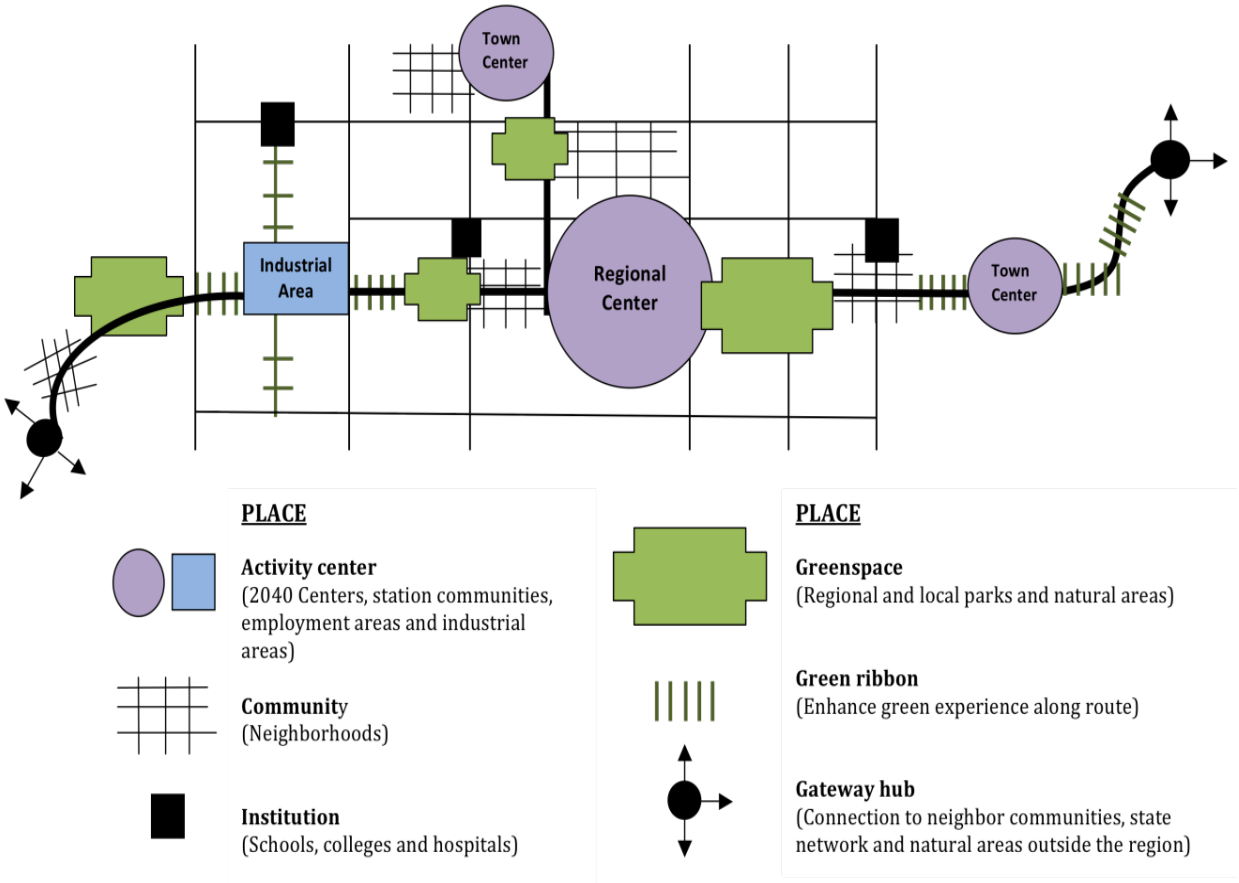
- A green environment with natural features such as trees or plantings (some will already be green, while others will be made greener as part of bike parkway development)
- Comfort and safety provided by protection from motorized traffic
- Large volumes of cyclists traveling efficiently with minimal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

Figure 3-35 illustrates this policy concept in the context of the regional bicycle parkway concept.

[49] 2011 Oregon Household Activity Survey.

Figure 3-35 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 / protected / physically separated bicycle lane 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.

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, 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.

3.3.8.3 Regional bicycle network functional classifications and map

This section describes the regional bicycle network functional classifications shown on Figure 3-36, the Regional Bicycle Network. Click on 2023 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 3-36 is a functional classification 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 like that of the regional motor vehicle network. Figure 3-36 provides a vision for a future bicycle network; for a map of current bicycle facilities in the region, refer to Chapter 4.

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. These facilities have been built at transit centers and MAX stations throughout the region– including in Wilsonville, Hillsboro, Beaverton, Portland and Clackamas County.

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 /protected/physically separated bicycle lanes, shoulder bikeways, shared roadway/wide outside lanes and bicycle priority treatments (e.g., bicycle boulevards).

Figure 3-36 Regional bicycle network map

Regional Bike Network

- Bicycle Parkway
- Planned Bicycle Parkway
- Regional Bikeway
- Planned Regional Bikeway
- Employment/Industrial
- Central city; Regional center; Town center
- County boundary
- Urban growth boundary
- Metropolitan Planning Area

See inset map

Inset map

Metro Data Resource Center
oregonmetro.gov

0 Mile 1

0 5 10 Miles

Source: Metro

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3.3.9 Regional pedestrian network concept and policies

WHAT'S CHANGED? No changes to the policies in this section are proposed.

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 marginalized communities, lack of safe walking routes can be worse.

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:

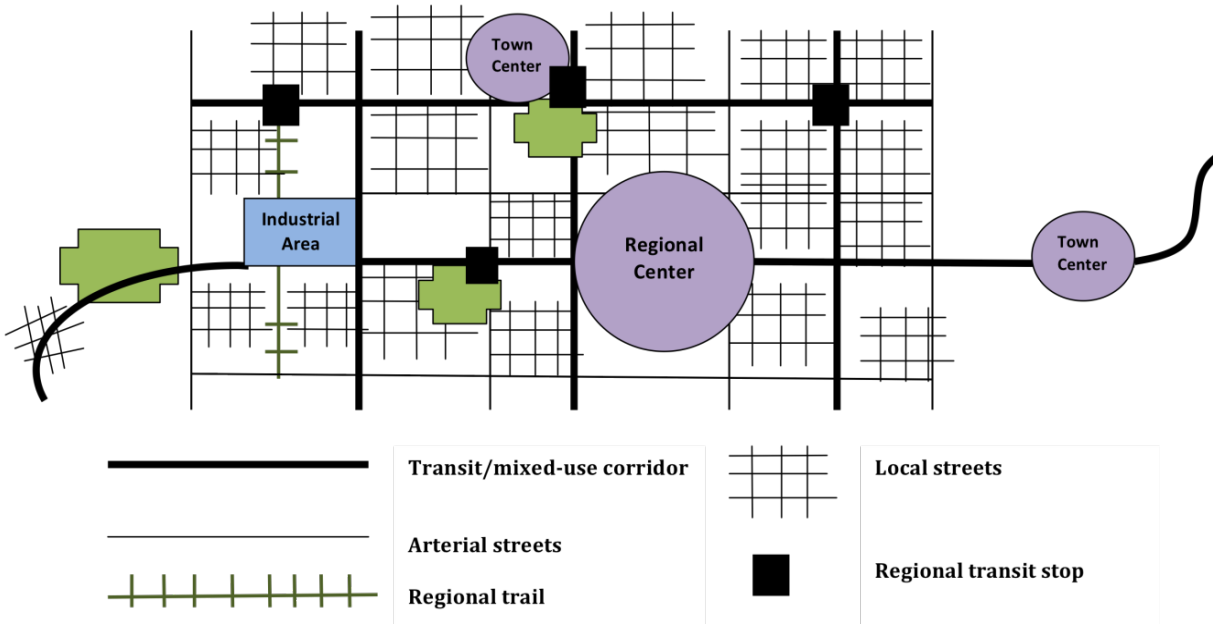
- Sidewalks along all arterials, collectors and most local streets.
- Direct and safe pedestrian routes to transit and other essential destinations.
- Provision of safe crossings of streets and controlled pedestrian crossings on major arterials.
- Safe, direct and logical pedestrian crossings at all 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.

3.3.9.1 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 3-37 shows the components of the regional pedestrian network and their relationship to adjacent land uses.

Figure 3-37 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.

3.3.9.2 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.

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 recreational activity in Oregon.[50] 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. [51] 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. [52]

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

[50] 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.
[51] 2011 Oregon Household Activity Survey.
[52] Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law

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.

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.

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 3-38, 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 like that of the regional motor vehicle network. Figure 3-38 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 3-38 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 RTP Regional Network Maps for online zoomable version of map. [LINK TO BE ADDED]

Figure 3-38 Regional pedestrian network map

Regional Pedestrian Network

- Pedestrian Parkway
- Planned Pedestrian Parkway
- Pedestrian Corridor
- Planned Pedestrian Corridor
- Employment/Industrial
- Central city; Regional center; Town center
- Metropolitan Planning Area
- Urban growth boundary

See inset map

Inset map

0 Mile 1

0 5 10 Miles

Source: Metro

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3.3.10 Transportation System Management and Operations Vision and Policies

WHAT'S CHANGED? Changes are recommended to the RTP TSMO policies to align with the 2021 TSMO Strategy, adopted by JPACT and the Metro Council in 2022. Changes also are made to only include the references to transportation demand management (TDM) and parking policies as they relate to TSMO. Pricing, TDM and parking related policies have been moved to other policy sections in Chapter 3 of the RTP and are noted in those sections. The Oregon Transportation Planning rule, as amended through the Climate Friendly Communities (CFEC) rulemaking in 2022, was also reviewed and referenced.

The region's Transportation System Management and Operations (TSMO) vision, concept and policies reflect that the transportation system represents a significant public investment in capital infrastructure that must be 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. OAR 660.012, the Oregon's Transportation Planning Rule (TPR), stipulates that coordinated land use and transportation plans should increase transportation choices and make more efficient use of the existing transportation system through transportation system management and demand management.

The 2021 TSMO Strategy incorporated the policies and regionally desired outcomes of the 2018 RTP. The 2021 TSMO Strategy updated the region's ten-year strategy, continuing an innovative, holistic, multimodal and cost-effective approach to managing the region's transportation system. An effective TSMO Strategy prioritizes optimization of the existing transportation system by improving business practices and collaboration, encouraging behavior changes through transportation demand management and using technology to understand and manage how the system operates.

3.3.10.1 Transportation system management and operations vision

Regional stakeholders share a vision for TSMO:

Collaborate to provide reliable, agile, and connected travel choices so that all users are free from harm, and to eliminate the disparities experienced by Black, Indigenous, people of color and people with low incomes.

This vision reflects broad participation in planning for operations. TSMO participation is multidisciplinary, and requires collaboration across several disciplines, including planners, engineers, emergency responders, demand management specialists, operators, and maintenance professionals. The region leads by aligning efforts with six TSMO Strategy goals:

- Provide a transportation system that is reliable for all users.

- Connect all people to the goods, services and destinations they need through a variety of travel choices.
- Collaborate as effective stewards for the transportation system.
- Eliminate the disparities in the transportation system experienced by Black, Indigenous, people of color and people with low incomes.
- Create a transportation system where all users are free from harm.
- Manage the system to be agile in the face of growth, disruptions and changing technology.

3.3.10.2 Transportation system management and operations concept

The concept for TSMO was further refined by stakeholders to establish objectives, performance measures and actions. The 21 actions in Table 3-11 show the range of regional work that connects TSMO work to achieving outcomes aligned with the RTP.

Table 3-11 Examples of TSMO and investments in four strategic areas

Concepts, Capabilities, and Infrastructure • Inventory and manage regional signal and Intelligent Transportation System Communications Infrastructure • Manage transportation assets to secure the network • Continue freight technology and Intelligent Transportation Systems deployment • Facilitate ground truthing of emerging technologies • Establish a Regional Transit Operators TSMO Group • Unify and standardize fare subsidies for transit and Mobility on Demand • Develop an Intelligent Transportation System travel time information data collection and distribution plan for Regional Disaster Preparedness Organization regional emergency routes • Create continuous improvement process for existing and new signal systems and related performance • Deploy regional traveler information systems • Implement integrated corridor management and mainstream into corridor planning • Create a TSMO safety toolbox • Build and use a TSMO Toolbox to connect gaps in bicycle and pedestrian infrastructure •
Planning • Develop a Mobility on Demand strategy and policy • Pilot Origin-Destination data to prioritize TSMO investments • Participate in regional public outreach to assist in guiding, listening and learning through TSMO focused conversations • Update the regional ITS Architecture
Listening & Accountability • Track and prioritize TSMO investments for and with Black, Indigenous, people of color and people with low incomes • Create a community listening program

- Improve TSMO data availability to aid in traveler decisions and behavior

Data Needs

- Establish TSMO performance measures baseline.
- Explore new TSMO data sources

3.3.10.3 Transportation system management and operations (TSMO) policies

Policy 1	**Manage the transportation system for the effective and efficient use of publicly funded transportation assets while supporting mobility, multi-modal reliability, racial equity, safety and reductions in carbon emissions.**
Policy 2	**Take actions from the regional TSMO Strategy by supporting a program that conducts planning for operations, develops new operational concepts, assesses future needs for capabilities, identifies gaps in data and establishes a process for listening and accountability.**
Policy 3	**Optimize operations for reliability and mobility by coordinating and advancing operator capabilities with shared tools and interoperable technologies.**
Policy 4	**Provide real-time traveler information data across devices and at physical locations that is comprehensive in serving the needs of people, businesses and freight movement.**
Policy 5	**Improve incident detection and clearance times on the region's transit and motor vehicle networks to reduce the impact of crashes on the transportation system.**

TSMO Policy 1. Manage the transportation system for the effective and efficient use of publicly funded transportation assets while supporting mobility, multi-modal reliability, racial equity, safety and reductions in carbon emissions.

Consistent with RTP policy dating back to the 1990s, the region will apply transportation system management to make the best use of existing infrastructure to delay or avoid large, higher-cost

and potentially disruptive construction projects. This policy is applied using regional values and desired outcomes for mobility, reliability, racial equity, safety and reduction in greenhouse gas emissions.

TSMO is done at the regional level through collaboration to identify and scale up practices and technologies that are effective at reducing vehicle miles traveled and crashes while increasing reliability, connectivity, traveler information and investments that support racial equity. These technologies also record data from the transportation system that supports effective operations, planning and investments. Performance measures and targets for system management support the RTP Congestion Management Process, Climate Smart Communities and the 2021 TSMO Strategy.

Each step of implementing the strategy will use the TSMO Equity Tree (a branching diagram), working up through a series of equity-focused questions. The last step is to evaluate the plan or action be accountable. Each evaluation will ask "Did the outcomes help or hurt communities of color?" and suggests next steps depending on the answer. TSMO Policy 2. Take actions from the regional TSMO Strategy by supporting a program that conducts planning for operations, develops new operational concepts, assesses future needs for capabilities, identifies gaps in data and establishes a process for listening and accountability.

In 2010, the region completed a planning process to adopt the first ten-year strategy for implementing TSMO. This formalized a regional TSMO Program to convene stakeholders and support priorities with resources and partnerships. Metro convenes TransPort, the subcommittee of Transportation Policy Alternatives Committee (TPAC). TransPort plays a major role to advance the TSMO Strategy through monthly meetings for cooperative planning and deployment of technologies and related procedures. Broad TransPort participation is encouraged. This regional forum supports operators of greater Portland's roads, highways, transit, shared-use mobility services, transportation demand management, congestion pricing, parking management, freight, active transportation facilities and digital infrastructure. Metro and TransPort form additional work groups as needed.

Figure 3-39.shows where some of these actions and investments are envisioned to be applied in the region to improve mobility, safety, efficiency, and reliability of the system.

TSMO Policy 3. Optimize operations for reliability and mobility by coordinating and advancing operator capabilities with shared tools and interoperable technologies.

Transportation operators meet to share perspective on their "capability maturity" with regard to their agency performance in operations and an overall performance of regional partners working together. By reaching agreement on standards and procedures, transportation operators share and advance capabilities. The end goal is to reach optimization across multiple categories such as actively managing the transportation system, responding to incidents, participating in planning, measuring performance, building a workforce with a culture of technical understanding and leadership, and engaging in broad collaboration. In many cases, optimization requires formal agreements, such as data sharing, that stem from regional policies. In other cases, the conversations prepare for emerging technologies as well as retiring outmoded technology.

TSMO Policy 4. Provide real-time traveler information data across devices and at physical locations that is comprehensive in serving the needs of people, businesses and freight movement.

[Narrative to be added]

TSMO Policy 5. Improve incident detection and clearance times on the region's transit and motor vehicle networks to reduce the impact of crashes on the transportation system.

TSMO Strategy is aligned with the region's Safety Strategy to eliminate severe crashes (crashes with major injuries or fatalities) by 2035. Crashes on the transportation network cause non-recurring congestion, and fatal crashes result in longer clearance and recovery times with sustained impacts. The 2021 TSMO Strategy aims to reduce harm, and reduce the non-recurring congestion created by incidents, by improving the safety of the system overall. [53]

[53] "Ridesharing" in this context means traditional not-for-profit carpooling or vanpooling, not Transportation Network Companies such as Uber or Lyft.

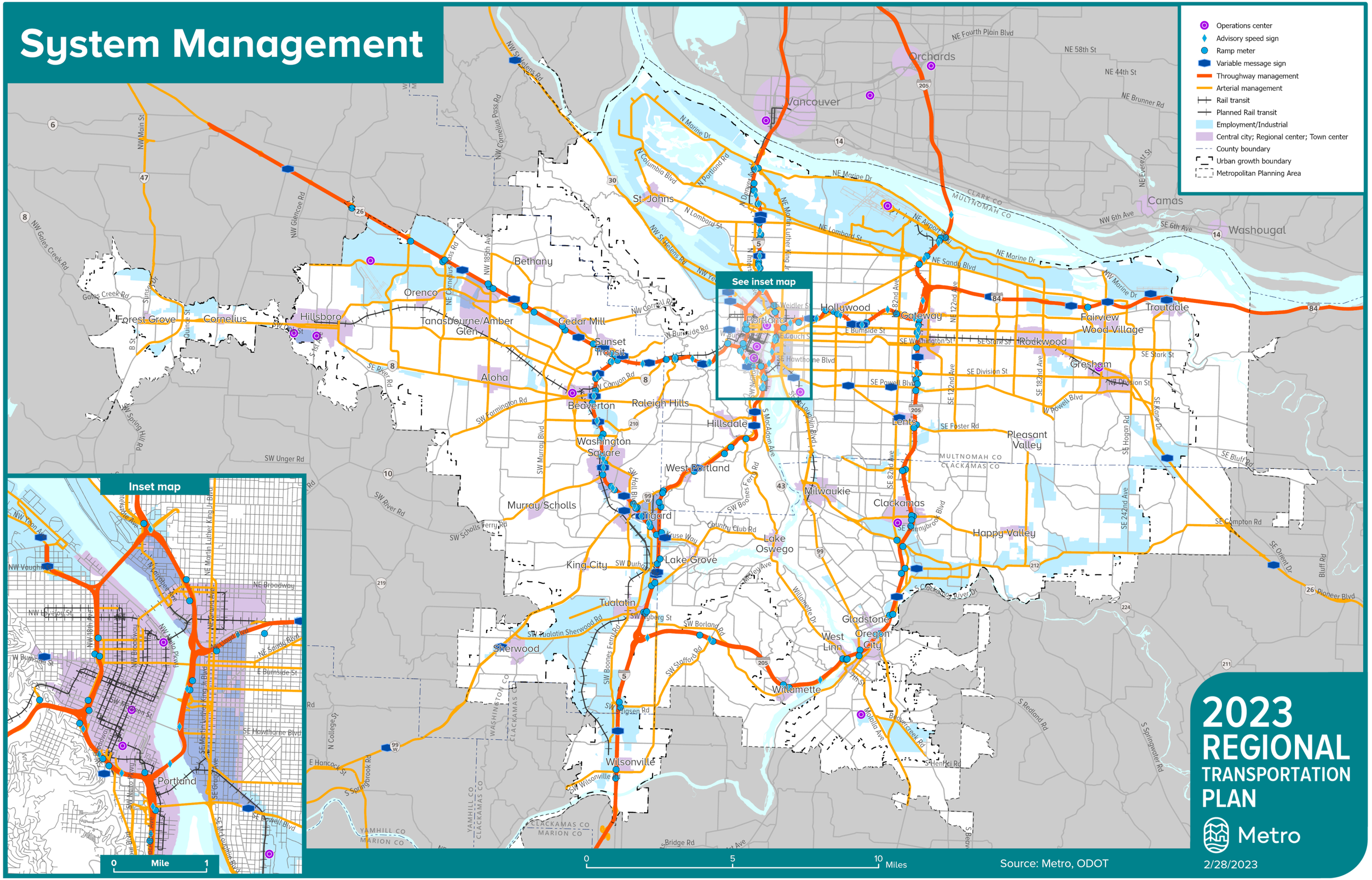
3.11.4 Transportation system management and operations map

The map for regional TSMO reflects Policy 1, manage the transportation system. Actively managing the transportation system requires Intelligent Transportation Systems equipment along throughways and arterials such as variable message signs that can alert travelers with information or advise safe speeds. A variety of sensors help automate this process, but operators also utilize cameras to solve problems remotely or deploy responders to an incident. A digital infrastructure transmits data to and from transit and road operators who use central, shared software to improve multimodal movement and safety at intersections with traffic signals. In partnership with Portland State University, regional partners share data that can then be accessed by academic researchers, planners, consultants and the public. In partnership with Oregon DOT and the private sector, the region's operators also use crowdsourced data. Crowdsourced data helps evaluate reliability and also can inform current travel conditions and report crashes. Not all of this can fit into one map.

