

# 2023 Regional Transportation Plan

*A blueprint for the future of transportation  
in the greater Portland region*

**Adopted November 30, 2023**

[oregonmetro.gov/rtp](https://oregonmetro.gov/rtp)

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**Metro is the federally mandated metropolitan planning organization** designated by the governor to develop an overall transportation plan and to allocate federal funds for the region.

The Joint Policy Advisory Committee on Transportation (JPACT) is a 17-member committee that provides a forum for elected officials and representatives of agencies involved in transportation to evaluate transportation needs in the region and to make recommendations to the Metro Council. The established decision-making process assures a well-balanced regional transportation system and involves local elected officials directly in decisions that help the Metro Council develop regional transportation policies, including allocating transportation funds.

Regional Transportation Plan website: [\*\*oregonmetro.gov/rtp\*\*](http://oregonmetro.gov/rtp)

The preparation of this strategy was financed in part by the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration. The opinions, findings and conclusions expressed in this strategy are not necessarily those of the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration.



BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING THE 2018	)	ORDINANCE NO. 23-1496
REGIONAL TRANSPORTATION PLAN (RTP)	)	
TO COMPLY WITH FEDERAL AND STATE	)	Introduced by Chief Operating Officer
LAW AND AMENDING THE REGIONAL	)	Marissa Madrigal in concurrence with
FRAMEWORK PLAN	)	Council President Lynn Peterson

WHEREAS, Metro is the directly elected regional government responsible for regional land use and transportation planning under state law and the federally-designated metropolitan planning organization (MPO) for the Portland metropolitan area; and

WHEREAS, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council together serve as the MPO board for the region in a unique partnership that requires joint action on all MPO decisions, including the Regional Transportation Plan (RTP); and

WHEREAS, the Metro Policy Advisory Committee (MPAC) advises and makes recommendations to the Metro Council on growth management and land use issues at the policy level, including the RTP; and

WHEREAS, the Transportation Policy Alternatives Committee (TPAC) and the Metro Technical Advisory Committee (MTAC) provide input and recommendations to JPACT and MPAC, respectively, at the technical level; and

WHEREAS, Metro's Committee on Racial Equity (CORE) advises Metro Council and staff on the implementation of the Strategic Plan to Advance Racial Equity, Diversity and Inclusion and provided input that helped shape the RTP vision and goals and community engagement; and

WHEREAS, the RTP is the federally recognized transportation plan for the Portland metropolitan region, and must be updated every five years to ensure continued compliance with federal planning regulations and funding eligibility of projects and programs using federal transportation funds in the region; and

WHEREAS, the RTP fulfills statewide planning requirements to implement Statewide Planning Goal 12, as implemented through the Transportation Planning Rule (Oregon Administrative Rules Chapter 660 Division 12) and the Metropolitan Greenhouse Gas Emissions Reduction Rule (Oregon Administrative Rules Chapter 660 Division 44); and

WHEREAS, the RTP is a central tool for implementing Metro's Region 2040 Growth Concept and Climate Smart Strategy and constitutes a policy component of the Regional Framework Plan; and

WHEREAS, the last update to the RTP was adopted by the Metro Council on December 6, 2018 via Ordinance No. 18-1421 and was subsequently approved and acknowledged by the Land Conservation and Development Commission; and

WHEREAS, JPACT and the Metro Council approved the 2023 RTP work plan and public engagement plan on April 21 and May 5, 2022, respectively; and

WHEREAS, from May 2022 through November 2023, the Metro Council and Metro staff engaged the public, community, and business leaders, and local, regional and state partners to update the RTP, including its vision, goals, objectives, policies, performance measures, and projects; and

WHEREAS, Metro staff have conducted planning activities informed by extensive inclusive public engagement to support a regional policy discussion on the future of the region's transportation system and the role that investment can play in providing safe, reliable and affordable mobility options to access to jobs, education, healthcare and other services and opportunities and building healthy, climate-friendly and equitable communities and a strong economy; and

WHEREAS, central to the 2023 RTP is an overall emphasis on making progress toward the region's safety, equity, climate, economic and mobility goals, and state goals for reductions in per capita vehicle miles traveled and corresponding greenhouse gas emissions; and

WHEREAS, on July 10, 2023, Metro released the initial draft of the 2023 RTP and Appendices for public review and comment, providing a 45-day public comment period on the draft 2023 RTP through August 25, 2023, and held a public hearing on July 27, 2023 to accept public testimony and comments; and

WHEREAS, Metro staff invited federally-recognized tribes, the Federal Highway Administration, the Federal Transit Administration and other federal, state and regional resource, wildlife, land management and regulatory agencies to consult on the 2023 RTP and Appendices in accordance with 23 CFR 450.316, and convened six separate consultation meetings in Fall 2021, Spring 2023 and on August 17 and 22, 2023; and

WHEREAS, the Metro Council, JPACT, MPAC, MTAC, TPAC, TriMet, the South Metro Area Regional Transit (SMART), local government elected officials and staff, small and large businesses and economic development interests, business and community leaders, and the public, particularly underrepresented communities including Black, Indigenous and people of color communities, people with low income, people who speak limited English, people experiencing a disability, youth and older adults, assisted in the development of the 2023 RTP and provided comment throughout the planning process; and

WHEREAS, the 2023 RTP sets the foundation for local transportation plan updates, future region-wide planning efforts, regional efforts to seek transportation infrastructure funding, and defines specific activities for Metro and regional partners to take over the next few years to support the outcomes identified through the RTP update; and

WHEREAS, JPACT and MPAC have made recommendations to the Metro Council on adoption of the 2023 RTP and Appendices; and


WHEREAS, the Metro Council held two additional public hearings on the 2023 RTP and its components identified in Exhibit A, Exhibit B, Exhibit C, and Exhibit D on September 28 and November 30, 2023; now therefore,

**THE METRO COUNCIL ORDAINS AS FOLLOWS:**

1. The 2018 Regional Transportation Plan is hereby amended to become the 2023 Regional Transportation Plan, as indicated in attached Exhibit A and Appendices, and the addendum to Exhibit A, which are all attached and incorporated into this ordinance.

2. Chapter 2 (Transportation) of Metro's Regional Framework Plan is hereby amended, as indicated in Exhibit B, attached and incorporated into this ordinance, to reflect the updated Transportation policies in the 2023 RTP in Exhibit A.
3. The "Summary of Comments Received and Recommended Actions," attached as Exhibit C, is incorporated by reference and any amendments reflected in the recommended actions are incorporated in Exhibit A.
4. The Findings of Fact and Conclusions of Law, attached as Exhibit D, explain how these amendments comply with the Regional Framework Plan, statewide planning laws and the Oregon Transportation Plan and its applicable components.
5. Staff is directed to submit this ordinance and exhibits to the Land Conservation and Development Commission (LCDC) for acknowledgment.
6. The 2023 RTP is hereby adopted as the federally recognized metropolitan transportation plan and shall be transmitted to the U.S. Department of Transportation

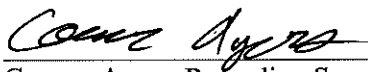
ADOPTED by the Metro Council this 30th day of November 2023.



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Lynn Peterson, Council President

Attest:



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Connor Ayers, Recording Secretary

Approved as to Form:



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Carrie MacLaren, Metro Attorney



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## **ACKNOWLEDGEMENTS**

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*Special thanks to the following people for their leadership and support: Craig Beebe, Margi Bradway, Elissa Gertler, and Chris Johnson.*



## ACRONYMS

3-C	Continuing, Cooperative and Comprehensive Planning Process	FTA	Federal Transit Administration
ADA	Americans with Disabilities Act	HCT	High-Capacity Transit
ATMS	Advanced Traffic Management System	HOV	High-Occupancy Vehicle
ATP	Active Transportation Plan	IAMP	Interchange Area Management Plan
AQMA	Air Quality Maintenance Area	IIJA	Infrastructure Investment and Jobs Act (2021)
BIL	Bipartisan Infrastructure Law (2021)	ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
BRT	Bus Rapid Transit	ITS	Intelligent Transportation System
CAAA	Clean Air Act Amendments of 1990	JPACT	Joint Policy Advisory Committee on Transportation
CFEC	Climate Friendly and Equitable Communities	LCDC	Land Conservation and Development Commission
CMAQ	Congestion Mitigation and Air Quality	LRT	Light Rail Transit (MAX)
CMP	Congestion Management Process	MAP-21	Moving Ahead for Progress in the 21st Century Act
DEIS	Draft Environmental Impact Statement	MOVES	Motor Vehicle Emissions Simulator
DEQ	Department of Environmental Quality	MPAC	Metro Policy Advisory Committee
EA	Environmental Assessment	MPA	Metropolitan Planning Area
ECO	Employee Commute Options Rule	MPO	Metropolitan Planning Organization
EJ	Environmental Justice	MSTIP	Major Streets Improvement Program
EPA	Environmental Protection Agency	MTAC	Metro Technical Advisory Committee
ESA	Endangered Species Act	MTIP	Metropolitan Transportation Improvement Program
ETC	Enhanced Transit Corridor	MTP	Metropolitan Transportation Plan
ETR	Emergency Transportation Route	NAAQS	National Ambient Air Quality Standards
FEIS	Final Environmental Impact Statement	NEPA	National Environmental Protection Act
FHWA	Federal Highway Administration	NHS	National Highway System
FLMA	Federal Land Management Agency		
FONSI	Finding of No Significant Impact		

OAR	Oregon Administrative Rules	STBG	Surface Transportation Block Grant
ODOT	Oregon Department of Transportation	STS	Statewide Transportation Strategy for Reducing Greenhouse Gas Emissions
ORS	Oregon Revised Statutes	TAZ	Transportation Analysis Zone
OTC	Oregon Transportation Commission	TCM	Transportation Control Measure
OTP	Oregon Transportation Plan	TDM	Transportation Demand Management
PBPP	Performance-Based Planning and Programming	TIP	Transit Investment Plan
PE	Preliminary Engineering	TMA	Transportation Management Area
PEF	Pedestrian Environmental Factors	TMA	Transportation Management Association
PEL	Planning and Environmental Linkages	TOD	Transit-Oriented Development
PERC	Public Engagement Review Committee	TPAC	Transportation Policy Alternatives Committee
PSU	Portland State University	TPR	Transportation Planning Rule
RFFA	Regional Flexible Funds Allocation	TriMet	Tri-County Metropolitan Transportation District
RFP	Regional Framework Plan	TSM	Transportation System Management
RIP	Resilience Improvement Plan	TSMO	Transportation System Management and Operations
ROD	Record of Decision	TSP	Transit Signal Priority
ROW	Right-of-Way	TSP	Transportation System Plan
RTC	Regional Transportation Council	UGB	Urban Growth Boundary
RTFP	Regional Transportation Functional Plan	UPWP	Unified Planning Work Program
RTP	Regional Transportation Plan	USDOT	United States Department of Transportation
RUGGO	Regional Urban Growth Goals and Objectives	VE	VisionEval
SIP	State Implementation Plan (Oregon)	VMT	Vehicle Miles Traveled
SMART	South Metro Area Regional Transit	WSDOT	Washington State Department of Transportation
SOV	Single-Occupancy Vehicle		
SSLR	Statewide Seismic Lifeline Route		
STIP	Statewide Transportation Improvement Program		

## LIST OF TOPICAL AND MODAL STRATEGIES AND PLANS\*

	<b>Adoption date</b>
Regional High Capacity Transit Strategy	Nov. 30, 2023
Regional Transportation System Management and Operations Strategic Plan	Jan. 6, 2022
Regional Transportation Safety Strategy	Dec. 6, 2018
Regional Emerging Technology Strategy	Dec. 6, 2018
Regional Freight Strategy	Dec. 6, 2018
Regional Transit Strategy	Dec. 6, 2018
Regional Travel Options Strategy	May 24, 2018
Climate Smart Strategy	Dec. 18, 2014
Regional Active Transportation Plan	July 17, 2014

\* All strategies and plans were adopted by the Metro Council and Joint Policy Advisory Committee on Transportation (JPACT).



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## 2023 Regional Transportation Plan



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November 30, 2023

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## 2023 Regional Transportation Plan



# 2023 Regional Transportation Plan Chapter 1

## **Toward a connected region**

November 30, 2023

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## 1.0 PURPOSE

Metro is the metropolitan planning organization (MPO), designated by Congress and the State of Oregon, for the Oregon side of the Portland-Vancouver urbanized area. The agency serves 1.7 million people living in the region's 24 cities and three counties. As the MPO, Metro formally updates the Regional Transportation Plan (RTP) every five years in cooperation and coordination with the region's cities, counties, the Port of Portland, the Oregon Department of Transportation, transit providers and other partners.

The RTP is a blueprint to guide investments in motor vehicle, transit, bicycle, and walking travel options and the movement of goods and freight throughout the greater Portland region. The plan identifies the region's most urgent transportation needs and priorities with the revenues the region expects to have available over the next two decades to make those investments a reality. It also establishes goals and policies to help meet those needs and guide priority investments. More resources will be needed to achieve the plan's vision, address the disruptions of the global pandemic and respond to other urgent trends and challenges facing the region.

The policies, projects and programs in the RTP help move the region closer to a safe, reliable, healthy and affordable transportation system that is environmentally responsible, moves products to market efficiently and ensures all people can connect to the education and work opportunities they need to experience and contribute to our region's economic prosperity and quality of life. Implementing the plan will take sustained, focused work from every partner in the region.

### Chapter organization

This chapter is organized into the following sections:

**1.1 Introduction:** This section broadly describes the Regional Transportation Plan (RTP) and trends and challenges facing greater Portland that were the focus of this update.

**1.2 Geographic setting:** This section describes the geographic context of the Portland-Vancouver metropolitan region.

**1.3 Metropolitan transportation planning process:** This section describes Metro's role in transportation planning and planning areas of responsibility to address federal and state transportation planning requirements.

**1.4 Process and engagement overview:** This section describes the timeline and process for developing the 2023 Regional Transportation Plan.

**1.5 What's next moving forward:** This section provides a brief introduction to the rest of the plan.

## 1.1 INTRODUCTION

*The 2023 Regional Transportation Plan demonstrates the need for continued investment to build, operate and maintain the regional transportation system we need for all travelers and to meet the region’s equity, safety, climate, mobility and economic goals.*

The RTP defines a shared vision and investment strategy that guides planning and investments to keep people connected and commerce moving throughout the greater Portland region. As a cornerstone of the metropolitan transportation planning process, the RTP provides a long-range blueprint for transportation in the Portland metropolitan region with a 20-year minimum time horizon. The Metro Council adopted the first RTP in 1983. The plan is updated every five years to stay ahead of future growth, address trends and challenges facing the region and respond to new federal and state requirements.



Learn more about the 2023 Regional Transportation Plan at [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp)

Starting in Fall 2021, Metro Council and staff extensively engaged with policymakers, jurisdictional staff, federally recognized tribes, transportation agencies, community-based organizations, business groups, businesses and members of the public to update the region’s vision, goals and policies for the transportation system and understand the region’s transportation trends, needs and priorities for investment. Public engagement and consultation that shaped development of the plan are summarized in Section 1.4 of this chapter with more details provided in Appendix D of the RTP.

The greater Portland region is at a pivotal moment. The most recent census data shows our region continues to grow more diverse. By 2045 more than two million people are expected to live within the metropolitan planning boundary for the RTP—about one-half million more people than today with about half from growing families. People are shopping and working in new ways that will require different transportation solutions.

The greater Portland region is facing urgent global and regional challenges. Climate change is happening faster than predicted, and the transportation system is not fully prepared for the expected Cascadia Subduction Zone earthquake. Technological changes in transportation, communication and other areas are radically altering our daily lives.



The impacts of climate change, generations of systemic racism, economic inequities and the pandemic have made clear the need for action across jurisdictional boundaries. Systemic inequities mean that communities have not equally benefited from public policy and investments, and our changing climate and the COVID-19 pandemic have exacerbated many disparities that Black, Indigenous and people of color (BIPOC) communities, federally recognized tribes, people with low income, women and other marginalized populations already experience. Safety, housing affordability, homelessness, and public health and economic disparities have been intensified by the global pandemic; the effects of which the region continues to experience.

As the greater Portland region continues to emerge from the disruptions of the pandemic and respond to other urgent trends and challenges, this RTP provides an opportunity for all levels of government to work together across jurisdictional boundaries to deliver a better transportation future.

The plan considers the changing circumstances and challenges facing our growing region and addresses them directly, adopting new approaches for addressing mobility and prioritizing investments to advance transportation equity, climate, safety, mobility and economic goals. The goals, policies, projects and strategies in this plan also address federal, state and regional planning requirements based on our shared values and the outcomes we are trying to achieve as a region, including implementation of the 2040 Growth Concept.

## 1.2 GEOGRAPHIC SETTING

The Portland-Vancouver metropolitan region is part of the broader Pacific Northwest region, also called Cascadia. Shown in Figure 1.1, the Pacific Northwest encompasses most of British Columbia, Washington, Oregon and adjoining parts of Alaska, Montana and California.

**Figure 1.1: Portland-Vancouver metropolitan region geographic context**



Linked together by a rich and complex natural environment, abundant recreational opportunities and major metropolitan areas, the Pacific Northwest serves as a global gateway for commerce and tourism, connecting to other Pacific Rim countries and the rest of the United States.

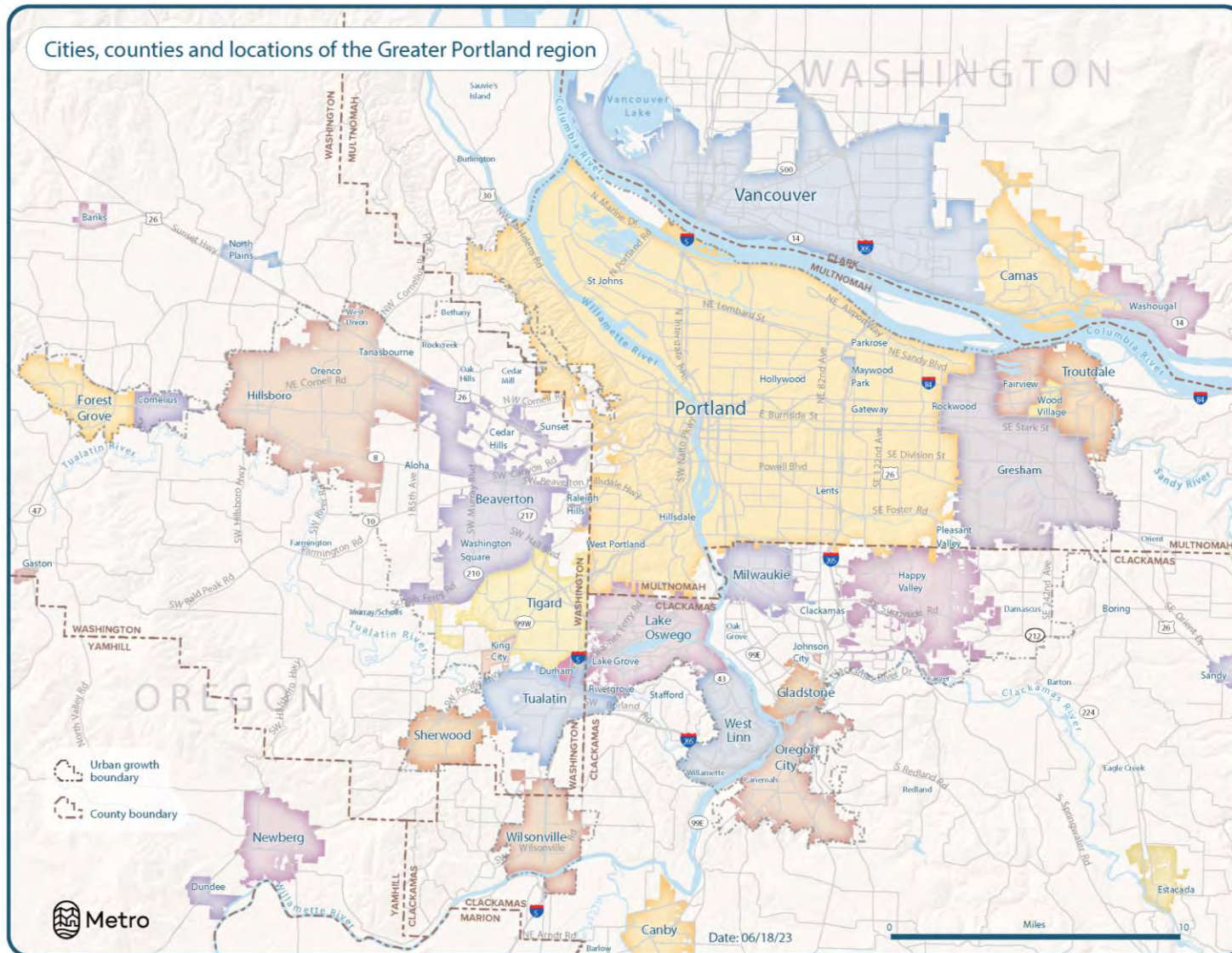
The greater Portland region is situated at the northern end of the Willamette Valley, a fertile river valley surrounded by dramatic natural features, with the Coast Range to the west, the Cascade Range to the east and the Columbia River to the north (including the Columbia River Gorge National Scenic area). Several snow-capped mountains are visible from different vantage points in the region, including Mt. Hood, Mt. St. Helens, Mt. Rainier and Mt. Adams. Within the region, rivers, streams, wetlands, buttes, forest lands, meadows and rolling to steep hillsides dominate the natural landscape. Outside the urban growth boundary, agricultural lands and other natural landscape features influence the sense of place for the greater region.

Although not the largest gateway on the U.S. West Coast, the Portland-Vancouver metropolitan region is one of four international gateways on the West Coast, including the Puget Sound, the San Francisco Bay area and Southern California. In this role, the region serves as a gateway to domestic and international markets for businesses located throughout the state of Oregon, Southwest Washington, the Mountain states and the Midwest. Clackamas, Multnomah and Washington counties also play a significant role in the state's agricultural production. The economy of our region and state depend on our ability to support the transportation needs of these industries and provide reliable access to gateway facilities.

The Oregon side of the Portland-Vancouver metropolitan region encompasses 24 cities and the urban areas of three counties as shown in Figure 1.2. Metro's urban growth boundary and jurisdictional boundaries are shown in Figure 1.6.



Figure 1.2: Cities and counties of the Portland-Vancouver metropolitan region



## 1.3 METROPOLITAN TRANSPORTATION PLANNING PROCESS

Since 1979, Metro has been the metropolitan planning organization (MPO) designated by Congress and the State of Oregon, for the Oregon portion of the Portland-Vancouver urbanized area. The urbanized area includes 24 cities and three counties with a population of 1.7 million. It is Metro's responsibility to meet the requirements of federal laws and regulations, Oregon's Statewide Land Use Program and the Metro Charter for the MPO area. Together, these requirements call for development of a multimodal transportation system plan that is coordinated with the region's land use plans and meets federal and state planning requirements.

Metro's transportation planning process also addresses federal and state requirements related to engagement. Metro gives meaningful opportunities for the public, federally-recognized tribes, federal agencies, state agencies and local agencies to inform the planning process. Public engagement and consultation activities that shaped development of the 2023 RTP are summarized in Section 1.4 of this chapter with more details provided in Appendix D of the RTP.

### 1.3.1 Overview of federal planning requirements

Metro uses a federally mandated decision-making framework called the metropolitan transportation planning process to guide its regional transportation planning and programming activities. This planning process requires all urbanized areas with populations over 50,000 to have a MPO to coordinate transportation and air quality planning and programming of federal transportation dollars within their boundaries. These activities must address the seven national goal areas and consider projects and strategies that address the ten federal planning factors shown in Figure 1.3.

The national goal areas and planning factors are addressed throughout the RTP and appendices, including:

- the plan's vision, goals and objectives (Chapter 2)
- policies to guide development and implementation of the plan (Chapter 3)
- existing system performance and regional transportation needs (Chapter 4)
- funding expected to be available to build the region's investment priorities (Chapter 5)
- the region's investment priorities (Chapter 6)
- expected performance of the plan (Chapter 7) and
- planned near-term implementation and monitoring activities (Chapter 8).

**Figure 1.3: National goal areas and federal planning factors<sup>1</sup>**



MPOs are responsible for maintaining the region’s congestion management process and implementing federal performance-based planning requirements tied to the national goal areas. MPOs are required to establish targets related to safety, bridge and pavement condition, air quality, freight movement, performance of the National Highway System and to use performance measures to track their progress toward meeting those targets. Appendix L of the RTP documents the region’s approach to addressing the federal transportation performance-based planning and congestion management requirements.

As the designated MPO for the Oregon portion of the Portland-Vancouver region, Metro is responsible for coordinating development of the RTP in cooperation with the region’s transportation providers—the 24 cities and three counties in the metropolitan planning area boundary, the Oregon Department of Transportation, Oregon Department of Environmental Quality, Port of Portland, Port of Vancouver, TriMet, South Metro Area Regional Transit (SMART), Southwest Washington Regional Transportation Council (RTC), Washington Department of Transportation (WSDOT) and other Clark County governments.

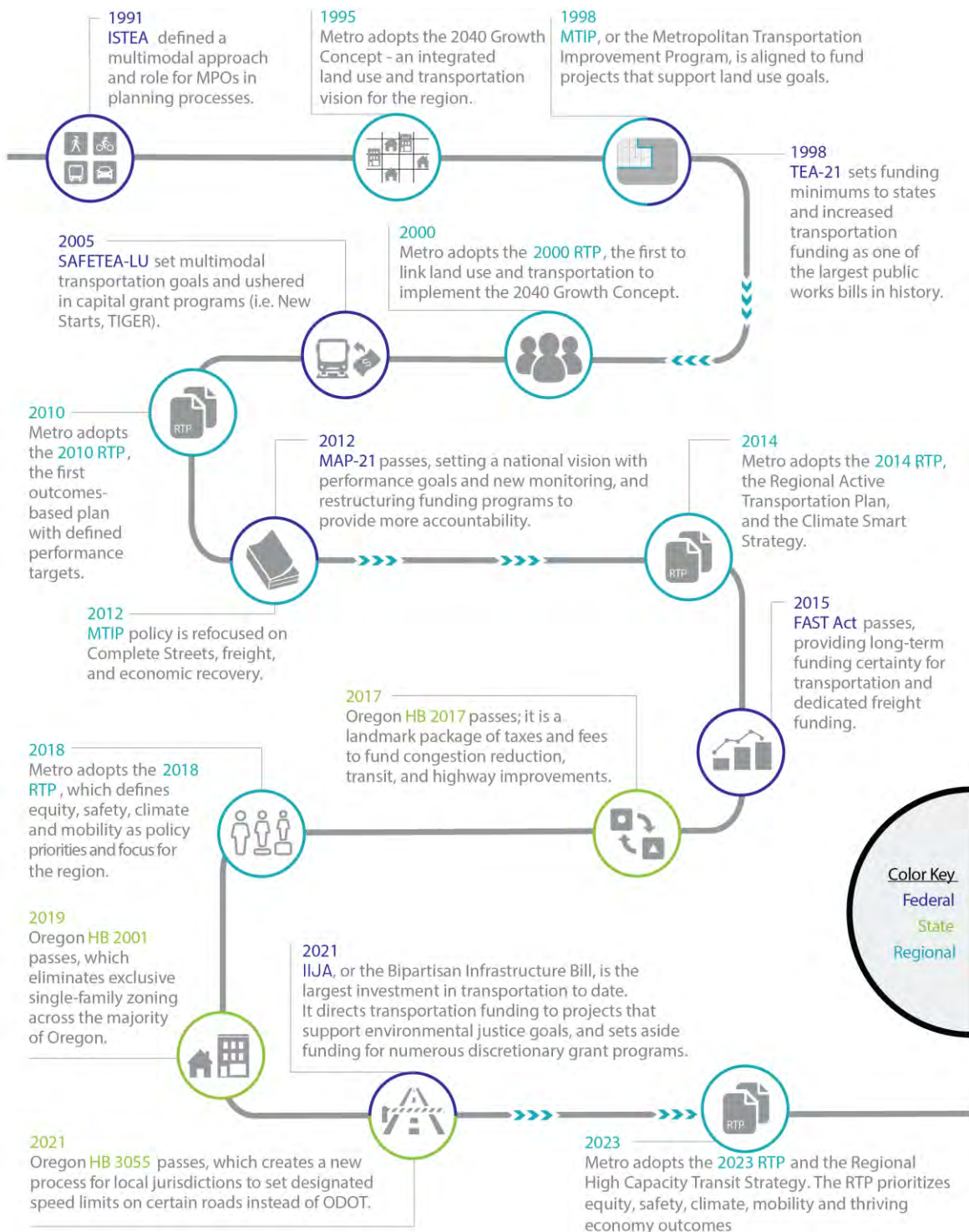
Under federal law, projects and programs must be in the RTP’s financially constrained project list (Appendix A) to be eligible for federal and state transportation funding, including federal funding Metro is responsible for allocating to projects in the region.

Figure 1.4 illustrates how federal, state and regional transportation policies have evolved since the 1990s.

<sup>1</sup> <https://www.ecfr.gov/current/title-23/chapter-I/subchapter-E/part-450/subpart-C>



**Figure 1.4: How federal and regional transportation policies have evolved since the 1990s**



### 1.3.2 Overview of state planning requirements

Statewide Planning Goal 12, Transportation, defines the State's policies on transportation. Oregon Administrative Rule 660-012, referred to as the Transportation Planning Rules (TPR), implements Oregon Statewide Planning Goal 12. The purpose of the TPR is to ensure coordination of transportation and land use planning in the development of transportation system plans, when considering land use plan amendments and during development review processes. Shown in Figure 1.5, state law establishes requirements for consistency of plans at the state, regional and local levels.

Under state law:

- The RTP serves as the region's regional transportation system plan (TSP), consistent with statewide planning goals and the [Oregon Transportation Planning Rule](#) (TPR).
- The RTP must be consistent with the [Oregon Transportation Plan](#), state modal and facility plans that implement the Oregon Transportation Plan, the TPR and the [Metropolitan Greenhouse Gas Reduction Targets Rule](#) (Division 44).
- Local transportation system plans must be consistent with the RTP and with the OTP and adopted state modal plans.

In 2022 and 2023, the Oregon Land Conservation and Development Commission updated the Transportation Planning Rules to establish the Climate-Friendly and Equitable Communities program. The purpose of the CFEC rulemaking was to better align the state's transportation planning with its long-term climate pollution reduction goal. The added requirements that apply to the RTP, in some cases, and to local TSPs in the Portland metropolitan area - include:

- Conducting multimodal inventories of the transportation system.
- Prioritizing walking, biking, and transit investments to access destinations.
- Planning transportation demand management programs and services.
- Identifying investments to support greater development in transit corridors and downtowns.
- Planning for and managing parking.



**Figure 1.5: Oregon's Statewide Land Use Program guides coordinated land use and transportation planning and decision-making in the greater Portland region**



- Identifying investments and planning for electric vehicle charging infrastructure.
- Conducting equity analyses to understand impacts of the transportation system and identifying strategies to minimize impacts on underserved populations.<sup>2</sup>
- Selecting and using system performance measures that further community livability goals.
- Regularly monitoring and reporting progress related to increasing equitable outcomes for underserved populations and reducing greenhouse gas emissions.

The RTP addresses these new requirements and identifies future work in Chapter 8 that will further advance implementation of the CFEC program at the regional and local levels, including planned updates to the Urban Growth Management Functional Plan in 2024 and the Regional Transportation Functional Plan in 2024-2025.

### **1.3.3 The region has several planning boundaries with different purposes**

Federal and state law requires several metropolitan transportation planning boundaries be defined and planned for in the region for different purposes. These boundaries are shown in Figure 1.6.

1. First, Metro’s jurisdictional boundary encompasses the urban portions of Multnomah, Washington and Clackamas counties.
2. Second, under Oregon law, each city or metropolitan area in the state has an urban growth boundary (UGB) that separates urban land from rural land. Metro is responsible for managing the greater Portland region's urban growth boundary.
3. Third, the census Urbanized Area (UA) boundary is defined to outline areas that are urban in nature and those that are largely rural in nature. The Portland-Vancouver metropolitan region is somewhat unique in that it is a single urbanized area that is located in two states and served by two MPOs. The federal census urbanized area boundary for the Oregon-portion of the Portland-Vancouver metropolitan region is distinct from the Metro urban growth boundary. The UA boundary is described in the legend of Figure 1.6 as “Census Urbanized Area (2020).”
4. Fourth, MPO’s are required to establish a Metropolitan Planning Area (MPA) boundary, which marks the geographic area to be covered by MPO transportation

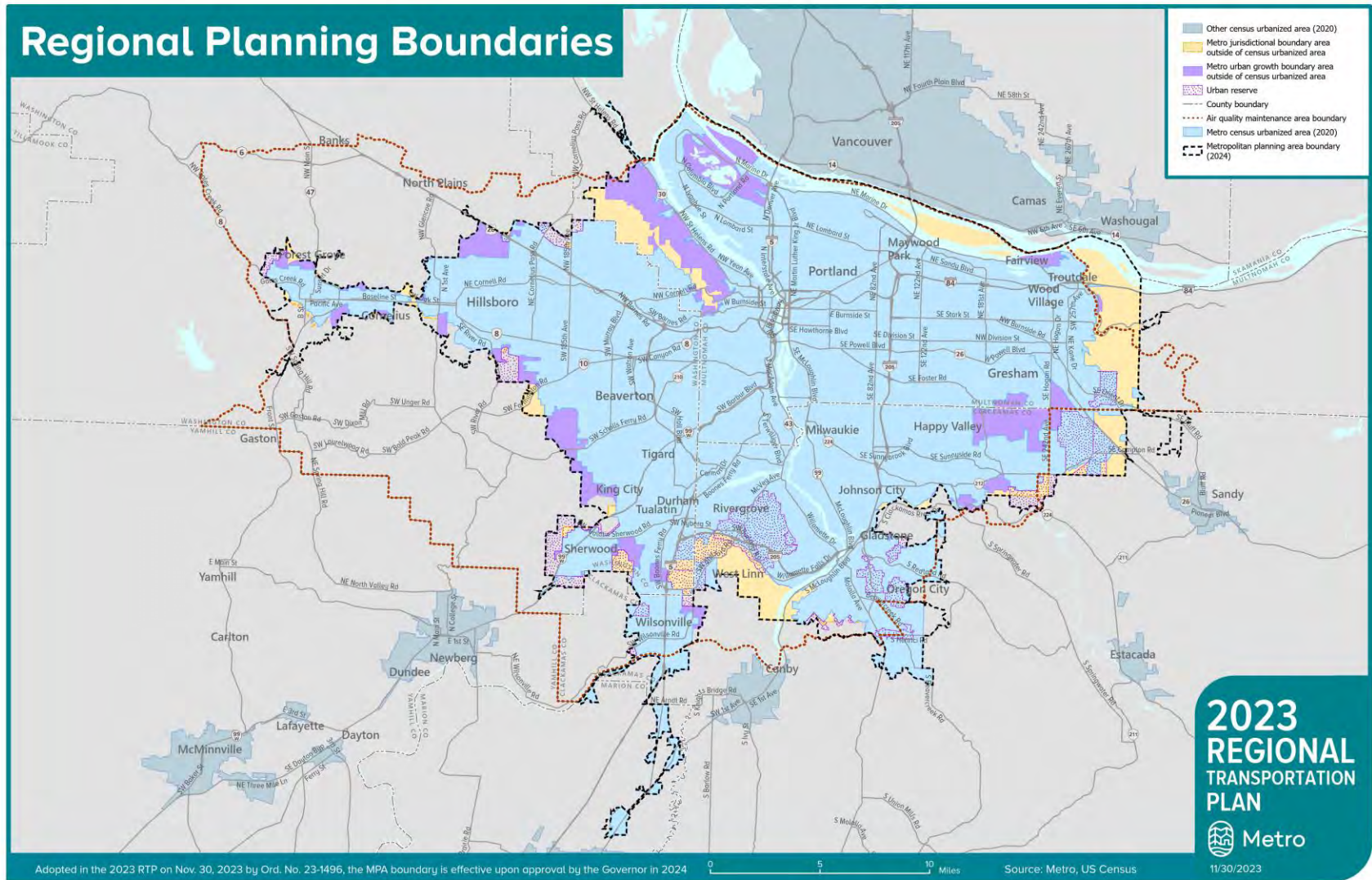
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<sup>2</sup> The TPR definition of underserved populations includes, but is not limited to: Indigenous people, people of color, people who do not speak English or speak limited English, people with disabilities, people with low-incomes, youth and older adults.

planning activities. At a minimum, the MPA boundary must include the urbanized area, areas expected to be urbanized within the next twenty years. The updated Metropolitan Planning Area in Figure 1.6 reflects urban areas as defined by the 2020 Census and represents the Metro region recommendation to the Oregon Department of Transportation. The updated MPA will be effective upon approval of the boundary by the Governor in 2024.

Fifth, the federally designated Air Quality Maintenance Area Boundary (AQMA) boundary is the area subject to State Implementation Plan (SIP) regulations. The Portland region's AQMA boundary was developed as part of the ozone and carbon monoxide SIP regulations. The region had previously violated national air quality standards related to ozone and carbon monoxide pollutants. In October 2017, the region achieved attainment status under the Clean Air Act Amendments. Reaching this milestone means that transportation conformity no longer is required to be performed in this region. The region continues to comply with other obligations and requirements outlined in the SIPs.

Figure 1.6 Regional transportation planning boundaries



### **1.3.4 Metro facilitates the metropolitan transportation planning process through Metro’s advisory committees**

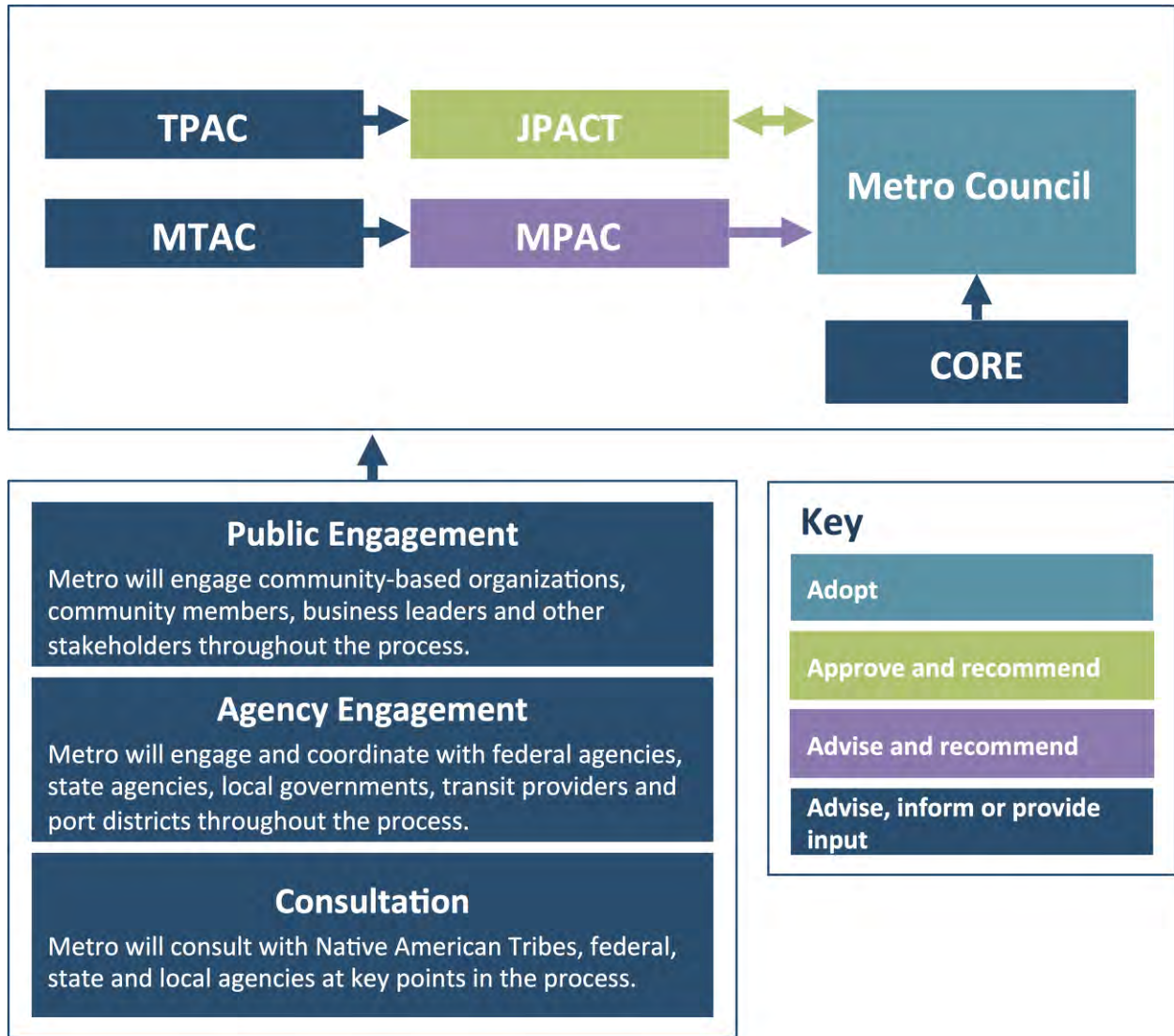
Metro facilitates the metropolitan transportation planning process, which include the Metro Council and five advisory committees including:

- the [Joint Policy Advisory Committee on Transportation](#) (JPACT)
- the [Metro Policy Advisory Committee](#) (MPAC)
- Metro’s [Committee on Racial Equity](#) (CORE)
- the [Transportation Policy Alternatives Committee](#) (TPAC) and
- the [Metro Technical Advisory Committee](#) (MTAC).

These committees have varying levels of responsibility to review, provide input and make recommendations on the development of the RTP. In addition to regular meetings of the Metro Council and advisory committees, Metro convened periodic joint workshops of TPAC and MTAC and joint workshops of JPACT and the Metro Council to shape development of the RTP.

Figure 1.7 displays the regional transportation planning decision-making process used to update the plan.

**Figure 1.7: Regional transportation decision-making process**



Source: Metro

JPACT is a 17-member committee that provides a forum for elected officials and representatives of agencies involved in transportation to evaluate transportation needs in the region and to make recommendations to the Metro Council. The established decision-making process strives for a well-balanced regional transportation system and involves local elected officials directly in decisions that help the Metro Council develop regional transportation policies, including updating the RTP. TPAC provides input to JPACT at the technical level.

All transportation-related actions (including federal MPO actions) are recommended by JPACT to the Metro Council. The Metro Council can approve the recommendations or refer



them back to JPACT with a specific concern for reconsideration. Final approval of each item, therefore, requires the concurrence of both bodies.

MPAC advises and makes recommendations to the Metro Council on growth management, land use and other topics of regional interest, including the RTP, at the policy level. Under the statewide land use planning program, the RTP serves as a regional transportation system plan. As a result, the MPAC also has a role in approving the regional transportation plan as a land use action, consistent with statewide planning goals and the Metro Charter. MTAC provides input to MPAC at the technical level.

The Metro Committee on Racial Equity (CORE) provides community oversight and advises the Metro Council on implementation of the Metro's [Strategic Plan for Advancing Racial Equity, Diversity and Inclusion](#). Adopted by the Metro Council in June 2016 with the support of MPAC, the strategic plan leads with race, committing to concentrate on eliminating the disparities that people of color experience, especially in those areas related to Metro's policies, programs, services and destinations.

In addition, the [Metro Public Engagement Review Committee](#) (PERC) advises the Metro Council on engagement priorities and ways to engage community members in regional planning activities consistent with adopted public engagement policies, guidelines and best practices.