Another map will be created in a parallel effort with the 2023 RTP update. TSMO stakeholders will define system completeness as part of the Regional Mobility Policy. Stakeholders will map key corridors, referring to existing conditions and gaps that need to be addressed. This map will be used in Transportation System Plan updates and amendments.

Figure 3-39 Transportation system management and operations map

System Management



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3.3.11 Transportation Demand Management Concept and Policies

WHAT'S CHANGED? Metro staff propose adding a new TDM policy section, separated out from the TSMO policy section, to provide clearer direction for how TDM helps achieve regional policy and which entities are responsible for delivering TDM programming. Several TDM-related policies from the TSMO policy section have been moved into this section with refinements.

This proposed new policy reflects the expanded role of Transportation Demand Management (TDM) in achieving multiple other regional policy outcomes. TDM is referenced as a means of achieving goals in transportation equity, regional mobility, managing roadway capacity, reducing greenhouse gas emissions, improving safety and implementing pricing strategies. This policy section brings clarity to how TDM programs should be delivered to help meet these goals, broadly defining the various approaches and partnerships required to implement a comprehensive TDM effort throughout the region.

The Regional Travel Options (RTO) program is led by Metro and supports TDM work in the region primarily through awarding grants to partners leading outreach and engagement programs. This methodology has led to successful program implementation in the places and instances where it has been used. But there remain significant gaps in where TDM is used in the region and limits on expanding TDM efforts.

The RTO Strategy has established a goal of expanding the number of partners and programs to support the region's goals, but clearer policy direction is needed to better define how TDM is to be implemented in the region and move TDM efforts beyond their current levels.

3.3.11.1 Transportation demand management concept

Transportation Demand Management (TDM) is a series of activities aimed at ensuring people are aware of, understand and have access to the full variety of travel options available within the region. Though the region has already done much and continues to work to improve and expand travel options through capital investments in non-auto modes, the potential exists to increase the public's use of these non-SOV modes through TDM investments.

TDM complements and enhances other RTP policy areas by helping ensure our transportation system is used in a balanced way to maximize our investments. TDM provides information, encouragement, and incentives to help people make more of their trips safely and comfortably without driving alone. TDM programs are developed and staffed by professionals trained in understanding the travel needs of various groups, such as commuters or school children, and creating methods of helping them make those trips without the need for an SOV trip.

A typical TDM program involves working with a defined group of people that have similar travel needs or live in a specific place. Trained staff discuss the transportation needs and interests of the group and provide information and incentives to encourage people to try a new travel mode. This work can take many forms, from participation in GetThereOregon.org, a statewide website

provided by ODOT and dedicated to facilitating travel options use, to a localized outreach effort specific to a single housing development.

Active involvement in delivering TDM programming is needed at the state, regional and local levels. Certain programs are most effective when developed and led by local governments, school districts, Transportation Management Associations (TMA), employers or community organizations. Others are better suited to be conducted on a state or regional scale.

TDM is particularly effective when paired with other policies or capital investments. Building new or improved active transportation infrastructure provides an opportunity for TDM efforts to help people be aware of and use the new travel options available to them. Complementary TDM activities should be planned and budgeted for in capital system improvement projects to ensure people are aware of the new travel options available to them, and to help them create new travel patterns and habits.

As the region considers roadway pricing and parking management as strategies for reducing auto trips, TDM is an important component in ensuring that people's mobility is maintained when these strategies are implemented. Making people aware of the existent options to paying a toll or fee can reduce the public's financial burden and help improve reliability and efficiency of the transportation network.

A significant portion of the region's current TDM activities are coordinated through the Regional Travel Options (RTO) program. This program, led by Metro on behalf of the entire region, currently coordinates partner activities and provides grant funds for TDM activities throughout the region. Through the RTO Strategy, the region's TDM vision, goals, objectives, and needs are defined. Roles for regional partners are defined, as is the grant funding methodology and criteria.

3.3.11.2 Transportation demand management policies

Policy 1	**Develop and refine regional and local TDM policies and implementation and action plans to help reach climate, mobility and modal targets.**
Policy 2	**Ensure adequate TDM resources and programming are deployed to meet the public's specific mobility needs for employment, education and essential services.**
Policy 3	**Provide and deliver TDM programming at a variety of scales: state, regional and local.**
Policy 4	**Focus TDM efforts on improving access to travel choices and eliminating barriers for marginalized communities, with a focus on communities of color and people with low incomes.**

TDM Policy 1. Develop and refine regional and local TDM policies and implementation and action plans to help reach climate, mobility and modal targets.

TDM is a component of numerous federal, state and regional plans, including:

- Climate Friendly and Equitable Communities Rules
- ODOT Transportation Options Plan
- DEQ Employee Commute Options Rule
- Metro Climate Smart Strategies
- Metro Regional Travel Options Strategy
- Metro Transportation System Management & Operations Strategy
- Congestion Management Process

These plans identify implementation of TDM programs as a part of the actions required for objectives to be met. Sufficient policy development and planning must be in place so that the roles and responsibilities of various entities are established and understood. Current local planning is insufficient in defining how TDM is to be implemented at a local level. And regional TDM planning is focused primarily on delivering grant funding through the RTO program.

Planning for TDM programs should be expanded and coordinated at the state, regional and local levels to ensure programs exist and are effective at helping people drive less. For some TDM programs, implementation at a regional scale is the most cost effective and efficient means of delivery. Other TDM programming functions best at a local, county or school district scale. A comprehensive regional TDM effort involves multiple levels of effort coordinated between government and non-government partners.

TDM Policy 2. Ensure adequate TDM resources and programming are deployed to meet the public's specific mobility needs for employment, education and essential services.

TDM programs are most effective when they are tailored to the specific travel needs of a group or community. The region has moved from a broad-based, one-size-fits all approach to TDM messaging and outreach, to implementing specific approaches for different travel needs. For example, helping commuters find other ways to get to work often involves working with employers to establish programs of information and incentives at worksites. But for Safe Routes to School programs, an entirely different approach is needed in working with parents and children to help them see the fun and benefits of being able to safely walk, bike or roll to school. The region should provide adequate funding, coordination and resources to effectively implement TDM.

Often, TDM efforts are compromised by a lack of first/last mile connections to transit, or by a lack of 24-hour transit service and vanpools. Many commuters live outside the region and have no option other than driving to work. Improvements to the regional transit system, as outlined in the transit policy section, are needed to improve TDM program effectiveness.

Regional funding for a portion of the region's TDM actions is provided through the RTO program. In its current form, the RTO program funds grants to partners conducting TDM activities. A

portion of grant funds are reserved for partners with defined TDM plans and programs to ensure on-going funding is available. Other grant funds are aimed at pilot or one-time TDM projects, or to develop partner capacity to plan for and deliver TDM programs on an on-going basis.

ODOT also provides funding to the RTO program to promote and expand use of the GetThereOregon.org website.

Current funding levels are not sufficient to support an expanded TDM effort throughout the region. Additional state, regional and local funding will be needed to support these efforts.

TDM Policy 3. Provide and deliver TDM programming at a variety of scales: state, regional and local.

A thorough regional TDM effort entails a variety of programs, at different scales and targeted towards a spectrum of travel needs. Delivery of these programs is most effective when it is led by the appropriate organization or government, depending on the program and its purpose.

Creation of TDM policy and ordinances through local TSPs is a successful approach to defining how TDM programs can be tailored to fit local needs and infrastructure and be coordinated with regional-scale efforts.

Providing a robust variety of successful TDM programs around the region comes from harnessing the efforts and expertise of cities, counties, regional and state agencies, as well as non-governmental organizations (NGO).

Government partners have oversight authority and responsibilities for managing parking and roadway pricing. Their role in these initiatives put them in a position to also lead complementary TDM efforts to help the public understand the travel alternatives available and ensure pricing strategies are implemented to their fullest potential.

Non-governmental organizations (NGOs) have insights and relationships with communities that, when combined with the capabilities and responsibilities of governments, can lead to more effective and impactful TDM programming.

TDM Policy 4. Focus TDM efforts on improving access to travel choices and eliminating barriers for marginalized communities, with a focus on communities of color and people with low incomes.

The negative impacts of auto-centric transportation investments in the region have fallen particularly hard on BIPOC community members. TDM investments made through a racial equity focus begin to correct these impacts and improve multiple regional priorities by addressing known burdens on BIPOC community members in accessing travel options, which includes cost, personal safety from harassment/bias, and physical access to travel options. TDM efforts should focus on working with partners to learn together how to adapt and develop programming that is inclusive of and meets the needs of BIPOC community members.

Implementing meaningful TDM programming in many areas of the region is constrained by the lack of sidewalks, safe bicycling infrastructure or low levels of transit service. These same areas

are often those with high percentages of BIPOC and low-income residents. Continued focus and prioritization of improvements in these areas is a key part of ensuring that TDM programs can benefit everyone in the region.

3.3.12 Emerging Technology Policies

WHAT'S CHANGED? No changes are proposed to this policy. The policy section was moved out of Section 3.2 as the policy area fits in with the TSMO and TDM policy sections.

Over the past several decades, 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. Some 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. Other automakers have been working to develop vehicles that drive themselves, which could dramatically transform our relationship with cars.

The Regional Transportation Plan (RTP) uses the blanket term **emerging technology** to encompass all new developments and establishes a set of terms to describe and categorize them, 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 ride hailing companies that connect passengers with drivers who provide rides in their personal vehicles; car, scooter, or bike share that allow people to rent a nearby vehicle for short trips; and microtransit services that operate vans or small buses, often tailoring schedules and routes to customers' travel needs. Traveler information and payment services that help people plan trips and compare different ways of getting around, get detailed information on their mode of choice, track and share their trips, and pay for trips.

3.3.12.1 Emerging technology principles

Unlike other aspects of the transportation system, which are largely built and operated by the public sector, many emerging technology services are currently developed and operated by private companies. Transportation agencies can work with private companies in a variety of different ways – including contracting directly with companies and creating regulations that govern how companies operate – to bring emerging technology services to their communities in a way that benefits people. This work often happens more in the realm of partnerships and pilot projects than in the realm of policy and regulation. The principles summarized in Table 3-12,

guide Metro and its partners in identifying companies that share common goals when developing partnerships and pilot projects.

Table 3-12 RTP goals and corresponding emerging technology principles

RTP goal	Emerging technology principle
Economy	Emerging technology should create more efficient ways to meet the transportation needs of local businesses and workers. Emerging technology companies and users should contribute their fair share of the cost of operating, maintaining and building the transportation system.
Climate	Emerging technology should improve transit service or provide shared travel options and support transit, bicycling and walking.
Mobility	Emerging technology should promote shared trips, decrease vehicle miles traveled and minimize conflicts between modes.
Safety	Emerging technology should reduce the risk of crashes for everyone and protect users from data breaches and cyberattacks.
Equity	New mobility services should be accessible, affordable and available for all and meet the transportation needs of communities of color and marginalized communities. Companies and public agencies should collaborate and share data to help make the transportation system better for everyone.

3.3.12.2 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. 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 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 are not 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. Removing these barriers can help to 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.

Emerging Technology Policy 2. 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, scooter, 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 often concentrated in communities where it is already easy to take transit, walk or bike, which can create more congestion and pollution by attracting people away from more efficient modes and clogging streets with vehicles looking for passengers. To make the most of emerging technology's potential to reduce congestion and pollution, the region's transportation agencies need to prioritize and invest in the modes that move people most efficiently; improve convenience and safety for transit riders, pedestrians, and bicyclists; and direct new mobility services to provide options in places that currently lack them in addition to adding options to communities that are already rich in travel choices.

Emerging Technology Policy 3. 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 almost 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 its agency

partners work to ensure that high-quality information is available for all transportation options in the region, and that this information is presented in a way that allows travelers to seamlessly plan and book trips. Transportation agencies also work to collect data on how travel patterns are changing to plan the transportation system. This requires collecting data from companies that operate emerging technologies in a way that helps agencies understand trip making without risking users' privacy, it also requires agencies to improve data on transit, bicycling and walking as well as on new mobility options and create systems that allow us to share this data among public agencies.

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

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 infrastructure projects, but to effectively plan for emerging technology agencies need to test new services and approaches and learn from their experience. Agencies in the region have used approaches like pilot testing and phased implementation of regulations so that they can test new approaches to working with technology in a small-scale, low-risk manner before applying what they learn to larger-scale efforts.

FEBRUARY 2023

2023 Regional Transportation Plan Update

Climate Smart analysis: estimating the GHG reduction gap

Prepared for TPAC and MTAC members and interested parties

Introduction

In 2009, the Oregon Legislature set goals to reduce greenhouse gas (GHG) emissions 10 percent below 1990 levels by 2020 and at least 75 percent below 1990 levels by 2050.[1] The transportation sector is the largest contributor to greenhouse gas emissions in Oregon. It is therefore a key focus of the state's greenhouse gas reduction efforts. And the State, recognizing the role that regional transportation plans (RTPs) play in influencing transportation policies, projects, and outcomes, has relied on RTPs to help reduce transportation emissions. Beginning in 2012, the State set GHG reduction targets for the greater Portland region to meet and has continued to update these targets since, most recently in July 2022. The Portland region's targets are:

- A 20 percent reduction in per capita greenhouse gas emissions by the year 2035 (the target for the Climate Smart Strategy adopted in 2014)[2]
- A 25 percent reduction by 2040 (the target for the 2018 RTP)
- A 30 percent reduction by 2045 (the target for the 2023 RTP)
- A 35 percent reduction by 2050 (the target for the 2028 RTP)
- Targets for the years 2041-2049 steadily increase from 26 to 34 percent in order to maintain progress toward the 2050 target.[3]

These targets are relative to a 2005 base year. They are based on per capita emissions in order to control for population growth and focus on the impact of transportation policies, programs and plans on GHG emissions. Regional targets only apply to certain types of emissions, and only certain reduction strategies count toward these targets: strategies that reduce vehicle miles traveled by households in passenger vehicles and other light vehicles.

The Climate Smart Strategy, adopted in 2014, is the region's blueprint for reducing emissions. It identifies a toolkit of high- and medium-impact GHG reduction strategies, summarized below, that the region's transportation agencies continue to rely on today.

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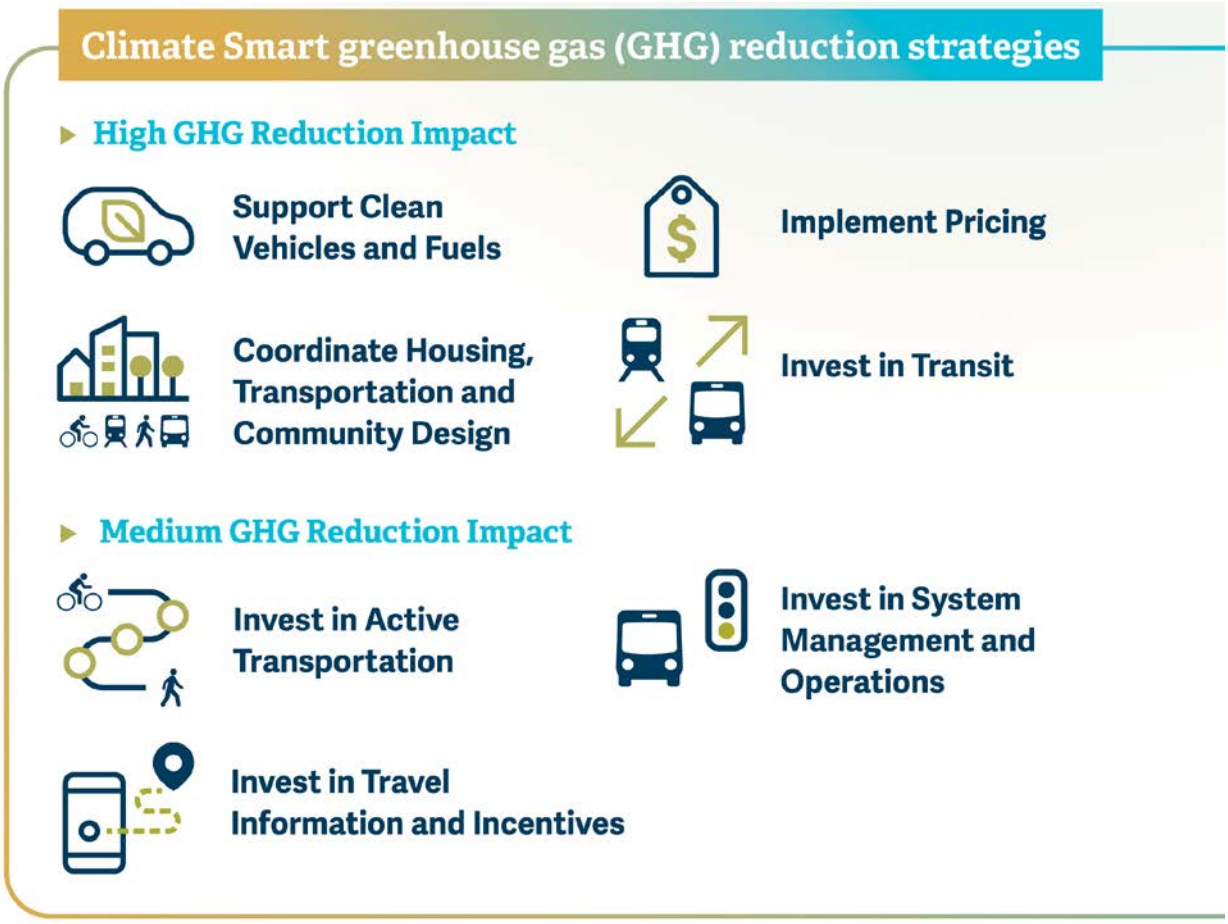
[1] Oregon Department of Environmental Quality, Oregon Greenhouse Gas Emissions, https://www.oregon.gov/deq/aq/programs/Pages/GHG-Oregon-Emissions.aspx

[2] The Climate Smart Strategy adopted in 2014 was forecasted to achieve a 29 percent reduction by 2035 if fully implemented.