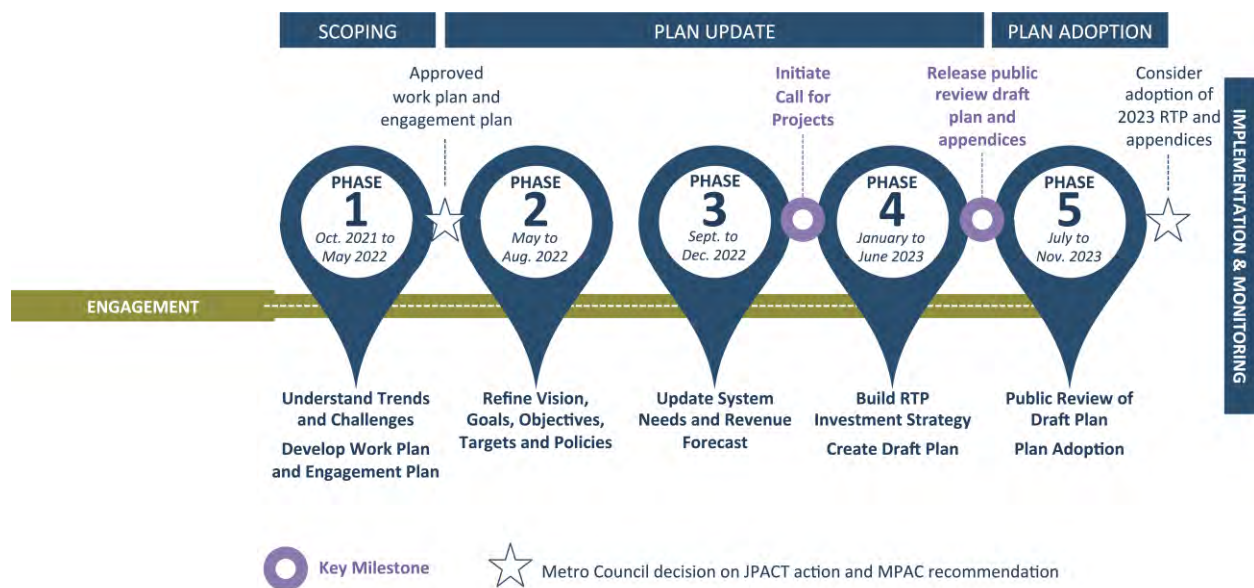
## 1.4 PROCESS AND ENGAGEMENT OVERVIEW

Over an eighteen-month period, Metro worked with regional partners to develop the 2023 Regional Transportation Plan including:

- policy makers
- federal agencies, state agencies, and local government partners
- transit providers, port districts and other transportation agencies
- federally recognized tribal governments
- community members and members of the public
- community-based organizations
- freight shippers, businesses and business groups

The timeline and process to develop the updated plan is shown in Figure 1.8.

**Figure 1.8: Timeline and process for development of the 2023 Regional Transportation Plan**



The result of that work is an updated vision, goals and policies (Chapters 2 and 3) that guide transportation planning and investment decisions across the region, an understanding of the region’s transportation trends and needs (Chapter 4) and about available financial resources (Chapter 5), priorities for investment and strategies to help meet those goals and policies (Chapter 6), and a recommended set of projects (Appendix A) that make progress addressing the region’s significant and growing transportation needs and challenges (Chapter 7). The update also identified planned near-term implementation and monitoring activities (Chapter 8).

### 1.4.1 How did we get here?

Public engagement and consultation for the 2023 RTP provided opportunities for people who live, work and travel across the greater Portland region to learn about how regional transportation decisions are made and how to have an impact on those decisions. This RTP update included an update to the region’s High Capacity Transit (HCT) Strategy. The engagement for the 2023 RTP and the HCT Strategy were closely coordinated. Meaningful engagement and consultation with tribes, community members, community-based organizations, businesses, transportation agencies and regional decision-makers and other interested parties contributed to an updated shared vision and strategy for investing in a transportation system that serves everyone.

Technical work, policy development and community engagement and consultation activities were guided by the 2023 RTP update work plan<sup>3</sup> and public engagement plan<sup>4</sup> adopted by JPACT and the Metro Council in May 2022. The work plan and public engagement plan for the 2023 RTP were developed during an initial scoping phase that sought input from Metro Council, JPACT, Metro’s Committee on Racial Equity, regional advisory committees, county-level coordinating committees, community-based organizations, public officials, business leaders and community leaders through a variety of engagement methods. The engagement was aligned with Metro’s adopted Public Engagement Guide (2013), Metro’s agency-wide Strategic Plan to Advance Racial Equity, Diversity and Inclusion (2016), the Planning, Development, and Research Department Strategy for Achieving Racial Equity (2019), Metro’s public participation in transportation planning guide (2019) and federal and state requirements for effective, meaningful and inclusive public engagement.

While regional advisory committees served as the primary engagement mechanisms for collaboration and coordination during the 2023 RTP update, timely and meaningful opportunities for the public to provide input in advance of key milestones throughout the process were integral to this decision-making process. The RTP update included broad, region-wide engagement with a focus on elevating the voices of people who have been excluded from transportation decisions in this region and who have been disproportionately impacted and burdened by those decisions. Metro worked with community organizations who have trusted relationships with Black and Brown community members, youth, people with disabilities, people with low incomes and people who do not speak English or speak limited English. These community members are also

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<sup>3</sup> Metro. [“2023 Regional Transportation Plan Update Work Plan,”](#) May 5, 2022.

<sup>4</sup> Metro. [“2023 Regional Transportation Plan Update Public Engagement Plan,”](#) May 5, 2022.



routinely underserved and not provided with adequate resources to participate in online engagement and broad public events.

The engagement for the 2023 RTP update launched during the COVID-19 pandemic. Engagement approaches remained flexible and adaptable to changing public health guidelines and quickly evolving ways of working and communicating. The engagement team was responsive to community feedback regarding people’s capacity to engage in the RTP in the face of urgent health and economic crises and community preferences regarding in-person and virtual engagement.

### **1.4.2 What did we hear?**

Members of the public shared their transportation needs and priorities through online surveys, forums and events hosted by community-based organizations. The people of the greater Portland region want safe, affordable and reliable transportation—no matter where they live, where they go each day or how they get there.

#### **Safety is the top concern.**

People are concerned about car crashes while walking and biking. They are also concerned about personal safety in relation to hate crimes, harassment, violence and people’s unpredictable behavior. These especially are concerns for people using transit. People want to see more investment in lighting, safe places to walk and roll, improved transit stops and security (not police) in and around transit.

#### **Investing in transit service is a priority.**

Communities across the greater Portland region want access to transit that gets them where they need to go in a reasonable amount of time. Community members want transit that is accessible, affordable, efficient and frequent. Maintaining streets and sidewalks that need repair is a priority. Buses and MAX cars need to be maintained to feel safe and comfortable.

#### **Climate action and resilience is important.**

Community members point to major RTP projects that do not do enough to reduce greenhouse gas emissions. People are concerned about the transportation’s impact on clean air and ecosystems and want to see investment in transit, walking and biking.

Community members also express concern about how the transportation system will adapt to climate change, especially for community members who are most vulnerable to extreme weather.

### **Invest in safe and accessible place to walk and roll.**

Community members highlighted the many parts of the region need more sidewalks, and all sidewalks need to be ADA accessible. Community members stress the importance of making routes to transit stops and stations accessible.

### **Invest in communities.**

Many communities want to see relatively small-scale investments in infrastructure, including local road connections and safety improvements such as lighting and improved crossings.

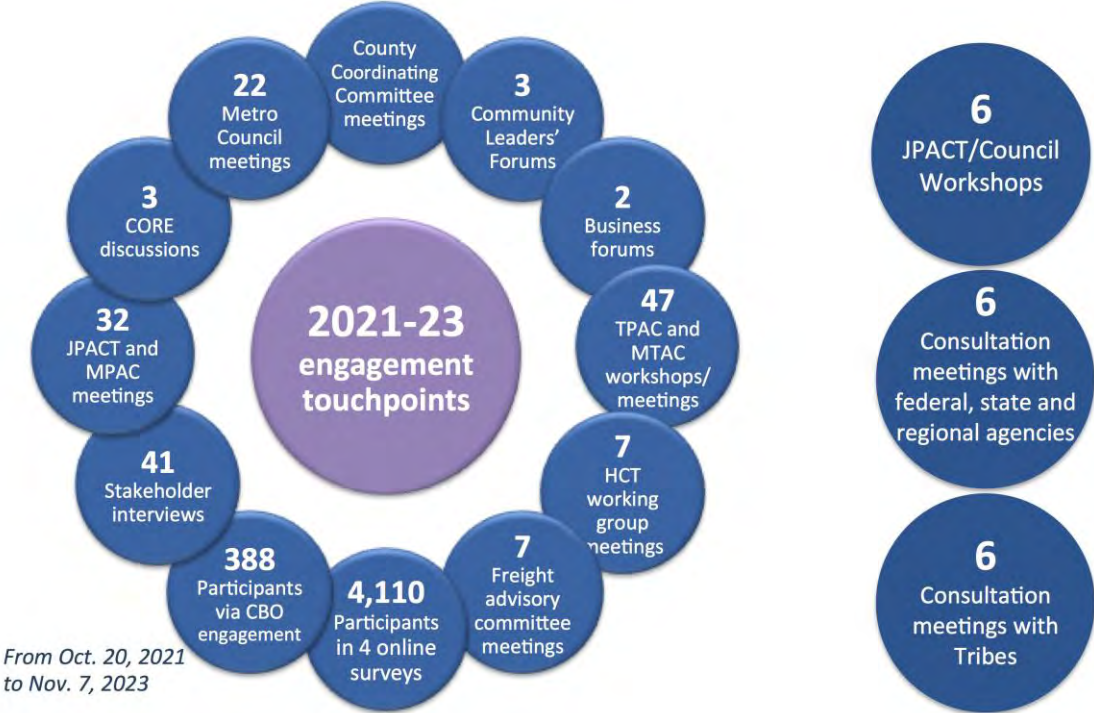
### **1.4.3 Connecting and Collaborating**

In addition to the engagement, Metro also consulted with local, regional, state and federal governments and tribes. The information gathered from engagement activities and consultation informed Metro staff's work and was shared with transportation agency staff, regional advisory committees and decision-makers throughout the process to inform 2023 RTP policy and investment decisions. Listed below and shown in Figure 1.9, from October 2021 to November 2023, engagement and consultation activities that helped shape the RTP included:

- Four online surveys with a total of 4,110 participants
- Three public hearings
- Four in-language focus groups in Spanish, Chinese, Vietnamese and Russian
- Three Community Leaders' Forums
- Seven community-based organizations engaged 380+ people
- One High Capacity Transit Strategy online open house and survey with 350+ respondents
- Ten HCT public tabling events with TriMet's Forward Together Plan
- One climate expert panel
- One modeling 101 panel
- Two business forums
- Two discussions about HCT with local chambers of commerce
- Three business focus groups, including one focused on HCT
- Six joint JPACT and Metro Council workshops to discuss major policy topics in the RTP
- 22 Metro Council meetings

- 32 JPACT and MPAC meetings
- Three Metro Committee on Racial Equity (CORE) meetings
- 47 TPAC and MTAC workshops and meetings
- Eight High capacity transit strategy working group meetings
- Periodic County Coordinating Committee briefings
- 41 interviews with elected officials and staff of local jurisdictions, state agencies, and community and business organizations from across the region
- Six consultation meetings with tribes
- Six consultation meetings with federal, state and regional agencies

**Figure 1.9: Summary of key touch points from 2021 to 2023**



## 1.5 WHAT'S NEXT MOVING FORWARD?

The greater Portland region pioneered approaches to land use and transportation planning in the past and is uniquely positioned to address the trends and challenges facing the region—mainly because the region has solid, well-integrated transportation and land-use systems in place and a history of working together to address complex challenges at a regional scale.

The rest of this plan represents a new step forward to respond to the changes and challenges we face and set a new course for future transportation decisions and implementation of the 2040 Growth Concept and Climate Smart Strategy.

The pages ahead provide an updated blueprint and investment strategy for a more sustainable transportation system that links land use and transportation, protects the environment and supports the region's economy. Translating our vision into a reality will not be a simple task, and it will take time and more work. While this plan does not achieve all the goals JPACT and the Metro Council have defined, it represents a new step forward for the region.

## 2023 Regional Transportation Plan



# 2023 Regional Transportation Plan Chapter 2

## **Our shared vision and goals for transportation**

November 30, 2023

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## 2.0 INTRODUCTION

*The 2023 Regional Transportation Plan (RTP) defines a shared vision for the greater Portland region's transportation system that reflects the values and desired outcomes expressed by the public, policymakers and community and business leaders engaged in development of the plan.*

Transportation shapes our communities and our daily lives, allowing us to reach our jobs and recreational opportunities, access goods and services and meet daily needs. This chapter presents a shared, long-term vision and supporting goals, objectives and performance targets that will guide planning and building the transportation system serving the Portland metropolitan region through 2045. The vision reflects the continued evolution of transportation planning from a project-driven endeavor to one that is framed by a broader set of outcomes that affect people's everyday lives.



Learn more about the 2023 Regional Transportation Plan at [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp)

Rapid growth and change across our region have exposed and exacerbated longstanding economic and racial inequities, threatening to undermine the broader benefits of economic growth as well as our region's quality of life. The vision and supporting goals, objectives and performance targets in this chapter aim to better integrate transportation and land use efforts to protect the region's economic prosperity, environmental quality and quality of life and improve the lives of the people who call this region home.

To achieve the region's vision for the future, everyone must work together to address inequities to build vibrant, walkable, bikeable, climate-friendly communities with affordable homes and safe, reliable, healthy and affordable transportation choices that reduce pollution, address growing congestion and protect critical natural areas that surround the region.

Achievement of the plan's vision and goals will occur through ongoing partnerships, engagement and implementation of a variety of policies, strategies and actions at the local, regional, state and federal levels. The vision laid out in these pages will take sustained, focused work from every partner in the region. The various jurisdictions in the region are expected to pursue policies, strategies and projects that contribute to achieving the regional vision and goals of the RTP to ensure an equitable, prosperous and sustainable future.

## Chapter organization

This chapter is organized into the following sections:

- 2.1 Outcomes-based framework to guide transportation planning and decision-making:** This section describes the outcomes-oriented, performance-based planning approach the plan uses to link transportation to a broader set of desired outcomes for vibrant communities, a healthy economy, equity and the environment. This approach also responds to more recent federal and state performance-based planning requirements.
- 2.2 Shared vision for the regional transportation system:** This section describes how the RTP will serve a key role in implementing the 2040 Growth Concept and supporting local aspirations for growth.
- 2.3 Goals and objectives:** This section lays out five goals and supporting objectives for the region’s transportation system. The goals and objectives establish policy and investment priorities that will guide future planning, investment decisions and monitoring.
- 2.4 Regional transportation performance targets:** This section lays performance targets for the region’s transportation system organized by the RTP goal areas. The performance targets are numerical benchmarks to assess the region’s progress in achieving RTP vision and goals. These targets draw from federal and state requirements and regional policies and will guide future planning, investment decisions and monitoring.



## 2.1 OUTCOMES-BASED FRAMEWORK TO GUIDE TRANSPORTATION PLANNING AND DECISION-MAKING

Maintaining and growing a transportation system to meet the region’s needs requires consistent, long-term investment and ongoing maintenance.

The planning process provides opportunities for individuals and communities to define and articulate collective desires and aspirations for enhancing the quality of life in the region and their communities and identify where investments are most needed to deliver the plan’s vision. It provides an opportunity for communities to take stock of the successes that have been achieved through years of coordination and investment. It also requires thinking carefully about and being accountable to future generations, ensuring we get the greatest possible return on public investments and that everyone benefits from those returns.

As a major tool for ensuring stewardship of public investments, the RTP identifies needed next steps to achieve each of the six desired outcomes for the greater Portland region and helps us understand whether we are on the right track.

### DESIRED OUTCOMES

**VIBRANT COMMUNITIES** – People live, work and play in vibrant communities where their everyday needs are easily accessible.

**ECONOMIC PROSPERITY** – Current and future residents benefit from the region’s sustained economic competitiveness and prosperity.

**SAFE AND RELIABLE TRANSPORTATION** – People have safe and reliable transportation choices that enhance their quality of life.

**LEADERSHIP ON CLIMATE CHANGE** – The region is a leader in minimizing contributions to global warming.

**CLEAN AIR AND WATER** – Current and future generations enjoy clean air, clean water and healthy ecosystems.

**EQUITY** – The benefits and burdens of growth and change are distributed equitably.

*As recommended by the Metro Policy Advisory Committee (MPAC) and adopted by the Metro Council in 2008 by Resolution No. 08-3940.*

The 2023 RTP continues to broaden the way that outcomes are used to measure success and define transportation system needs. The plan calls for making transportation investment decisions based on achieving multiple outcomes to preserve and enhance quality of life, the economy and the environment now and for future generations.

This plan updates the outcomes-based policy framework, first adopted in 2010, to focus on five interconnected goals – equity, climate, safety, mobility and the economy. The region’s six desired outcomes are prominently interwoven into the RTP goals and objectives and the policies in Chapter 3 that support those goals.

These goals were used to identify needs and prioritize and evaluate performance of the investments recommended in this plan. These updated goals and their supporting objectives (and related performance measures) will also be used to monitor how the transportation system is performing between scheduled plan updates.

## 2.2 SHARED VISION FOR THE REGIONAL TRANSPORTATION SYSTEM

Transportation planning and investment decisions and the region’s desired land use, social, economic and environmental outcomes are so interconnected that success of the 2040 Growth Concept hinges significantly on achieving the plan’s goals and objectives.

The RTP’s vision statement shown in Figure 2.1 presents an aspirational view of the future of the region’s transportation system that reflects the values and desired outcomes expressed by the public, policymakers and community and business leaders engaged in development of the plan.

**Figure 2.1: Vision for the regional transportation system**



This shared vision for the future provides a benchmark for building a transportation system that serves all people and businesses in the greater Portland region. This vision and supporting goals and objectives will serve as a foundation for identifying investment priorities and policies and measuring progress toward building a transportation system that delivers the outcomes we want.

## 2.3 GOALS AND OBJECTIVES

RTP goals were first adopted in 2010 after significant engagement with communities, residents, businesses and stakeholders throughout the region. In 2014, the Metro Council and the Joint Policy Advisory Committee (JPACT) approved the addition of a goal to demonstrate climate leadership and reduce greenhouse gas emissions. In 2018, the goals, objectives and related performance measures and targets were refined to address new policies and near-term investment priorities for transportation equity, safety, Climate Smart Strategy implementation and managing congestion. In 2023, the goals, objectives and related performance measures and targets were further updated to focus on five interconnected goals – equity, climate, safety, mobility and the economy.

While the vision and goals are vital components of the plan, equally important are measurable objectives and quantifiable performance targets to track the region’s progress. Investments that achieve objectives and performance targets are critical for the region to be successful in realizing a fully-integrated, multimodal transportation system that achieves the goals of the RTP.

### *Defining terms*

#### **Multimodal**

*A transportation system distinguished by having multiple ways to travel (e.g., such as walking, bike, motor vehicle, bus, train, truck, air, marine).*

Continuing the practice established with the RTP adopted in 2010, the 2023 RTP includes transportation performance targets that support the outcomes-based framework reflected in the plan’s goals and objectives. The goals, objectives and performance targets provided policy direction for developing the investment strategy recommended in Chapter 6. Chapter 7 reports findings on how well the RTP performs across a broad array of measures and relative to the plan’s performance targets.

Performance targets are numerical benchmarks to assess the region’s progress in carrying out the RTP vision. These targets draw from federal and state legislation and regional policies and provide useful information on whether the region is making progress toward the RTP goals and support the region’s performance-based planning and decision-making framework shown in Figure 2.2.

Figure 2.2: RTP performance-based planning and decision-making framework



Each **goal area** that follows is arranged similarly:

- A statement of the **goal** that describes a desired outcome or end state toward which actions are focused to make progress toward the plan’s vision.
- **Objectives** that identify a measurable desired outcome and means for achieving the goal to guide action within the plan period.
- Key **performance measures** that are used in three different ways to support the region’s transportation planning and decision-making process:
  - System performance measures – These are performance measures that are used to predict the future as part of an evaluation process using forecasted data. They can be applied at a system-level, corridor-level and/or project level and provide the planning process with a basis for evaluating alternatives and making decisions on future transportation investments.
  - Regional performance targets and thresholds – These are numerical goals or a stated direction of performance to be achieved within a specified time period, assigning a value to what the RTP is trying to achieve. Targets provided policy direction for developing the investment strategy recommended in Chapter 6 and address regional and state policies. Performance of the plan’s investment relative to the targets is reported in Chapter 7 to track the region’s progress

toward the plan’s vision and goals. Appendix K provides an overview of the region’s targets.

- Monitoring and reporting measures and targets – These are measures used to monitor changes based on actual empirical or observed data between updates to the RTP. Decision-makers can use this information between updates to evaluate the need for refinements to policies, investments or other elements of the plan based on what is learned. Broad sets of multimodal monitoring measures have been identified in support of implementing the region’s Climate Smart Strategy (Appendix J) and Congestion Management Process (see Appendix L). Some monitoring measures have targets for purposes of meeting federal performance-based planning requirements. See Section 7.2 in Chapter 7 for more information about the region’s performance-based planning framework.

The individual RTP goals, objectives and key system performance measures for each goal area follows. Several measures relate to multiple goals.

## Goal 1: Mobility options

*People and businesses can reach the jobs, goods, services and opportunities they need by well-connected, low-carbon travel options that are safe, affordable, convenient, reliable, efficient, accessible and welcoming.*



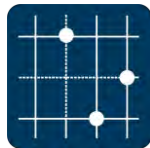
### Objectives

- **Objective 1.1 Travel options** – Plan communities and design and manage the transportation system to increase the proportion of trips made by walking, bicycling, shared rides and use of transit, and reduce per capita vehicle miles traveled.
- **Objective 1.2 System completion** – Complete all gaps in planned regional networks.
- **Objective 1.3 Access to transit** – Increase household and job access to current and planned frequent transit service.
- **Objective 1.4 Regional mobility** – Maintain reliable person-trip and freight mobility for all modes in the region’s mobility corridors consistent with the designated modal functions of each facility and planned transit service within each corridor.