[3] Oregon Administrative Rule 660-044-0020, https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3093 https://www.oregon.gov/lcd/LAR/Documents/2022-01_Div44.pdf

Figure 4.1: Climate Smart greenhouse gas reduction strategies



Updating the 2023 RTP climate analysis

Metro's process for updating the Climate Smart analysis in the 2023 RTP to meet the updated targets set by the State consists of the following steps:

1. Review Climate Smart policies and priorities assumed in 2018 RTP
2. Estimate the GHG reductions gap that the 2023 RTP needs to close to meet the target for 2045
3. Work with agency stakeholders to identify GHG reduction scenarios describing how key RTP inputs (e.g., transit service, pricing) may need to be updated during the 2023 RTP update, and quantify the impacts of each scenario on GHG emissions and VMT per capita
4. Work with State agency staff to clarify and, if needed, update background assumptions and methodology
5. Recommend refinements to the Climate Smart Strategy and/or analysis based on the preferred GHG reduction scenario and any updates to the assumptions and methodology

We are currently in Step 2 of this process. Metro staff presented a summary of climate policies and priorities (Step 1) and an initial estimate of the GHG reduction gap faced by the 2023 RTP (Step 2), based on a review of the 2018 RTP against current targets and assumptions, to TPAC in February. During March and April Metro staff will continue to update the estimated GHG reduction gap to be consistent with the investments, policies, and assumptions in the RTP. This work is ongoing as staff

continue to analyze the information received through the call for projects. Steps 3-5 will occur in April-June 2023 once RTP project list updates are complete.

March updates to the estimated GHG reduction gap

At this March workshop, staff will present updates to the estimated GHG/VMT gap that accounts for the impact of teleworking on VMT reductions. These estimates may include a range of scenarios representing potential future rates of teleworking. The COVID-19 pandemic spurred a significant increase in teleworking for some workers, but even prior to the pandemic teleworking was already increasing. Nationally, the number of people teleworking surpassed the share of people commuting by transit in the mid-2010s, and over the past several decades teleworking rates have been higher in Oregon than in the rest of the U.S. This is particularly true in the Portland region, where eight percent of workers did their jobs from home in 2019. Past RTP climate analyses have not accounted for teleworking's impact on GHG and VMT emissions. RTP policy makers, noting teleworking's increasing prominence, have urged Metro to account for it in the 2023 Climate Smart analysis.

Metro's Emerging Transportation Trends Study created multiple scenarios to estimate future growth in teleworking, some of which were based on pre-pandemic trends and some of which assumed that the pandemic produced more lasting changes in people's behavior. The study estimated that between 15 and 31 percent of workers would telework in 2045, and that the increase in teleworking, combined with other pandemic-era changes like growth in online shopping, would reduce VMT per capita by between 3 and 8 percent below what the region might otherwise experience. Metro staff and consultants have been working to update these estimates to account for recent research, particularly on the growing prevalence of hybrid telework/in-person work schedules, and to create corresponding scenarios in VisionEval, the model that the State encourages regions to use in their climate analyses.

Updated results were not ready for inclusion in this meeting packet, but Metro staff will be presenting those results at the workshop, alongside other updates about how the RTP Climate Smart update is progressing.

Questions for TPAC/MTAC members

- Metro staff may present a range of scenarios representing potential future teleworking levels. Do some of these scenarios seem more/less realistic to TPAC members?
- Do TPAC members have other questions or observations about how teleworking impacts VMT and GHG emissions?
- Do TPAC members have any other questions about ongoing efforts to update the 2023 Climate Smart analysis?

Materials following this page were distributed at the meeting.

Regional Freight Delay and Commodities Movement Study

2020 and 2045 freight modeling results on commodities

TPAC Workshop, March 8, 2023

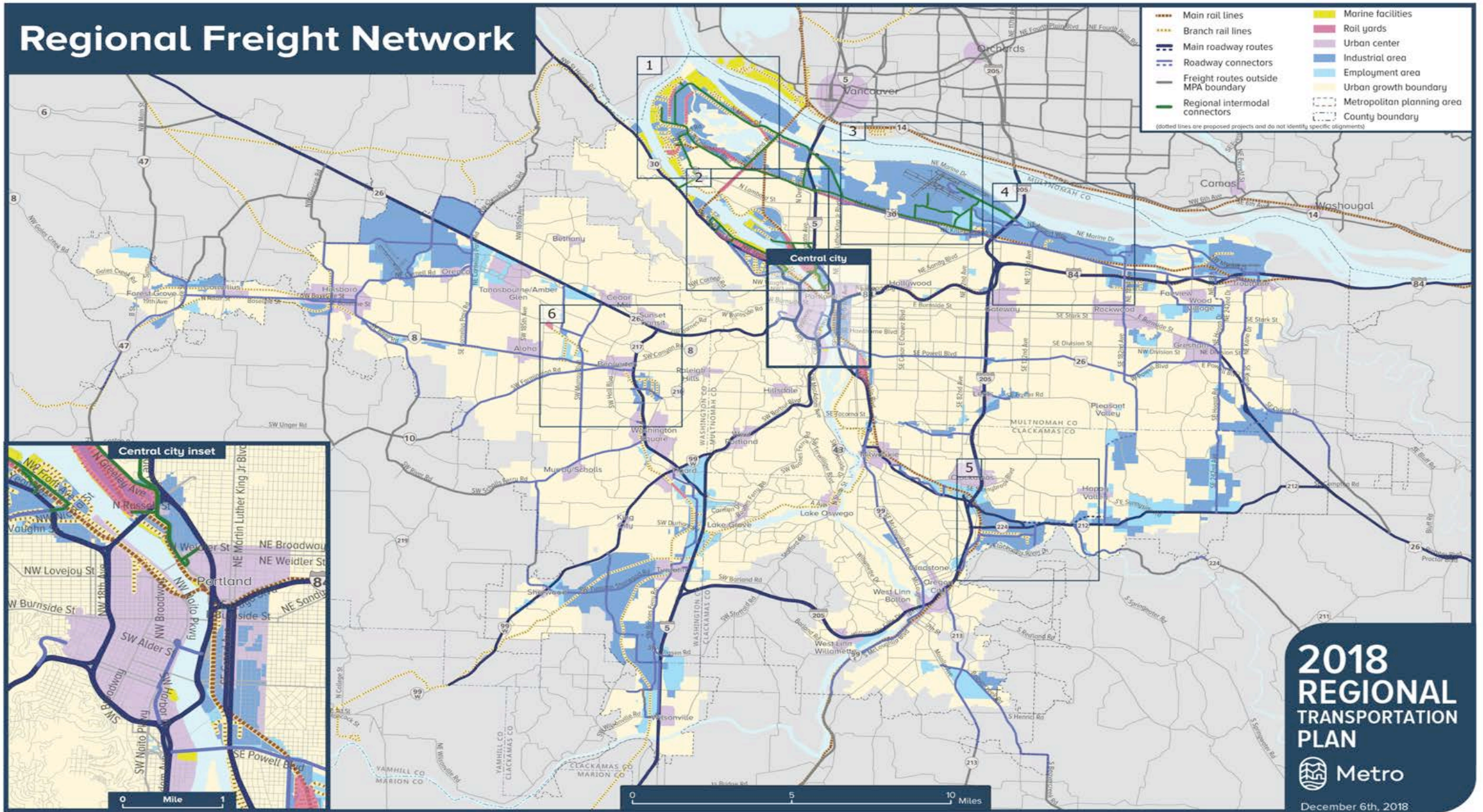
Tim Collins, Metro

Main Study Objectives

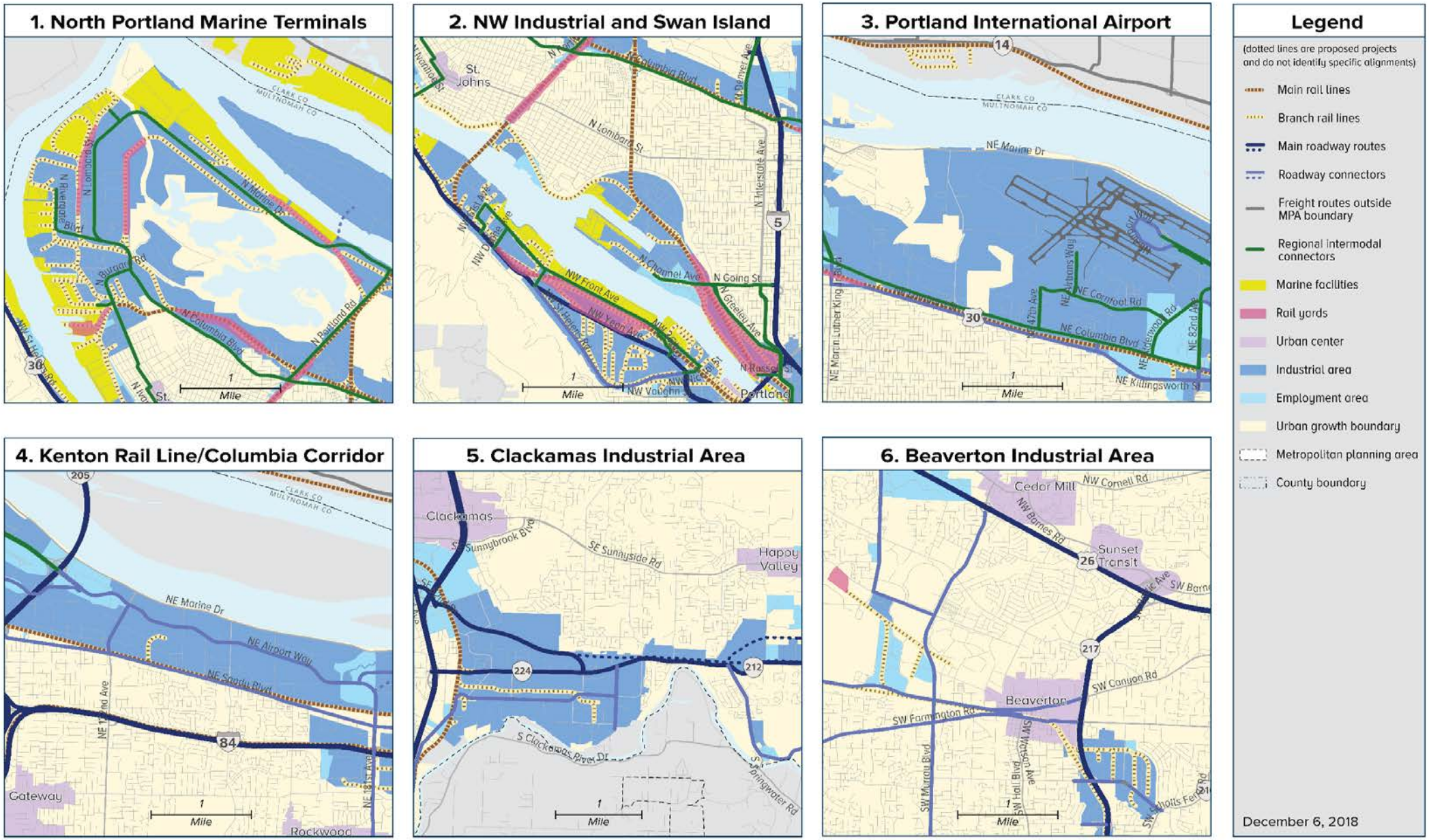
- Identify which mobility corridors are carrying the highest volumes and highest values of commodities
- Explore how increases in e-commerce are impacting the transportation system and regional economy
- Examine how congestion and unreliability on the regional transportation system impacts commodity movement
- Make recommendations for future regional policy and planning efforts to improve commodity movement; while addressing equity, safety and climate when applicable

Let’s talk freight movement

Freight Network from Regional Freight Strategy



Freight Network from Regional Freight Strategy



Commodities traveling in the freight corridors (modeled)

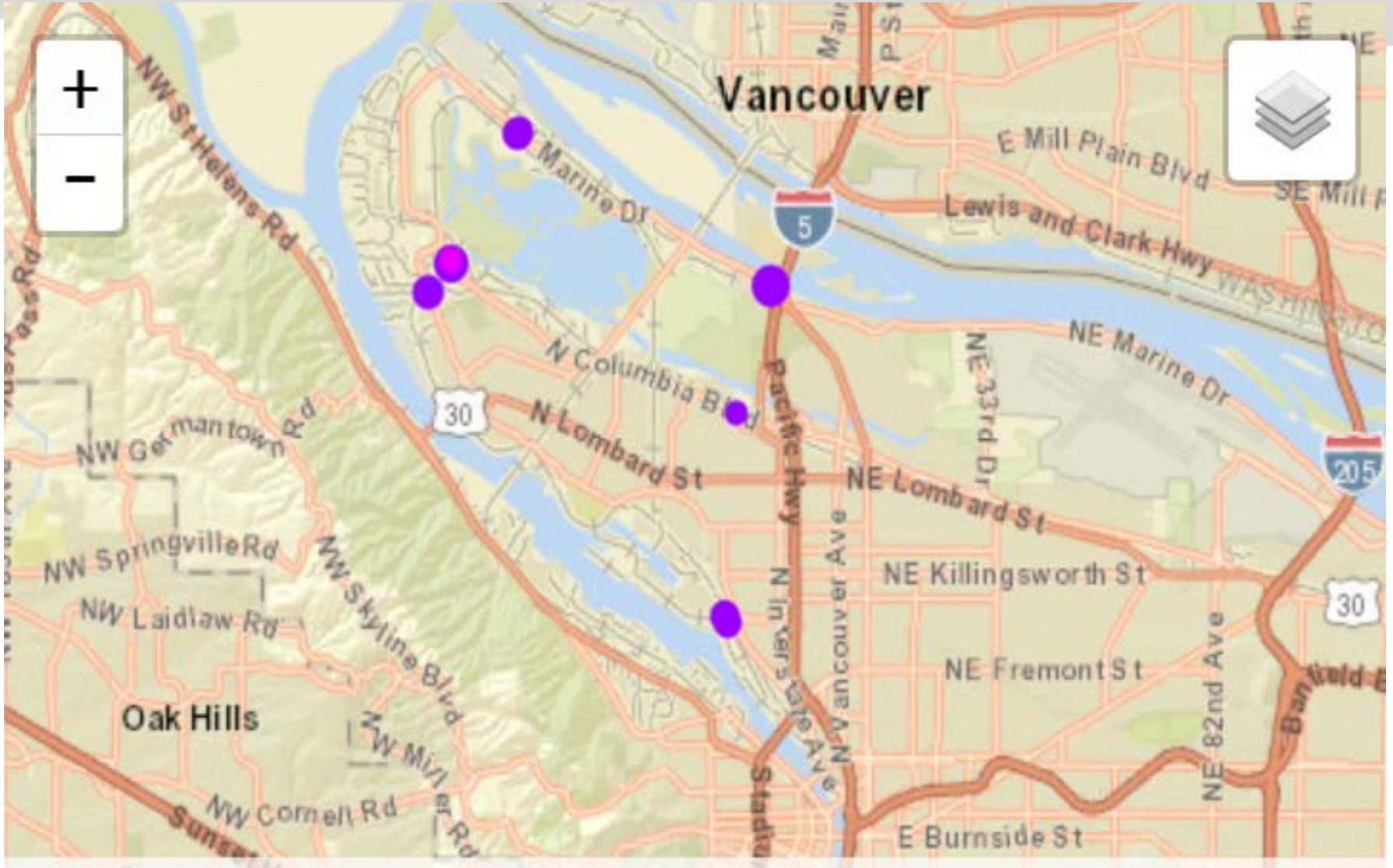
The commodities are grouped into 10 categories that include:

- 1) Agriculture; 2)Chemicals and Fertilizers;
- 3)Coal, Oil, Waste, (energy sector commodities);
- 4) Electronics (including computer microchips);
- 5) Food; 6) Gravel, Sand, (rock products); 7) Machinery;
- 8) Misc. manufactured goods;
- 9) Motor Vehicles, other commercial vehicles; and
- 10) Wood, Paper, etc.

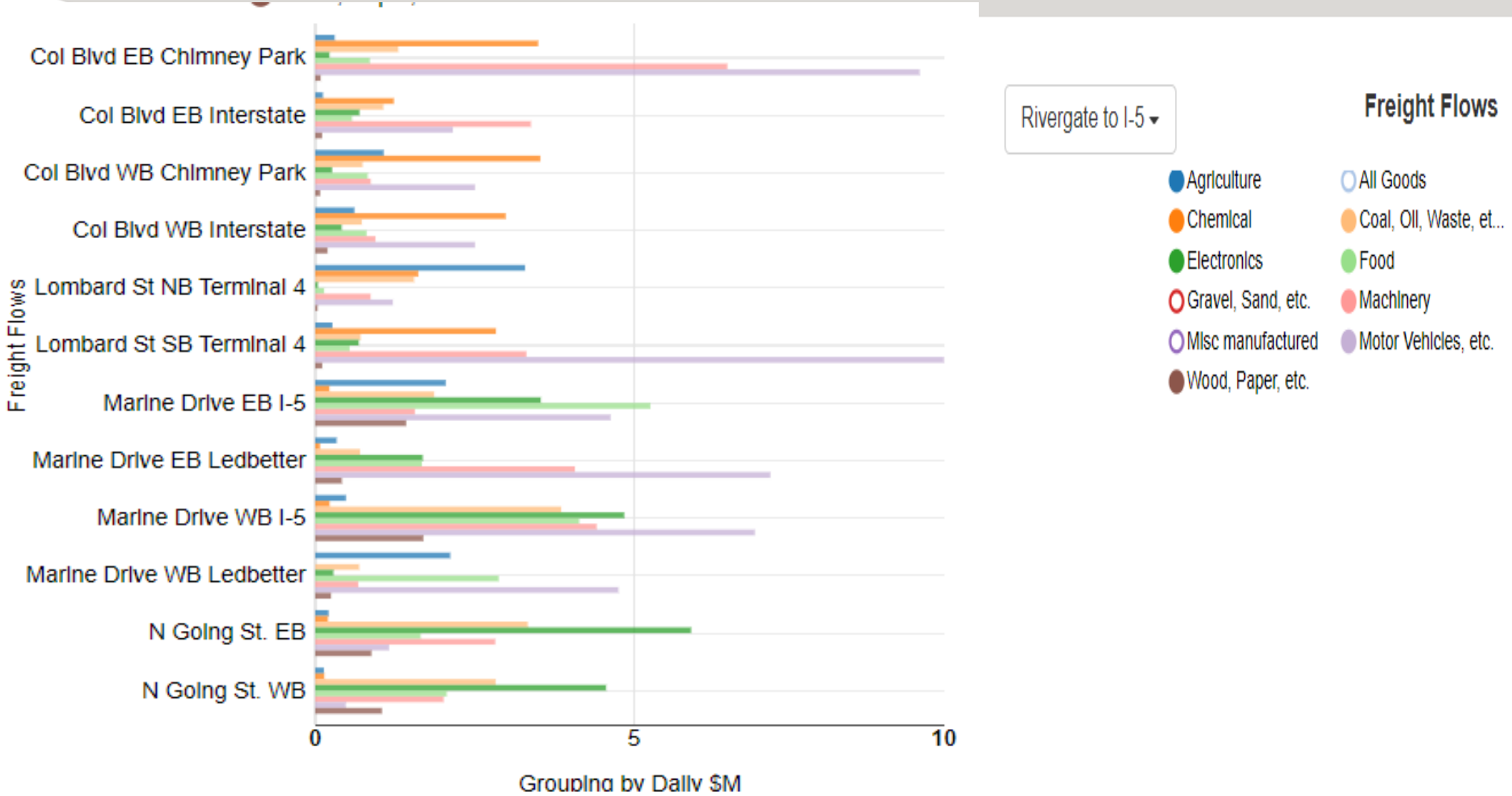
2020 and 2045 Commodities Movement (Modeled)

- The 2020 and 2045 model results for commodities traveling in the freight corridors are best viewed by using the visualizer