### Key performance measures



**Vehicle miles traveled**



**System completeness**



**Throughway reliability**



**Mode share**



**Multimodal travel times**

Performance of the plan for these measures is reported in Chapter 7.



## Goal 2: Safe System

*Traffic deaths and serious crashes are eliminated, and all people are safe and secure when traveling in the region.*



### Objectives

- **Objective 2.1 Vision Zero** – Eliminate fatal and severe injury crashes for all modes of travel by 2035.
- **Objective 2.2 Transportation security** – Reduce the vulnerability of travelers and critical passenger and freight transportation infrastructure to crime and terrorism.
- **Objective 2.3 State of Good Repair** - Maintain or bring facilities for all modes up to a state of good repair.

### Key performance measure



Safety

Note: Metro has not developed the modeling tools to forecast crashes. Instead, the system evaluation identifies how much the region needs to reduce serious crashes in order to maintain progress toward its target of eliminating serious crashes by 2035 and compares the results to current data in order to assess whether the region is on track to meet its safety target.



### Goal 3: Equitable transportation

*Transportation system disparities experienced by Black, Indigenous and people of color and people with low incomes are eliminated. The disproportionate barriers that people of color, people who speak limited English, people with low incomes, people with disabilities, older adults, youth and other marginalized communities face in meeting their travel needs are removed.*



#### Objectives

- **Objective 3.1 Transportation equity** – Eliminate disparities related to access, safety, affordability and health outcomes experienced by people of color and other marginalized communities.
- **Objective 3.2 Barrier-free transportation** – Eliminate barriers that people of color, people with low incomes, youth, older adults, people with disabilities and other marginalized communities face to meeting their travel needs.

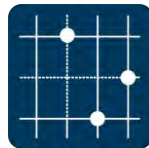
#### Key performance measures\*



Access to transit



Access to jobs



System  
completion



Affordability\*\*

Performance of plan for these measures is reported in Chapter 7.

\* Key performance measures compare RTP equity focus areas with areas outside RTP equity focus areas.

\*\* A performance measure for affordability is not included in the RTP system evaluation but will be included in future updates to the plan as a method is developed. Observed data is reported in Chapter 7.

## Goal 4: Thriving Economy

*Centers, ports, industrial areas, employment areas and other regional destinations are accessible through a variety of multimodal connections that help people, communities and businesses thrive and prosper.*



### Objectives

- **Objective 4.1 Connected region** – Focus growth and transportation investment in designated 2040 growth areas to build an integrated system of throughways, arterial streets, freight routes, intermodal facilities, transit services and bicycle and pedestrian facilities with efficient connections between modes and communities that provide access to jobs, markets and community places within and beyond the region.
- **Objective 4.2 Access to industry and freight intermodal facilities** – Maintain access to industry and freight intermodal facilities by a reliable and seamless freight transportation system that includes air cargo, pipeline, trucking, rail and marine services to facilitate efficient and competitive shipping choices for goods movement in, to and from the region.
- **Objective 4.3 Access to jobs and talent** – Attract new businesses and family-wage jobs and retain those that are already located in the region while increasing the number and variety of jobs that households can reach within a reasonable travel time.
- **Objective 4.4 Transportation and housing affordability** – Reduce the share of income that households in the region spend on transportation to lower overall household spending on transportation and housing.
- **Objective 4.5 State of Good Repair** – Maintain or bring facilities up to a state of good repair and avoid deferred maintenance to prevent future, more costly and resource intensive repairs to the system and impediments to moving people and goods.

**Key performance measures**



**Access to jobs**



**Access to  
industry and  
freight  
facilities**



**Multimodal  
Travel**



**Affordability\***

Performance of the plan for these measures is reported in Chapter 7.

## Goal 5: Climate action and resilience

*People, communities and ecosystems are protected, healthier and more resilient. Carbon emissions and other pollution are substantially reduced as more people travel by transit, walking and bicycling. People travel shorter distances to get where they need to go.*



### Objectives

- **Objective 5.1 Climate change mitigation** – Meet adopted targets for reducing transportation-related greenhouse gas emissions and vehicle miles traveled per capita in order to slow climate change.
- **Objective 5.2 Climate-friendly communities** – Increase the share of jobs and households in walkable, mixed-use areas served by current and planned frequent transit service.
- **Objective 5.3 Resource conservation** – Preserve and protect the region’s biological, water, historic and culturally important plants, habitats and landscapes, **and** integrate green infrastructure strategies to maintain habitat connectivity, reduce stormwater run-off and reduce light pollution.
- **Objective 5.4 Adaptation and resilience** – Increase the resilience of communities and regional transportation infrastructure to the effects of climate change and natural hazards including seismic events, helping to minimize risks for communities.
- **Objective 5.5 State of Good Repair** – Maintain or bring facilities up to a state of good repair and avoid deferred maintenance to prevent future more costly and resource intensive repairs.

### Key performance measures



**Greenhouse  
gas emissions**



**Vehicle miles  
traveled**



**Potential  
resources  
impact**

Performance of plan for these measures is reported in Chapter 7. Appendix F reports on potential resources impacts.

## 2.4 REGIONAL TRANSPORTATION PERFORMANCE TARGETS

Table 2.1 summarizes the performance measures and targets that are included in the RTP, organized by the five RTP goal areas. These targets come from a variety of sources, but all are founded in the policies described in Chapter 3. Some of the targets listed below come from state and federal agencies that oversee the RTP process, some have been formally adopted through the RTP process and others are implicit in RTP policies that call for improving certain conditions or prioritizing specific investments. Some of the targets listed below are easier to achieve than others, but even the more aspirational targets help to clarify the region's goals and provide benchmarks against which to gauge progress.

**Table 2.1: RTP performance measures, targets and thresholds at a glance**

Measure name	Description
<i>Mobility</i>	
Mode share	The RTP aims to triple transit, bike and pedestrian mode shares relative to the performance targets base year of 2010 (7.7% for transit, 3.7% for walk, 2.3% for bike <sup>1</sup> ).
Access to jobs	The RTP prioritizes improving access to jobs via driving and transit relative to the current base year of 2020 the percent of regional jobs accessible by transit was 7% and by driving it was 41%.
Multimodal access	The RTP aims to provide the same level of access to jobs via transit (or greater) as via driving so that transit offers the same efficiency and convenience as driving.
System completion	The RTP aims to complete the motor vehicle, transit, bicycle, trail and pedestrian networks, with completion of bicycle, trail and pedestrian networks by 2035.
System completion near transit	The RTP prioritizes completing the bicycle and pedestrian system near transit (relative to the regional average) in order to provide safe and convenient access to stations and stops.
Access to options	The RTP aims to increase the share of households that are located near transit and bicycle or pedestrian facilities relative to the current base year.
Throughway reliability	The RTP aims to have no more than four hours in a day when average travel speeds fall below 35 miles per hour on the region's limited-access throughways (freeways) and 20 miles per hour on other designated throughways (signalized highways) so that the region's throughways are reliable. <sup>2</sup>

<sup>1</sup> American Community Survey

<sup>2</sup> Figure 3.23 in Chapter 3 designates throughways in the region.

Measure name	Description
<i>Safety</i>	
Serious crashes	The RTP aims to eliminate transportation related fatalities and serious injuries for all users of the region’s transportation system by 2035 with a 16% reduction by 2020 (compared to 2015) and a 50% reduction by 2025.
<i>Equity</i>	
Serious crashes and equity	The RTP aims to eliminate transportation related fatalities and serious injuries for all users of the region’s transportation system in equity focus areas with a 16% reduction by 2020 (compared to 2015), and a 50% reduction by 2025.
Safe system completion and equity	The RTP prioritizes completing the bicycle and pedestrian system in equity focus areas (relative to other communities) to provide safe streets for the most vulnerable travelers.
Access to jobs and equity	The RTP prioritizes improving access to jobs within equity focus areas (relative to other communities).
<i>Economy</i>	
Travel times	The RTP aims to maintain driving and transit travel times along regional mobility corridors relative to the current base year.
System completion – job centers	The RTP prioritizes completing the bicycle and pedestrian system in job and activity centers (relative to the regional average) in order to provide safe and convenient options for short trips and connections to transit.
<i>Climate and environment</i>	
Climate	The RTP aims to reduce per capita greenhouse gas emissions from light-duty vehicles and per capita vehicle miles traveled in order to meet climate targets set by the State which are to reduce household-based vehicle miles traveled per person by 35% by 2050, with a 30% reduction by 2045 and a 25% reduction by 2040, compared to 2005.
Climate	The RTP aims to help meet revised statewide goals identified in the Governor’s Executive Order 20-04 that require accelerated reductions in greenhouse gas emissions to levels at least 45% below 1990 emissions levels by 2035 and at least 80 % below 1990 levels by the year 2050.
Air quality	The RTP aims to keep air pollution from mobile sources levels below thresholds set by the federal government.

All regional performance targets are for the year 2045, unless otherwise specified. The performance targets are the highest order evaluation measures in the performance-based policy framework – providing key criteria by which progress towards the plan goals can be assessed. The aspirational performance targets set quantifiable goals for the achieving

the plan's desired policy outcomes within a certain timeframe, though not all goals have targets, and several targets address multiple goals.

In comparison, system performance measures are used to evaluate changes between current conditions (in 2020) and future conditions (in 2045) with implementation of the transportation investments identified in the plan. Performance of the plan is reported in Chapter 7.

Complementary performance measures identified in Appendix J and Appendix L have monitoring targets that will help monitor progress towards meeting the RTP goals and objectives in the shorter-term, between and during scheduled updates to the RTP.

In accordance with federal regulations [23 CFR 450.320](#) and [23 CFR 450.324](#), Appendix F includes an environmental assessment that identifies natural, historic and culturally important resources that intersect with and may be affected by projects in the plan and mitigation activities to address the potential environmental impacts of future transportation projects.

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## 2023 Regional Transportation Plan



# 2023 Regional Transportation Plan

## Chapter 3

# System policies to achieve our vision

November 30, 2023

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## 3.0 INTRODUCTION

### Purpose

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

The policies in this chapter support implementation of the vision, goals and objectives for the regional transportation system defined in Chapter 2.

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), the Metro Council and state, regional 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 actions for regional, state and local agencies and other 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 come 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 transportation facilities and areas that comprise the regional transportation system.

**3.2 Overarching system policies:** This section provides 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
- Supporting multimodal mobility.

**3.3 Regional network visions, concepts and policies:** This section provides the vision, network concepts policies and policy maps for:

- regional street design and placemaking;
- regional motor vehicle, transit, freight, pedestrian and bicycling networks;
- transportation system management and operations;
- transportation demand management; and
- emerging technology.

## 3.1 REGIONAL TRANSPORTATION SYSTEM COMPONENTS

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

### Regional transportation system components

The following facilities and areas are the components that make up the regional transportation system.

1. Planned and existing throughways (freeways and highways) and arterials shown on the regional motor vehicle network map shown in Figure 3.21, 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 in Figure 3.1.
3. All high capacity transit and regional transit network facilities and their bridges shown on the regional transit network map in Figure 3.24.
4. All regional bicycle and pedestrian facilities and their bridges, including regional trails shown on the regional pedestrian and bicycle network maps in Figure 3.34 and Figure 3.36.
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 in Figure 3.31.
7. All streets and transportation facilities and their bridges shown on the regional transportation system management and operations (TSMO) map in Figure 3.37.

8. 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 such as:
  - state and regional emergency transportation routes shown in Figure 3.7.
  - 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 establish an integrated and interconnected system that supports planned land uses and provides travel options to achieve the goals, objectives and policies of the RTP. Typically, projects must be identified on or as part of the regional transportation system to be eligible for federal transportation funding.

## 3.2 OVERARCHING SYSTEM POLICIES

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

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

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.

Shown in Figure 3.1 and 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 if necessary. It concentrates mixed-use and higher density development in urban centers, station communities, corridors and main streets that are well served by transit, walking and bicycling. 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.

#### *Defining terms*

##### **Compact development**

*Land use development patterns that have a mix of higher density land uses, can be served by transit and encourage walking, biking and use of transit*

##### **Urban sprawl**

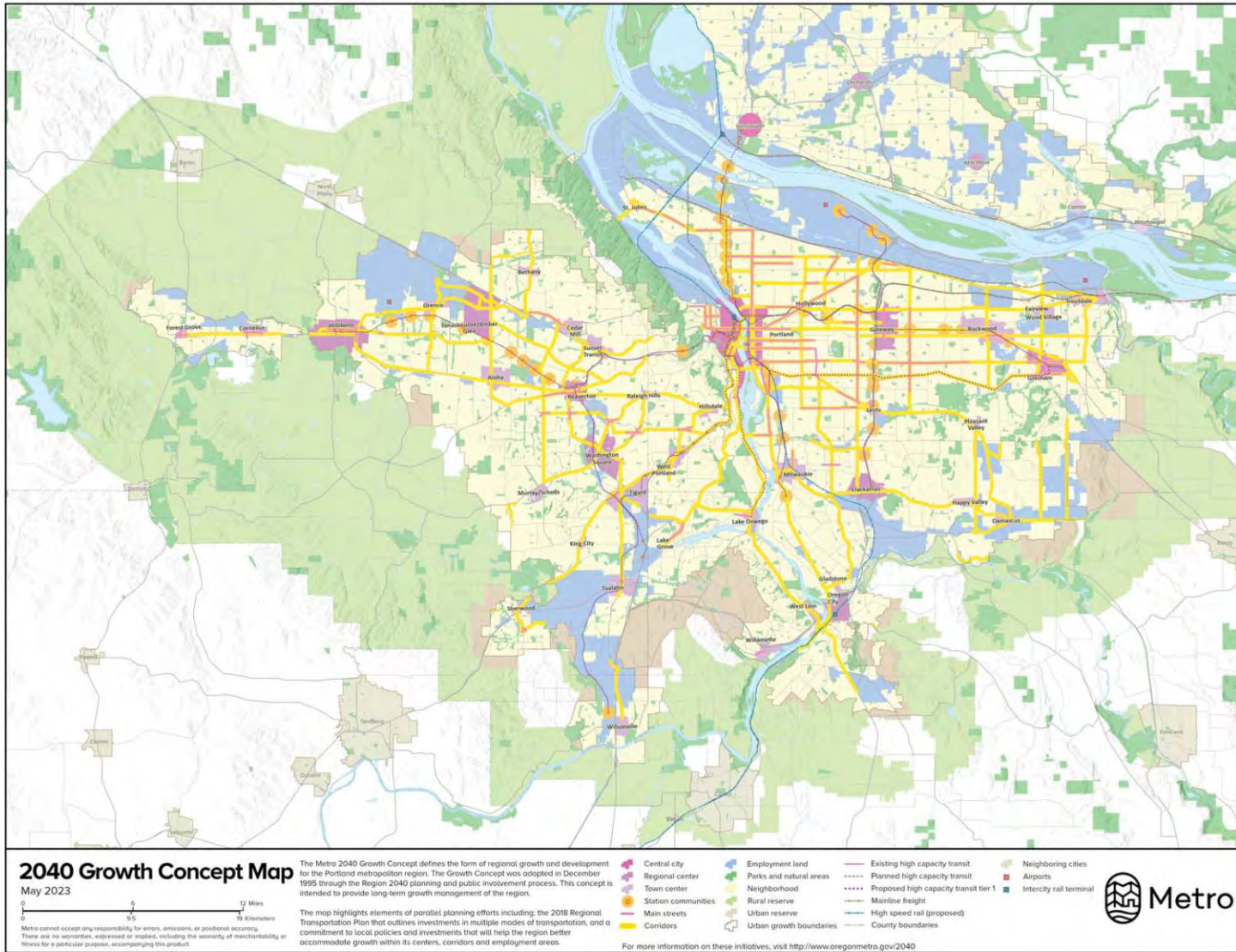
*Land use development patterns that are characterized by low-density or single-use development, commercial strip development, and/or development that occurs on vacant land that is disconnected from existing urban development*

##### **Intermodal facilities**

*Places where freight is transferred between two or more freight modes (e.g., truck to rail, rail to ship, truck to air). Examples include airports, rail stations, marine terminals, and rail yards that facilitate the transfer of containers or trailers*



**Figure 3.1: Growth Concept—an integrated land use and transportation vision**



Map depicting the adopted 2040 Growth Concept.



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. 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. 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
<ul style="list-style-type: none"> <li>Portland central city</li> <li>Regional centers</li> <li>Industrial areas</li> <li>Freight and passenger intermodal facilities</li> </ul>	<ul style="list-style-type: none"> <li>Employment areas</li> <li>Town centers</li> <li>Station communities</li> <li>Corridors</li> <li>Main streets</li> </ul>	<ul style="list-style-type: none"> <li>Neighborhoods</li> </ul>
		Other land uses outside UGB
		<ul style="list-style-type: none"> <li>Urban reserves</li> <li>Rural reserves</li> <li>Neighbor cities</li> </ul>

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 provides an example of the type of investments that might be applicable depending on how far along an area is in implementing the 2040 Growth Concept.

**Table 3.2: Priority infrastructure investment strategies**

<b>Stage of Development</b>			
	<b>Developed Areas</b> Built-out areas with most new housing and jobs accommodated through infill, redevelopment and brownfields development.	<b>Developing Areas</b> Redeveloping and developing areas with most new housing and jobs being accommodated through infill, redevelopment and greenfield development.	<b>Undeveloped Areas</b> More recent additions to the urban growth boundary with most new housing and jobs accommodated through greenfield development.
<b>Infrastructure Investment Strategies</b>	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 using system and demand management tools 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 using system and demand management tools to optimize performance for all modes of travel.	Providing a multimodal urban transportation system.
	Improving system connectivity to address barriers and safety deficiencies.	Leveraging infill, redevelopment and use of brownfields.	Managing new transportation system, using system and demand management tools to optimize performance for all modes of travel.
	Providing a multimodal urban transportation system.	Providing a multimodal urban transportation system.	Improving system connectivity to address barriers and safety deficiencies.
	Completing local street connections needed to complement the arterial street network.	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

The RTP reflects a regional commitment to plan and invest in the region's transportation system to reduce transportation-related disparities and barriers faced by communities of color and other underserved communities.,,

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. Everyone should have the fair opportunity to thrive, regardless of their race, ethnicity, language proficiency, income, age or ability.

Investment in the region's transportation system is one important tool in reducing disparities and barriers, especially those experienced by communities of color, but the tool must be intentional and deployed with focus to be successful in reducing racial disparities rather than worsening disparities.

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?**

A goal of racial equity is to reach a time when race is no longer a predictor of life outcomes, and outcomes for all groups are improved. In the transportation context, this means addressing and removing disparities for communities who have had little power to change systems and policies that continue to exclude them and impact their everyday life and well-being. This includes people of color, English language learners and people with low incomes. Areas identified by these communities as priorities for the regional transportation system, include, but are not limited to accessibility, mobility, safety, affordability and environmental health.

Transportation mobility and accessibility plays a significant intersectional role in reducing barriers, 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 Black communities in Portland.

Lessons learned from the generational impacts of displacement teaches us that to achieve equitable transportation, government must embed equity considerations in each step of the transportation planning and implementation. Marginalized communities bear an unequal burden of environmental harms, such as urban heat islands, air pollution and traffic crashes. For the greater Portland region to be environmentally sustainable and

economically prosperous, government and communities must proactively address racial disparities and tackle the most pervasive challenges.

Focusing on racial disparities and barriers helps develop and maintain sustainable economic growth by fostering greater racial inclusion and reducing racial income gaps.<sup>1</sup> This, in turn, allows communities facing the greatest barriers opportunities to flourish and build generational wealth. Policies, projects and strategies that address these disparities can help other marginalized groups, including low-income households, elders, youth and people with disabilities.

### **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](#) is a major milestone in the agency’s efforts to define, implement and measure equity in the greater Portland region.<sup>2</sup> The plan’s purpose is to provide a strategic approach to incorporating equity into policy, decision-making and programs. This strategic plan provides clarity and direction to Metro’s different lines of business related to integrating and approaching equity in planning, operations and services.

The key aspect of the strategic plan is its focus and emphasis on deliberately tackling inequities based on race and ethnicity. It is organized around five long-term goals that inform the RTP.

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.