Commodities traveling in the marine terminals freight corridor – Rivergate to I-5 (Year 2020 modeled)

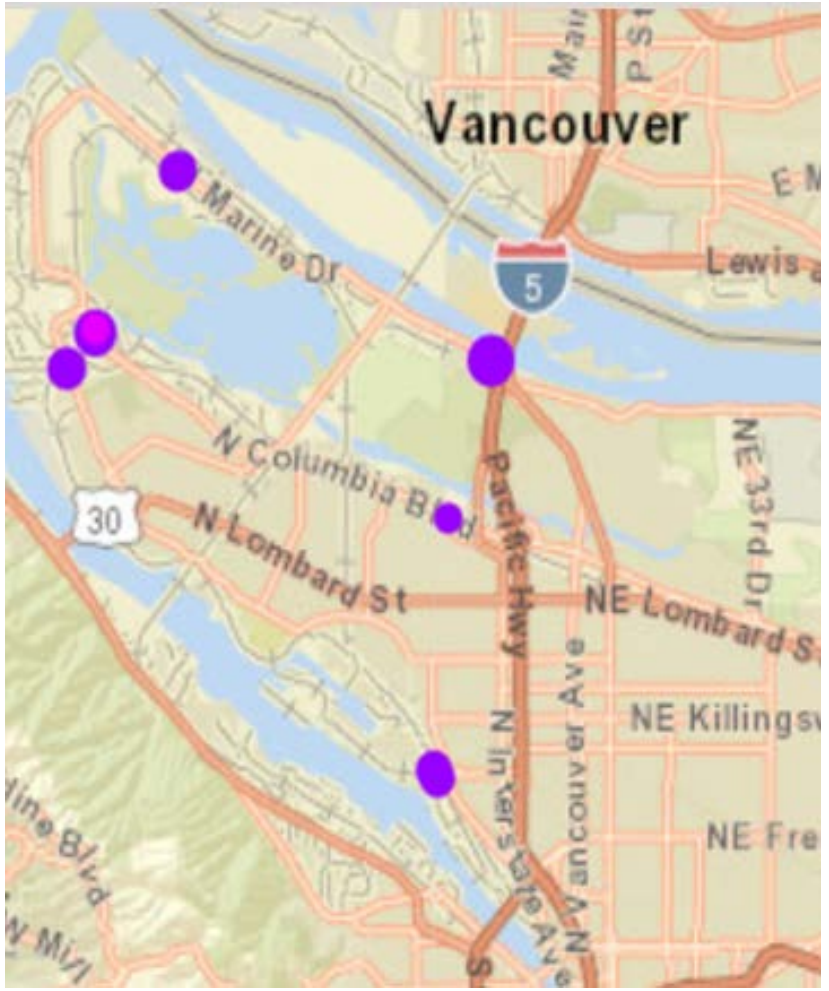


Commodities traveling in the marine terminals freight corridor – Rivergate to I-5 (2020 daily $ in millions)

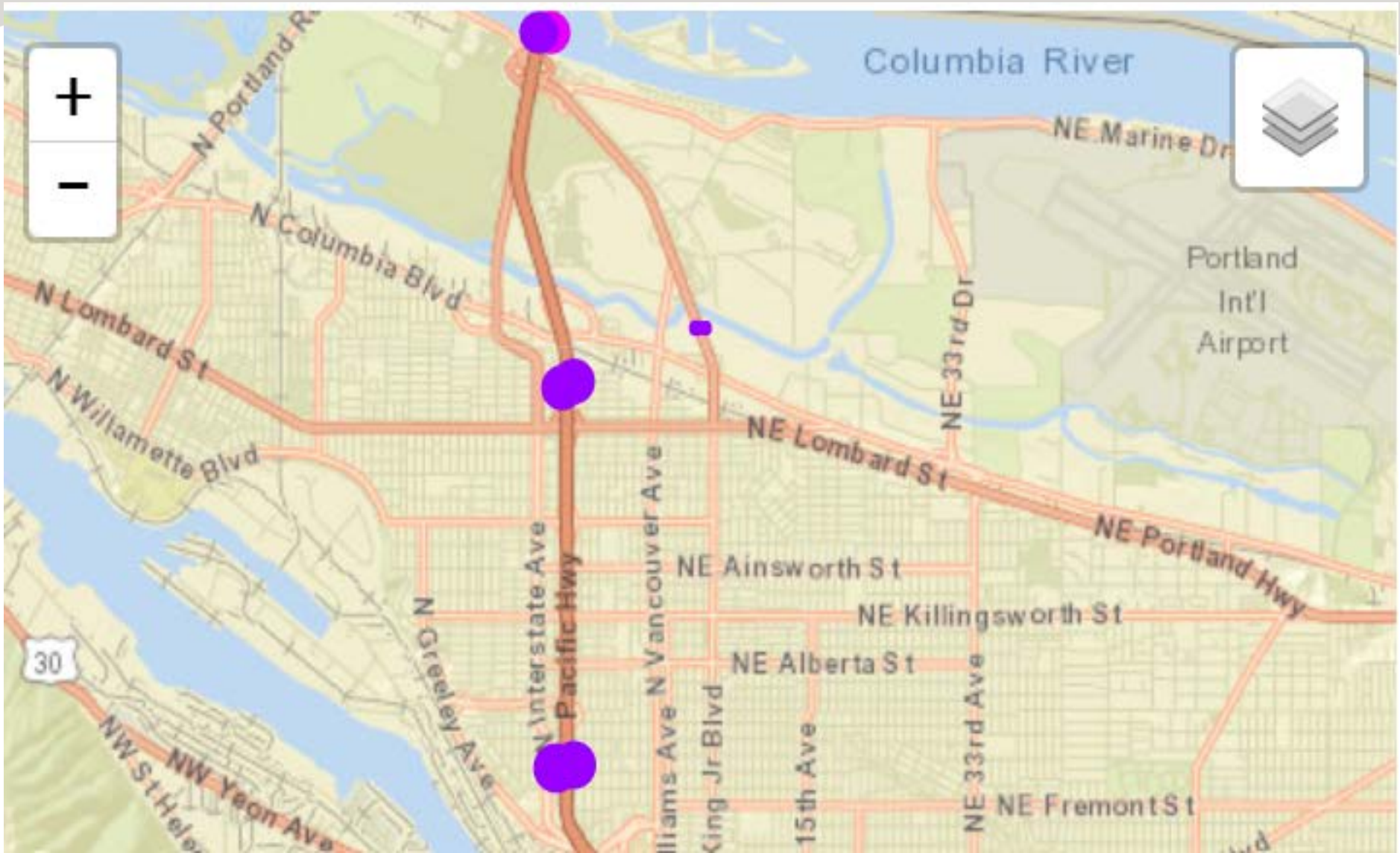


Key Findings for 2020 – Rivergate to I-5

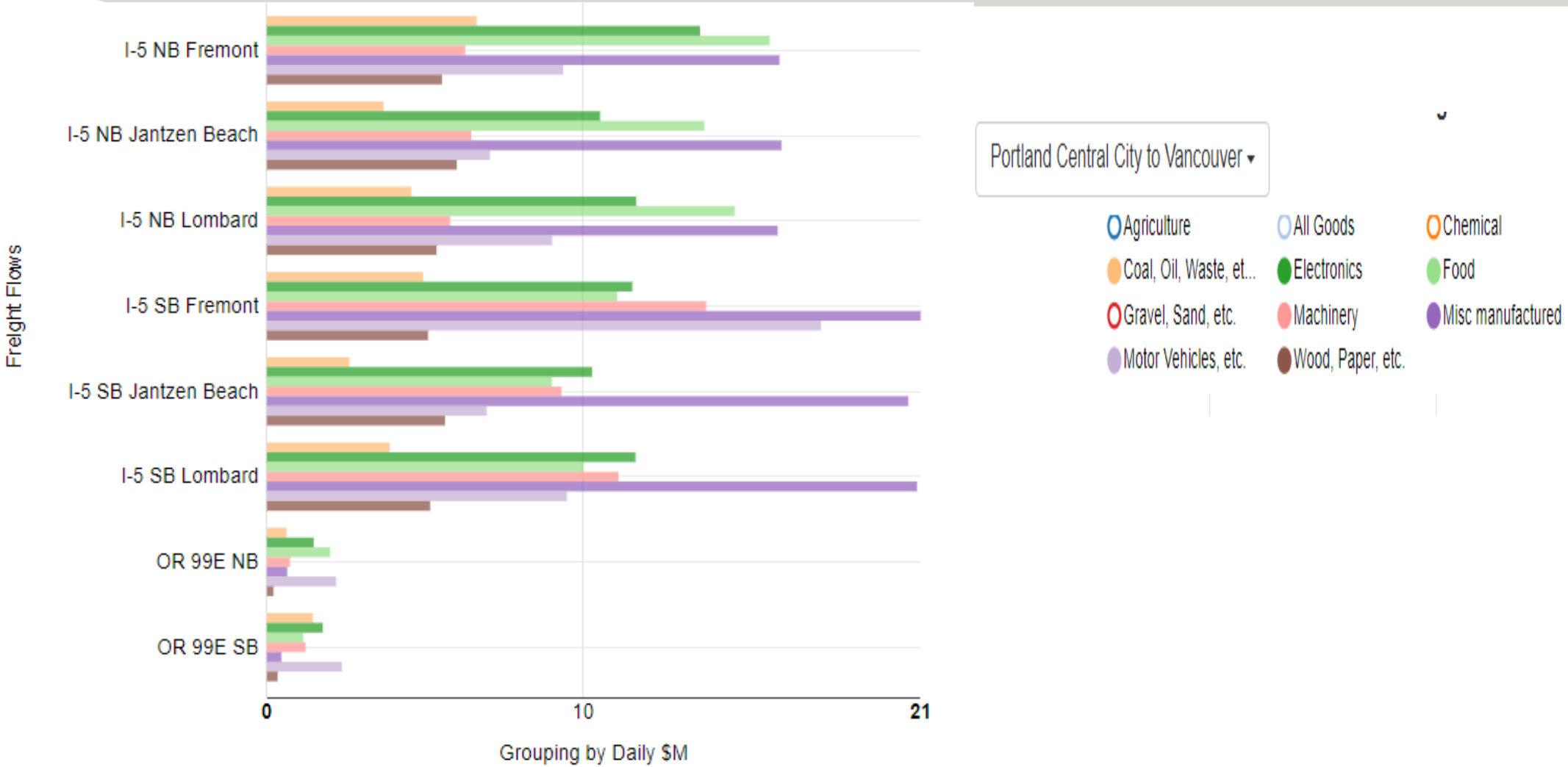
- The daily value of all goods in the Rivergate to I-5 corridor that form screen-lines (one west of I-5 and another near the marine terminals); have a combined daily value that is more than most other mobility corridors.
- Daily value of all goods eastbound west of I-5, combining N. Marine Drive, Columbia Blvd. and Going St., is $46.1 M.
- Daily value of all goods westbound west of I-5, combining N. Marine Drive, Columbia Blvd. and Going St., is $53.9 M.
- The Rivergate to I-5 corridor carries a diverse array of commodity types.
- Motor vehicle, machinery and chemical commodity types represents a large portion of the total daily value at locations near the marine terminals.



Commodities traveling in the I-5 corridor from Portland Central City to Vancouver (Year 2020 modeled)

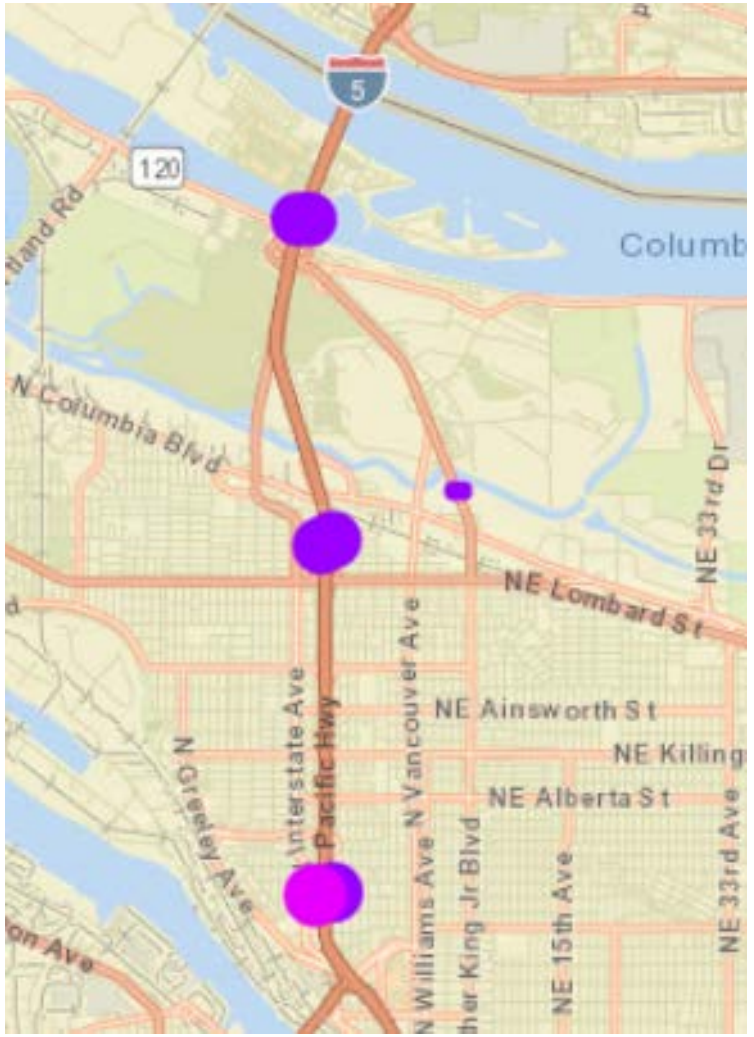


Commodities traveling in the I-5 corridor from Portland Central City to Vancouver (2020 daily $ in millions)

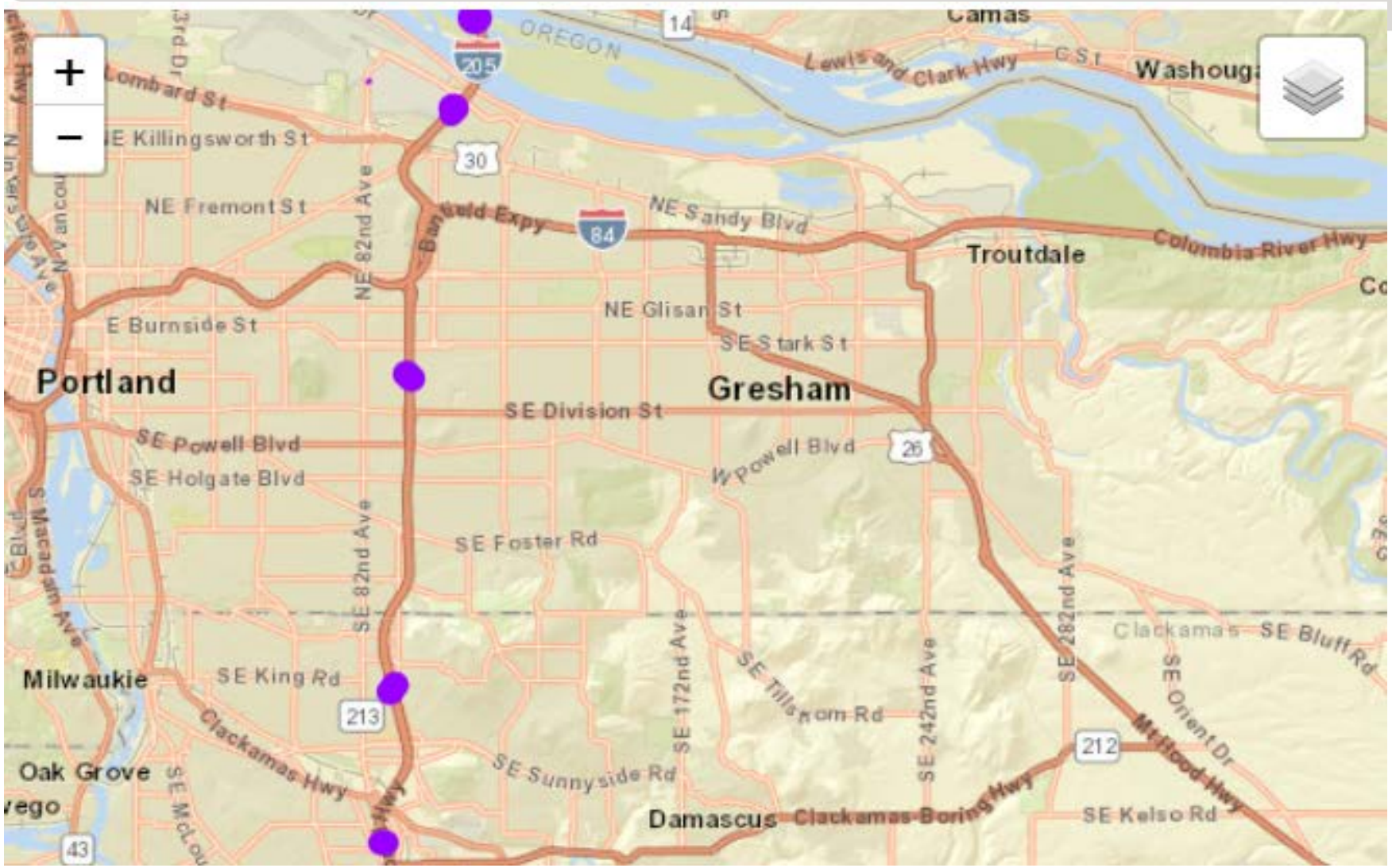


Key Findings for 2020 –Portland to Vancouver WA

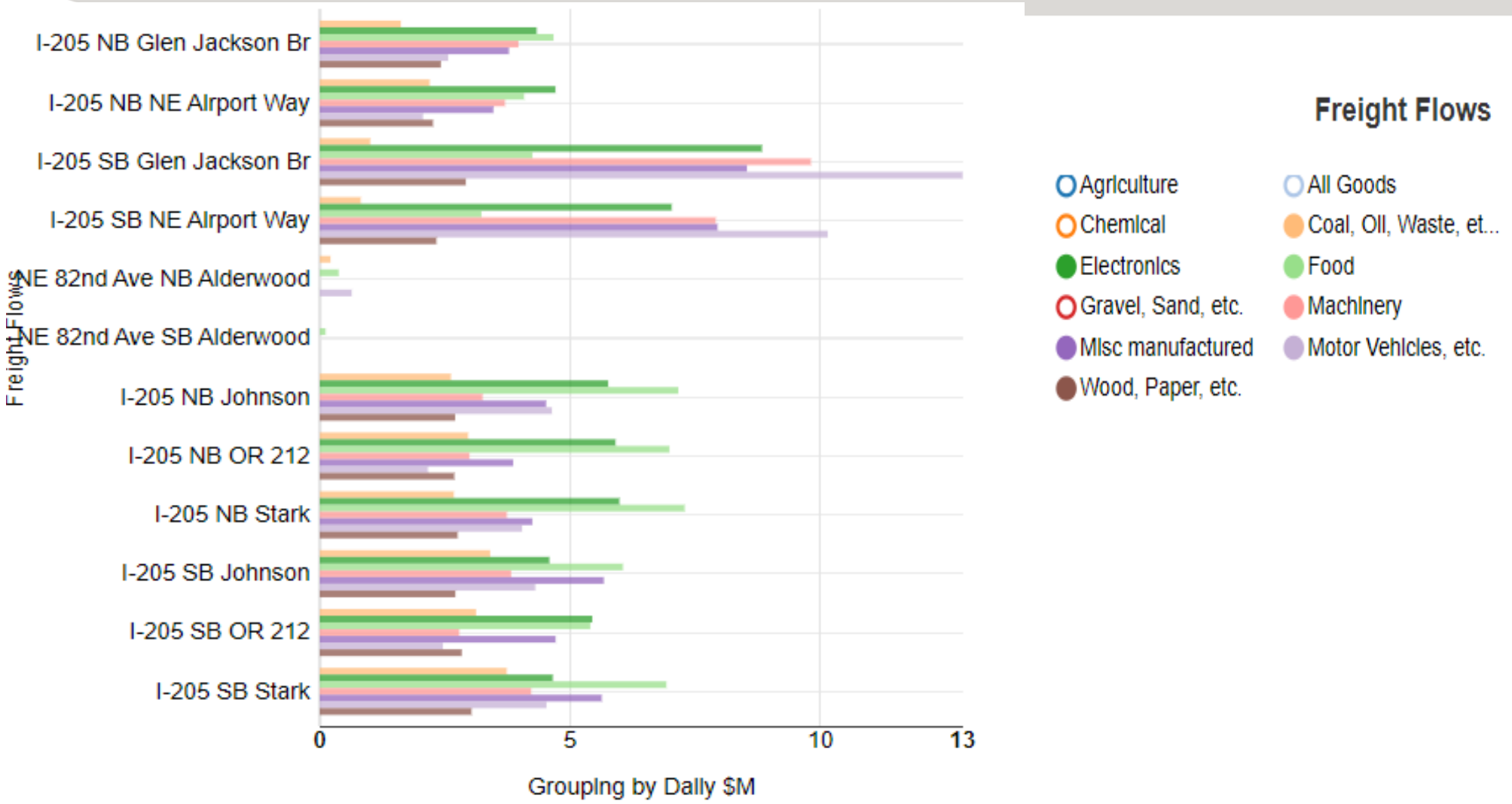
- I-5 north of downtown Portland carries a diverse array of commodity types.
- Misc. Manufacturing, Food and Electronics are the top three commodity types (by daily value) on I-5 northbound; and Misc. Manufacturing is the #1 commodity type on I-5 southbound.
- The daily value of All Goods on I-5 northbound at Fremont St. is $82.2 M; and I-5 southbound is $88.5 M.
- The daily value of all goods on I-5 northbound at Fremont Street is 22.5% higher than I-5 northbound at Jantzen Beach.
- The daily value of all goods on I-5 southbound at Fremont Street is about 35% higher than I-5 southbound at Jantzen Beach.