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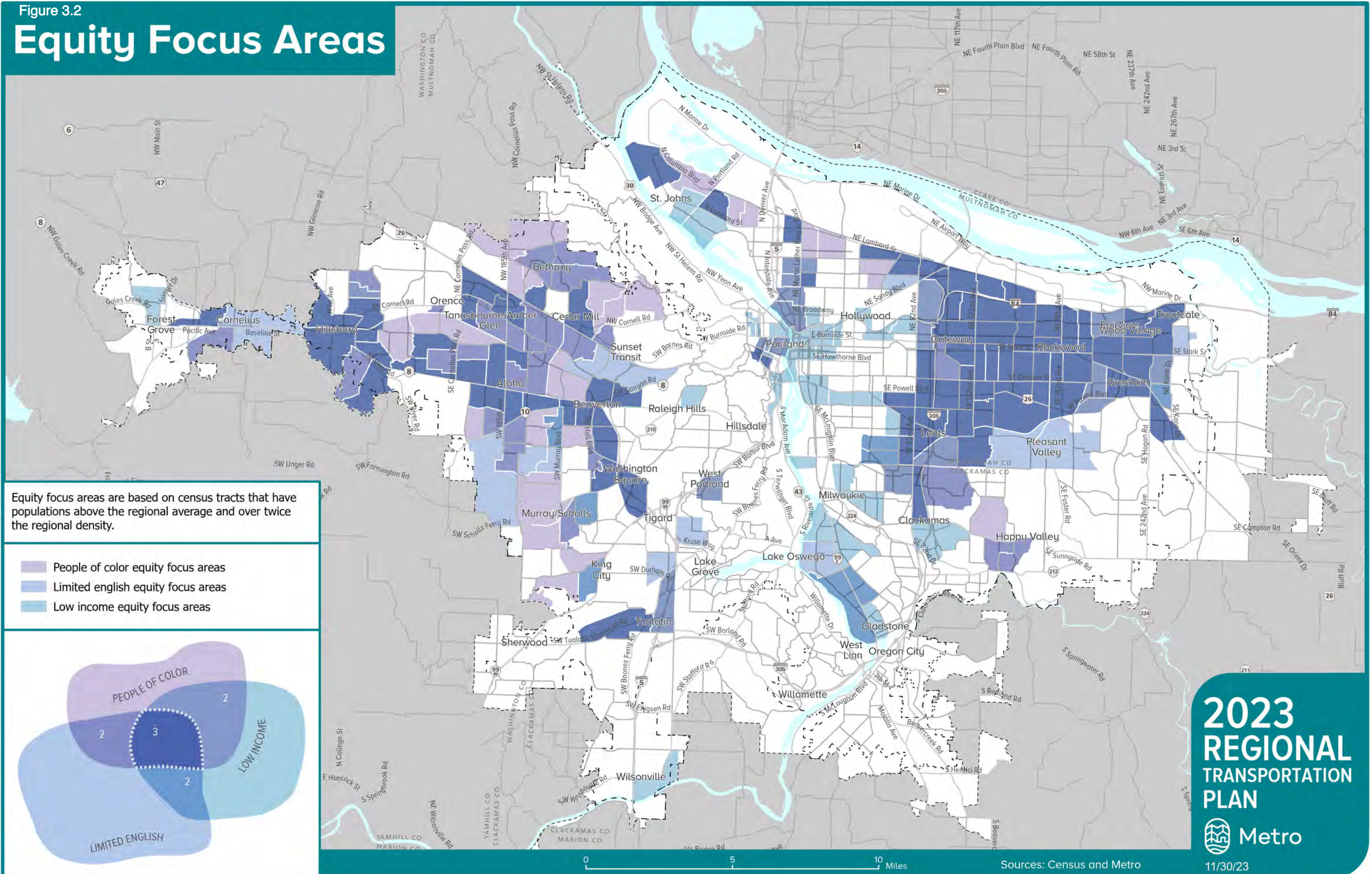
<sup>1</sup> Treuhaft, S., Blackwell, A.G., & Pastor, M. (2012). America’s Tomorrow: Equity is the Superior Growth Model. Retrieved January 2016: [www.policylink.org/sites/default/files/SUMMIT\\_FRAMING\\_WEB\\_20120110.PDF](http://www.policylink.org/sites/default/files/SUMMIT_FRAMING_WEB_20120110.PDF)

<sup>2</sup> Metro Strategic plan to advance racial equity, diversity and inclusion, Executive summary, June 2016, <https://www.oregonmetro.gov/sites/default/files/2016/11/15/Strategic-plan-advance-racial-equity-diversity-inclusion-exec-summary-17063-20160613.pdf>



Figure 3.2

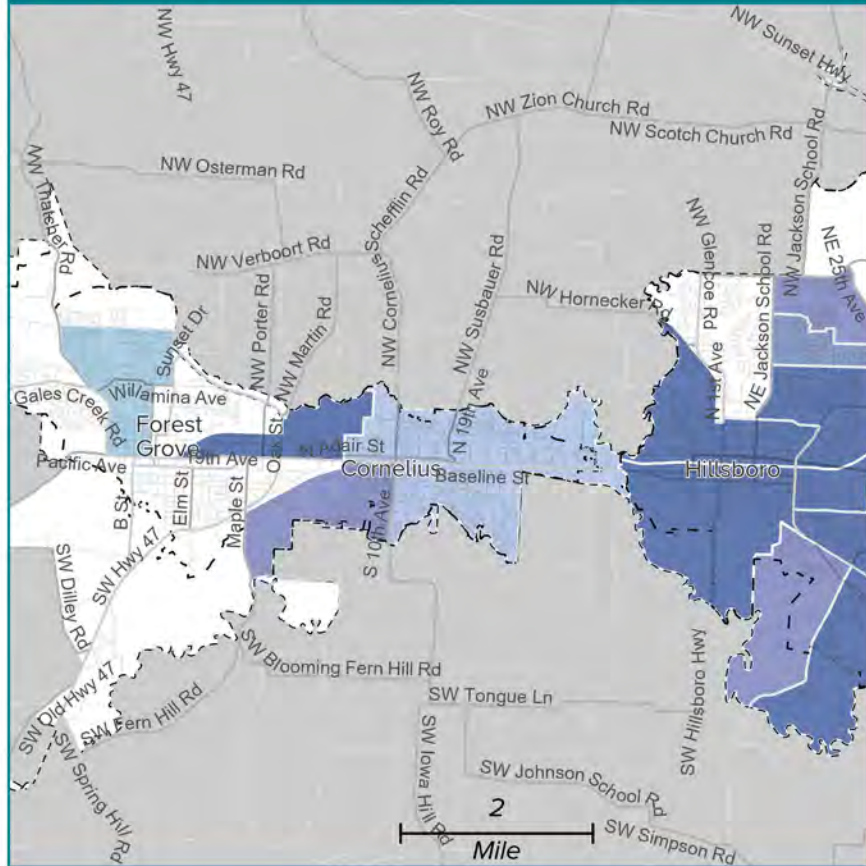
# Equity Focus Areas



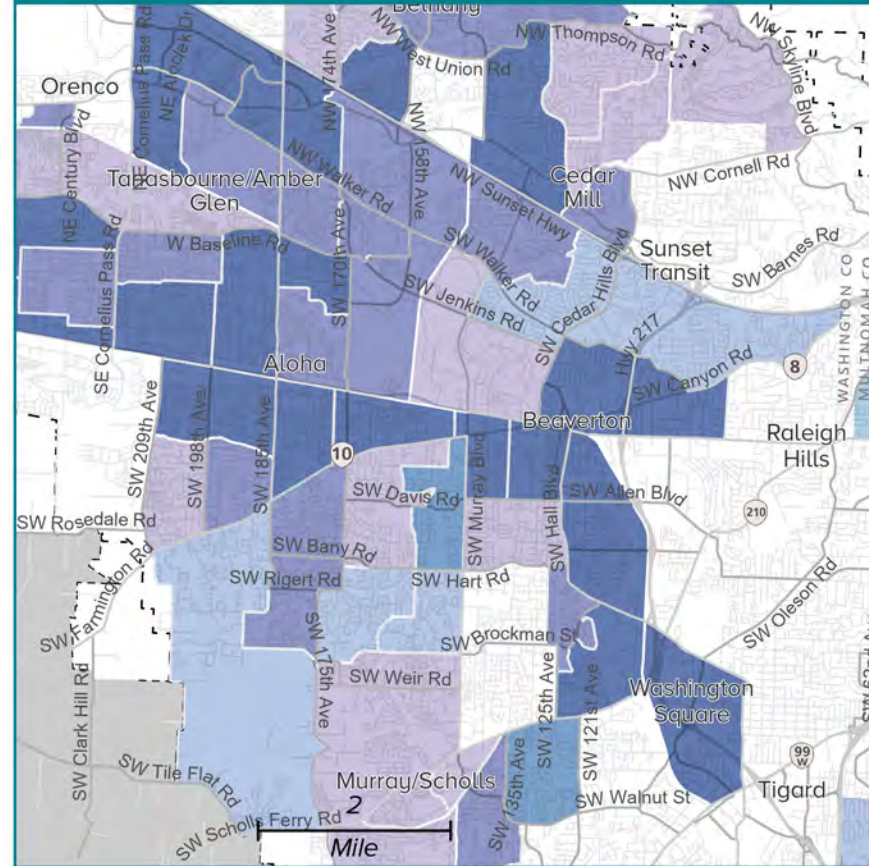
Equity focus areas are based on census tracts that have populations above the regional average and over twice the regional density.



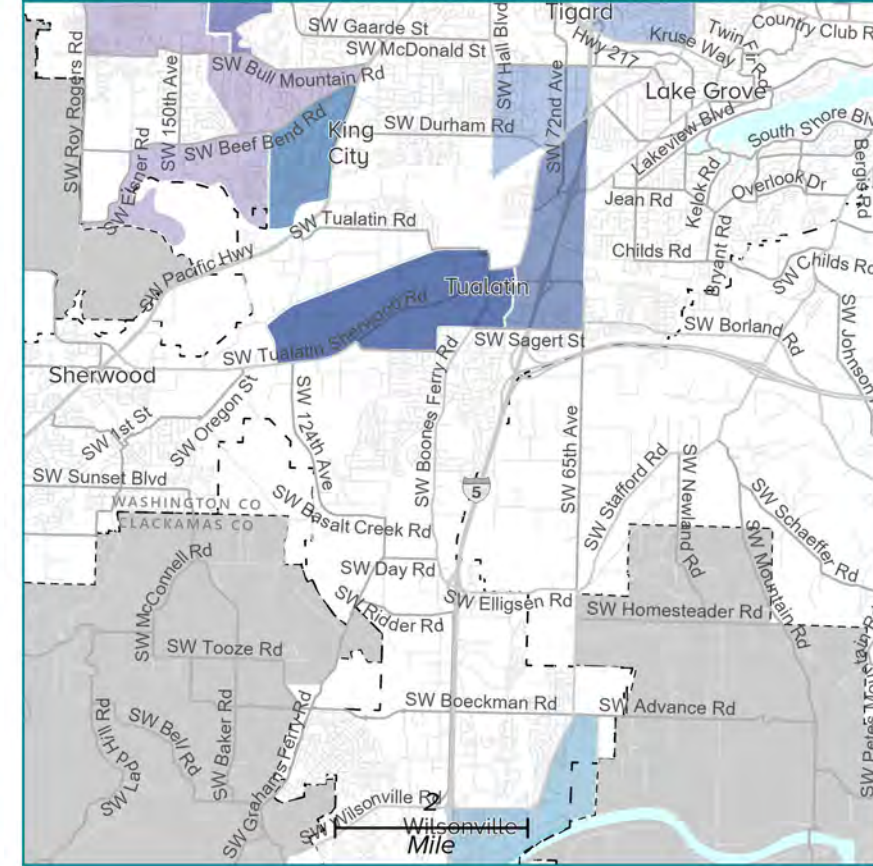
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area



### Legend

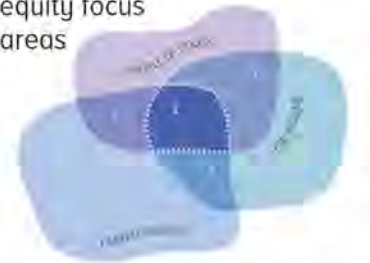
Equity focus areas are based on census tracts that have populations above the regional average and over twice the regional density.

#### Equity Focus Areas

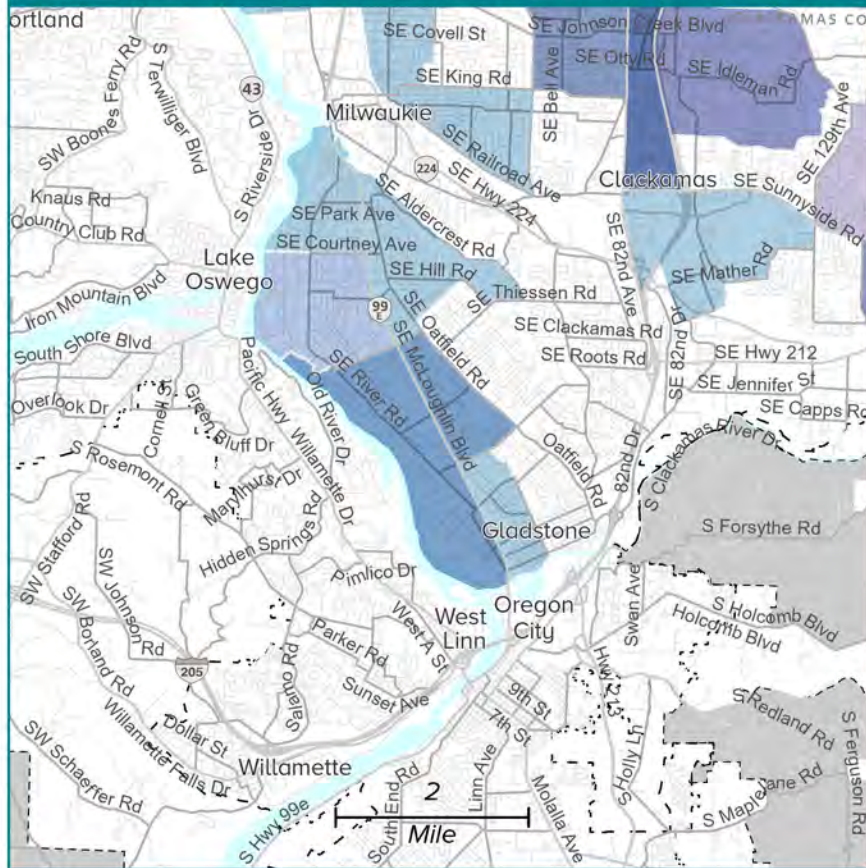
- People of color
- Limited english
- Low income

- County boundary
- Urban growth boundary
- Metropolitan planning area

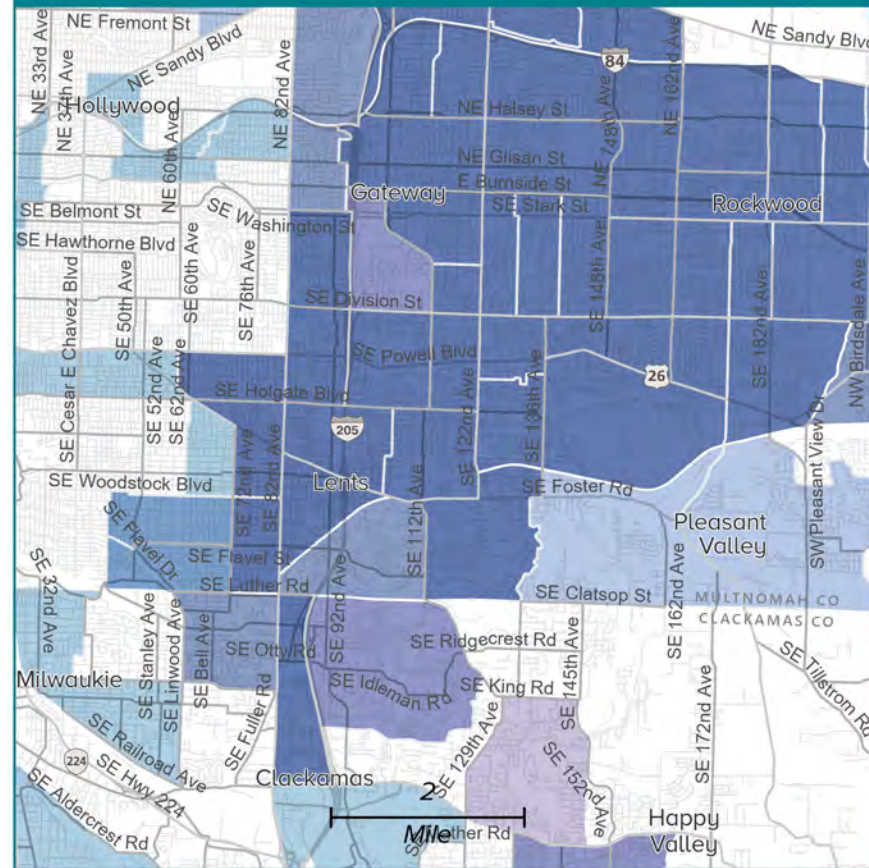
Overlapping equity focus areas



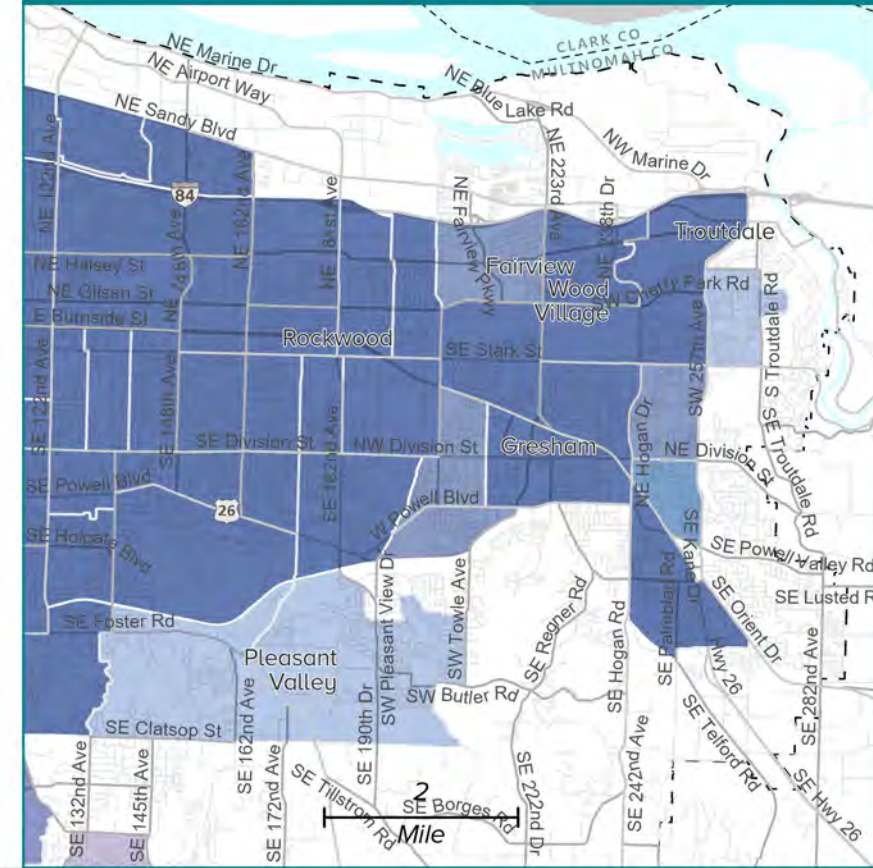
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



### 3.2.2.2 Regional Transportation Plan equity focus areas

Metro and regional partners identified Equity Focus Areas using 2020 Census and 2016-20 American Community Survey data for the following groups:

- People of color – people who do not identify as white
- People with limited English proficiency – people who identify as unable “to speak English very well”
- People with lower incomes – people with incomes equal to or less than 200% of the federal poverty level

These three groups, as identified in Census data, are the emphasis and focus for the RTP, 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 as possible. More detail on how Metro created this map and on the state of transportation equity in the region can be found in Chapter 4.

### 3.2.2.3 Transportation equity policies

The transportation equity policies in this section aim to eliminate transportation-related disparities and barriers<sup>3</sup> identified by marginalized communities as priorities to address through the RTP and regional transportation planning and decision-making processes.

<b>Transportation Equity Policy 1</b>	<b>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.</b>
<b>Transportation Equity Policy 2</b>	<b>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.</b>
<b>Transportation Equity Policy 3</b>	<b>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.</b>

<sup>3</sup> Transportation-related disparities and barriers identified by historically marginalized communities as priorities to address include safety, access, affordability and community health.

<b>Transportation Equity Policy 4</b>	<b>Meaningfully engage federally recognized tribes, communities of color and other marginalized communities to participate in the development and implementation of transportation plans, projects and programs.</b>
<b>Transportation Equity Policy 5</b>	<b>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.</b>
<b>Transportation Equity Policy 6</b>	<b>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.</b>
<b>Transportation Equity Policy 7</b>	<b>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.</b>

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 Division 12 of Oregon Administrative Rules (OAR).<sup>4</sup> These rules include additional guidance for equitable transportation planning and decision-making.

Because the 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.**

Equity considerations embedded in transportation projects, programs, policies and strategies must reflect the transportation priorities identified by marginalized communities, including accessibility, safety, community health and affordability. Embedding 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.

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<sup>4</sup> 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>



Additionally, transportation agencies must consider how investments can advance equity. A transportation investment can provide greater access to opportunities for marginalized communities, such as access to education or jobs, 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.

Agencies can take a variety of actions to embed 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:**

1. Examine the structure of decision-making processes, identify who participates (or does not) 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 power dynamics, 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, historical, real estate market, workforce 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

considers 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.
- e. **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, contribute to displacement and disrupt community stability. This happened in Portland, in particular, to Black communities in North and Northeast Portland. Over time, ethnic and new immigrant neighborhoods with good access to transportation have gentrified, displacing established communities. Dense centers are appealing and desirable and do not have enough affordable housing and are becoming more expensive as transportation investments are 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 government agencies and partners addresses displacement before infrastructure investments are made. Displacement is a pervasive challenge that requires ongoing collaboration between land use, housing and transportation agencies.

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

1. Plan capital transportation investments to include a variety of strategies to avoid and minimize involuntary displacement, such as increasing rent burden.
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. Look at 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 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.

**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.**

Eliminating transportation disparities is vital to achieving transportation equity. Marginalized communities have identified affordability, safety, access and environmental health as transportation priorities. Focusing on eliminating disparities requires a shift in the current practices of transportation agencies and developing transportation plans, programs, policies and investments to achieve of fairness rather than equality.

While Federal law requires that benefits and burdens of transportation are distributed equally, transportation agencies should focus on eliminating disparities caused by systemic racism; not only will marginalized communities benefit, but all communities will benefit.

To focus on the disparities, it is imperative for transportation agencies to ask marginalized communities to provide direction and prioritization of which disparities to tackle first and the best methods to do so.

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), federally recognized tribes, 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 federally recognized tribes and 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 where 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 transit solutions 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 will 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 and address existing disparities in exposure to transportation related air pollutants, including PM2.5, Diesel PM, NO2 and air toxics, and evaluate whether projects reduce or exacerbate disparities.

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

Meaningful engagement is critical to understand the perspectives and experiences of marginalized communities and to 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 and is a significant change from the conventional practices of public involvement in the transportation sector. Engagement and inclusion help embed equity in the transportation planning process 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 to facilitate relationship-building, conversations and meaningful engagement.
3. Dedicate resources to meaningfully engage 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.
5. Use the Climate Friendly Equitable Communities (CFEC) Program 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 disparities experienced by marginalized communities. While national datasets or statewide statistics provide a picture of disparities, gaps in local data and information make it difficult to assess the performance of transportation plans, programs and policies on the outcomes and priorities identified marginalized communities.

Collecting disaggregated data at a local scale gives the ability to look in-depth at local conditions on key transportation outcomes identified as priorities by marginalized communities—affordability, safety, access and environmental health—and is necessary to understand the current level of disparities and establish appropriate baselines. Until such data can be collected, it is imperative to supplement data collection and assessment with engagement to gather the qualitative information directly from marginalized communities.

Additionally, in supplementing quantitative data with engagement and qualitative data, needs, gaps and deficiencies which may have already been identified can be confirmed. By supporting data collection and assessment focused on the needs and priorities of marginalized communities, especially communities of color, transportation professionals will have better 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.**

It is crucial to identify disparities and evaluate if transportation plans, programs, policies, and strategies are making progress towards eliminating disparities. The assessment should consider access, safety, affordability, community health and any other transportation-related priority identified by marginalized communities. 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. 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; 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.**

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 population 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.<sup>5</sup> 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. Use inclusive hiring practices, contracting opportunities and formalize reporting of minority, women-owned and disadvantaged businesses construction contracts 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 workforce diversity utilization through 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.

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<sup>5</sup> Link to Metro webpage on Construction Career Pathways <https://www.oregonmetro.gov/regional-leadership/diversity-equity-and-inclusion/construction-career-pathways>

### 3.2.3 Safety and Security Policies

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 RTP. The equity goals of the RTP center safety for people of color, people with low incomes, people with disabilities, youth, older adults, people walking, people bicycling and people on motorcycles.

Transportation safety is protection from death or bodily injury from 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.<sup>6</sup> Key findings from the analysis of crash data from 2016-2020 are in RTP Chapter 4. Additional analysis can be found in the 2018 Metro State of Safety Report and the Safety Strategy.<sup>7</sup>

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, which can be found in the [Safety Strategy](#). The strategies and actions are evidence-based and were identified by a regional 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.

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<sup>6</sup> The Regional Transportation Safety Strategy, adopted in December 2018, is a topical plan of the Regional Transportation Plan. Link to the Safety Strategy <https://www.oregonmetro.gov/regional-transportation-safety-plan>

<sup>7</sup> The 2018 Metro State of Safety Report is an appendix of the Safety Strategy. Link to the State of Safety Report <https://www.oregonmetro.gov/sites/default/files/2018/05/25/2018-Metro-State-of-Safety-Report-05252018.pdf>

**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 use 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, the Safe System approach acknowledges that people will make mistakes and may have road crashes and that the transportation system should therefore be designed so that crashes do not result in death or serious injury. Street design emphasizes managing speeds for safety, access management, median separation of traffic and maintaining separation between motor vehicles and people walking and bicycling.

**Figure 3.4: Components of the Safe System approach**



Governments using the Safe System approach focus on preventing all fatal and severe injury crashes and recognize 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.<sup>8</sup> The Safe System approach focuses on the following key guiding principles that shape how stakeholders address transportation safety, shown in Figure 3.5. Refer to the Regional Transportation Safety Strategy for detailed information on the Safe System approach.

**Figure 3.5: Guiding principles of the Safe System approach**



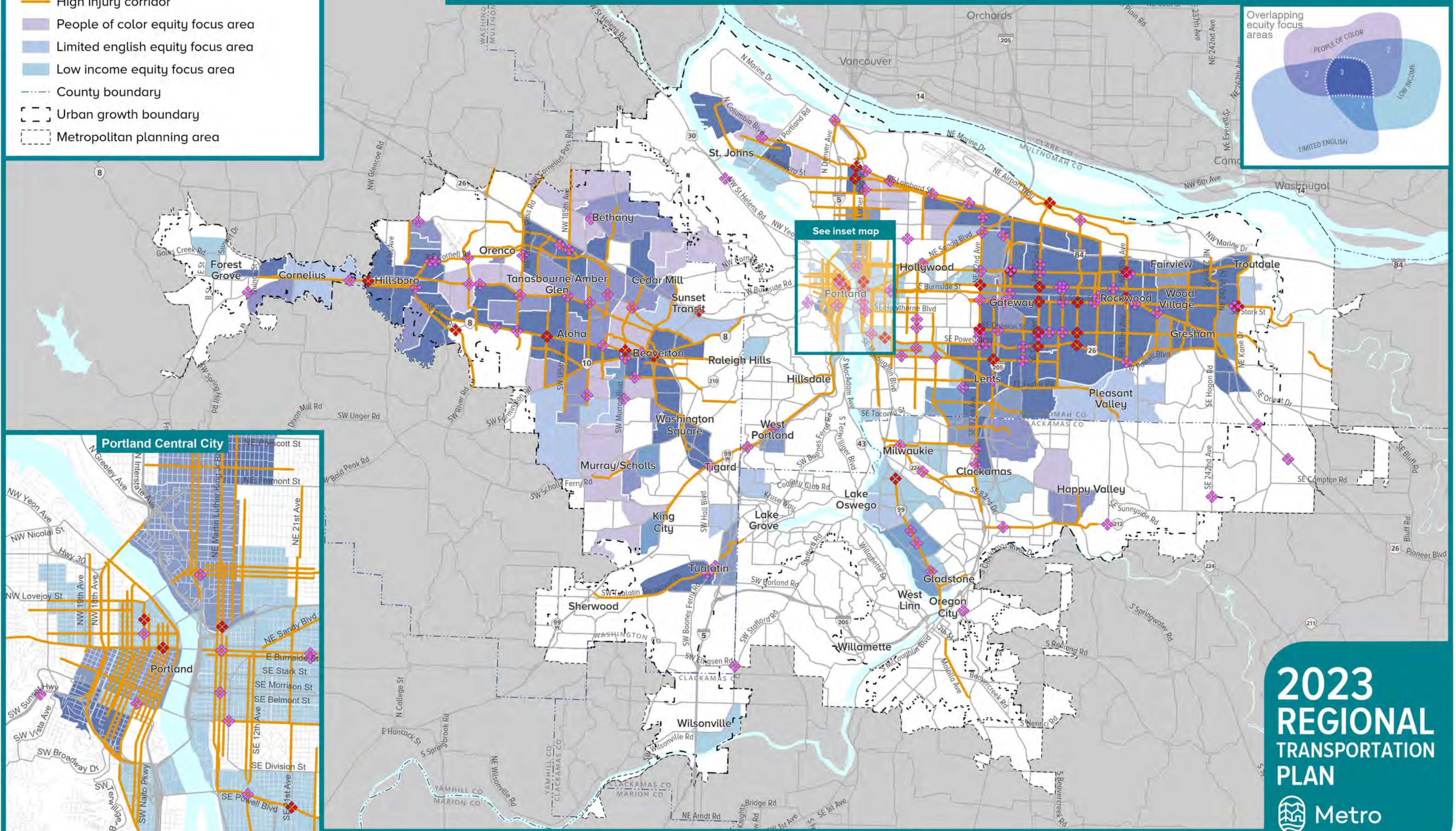
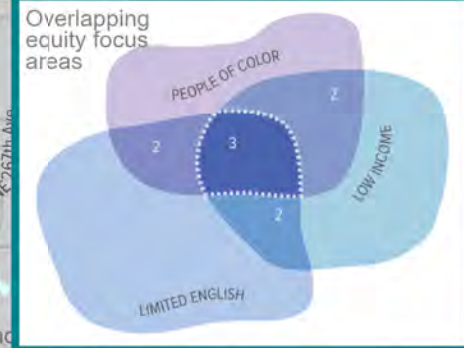
<sup>8</sup> Sustainable and Safe: A Vision and Guidance for Zero Road Deaths, World Resources Institute, Global Road Safety Facility (2017)



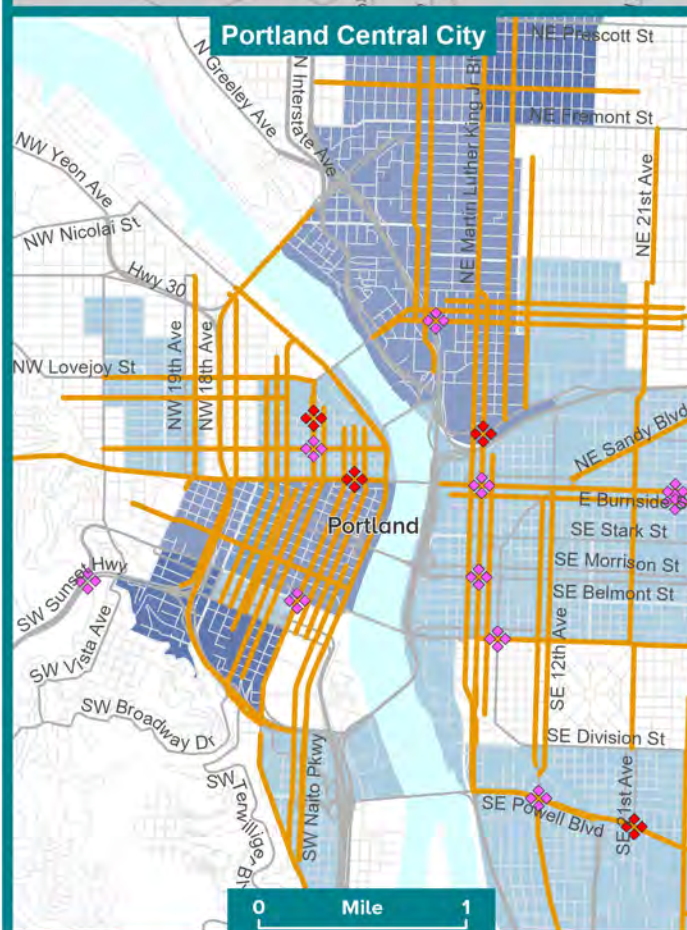
Figure 3.6

# Regional High Injury Corridors and Intersections

- ◆ Top 1% high injury intersection
- ◆ Top 5% high injury intersection
- High injury corridor
- People of color equity focus area
- Limited english equity focus area
- Low income equity focus area
- - - County boundary
- - - Urban growth boundary
- - - Metropolitan planning area



See inset map



**2023**  
**REGIONAL**  
**TRANSPORTATION**  
**PLAN**

Sources: ODOT and Metro

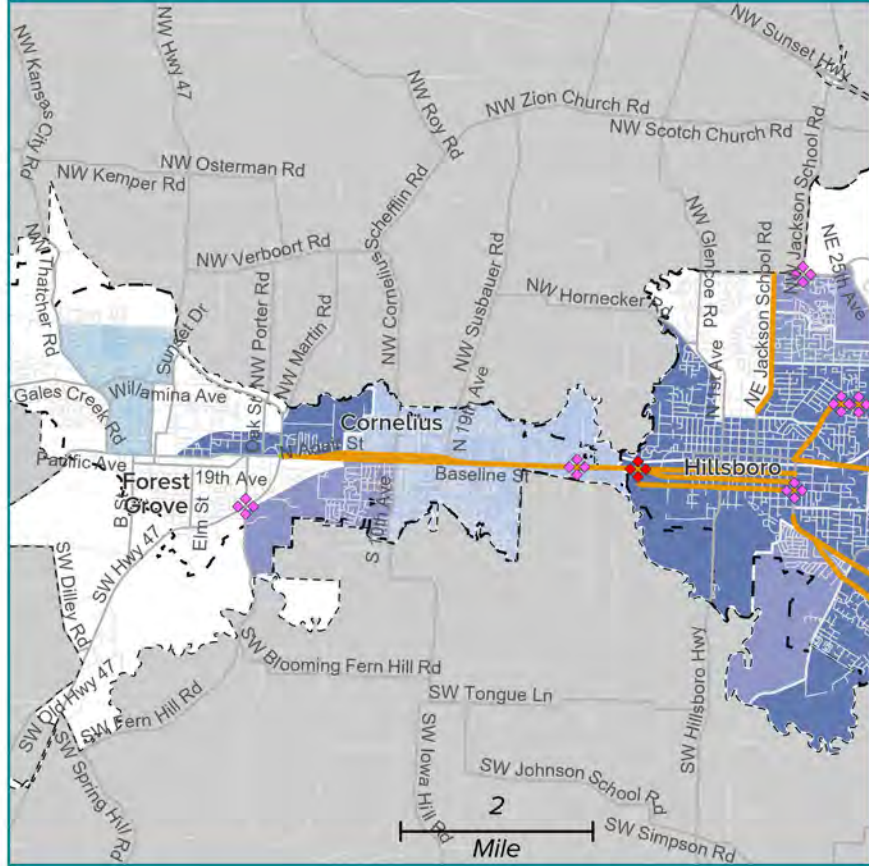
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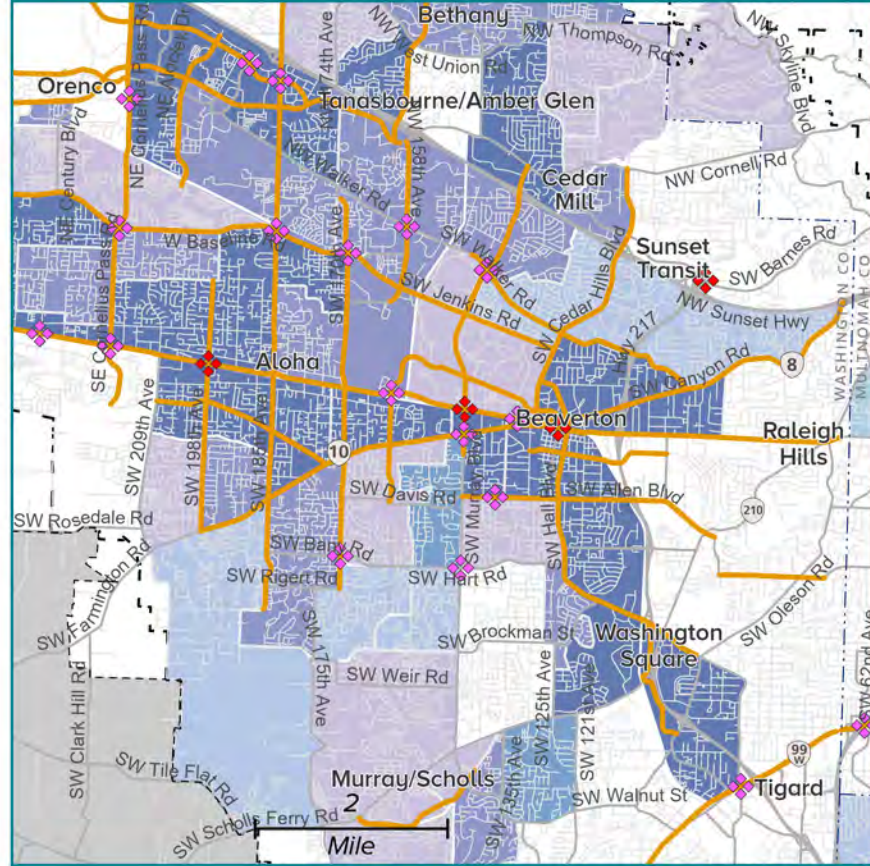
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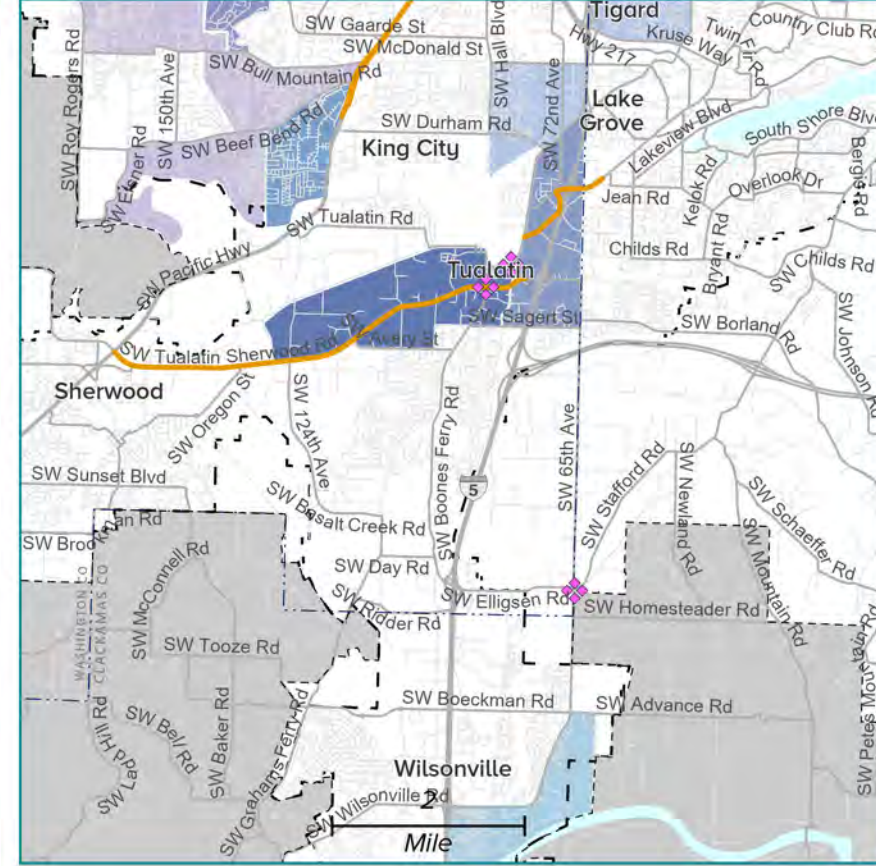
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area

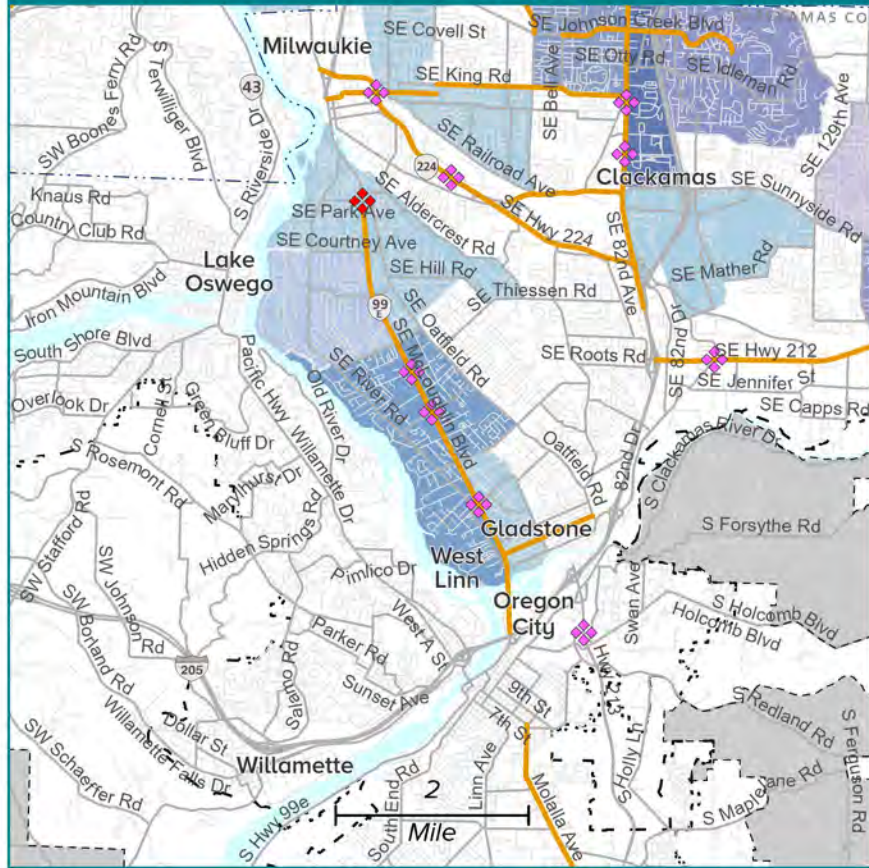


### Legend

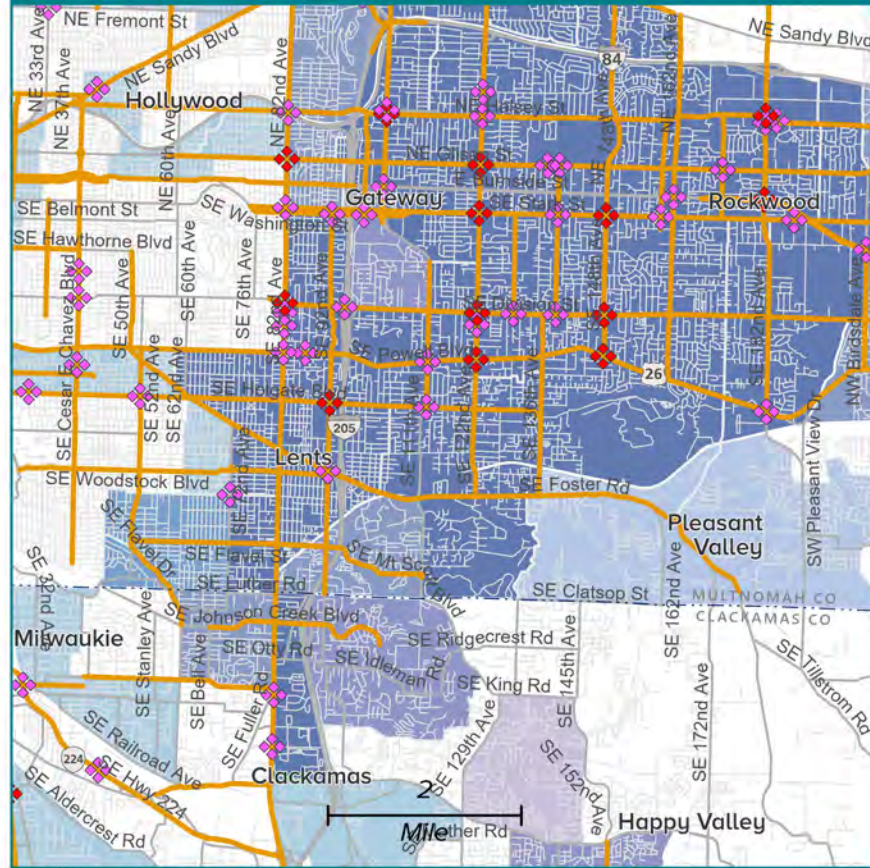
- ◆ Top 1% high injury intersection
- ◆ Top 5% high injury intersection
- High injury corridor
- People of color
- Limited english
- Low income
- County boundary
- Urban growth boundary
- Metropolitan planning area