Commodities traveling in the I-205 freight corridor from Vancouver to Oregon City (Year 2020 modeled)

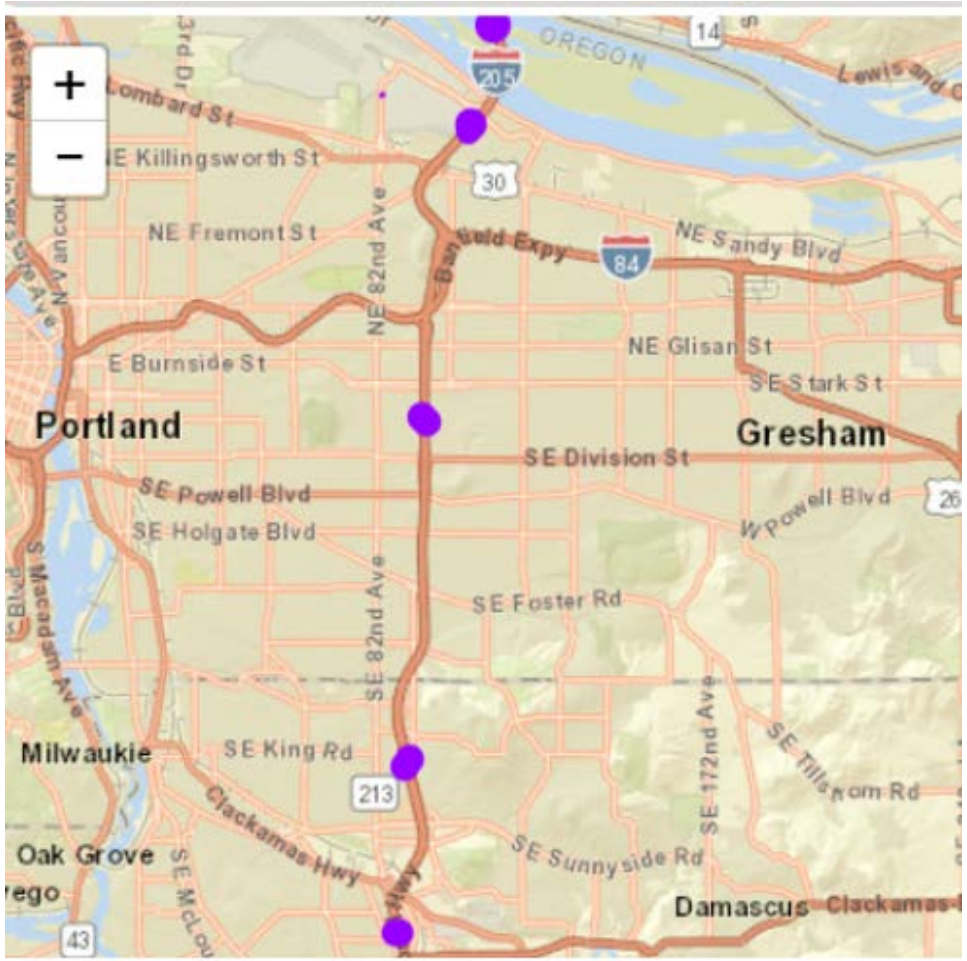


Commodities traveling in the I-205 freight corridor from Gateway to Oregon City (2020 daily $ in millions)



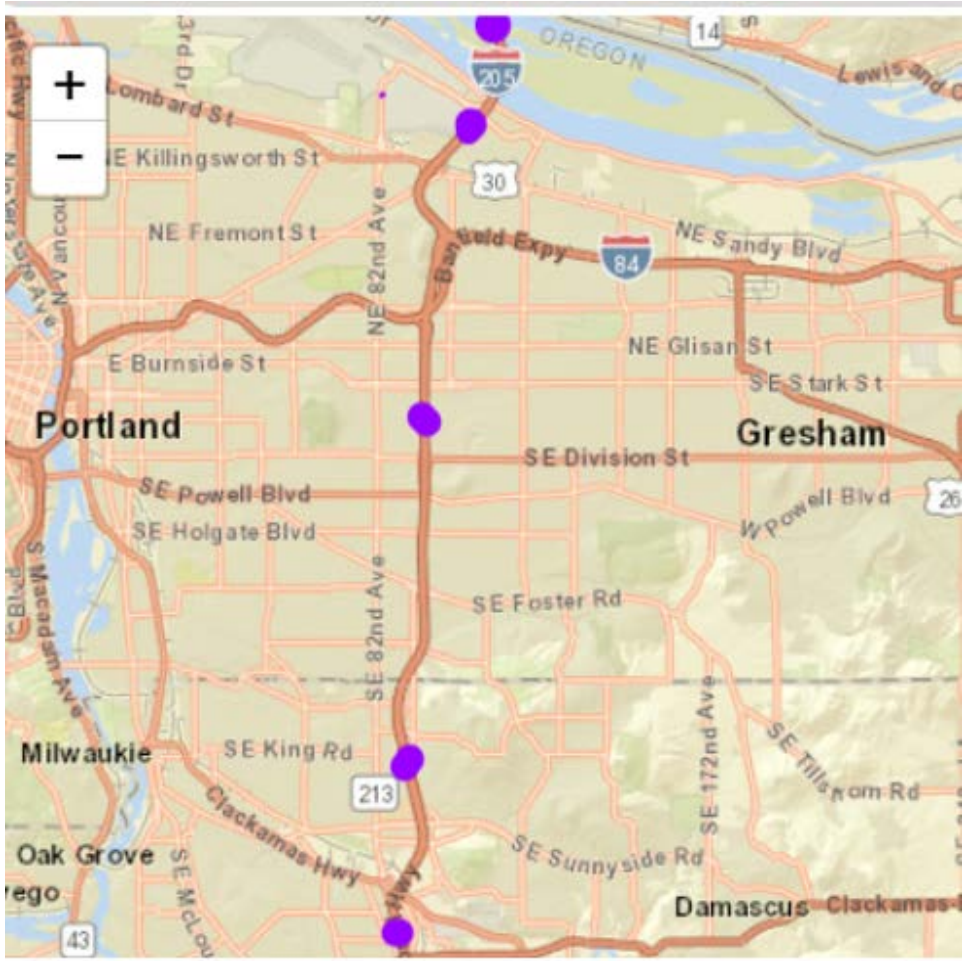
Key Findings for 2020 – Vancouver to Oregon City

- I-205 south of the Columbia River to Oregon City carries a diverse array of commodity types.
- South of I-84, Food and Electronics are the top two commodity types (by daily value) on I-205 NB; and Food, Misc. Manufacturing and Electronics are the top three on I-205 SB
- North of I-84, Motor Vehicles, Machinery, Misc. Manufacturing, and Electronics are the top four commodities on I-205 SB.
- On I-205 SB, about $3 M daily of motor vehicles, and about $2 M each of Machinery and Electronics exit I-205 at Airport Way.



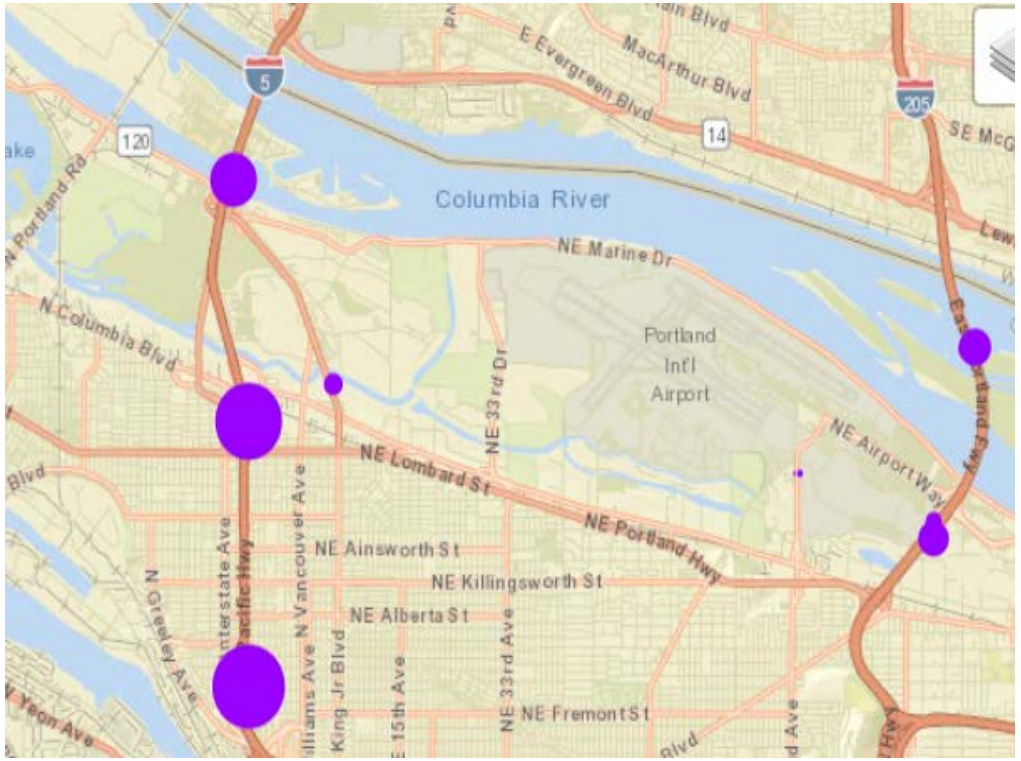
Key Findings for 2020 – Vancouver to Oregon City

- On I-205 SB, the daily value of All Goods is $49.2 M at the Glen Jackson Br., drop to $40.2 M south of Airport Way, and drops to $34 M at Stark St. (south of I-84).
- On I-205 NB, the daily value of All Goods is $ 33.3 M at Stark St., drops to $23.7 M south of Airport Way, and increases to $24.7 M at the Glen Jackson Br.
- On I-205 SB, the daily value of All Goods is $31.8 M south of Sunnyside Rd.; and drops to $29.9 M south of OR 224.
- On I-205 NB, the daily value of All Goods is $29.9 M south of OR 224; and increases to $33.1 M south of Sunnyside.



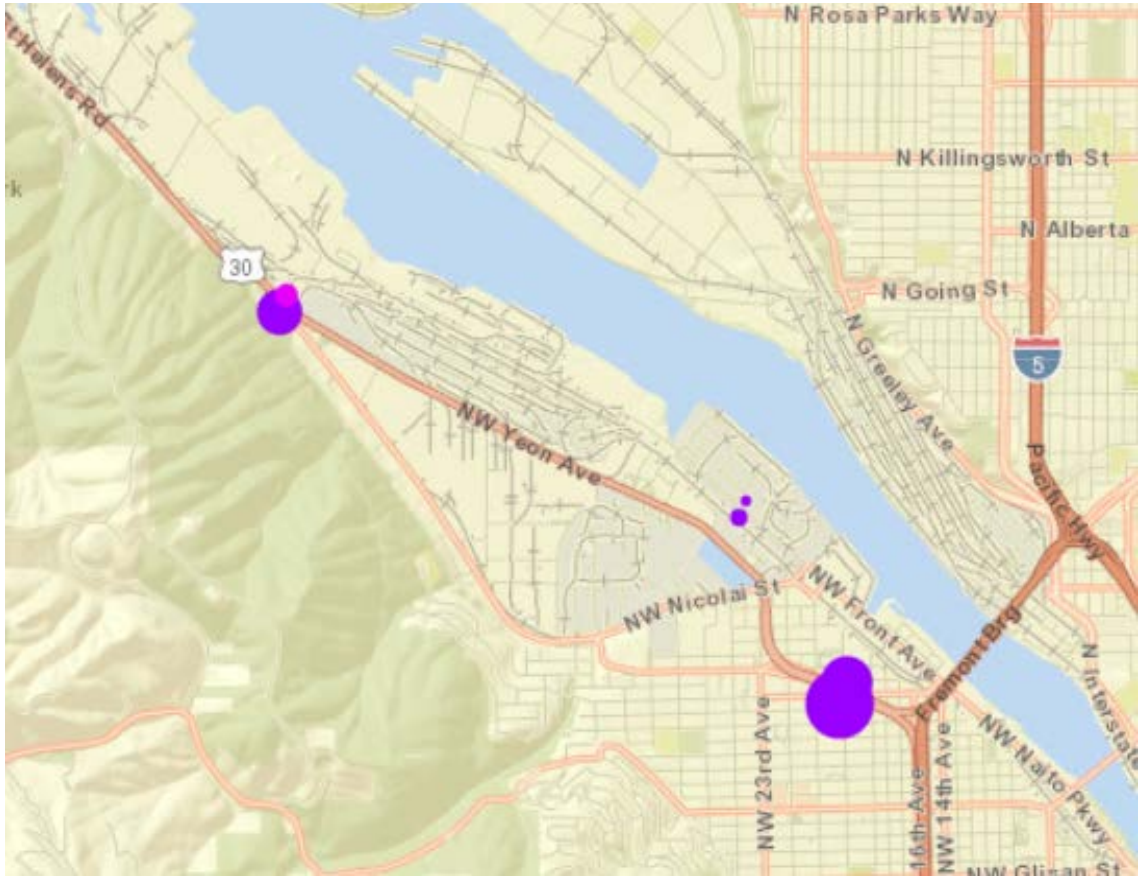
Regional Level Key Findings for 2020 (modeled)

- I-5 south of downtown Portland carries the largest daily dollar values and tonnage for ‘All Goods’; and I-84 east of I-205 carries the second largest dollar value for ‘All Goods’
- I-5 north of downtown Portland carries slightly less daily dollar values (and slightly more tonnage) for ‘All Goods’ than I-84 east of I-205.
- Electronics, Food, Misc. Manufacturing, and Motor Vehicles are the most common commodity types, by percentage of daily dollar value, on all the interstate and state highways.
- Of All Goods crossing the Columbia River northbound, 73% of the daily dollar value; and 71% of the daily tonnage is on I-5.
- Of All Goods crossing the Columbia River southbound, 57% of the daily dollar value; and 63% of the daily tonnage is on I-5.



Other Corridor Level Key Findings for 2020

- On OR 30 SB/EB, the daily dollar value of All Goods increases from $17.3 M at Kittridge to $39.6 M just west of I-405.
- On OR 30 NB/WB, the daily dollar value of All Goods drops from $22.4 M just west of I-405 to $4.5 M at Kittridge.
- In the Columbia Corridor (I-5 to I-205), NE Columbia Blvd. carries between 5 to 9 times more commodity daily dollar value (in both directions) than that of NE Lombard St.



2020 and 2045 Commodities Movement (modeled)

- The TPAC workshop memo shows locations with percentage increases from 2020 to 2045 for all 10 categories of commodities (All Goods)
- The next 2 slides provide observations for locations with high percentage increases in growth (yellow highlighted in the memo)

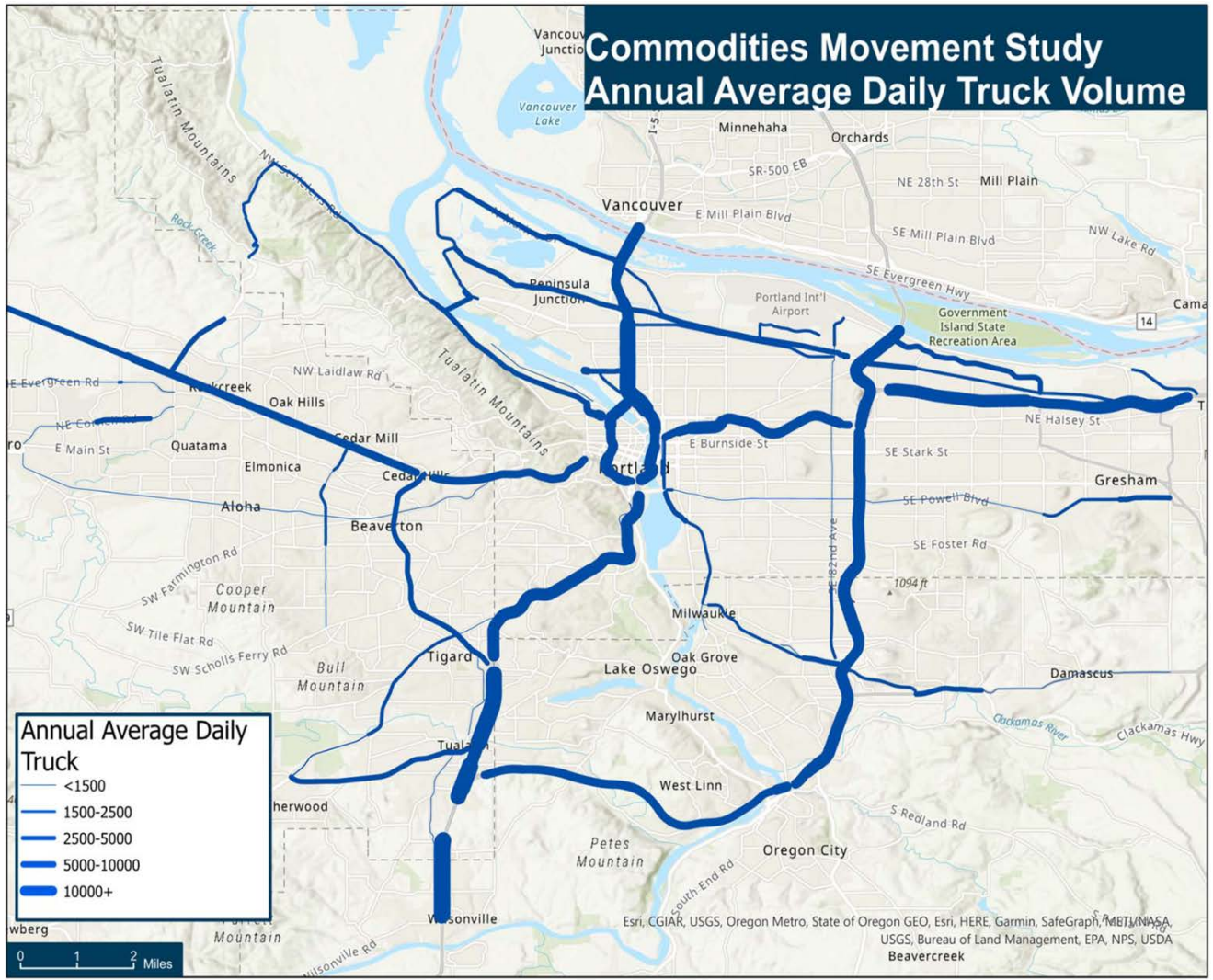
Growth rates by percent increases (from 2020 to 2045)

- I-205 south of Sandy Blvd. has over a 100% increase in the daily dollar value of All Goods in both directions.
- OR 224 (Sunrise Hwy.) plus OR 212 at 102nd has over a 170% increase in the daily dollar value of All Goods in both directions; and over a 95% increase in daily tonnage in both directions.
- US 26 (Sunset Hwy.) eastbound, both east and west of OR 217, has over a 90% increase in the daily dollar value of All Goods.