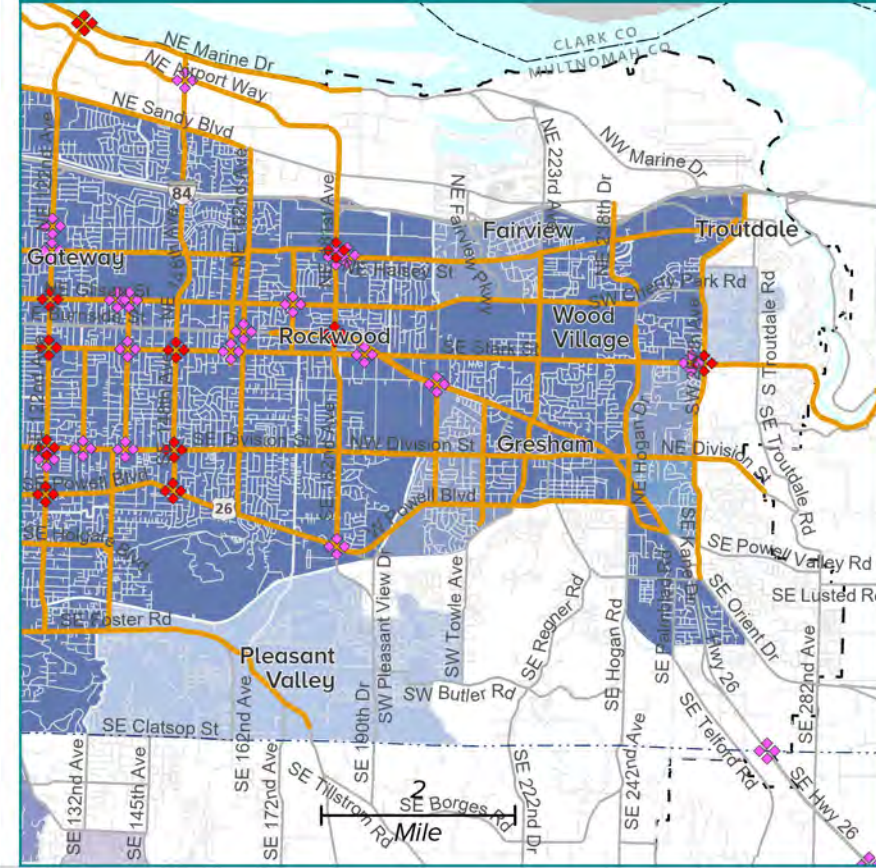
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



### 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 updates 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.

### 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.

<b>Safety Policy 1</b>	<b>Focus safety efforts on eliminating traffic deaths and severe injury crashes to achieve Vision Zero.</b>
<b>Safety Policy 2</b>	<b>Prioritize safety investments, education and equitable enforcement on high injury and high-risk corridors and intersections with a focus on reducing speeds and speeding.</b>
<b>Safety Policy 3</b>	<b>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, youth, older adults, people walking, people bicycling people on motorcycles and people working in the right-of-way.</b>
<b>Safety Policy 4</b>	<b>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.</b>
<b>Safety Policy 5</b>	<b>Make safety a key consideration in all transportation projects and avoid replicating or exacerbating a known safety problem with any project or program.</b>
<b>Safety Policy 6</b>	<b>Employ a Safe System approach and use data and analysis tools and performance monitoring to support data-driven decision-making.</b>
<b>Safety Policy 7</b>	<b>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.</b>

**Safety 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 people walking, people bicycling and those taking transit.**

**Safety 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 prioritizes safety investments, education and equitable enforcement in 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). Prioritizing corridors where deadly crashes are more likely to occur effectively uses limited resources to address areas with the most serious issues. Additionally, this policy emphasizes the systemic approach to safety to address 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, youth, older adults, people walking, people bicycling, people on motorcycles, and people working in the right-of-way.**

This policy is based on the Safe System approach of prioritizing safety efforts for 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 view of safety. 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 30 mph; 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 considered 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. Transportation projects and program should 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. 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 prioritizing efforts that benefit people of color, people with low incomes, people with disabilities, women, people walking, people bicycling and those 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;
- Considering 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 and 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 (including disparities in crash-related injuries and level of physical activity impacted by lack of safe places to walk and bicycle), analytical tools and metrics must be part of the evaluation when defining the adequacy of capacity on the transportation system.

**3.2.4 Climate action policies and resilience 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 there is less and less time to act. Greater Portland’s future climate is expected to include warmer winters with more intense rain events and hotter, drier summers with an increased frequency of high heat days. Other documented effects include rising sea levels, shrinking glaciers, changes to growing seasons and the distribution of plants and animals. While addressing the primary cause of climate change—carbon emissions—remains a crucial component of the region’s climate work, preparing for the impacts of a changing climate is also necessary.

Warmer temperatures will affect the service life of transportation infrastructure, and more severe storms 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.

In Oregon, transportation sources account for 35 percent of greenhouse gas emissions, largely made up of carbon dioxide (CO<sub>2</sub>). Since 2006, the state of Oregon has initiated 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 RTP 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 mitigation 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 equity, safety, transit, biking, walking, use of technology and system and demand management strategies. These policies aim to slow the effects of climate change by reducing greenhouse gas emissions (also known as “climate mitigation”), while also preparing for the impacts the region will experience.

<b>Climate Policy 1</b>	<b>Implement adopted local and regional land use plans and strategies to reduce vehicle miles traveled per capita and related greenhouse gas emissions to meet regional targets.</b>
<b>Climate Policy 2</b>	<b>Prioritize transportation investments that make transit convenient, frequent, accessible and affordable to significantly increase transit ridership.</b>
<b>Climate Policy 3</b>	<b>Prioritize transportation investments that make biking and walking safe, accessible and convenient to achieve walking and bicycling system completion and mode share targets.</b>
<b>Climate Policy 4</b>	<b>Make streets and highways safe, efficient, reliable and connected.</b>
<b>Climate Policy 5</b>	<b>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 actions.</b>

Climate Policy 6	Provide information and financial incentives to expand the use of travel options and reduce vehicle miles traveled.
Climate Policy 7	Manage parking in mixed-use centers and corridors to (1) reduce the amount of land dedicated to parking, (2) encourage parking turnover, (3) increase shared trips, biking, walking and transit use, (4) reduce vehicle miles traveled, (5) increase housing and job production and (6) generate revenue.
Climate Policy 8	Support Oregon’s transition to cleaner fuels, more fuel-efficient vehicles and electric vehicles in recognition of the external impacts of carbon and other vehicle emissions.
Climate Policy 9	Secure adequate funding for transportation system investments necessary to implement the Climate Smart Strategy and increase the region’s preparedness for and resilience to climate change and natural hazard impacts.

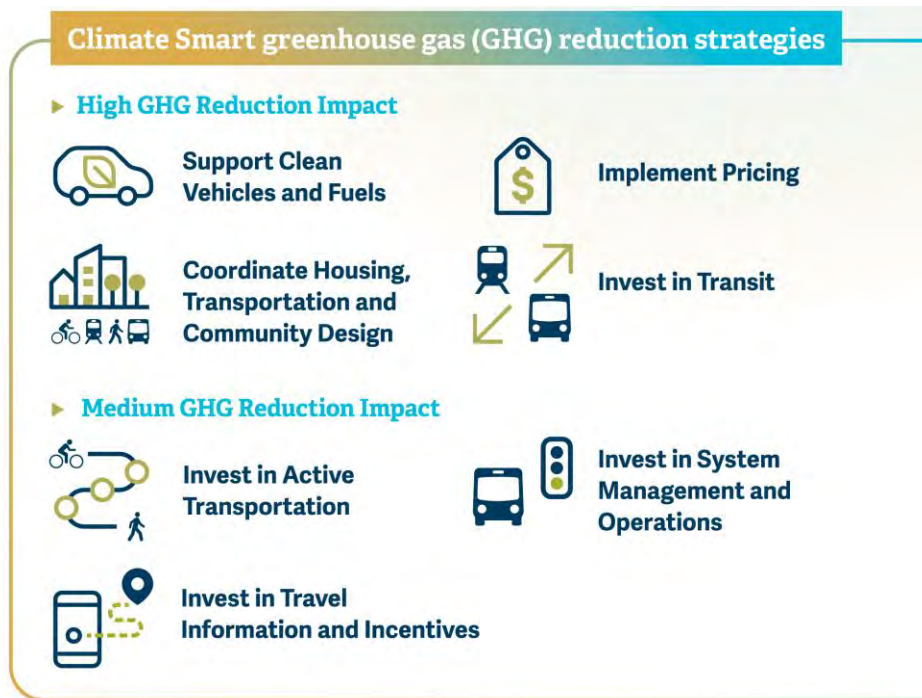
### 3.2.4.3 Climate Smart Strategy actions

The Climate Smart Strategy includes 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.<sup>9</sup> 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. It also recognizes that some tools and actions may work better in some locations than others. As such, the toolbox does not mandate adoption of any 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.

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<sup>9</sup> Climate Smart Strategy Toolbox of Possible Actions, 2014  
[https://www.oregonmetro.gov/sites/default/files/2015/05/27/CSC\\_toolbox-actions2014\\_12\\_09.pdf](https://www.oregonmetro.gov/sites/default/files/2015/05/27/CSC_toolbox-actions2014_12_09.pdf)



Graphic depicting Climate Smart seven high and medium impact greenhouse gas reduction strategies.

Local, state and regional partners are encouraged to review the toolbox and identify actions they have already taken as well as 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 has performance measures and monitoring targets for tracking implementation and progress, which monitor and assess whether key elements or actions are being implemented and are 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 to meet adopted targets for reducing greenhouse gas emissions.

Appendix J provides a progress report on implementation. Performance outcomes are included in Appendix J and Chapter 7. More investment, actions and resources are needed to achieve mandated greenhouse gas emissions reductions defined in OAR 660-044-0060.

### 3.2.4.5 Transportation preparedness and resilience policies

Preparedness and resilience have broad implications across all communities and sectors of the economy in the region. Natural disasters 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 to provide needed transport for evacuation, fuel, essential supplies and medical transport. Planning for post-disaster recovery is 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.

<b>Resilience Policy 1</b>	<b>Designate, maintain and strengthen the resilience of regional emergency transportation routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris-removal and will be critical to response and recovery of the region.</b>
<b>Resilience Policy 2</b>	<b>Consider climate and other natural hazard-related risks during transportation planning, project development, design and management processes.</b>
<b>Resilience Policy 3</b>	<b>Optimize operations and maintenance practices that can help lessen impacts on transportation from extreme weather events and natural disasters.<sup>10</sup></b>
<b>Resilience Policy 4</b>	<b>Integrate green infrastructure into the transportation network to avoid, minimize and mitigate negative environmental impacts of climate change, natural disasters and extreme weather events.</b>
<b>Resilience Policy 5</b>	<b>Protect and avoid natural areas and high value natural resource sites, especially the urban tree canopy and other green infrastructure, to slow growth in carbon emissions from paved streets, parking lots and carbon sequestration and address the impacts of climate change and extreme weather events, such as urban heat island effects and increased flooding.</b>
<b>Resilience Policy 6</b>	<b>Avoid 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.</b>

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

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<sup>10</sup> Examples include more frequent cleaning of storm drains, improved plans for weather emergencies, closures and rerouting, traveler information systems, debris removal, early warning systems, damage repairs and performance monitoring.



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, water, and wastewater systems) would be damaged so severely by a large magnitude Cascadia subduction zone (CSZ) earthquake 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.

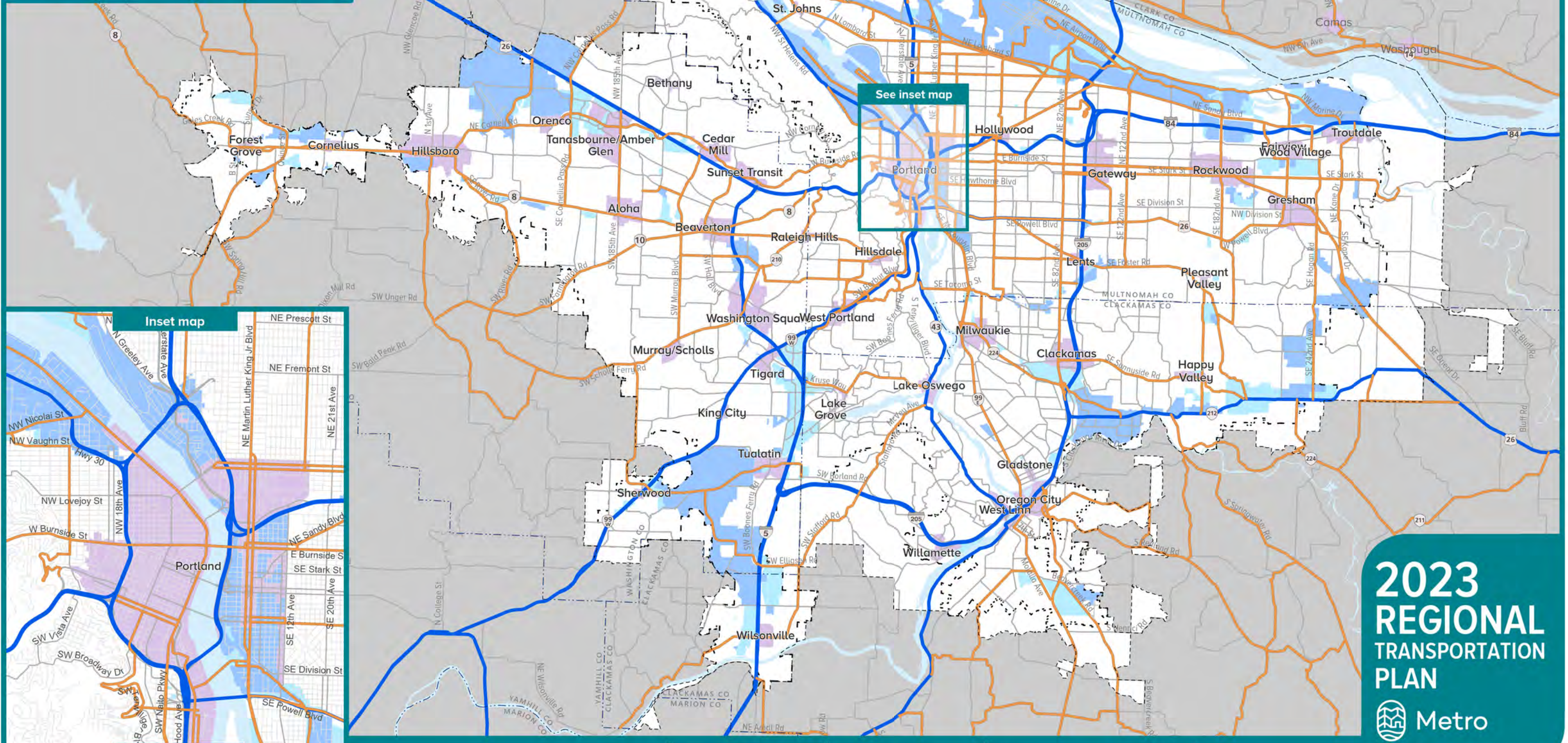
In 2021 the Oregon Transportation Systems project assessed the resilience of Oregon's roadway, airport and maritime port transportation system to a Cascadia Subduction Zone (CSZ) earthquake and the ability of those system to support post-disaster response and recovery. A key finding is that very few 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 to support incident response more efficiently and effectively.



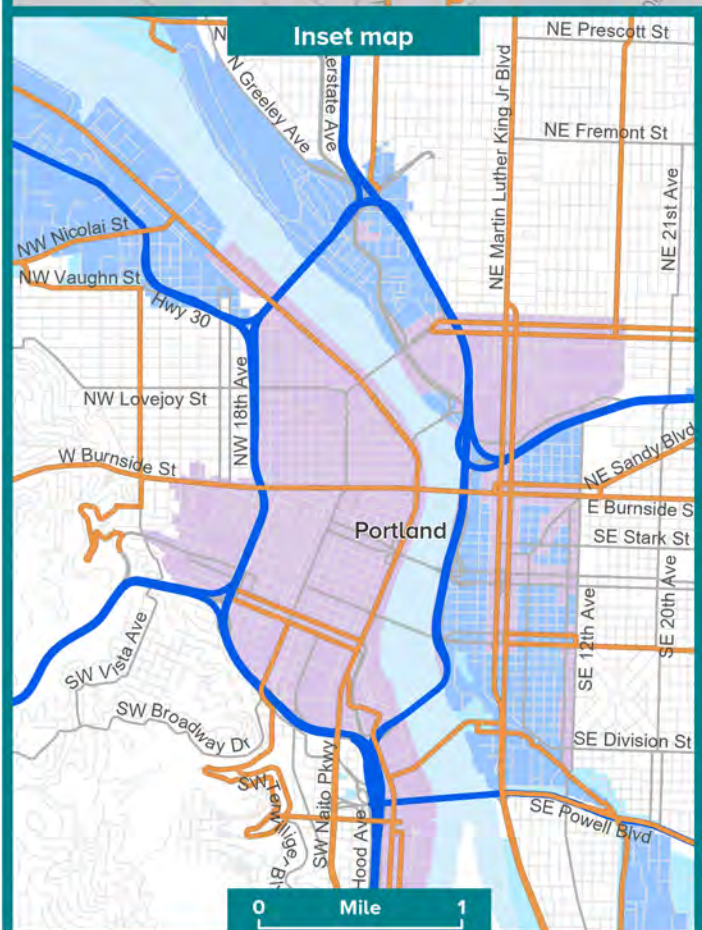
Figure 3.7

# Regional Emergency Transportation Routes

- Regional emergency transportation route
- Oregon state seismic lifeline route
- Urban center
- Industrial area
- Employment area
- County boundary
- Metropolitan planning area
- Urban growth boundary



See inset map

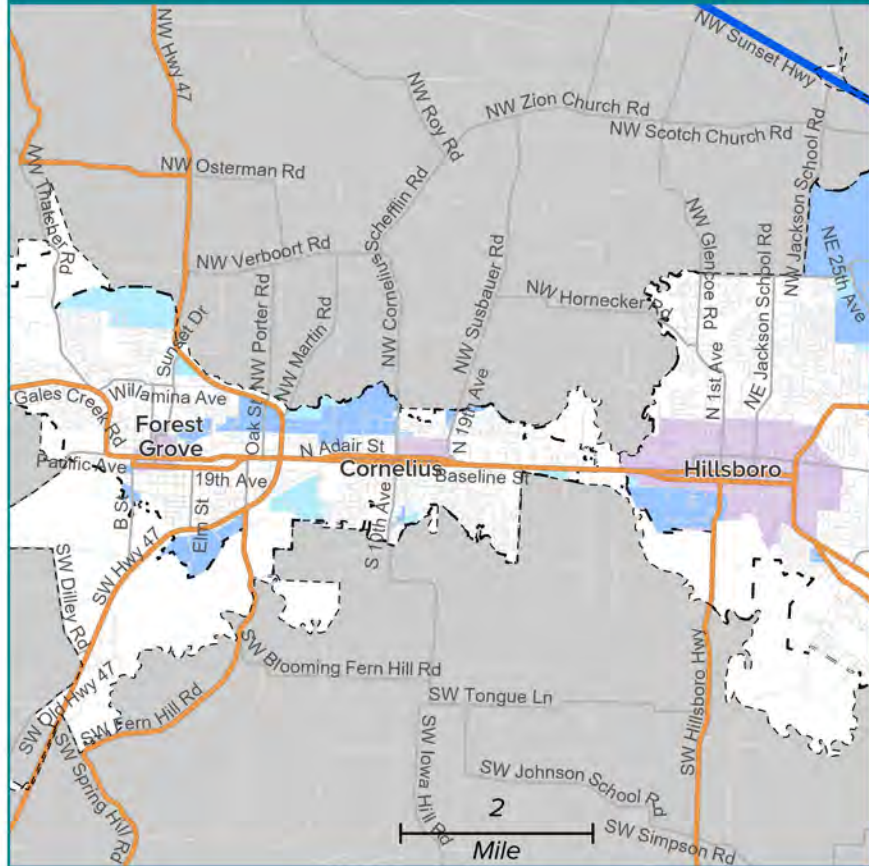


**2023**  
**REGIONAL**  
**TRANSPORTATION**  
**PLAN**

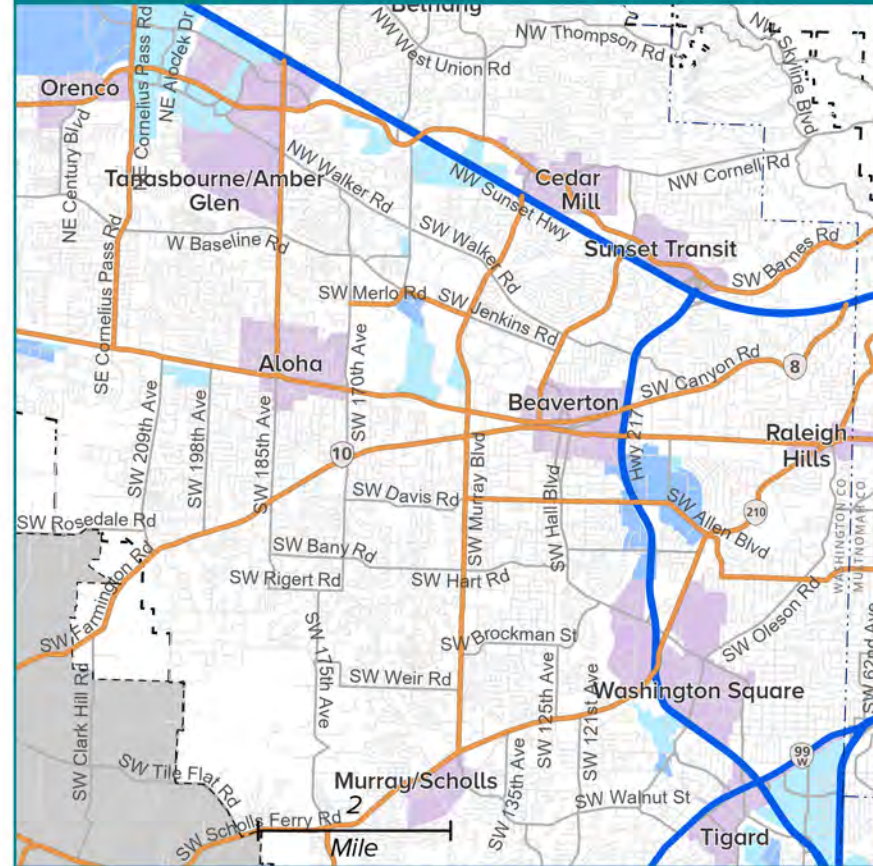
Source: Metro  
 11/30/23



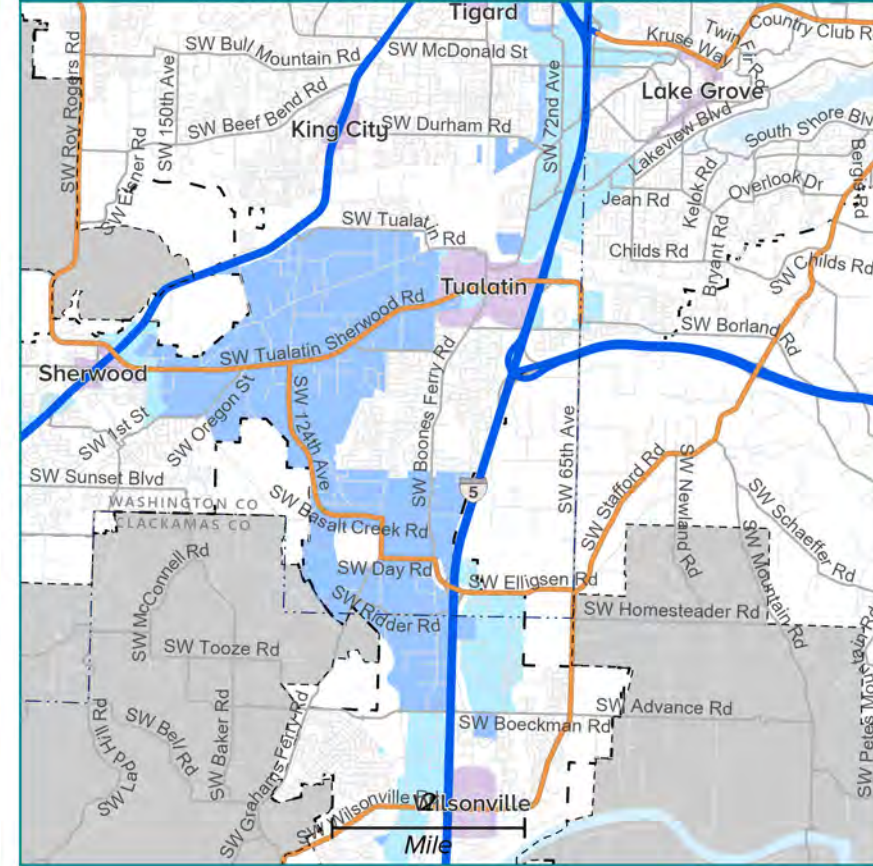
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area