Growth rates by percent increases (from 2020 to 2045)

- Marine Drive west of I-5 has over a 120% increase in the daily dollar value of All Goods in both directions.
- N. Columbia Blvd. plus N. Lombard St. near Terminal 4 has over a 150% increase in the daily dollar value of All Goods coming into the area; and over a 130% increase in daily tonnage coming into the area.
- On the St. Johns Bridge eastbound, there is over a 120% increase in the daily dollar value of All Goods, and in the daily tonnage.

Mobility Corridor Volumes



- Which mobility corridors are carrying the highest volumes?
  - Freeways generally carrying highest volumes: 6k+ trucks daily by direction
  - Other corridors also play important roles for freight movement and connect industrial sites to freeways and destinations

Mobility Corridor Freight Mobility

- Future analysis to come
  - Consider average travel speed during all hours of day
  - Use INRIX data (15-minute intervals) to compile annual average speeds
  - Metro's draft mobility policy – 4 hours or less of congestion
    - Expressway Speeds < 35 mph
    - Other throughways (with signals) Speeds < 20 mph
  - Report the duration that congestion occurs

Next Steps

- Updates to PMT, SAC, MTAC/TPAC, and JPACT throughout the spring and summer
- Prepare mapping for more of the data (truck volumes, percent that are trucks, and locations where average travel speeds don’t meet the new regional mobility targets)
- Provide more corridor level key findings about commodity movement when they are developed

Comments and feedback

Questions?

Regional Freight Delay and Commodities Movement Study

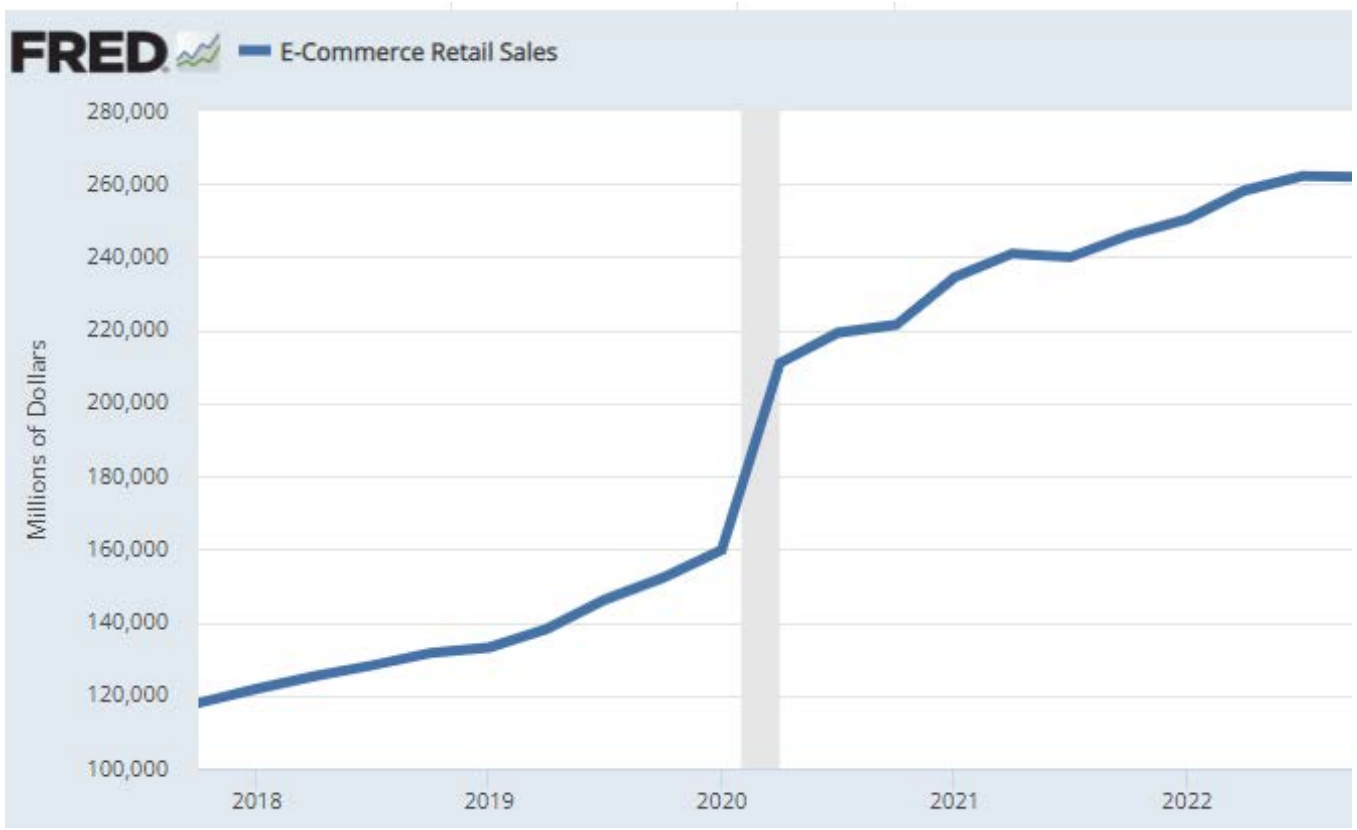
E-Commerce Impacts in the Portland Region

TPAC Workshop

March 8, 2023

National E-Commerce Sales Trend

- $261 billion in e-commerce sales nationally in Q4 2022
- E-commerce represented 14.7% of retail sales nationally in Q4 2022 (new record!)

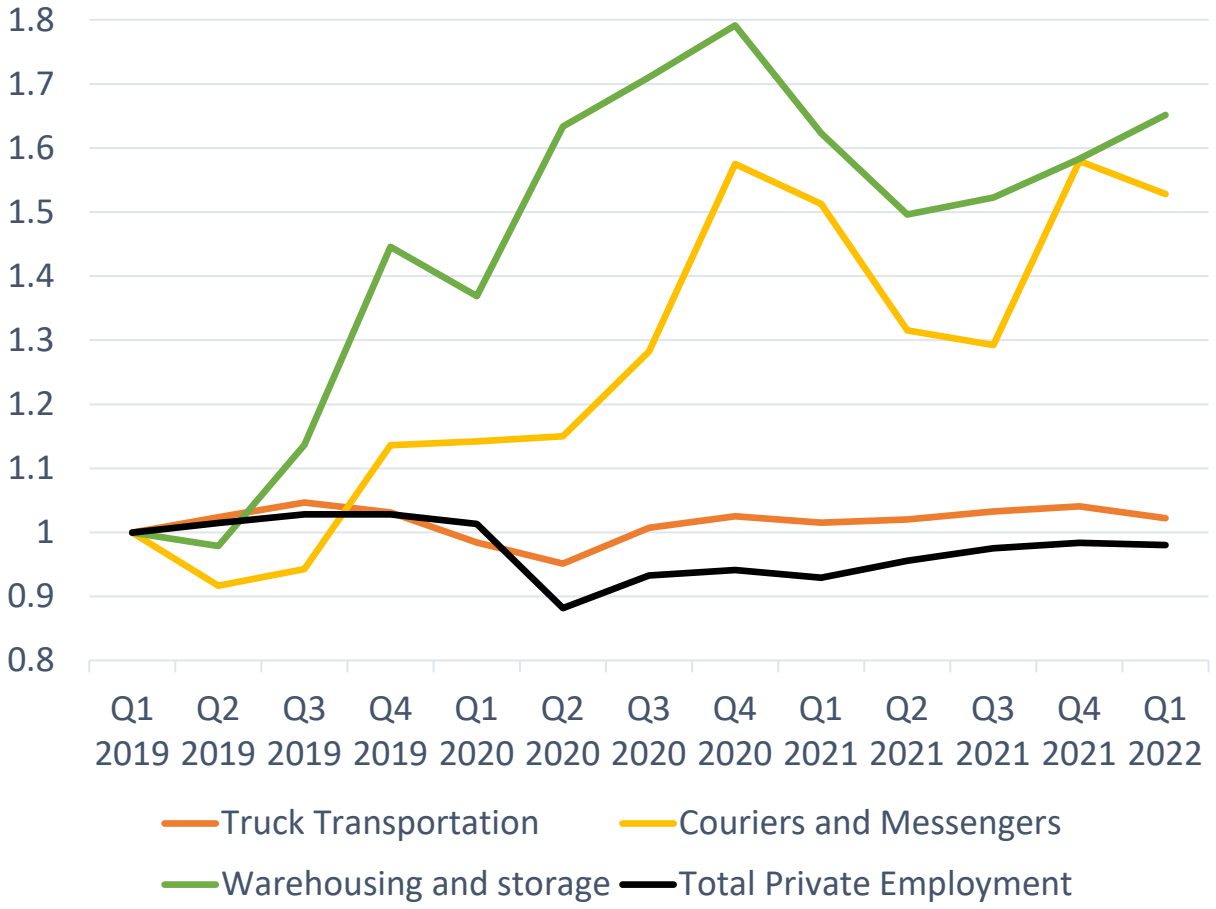


Source: U.S. Census Bureau

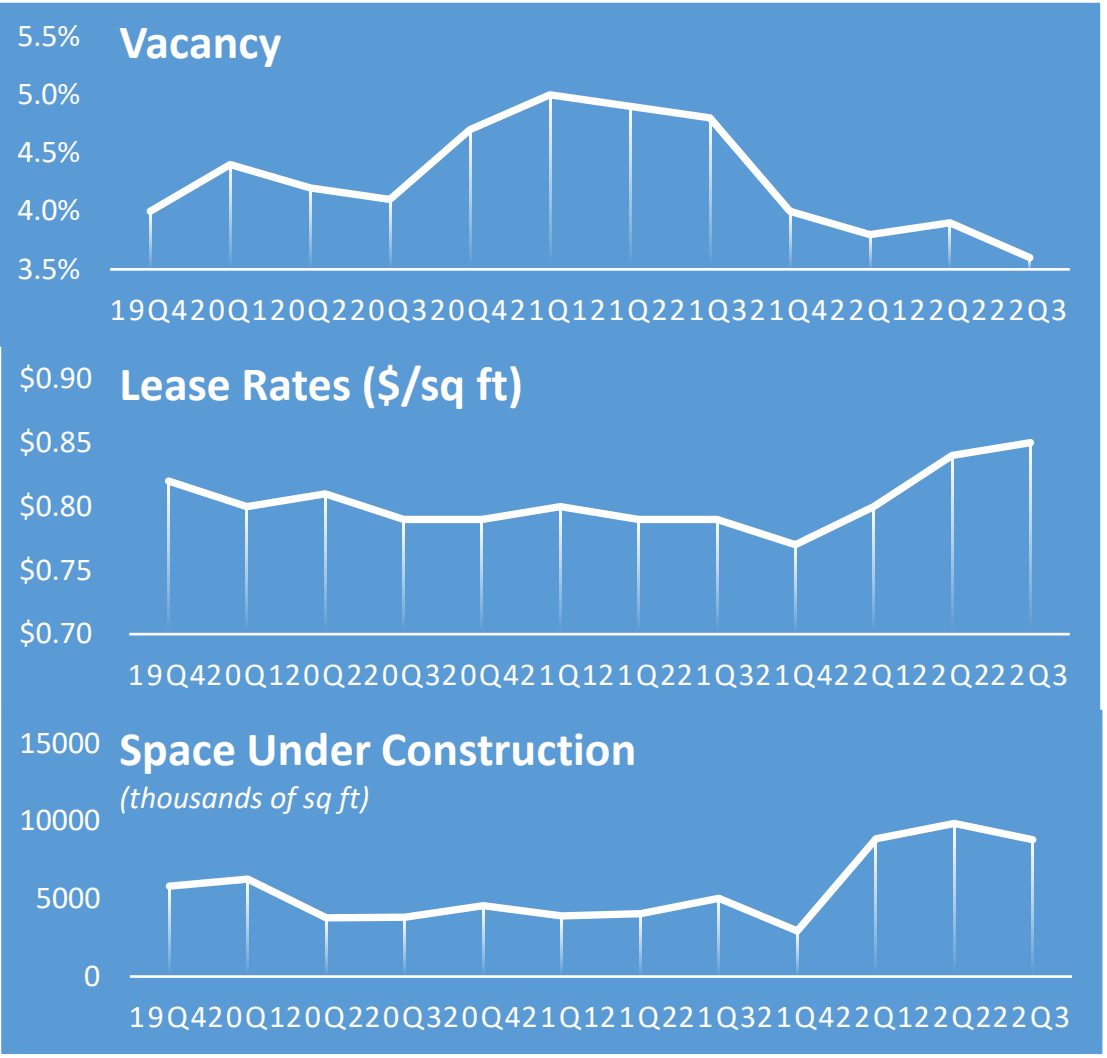
E-Commerce Jobs and Wages in the Portland Metropolitan Region

Economic Sub-Sector	Q1 2019 Employment	Q1 2022 Employment	Change	Percent Change
Truck Transportation	8,992	9,192	200	2.2%
Couriers and Messengers	7,043	10,763	3,720	52.8%
Warehousing and Storage	7,749	12,799	5,050	65.2%
Total Private Employment	906,575	888,565	-18,010	-2.0%

		Q1 2019	Q4 2020	Q1 2022
Employment	Number	23,784	34,194	32,754
	Percent of Region's Total	2.6%	4.0%	3.7%
Wages	Number	$266.9 million	$444.0 million	$416.3 million
	Percent of Region's Total	1.8%	2.8%	2.5%



Portland Industrial RE Market Trends



- Record-low vacancy
- Record-high lease rates
- 6.8 million square feet of industrial buildings under construction (coming online through 2023-24)

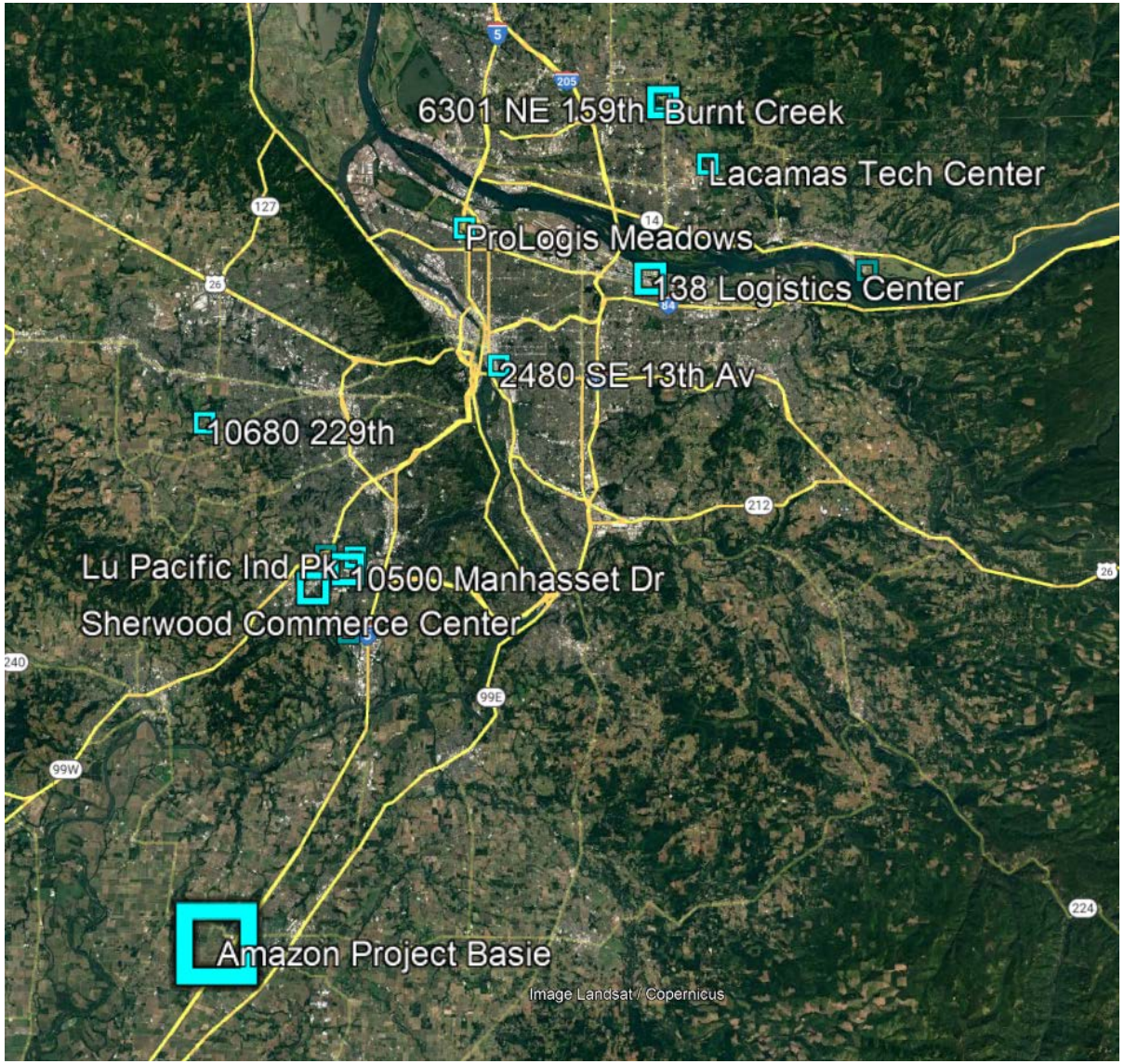
Source: Colliers Portland Industrial Report, Q4 2022

Industrial Properties U/C as of Q4 2022

Property	Submarket	Developer/Owner	Size (SF)	Delivery
Project Basie – Amazon Fulfillment Center	Salem	Trammel Crow/Amazon	3,850,000	Q1 2023
Prologis Meadows, Building E	North/Northeast	Prologis, L.P.	281,345	Q1 2023
PacTrust Corporate Park	Clark County	PacTrust	293,262	Q1 2023
Mill Creek Corporate Center, Bldg 5	Salem	PacTrust	86,400	Q1 2023
10680 289th	Westside	BBS Properties LLC	13,264	Q1 2023
LaCamas Tech Center, Bldg 2	Clark County	Rotschy Inc.	24,624	Q1 2023
Lu Pacific Industrial Park	I-5 South	Lu Pacific Properties LLC	131,594	Q1 2023
Mill Creek Corporate Center, Bldg 6	Salem	PacTrust	75,600	Q2 2023
138 Logistics Center, Bldgs A & B	North/Northeast	Phelan Development Company	489,700	Q2 2023
2480 SE 13th Ave	Southeast	American Metals Corporation	85,105	Q2 2023
4035 Grant St	Clark County	Port of Camas Washougal	50,000	Q2 2023
6301 NE 159th Ave – Bauer Cases	Clark County	Bauer Cases	85,000	Q2 2023
Grahams Ferry Industrial Center	I-5 South	Ares Commercial Real Estate	148,279	Q2 2023
18350 SW 126th Pl	I-5 South	-	18,000	Q3 2023
Burnt Creek Industrial	Clark County	Panattoni	681,780	Q3 2023
Sherwood Commerce Center, Bldgs A/B/C	I-5 South	Schnitzer Properties	445,007	Q4 2023
10500 SW Manhasset Dr	I-5 South	Fred Hines	44,647	Q4 2024

Source: Colliers Portland Industrial Report, Q4 2022

Where Are the Impacts of this Construction?

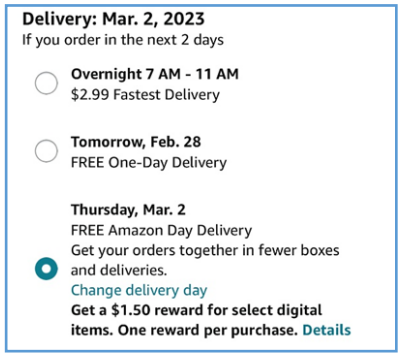


Logistics Strategies

Private Sector Strategies: Reducing the **cost** of the last mile

Manage Demand for Last-Mile Deliveries:

- "No-Rush" Delivery
- BOPIS/BOPAC

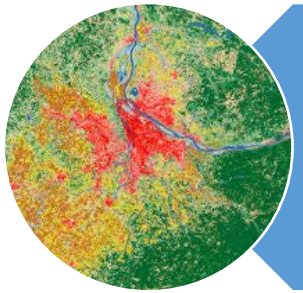


Using A.I. to optimize delivery tours and routing

Logistics Strategies

Public Sector Strategies: Reducing the **impacts** of last-mile deliveries

Curb management: Loading zones and curb access for deliveries



Land Use policy:

- Industrial zoning
- “Dark store” considerations

Comments and feedback

Questions?

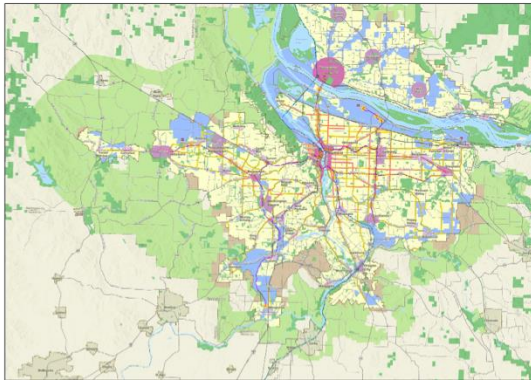
2023 Regional Transportation Plan

Draft Chapter 3 – System Policies

TPAC Workshop

March 8, 2023

Metro



Today's purpose

Continue discussion of the draft policies, with a focus on:

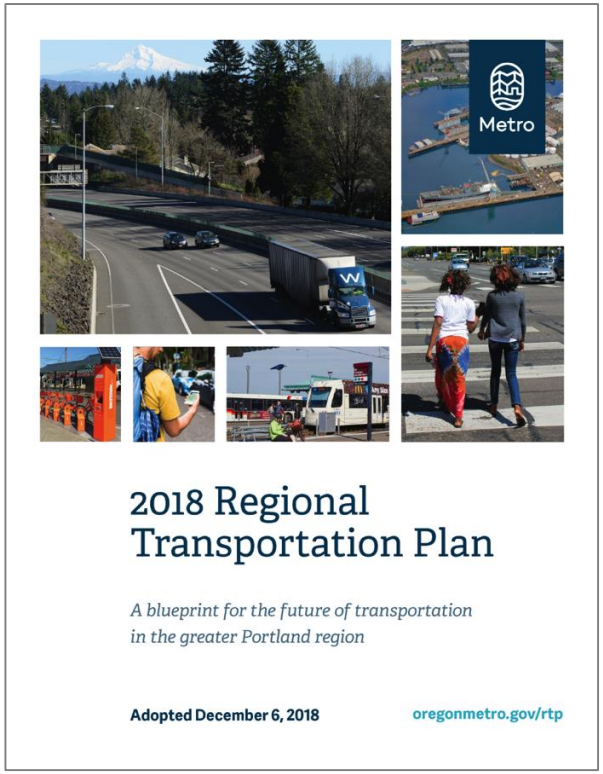
- Climate Policy 3 and 9
- Pricing Policy 4
- Motor Vehicle Policy 6 and 9
- Transit Policy 5

Comments on the policies and draft Chapter 3 requested by March 24.

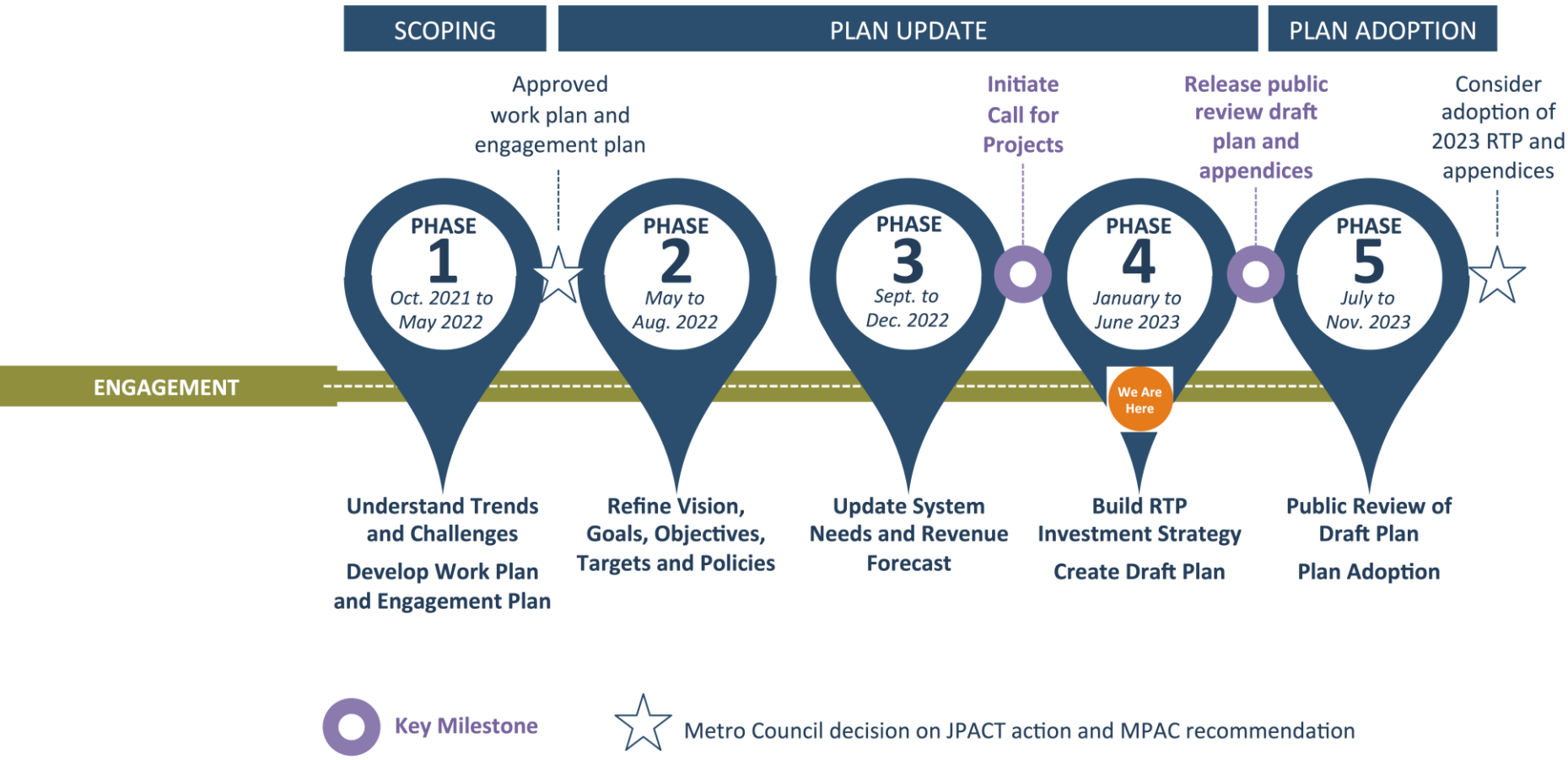
What is the Regional Transportation Plan (RTP)?

20+ year transportation plan

- Sets the vision and goals for moving people and goods safely, reliably and affordably for decades to come
- Uses projections of future population and job growth to identify travel needs and solutions through 2045
- Includes policies and projects
- Coordinates local, regional, and state investments on regional system
- Establishes priorities for federal and state funding



Timeline for the 2023 RTP update



RTP document under development

Executive Summary

Chapter 1: Toward A Connected Region

Chapter 2: Our Shared Vision and Goals for Transportation

Chapter 3: Transportation System Policies to Achieve Our Vision

Chapter 4: Snapshot of Our Growing and Changing Region

Chapter 5: Our Transportation Funding Outlook

Chapter 6: Regional Programs and Projects to Achieve Our Vision

Chapter 7: Measuring Outcomes

Chapter 8: Moving Forward Together (Implementation)

Glossary of terms

Appendices and supporting documents

RTP outcomes-based framework

Guides planning and decision-making in the region

Coordinated planning and decision-making

Federal and state law define roles and responsibilities and expectations for coordinated planning

Policies guide planning and investment decisions for the parts of the system they address

Plans identify needs and solutions

2023 RTP Policy Framework

Draft vision and goals for 2023 RTP

Vision ⇢

Everyone in the greater Portland region will have **safe, reliable, affordable, efficient, and climate-friendly** travel options that allow people to **drive less** and support **equitable, resilient, healthy and economically vibrant communities and region**.

Developed in 2022 by JPACT and Metro Council with input from MPAC

2023 RTP Policy Framework

Draft Chapter 3 Policies

- **New policies** related to pricing, mobility and transit
- **Updates to** climate and motor vehicle policies related to new policies and state Transportation Planning Rules
- **Minor updates/reformatting** to transportation equity, freight, design, TSMO and TDM policies
- **No changes** to safety, bike, pedestrian and emerging technology policies

What We Heard March 3

Support for changes to transportation equity policies

No comments on safety, design, bike, pedestrian, freight, TDM, TSMO and emerging technology policies

More discussion needed on specific climate, pricing, motor vehicle, transit policies (focus of today)

Recognition of remaining work on mobility policy measures post-RTP system analysis

More discussion needed on prioritization of investments in policies and which policies support thriving economy goal

Draft Chapter 3 System Policies

Climate Policy 9 and Resilience

Policy 3 Prioritize transportation investments that make biking and walking safe and convenient to significantly increase walking and bicycling mode shares.

Policy 9 Secure adequate funding for transportation investments that support the RTP climate goal and implementation of the climate smart strategy.

3/3/23 TPAC Comments:

- Be specific about mode share targets.
- Resilience is missing from policies
- Add resilience to Policy 9
- Add new policy for resilience to earthquakes and other hazards

Draft Chapter 3 System Policies

Pricing Policy 4

Policy 4 Minimize diversion impacts created by pricing programs and projects prior to implementation and throughout the life of the pricing program or project.

3/3/23 TPAC Comments:

- Localized impacts - Language doesn't talk about localized impacts, including how is diversion defined, what is too much diversion, what can/should be done to address it or who has responsibility for addressing it.

Draft Chapter 3 System Policies

Motor Vehicle Policies 6 and 9

Policy 6 If new capacity is being added, evaluate use of pricing and increased transit service in conjunction with the new capacity to manage traffic congestion and reduce VMT per capita.

Policy 9 Prior to adding new capacity demonstrate that system and demand management strategies, including access management, transit and freight priority, pricing, transit service and multimodal connectivity improvements cannot meet regional mobility, safety, climate, and equity policies consistent with OAR 660-012-0830.

3/3/23 TPAC Comments:

- Overlap between the two policies.
- Support for concepts and hierarchy of solutions but concern with how to address use of pricing for arterials and in local TSPs – seems more appropriate for throughways.
- Add reference to mobility policy and congestion management process.
- Concern policy would limit new roads in UGB expansion areas.

Draft Chapter 3 System Policies

Transit Policy 5

Policy 5: Complete and strengthen a well-connected high capacity transit network to serve as the backbone of the transportation system. **Corridors should generally be spaced at least one half-mile to one mile or more apart and serve mobility corridors with the highest travel demand.** High capacity transit prioritizes transit speed and reliability to connect regional centers with the Central City, link regional centers with each other, and link regional centers to major town centers.

3/3/23 TPAC Comments:

- Policy calls for too dense of a HCT network.
- Concern with focused on areas of highest travel demand.

Draft Chapter 3 System Policies

Prioritization

Transportation equity policy 3

Safety policies 2, 3 and 8

Mobility policies 4 and 5

Motor vehicle policy 7

Transit policies 2, 3, 5, 6 and 7

Climate policies 2, 3 and 5

Bicycle policy 2

Pedestrian policies 2 and 3

3/3/23 TPAC Comments:

- Remove some prioritization of investments policies

2023 Regional Transportation Plan Update

Next steps for Chapter 3

March 3	TPAC discussion of draft policies
March 8	TPAC workshop discussion of draft policies TransPORT subcommittee discussion of draft TSMO policies
March 15	MTAC discussion of draft policies
March 24	Comments on draft policies/Ch. 3 due to Metro staff
April 19	TPAC/MTAC workshop discussion of draft policies
June 15/29	JPACT/Metro Council consider support releasing the draft RTP (and projects) for public review
Summer	45-day public comment period on draft RTP (and projects)
Nov.	JPACT and Metro Council consider public input and final RTP for adoption

Learn more about the Regional Transportation Plan at:

Metro

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RTP Project Manager
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oregonmetro.gov/rtp

2023 RTP Climate Smart Analysis: teleworking and the “GHG gap”

TPAC workshop

March 8, 2023

Goals of today's presentation

In February we provided an initial estimate of the gap in greenhouse gas (GHG) reductions that the 2023 RTP update needs to close in order to meet our targets.

Today we will share updated results showing how different future levels of teleworking affect the estimated gap.

Understanding and honing these results will allow us to account for teleworking in the climate analysis and to focus our next conversation on aligning the analysis with the RTP project list.

Our region's climate targets

- A 20 percent reduction in per capita greenhouse gas emissions by the year 2035 (the target for the Climate Smart Strategy adopted in 2014)
- A 25% reduction by 2040 (2018 RTP target)
- **A 30% reduction by 2045 (the 2023 RTP target)**
- A 35% percent reduction by 2050 (the target for the 2028 RTP)

About our climate targets

- These "GHG reduction targets" are **in effect vehicle miles traveled (VMT) reduction targets**. Our region is expected to meet GHG targets by reducing VMT.
- Targets reflect the **need to reduce GHG reductions beyond what state and federal clean vehicle/fuel policies and investments can achieve**. We can only count actions to promote clean vehicles/fuels if they are locally funded.
- Targets apply to **household-based emissions from light-duty vehicles**. (In other words, freight trips don't count.)
- Targets are based on **2005 baseline emissions.**

What is teleworking?

Teleworking includes **all work undertaken remotely, regardless of location** (home, coffee shop, co-working space) **or frequency** (part-time or full-time).

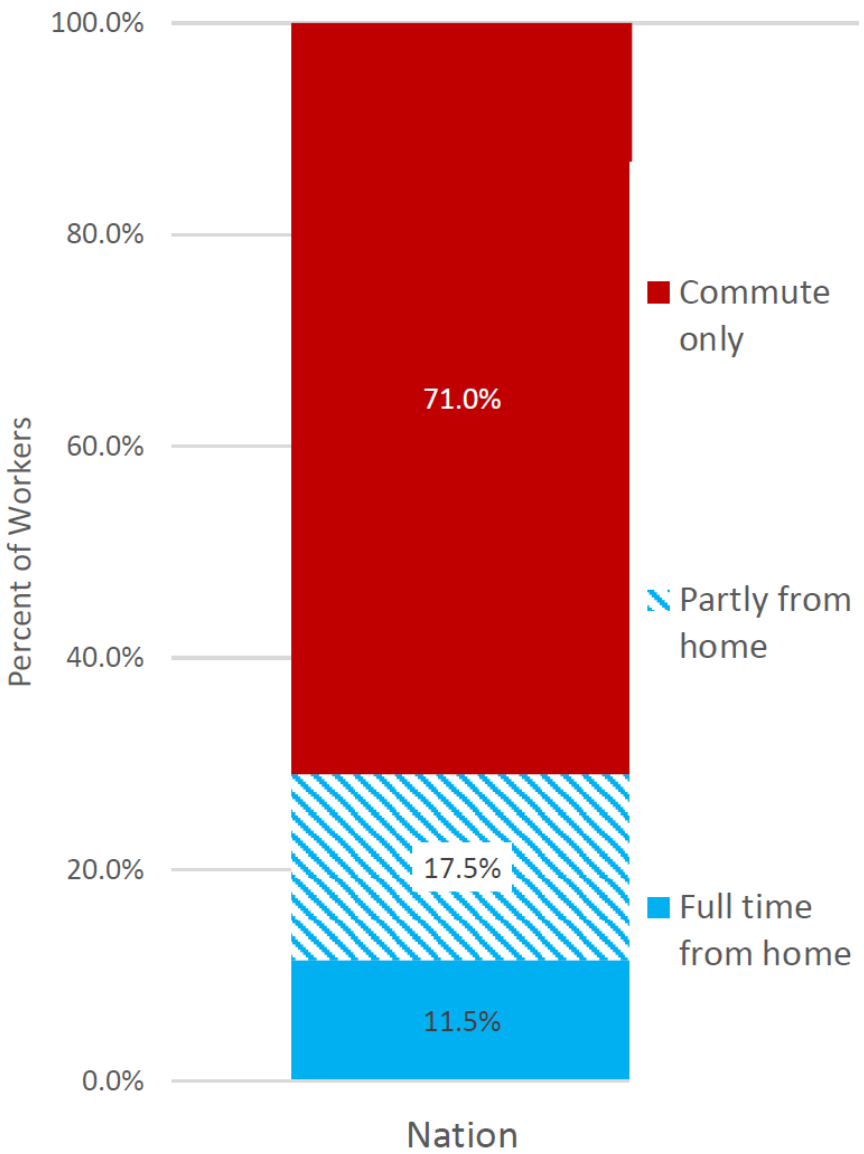
This is a broader definition than the region has previously used. We used to only count full-time telework.

Since teleworking means so many different things it can be more useful to measure its opposite: “workers who commute full-time.” Everyone else is a teleworker.

How much teleworking is there?

The chart from the 2017 National Household Travel Survey shows pre-pandemic teleworking rates.

29% lot of workers were teleworking if you count those who did so both full- and part-time.



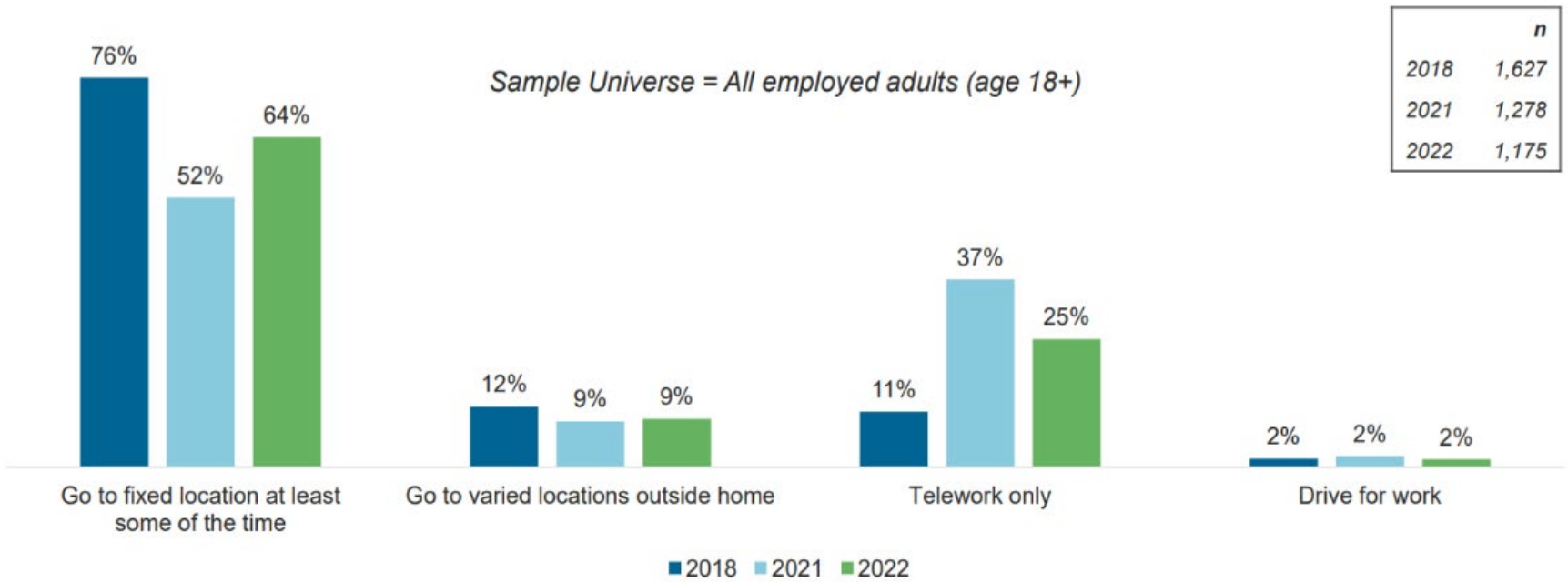
Who teleworks?

Some professions telework more frequently than others, and there are some workers in all job sectors who telework. We used this data to develop detailed scenarios.

How much teleworking is there?

Despite a drop in "telework only" since 2021, 2022 rates remain higher than 2018 rates.

Q: "As of today, which of the following best describes your current work location?"



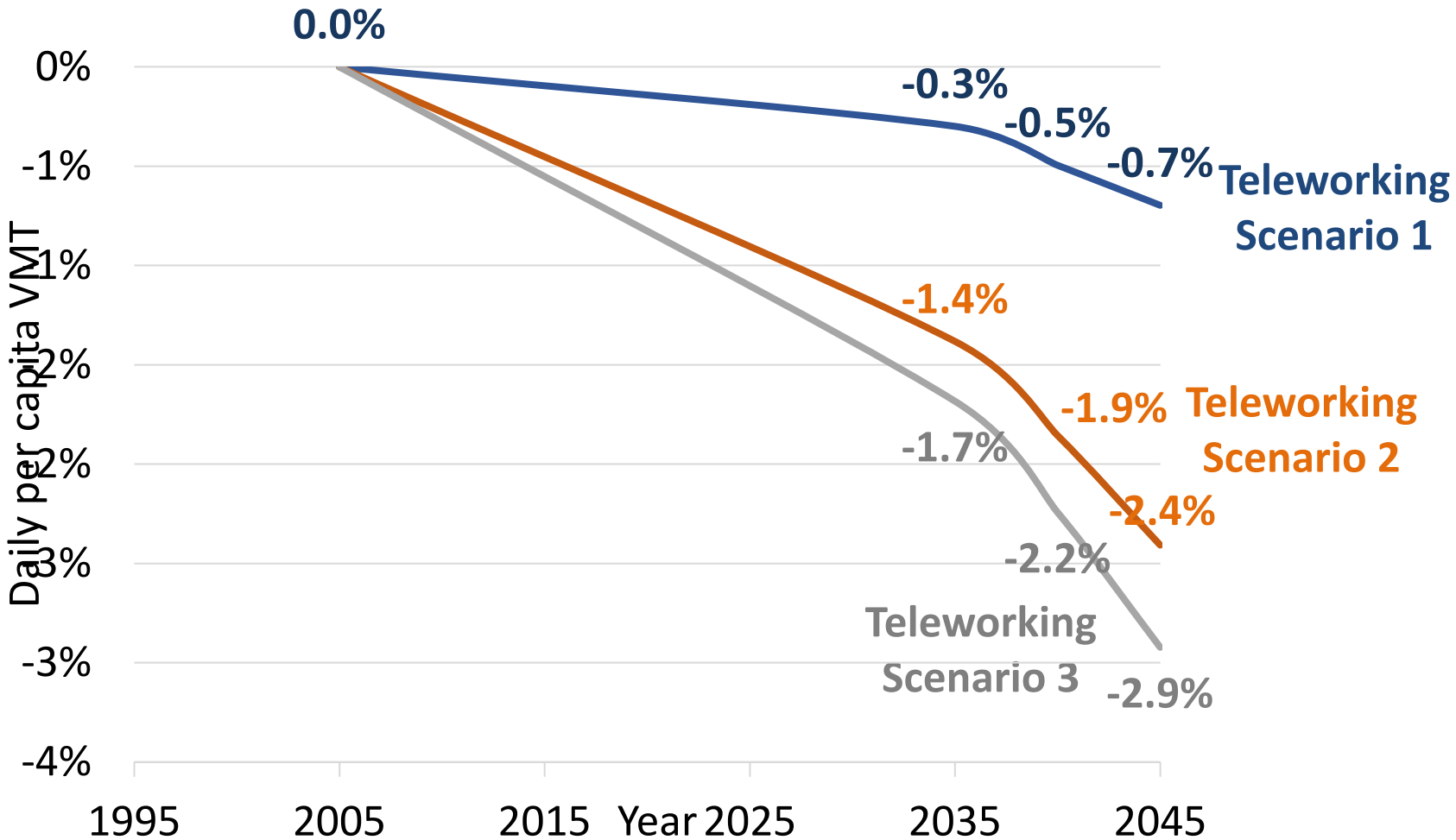
Most datasets will tell you that people teleworked more during the pandemic. How much more depends on when exactly the data comes from.

Teleworking scenarios

	Base (pre-pandemic)	Scenario 1	Scenario 2	Scenario 3
Teleworking 5 days per week	9.9%	14.0%	25.1%	32.5%
…4 days per week	6.9%	9.7%	12.2%	8.3%
…3 days per week	3.8%	5.4%	3.8%	4.6%
…2 days per week	3.0%	4.3%	3.0%	3.7%
…1 day per week	4.6%	6.9%	4.6%	6.9%
Full-time commuting / no teleworking	71.8%	57.7%	46.6%	44.0%

Teleworking Impact on VMT

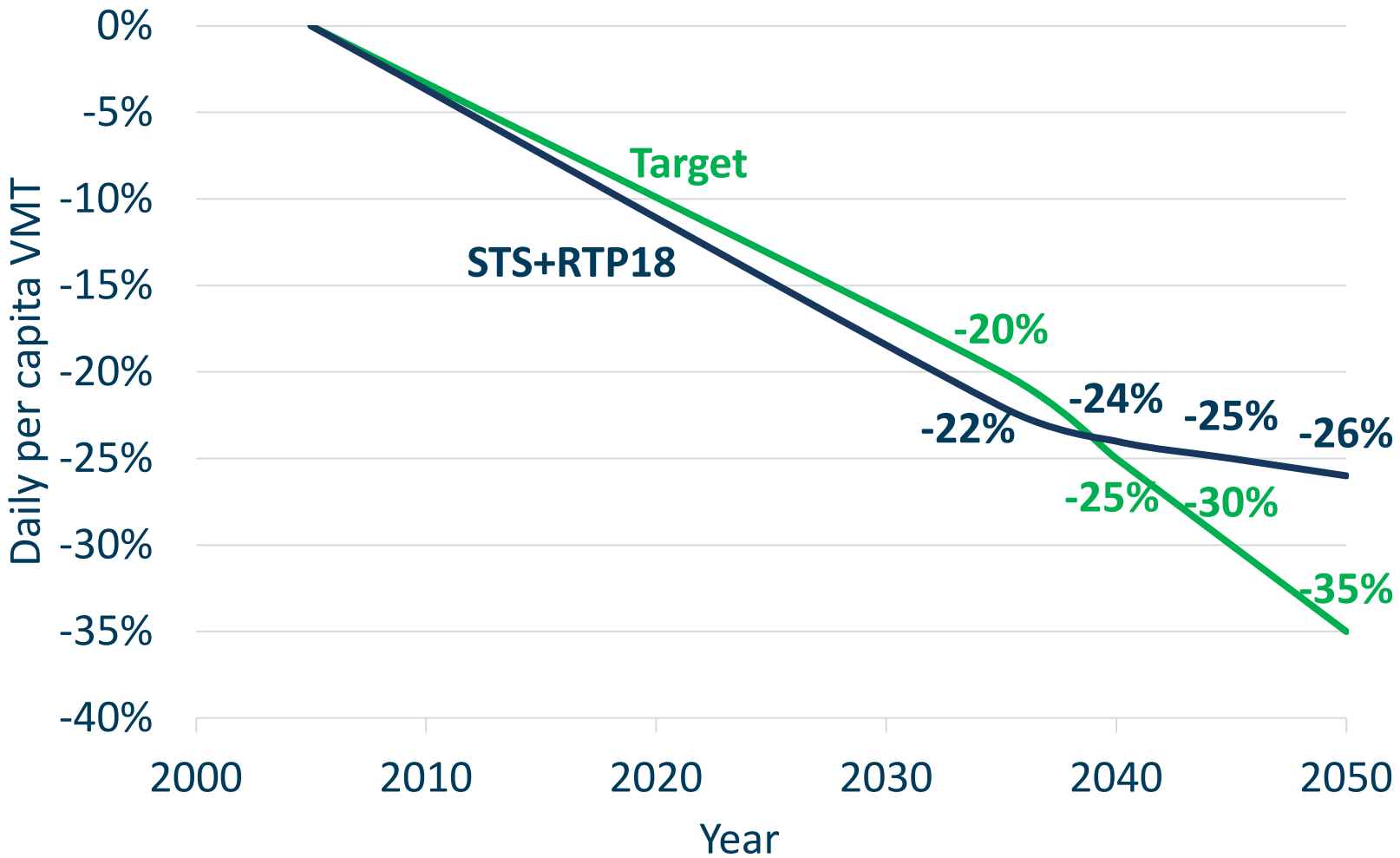
Daily per capita VMT reductions by scenario, relative to baseline VMT



These results will be revised based on the Call for Projects.

Initial gap estimate

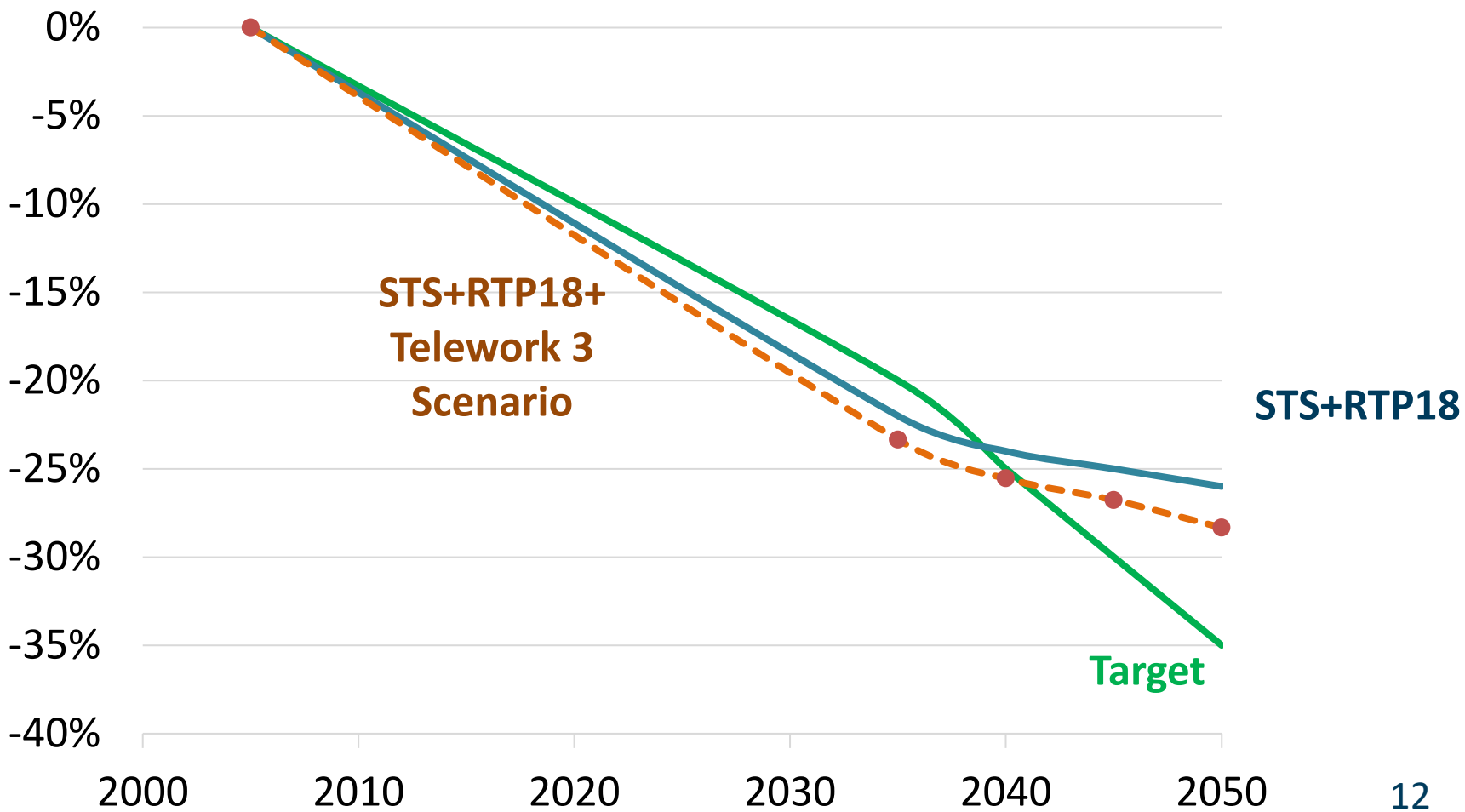
Daily per capita VMT reductions by scenario



These results will be revised based on the Call for Projects.

Impacts on VMT: Telework 3 scenario

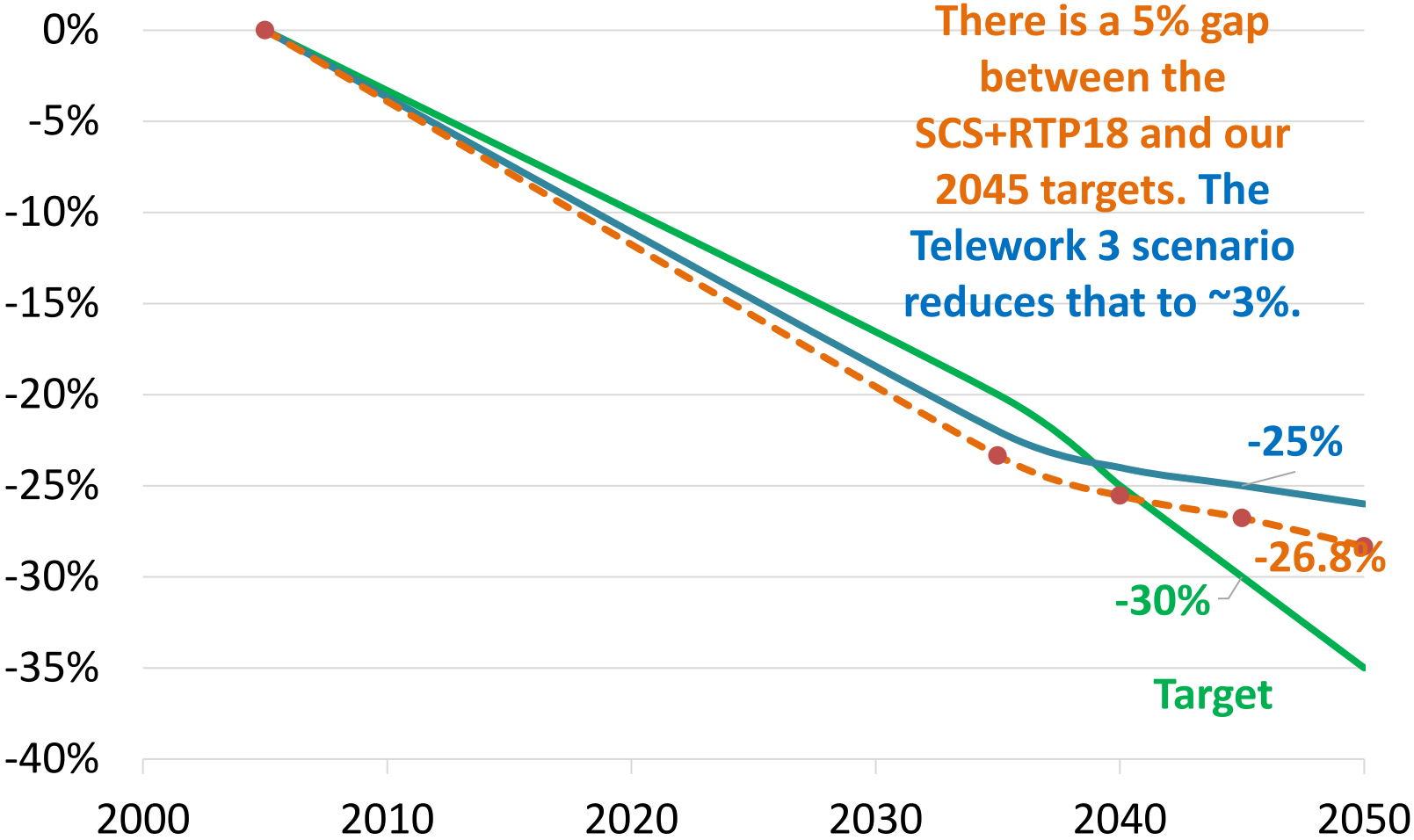
Daily per capita VMT reductions by scenario



These results will be revised based on the Call for Projects.

Impact on VMT: scenario 3

Daily per capita VMT reductions by scenario



These results will be revised based on the Call for Projects.

Detailed results by scenario

Percentage reductions vs. 2005 levels of daily per capita VMT, by scenario

Year	Target	RTP18+SCS	Telework 1	Telework 2	Telework 3
2035	-20%	-22.0%	-22.3%	-23.1%	-23.3%
2040	-25%	-23.8%	-24.2%	-25.2%	-25.5%
2045	-30%	-24.6%	-25.1%	-26.4%	-26.8%
2050	-35%	-25.6%	-26.2%	-27.8%	-28.3%

What we learned

- If you count hybrid workweeks, a lot of workers (28%) were teleworking before the pandemic.
- Teleworking hasn't been part of out climate analysis before. It's important to account for it because people seem likely to continue doing it.
- We explored 2045 scenarios where between 42% and 56% of workers telework some of the time.
- Those scenarios reduce 2045 GHG emissions by between 0.5 and 2.5 percentage points – reducing, but not eliminating, the estimated 5-point gap.

Climate Smart analysis update timeline

- 2/17: RTP Call for Projects concludes; update climate analysis to reflect projects
- Feb-April: Review and finalize the assumptions to be used in the Climate analysis
- 3/8: TPAC workshop to review updated gap analysis
- April-May: Share the draft final climate analysis with policy and technical committees for feedback
- June: Release draft final climate analysis as part of the public comment draft of the 2023 RTP update

Discussion questions

- Do you have any questions about how regional GHG targets work or about the results that we presented today?
- Are there particular teleworking scenarios that seem more or less realistic than others to you?