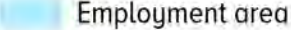
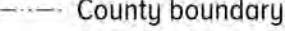
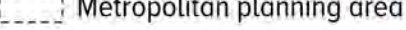
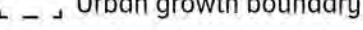


### 3. Sherwood-Tigard-Tualatin-Wilsonville area

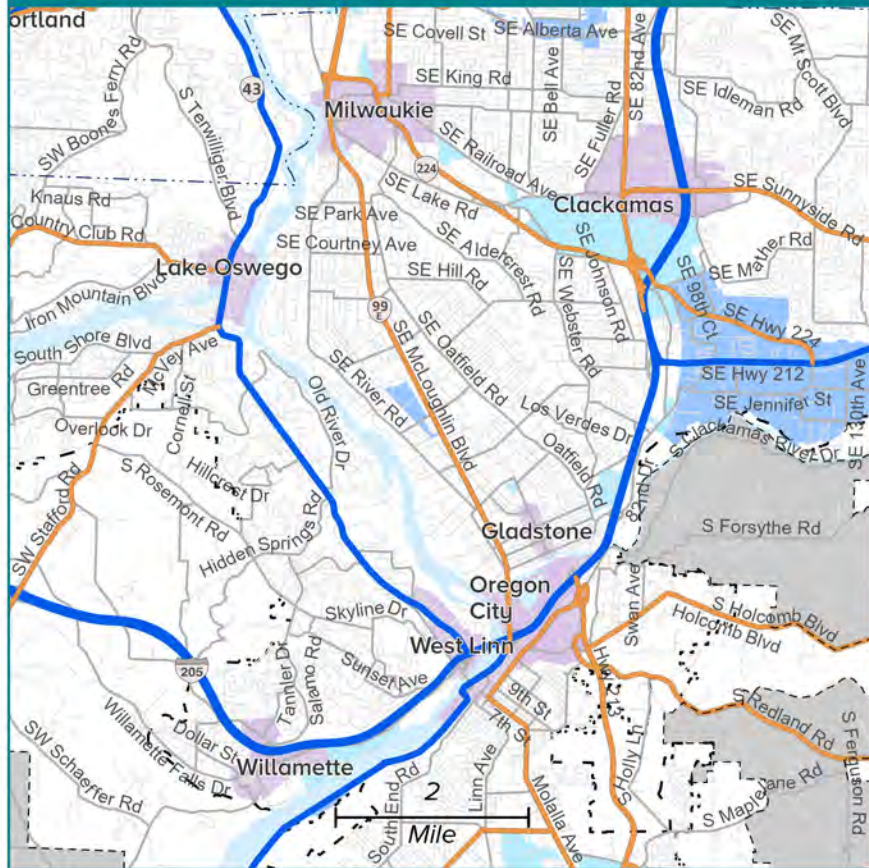


### Legend

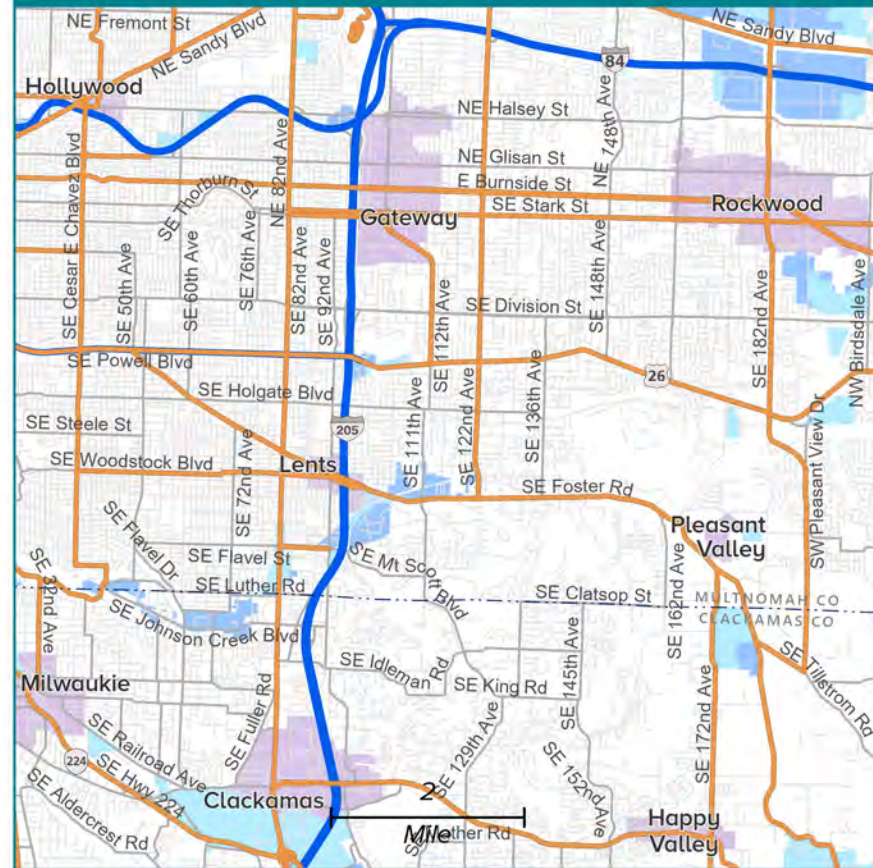
(dotted lines are proposed projects and do not identify specific alignments)

-  Regional emergency transportation route
-  Oregon state seismic lifeline route
-  Urban center
-  Industrial area
-  Employment area
-  County boundary
-  Metropolitan planning area
-  Urban growth boundary

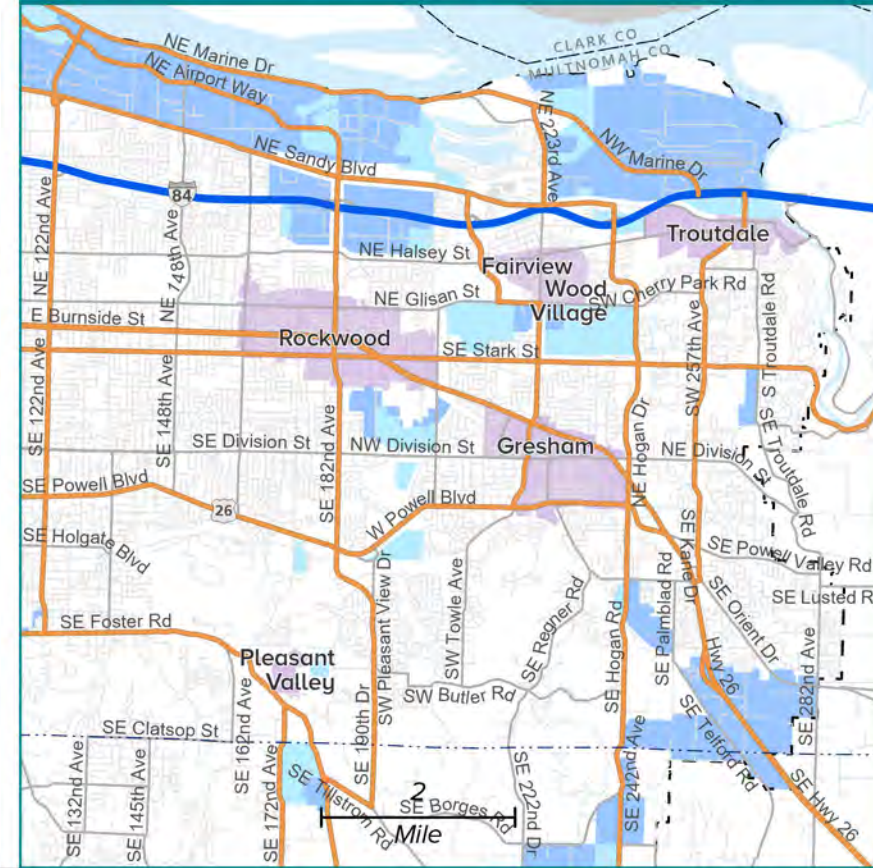
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



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. Figure 3.7 shows a map of the RETRs and State Seismic Lifeline (SSL) routes. Regional partners identified these routes to help prioritize them for near term investment.

In addition to implementing the resilience policies, potential opportunities for future regional collaboration in support of transportation preparedness and resilience include:

- Partnering 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 (Section 8.2.3.5) for more information.
- Conducting a vulnerability assessment for the region.
- Documenting climate and other natural hazard-related risks to the region's transportation system and vulnerable populations.
- Documenting 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.
- Implementing the Climate Adaptation and Resilience Roadmap, accepted by the OTC in January 2023 and submitted to FHWA in August 2023. Developed in accordance with 23 U.S. Code 176(e) and incorporated herein by reference, the Roadmap serves as ODOT's statewide Resilience Improvement Plan (RIP), as defined in Section 11405 of the Federal Infrastructure Investment and Jobs Act (2021).

### 3.2.5 Pricing policies

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 supports regional goals, diversion on local streets is mitigated and different pricing strategies work together.

#### 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.

The policies in this section apply to vehicle miles traveled fees, cordon pricing, and roadway pricing; parking pricing is addressed in the climate mitigation policies.

#### Section 3.2.4.2.

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. Leaders and government agencies in the region recognized pricing as a needed, high-impact tool in the 2018 RTP and other plans.<sup>11</sup>

**Pricing Strategies**

Pricing could include a range of tools, including:

- VEHICLE MILES TRAVELED FEE**  
Drivers pay a fee for every mile they travel
- CORDON PRICING**  
Drivers pay to enter an area, like downtown Portland (and sometimes pay to drive within that area)
- ROADWAY PRICING**  
Drivers pay a fee or toll to drive on a particular road, bridge, or highway
- PARKING PRICING**  
Drivers pay to park in certain area

Each of these pricing strategies could vary by time of day, by area, by types of drivers on the road, and by income levels. Pricing strategies can also take the form of a "program" (i.e. parking pricing) or a "project" (i.e. the I-205 toll project).

<sup>11</sup> Regional Transportation Plan (2018), TSMO Strategy (2021), Climate Smart Strategy (2014), the Federal Congestion Management Process, City of Portland Pricing Options for Equitable Mobility Final Report (2021),

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.

**Table 3.3: Pricing and implementing agency**

Type of Pricing	Definition	Implementing Agency
Road Usage Charge / Vehicle Miles Traveled fee		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
		Throughways: State DOT

**Why is pricing an important strategy for our region?**

Congestion is a problem in the Portland metro region as outlined in the Chapter 4 of the RTP. 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.

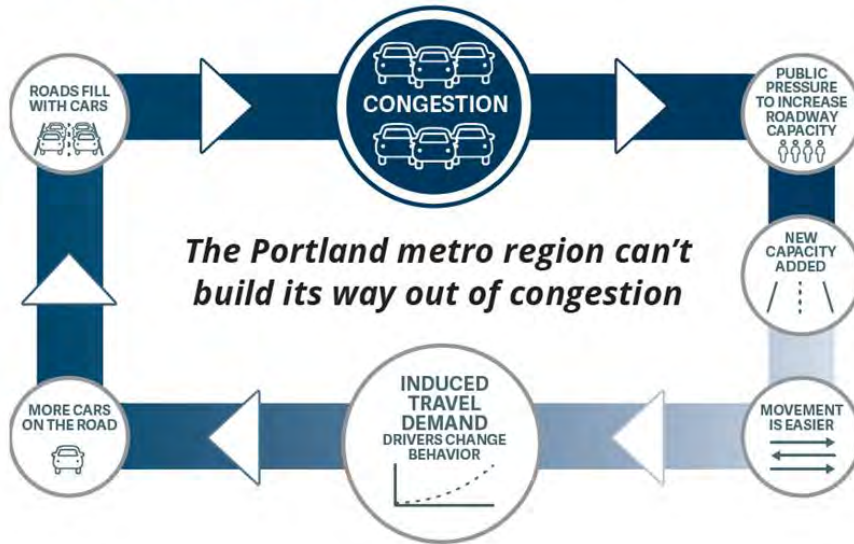
- Growing single occupancy vehicle miles traveled (VMT) leads to congestion.
- Greenhouse gas emissions are on the rise.
- Congestion impacts communities in RTP Equity Focus Areas most significantly.<sup>12</sup>
- Travel patterns for people and goods are unreliable due to congestion.
- Our region is growing.

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Oregon Department of Transportation Value Pricing Feasibility Analysis (2018) and Oregon Transportation Plan (2023).

<sup>12</sup> Congestion impacts equity focus areas most significantly. In the Portland region, the 10 lowest income and 10 highest minority neighborhoods experience more exposure to toxic air than the average neighborhood." Source: 2012 Portland Air Toxics Solutions Committee Report and Recommendations, Oregon Department of Environmental Quality.

## The Cycle of Congestion



### How can pricing help our region?

Transportation investments in the greater Portland 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 commute times 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, equity and a thriving economy.

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 by lowering VMT and investing pricing revenues in safety projects to prevent 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.

In the Portland region, average commute times for Black commuters are 13% longer than white commuters.



VS.



The lowest income households spend 35% of their income on transportation. Those with the highest income spend 13% or less.

Source: U.S. Bureau of Transportation Statistics

### **Benefits to freight and businesses**

- Pricing strategies can help freight and businesses succeed by reducing congestion on highways and local roads.
- Pricing can benefit freight, especially truck transportation, as it supports a more reliable system.
- Pricing can encourage people to use other forms of transportation to travel and leave highways open for people and businesses, like freight, who do not have other options.
- Pricing can lower the cost of doing business through time-savings.

#### **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, as shown in 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
<b>Transit</b>		
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, RTP Equity Focus Areas
Operation and maintenance	Operation and maintenance of existing and future transit assets and services	Regional
<b>Active Transportation</b>		
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, RTP 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, RTP 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
<b>Mode Shift and Single Occupancy Vehicle Alternative Programs</b>		
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., <a href="#">TriMet's Fare Relief Program</a>	Regional; higher subsidy for transit deprived communities and vulnerable populations
Other programs	Electric vehicle (EV) carshare subsidy, bikeshare subsidy, micromobility subsidy, carpool benefit, benefit to drivers of EV vehicles	Regional; higher subsidy for transit deprived communities and vulnerable populations
<b>Priced Facility</b>		
Operations and maintenance	Operations and maintenance of priced road	Priced facility
Infrastructure investment	For tolled facilities, designed to be paid for by the pricing revenue	Priced facility

### 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, and Federal law and other requirements must be followed. For example, Oregon Constitution Article IX Section 3a limits the use of revenue from taxes on motor vehicle use and fuel. The principle underlying the Constitutional language is that special taxes paid only by drivers should be used only for roadway 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.

Jurisdictions considering pricing should also be aware of strategies that could be used to offset the potential constitutional limitations on how revenues from roadway pricing might be used. For example, swapping pricing revenues with Federal dollars, which are often allowed to be used much more flexibly.

### 3.2.5.2 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.

<b>Pricing Policy 1</b>	<b>Use pricing to improve reliability and efficiency of the transportation network, reduce VMT per capita and increase transportation options.</b>
<b>Pricing Policy 2</b>	<b>Center equity and affordability into pricing programs and projects from the outset.</b>
<b>Pricing Policy 3</b>	<b>Address traffic safety and the safety of users of all travel modes, both on the priced system and in areas affected by diversion.</b>
<b>Pricing Policy 4</b>	<b>Minimize diversion impacts created by pricing programs and projects prior to implementation and throughout the life of the pricing program or project.</b>
<b>Pricing Policy 5</b>	<b>Reduce greenhouse gas emissions and vehicle miles travelled per capita while increasing access to low-carbon travel options.</b>
<b>Pricing Policy 6</b>	<b>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.</b>

**Pricing Policy 1. Use pricing to improve reliability and efficiency of the transportation network, reduce VMT per capita and increase transportation options.**

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, shifts 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. ORS 383 delegates authority to the Oregon Transportation Commission (OTC) to set pricing rates for state highways in accordance with state legislation.
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



consistent with Federal and State law. 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: (a) determine additional revenue needs, (b) pursue funding needed to develop transit-supportive elements, (c) expand access to transit and (d) 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.
6. Consider higher benefits, subsidies, discounts or exemptions for people with low-income or other qualifying factors based on equity analysis.

**Pricing Policy 2. 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. Additionally, negative health impacts from high automobile reliance disproportionately harm Black, Indigenous, and other people of color (BIPOC), federally recognized tribes 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 and present injustices and harm to Black, Indigenous, and other people of color (BIPOC), federally recognized tribes and low-income communities. By focusing engagement at every step in the process on the most

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 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 including elements such as 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, consistent with Federal and State law. 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. Address traffic safety and the safety of users of all travel 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 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 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 address safety issues caused by pricing programs and projects, consistent with Federal and State law. 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 local, state and regional safety and security policies.

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

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.

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 or 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 also look to high injury local 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, localized emissions, water quality, air quality and the completeness of safety infrastructure and non-vehicular modal networks. This should include specific evaluation of diversion impacts in communities with people with low-income and people of color and/or in Equity Focus Areas.

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 consistent with Federal and State law.

**Pricing Policy 5. 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 greater Portland region reduce greenhouse gas emissions and achieve Metro’s climate goals. All 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 Black, Indigenous and other people of color 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. ORS 383 delegates authority to the Oregon Transportation Commission (OTC) to set pricing rates for state highways in accordance with state legislation.



3. Reinvest a portion of revenues from pricing into modal alternatives both on and off the priced facility consistent with Federal and State law to 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 Climate Smart Strategy and regional climate policies, including through the Congestion Management Process (CMP).

**Pricing 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.**

The Metro Regional Congestion Pricing Study describes 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 cell 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.

### 3.2.6 Mobility policies

Within the greater Portland region, the State of Oregon and Metro have a shared goal of providing mobility so that people and businesses can safely, affordably and efficiently access 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.



#### 3.2.6.1 Mobility policy outcomes and policies

Policymakers and community partners have identified the following outcomes as critical for guiding how transportation agencies plan, manage, and operate the transportation system, and the mobility policy aims to achieve them.

#### Policy outcomes

- **Equity – Black, Indigenous and people of color (BIPOC) community members, federally recognized tribes, people with low incomes, youth, older adults, people living with disabilities and other marginalized and underserved communities experience equitable mobility.** BIPOC, federally recognized tribes 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 given 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 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.<sup>13</sup>

- **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. They 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 per capita. Progress towards well-connected, multimodal networks can be measured as “system completeness” by travel mode.
- **Safety – People are able to travel safely and comfortably and feel welcome.** Unsafe transportation facilities can result in injury and loss of life. They can also place a strain on emergency responders. Real and perceived unsafe conditions both 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. Using average travel speed as a proxy measure of

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<sup>13</sup> See Chapter 8 (Section 8.2.3.9) and Appendix E for more information.

reliability allows the region to predict potentially unreliable locations. This includes looking at the number of hours a facility performs below a specified threshold and the percentage of the throughway system that performs below that speed threshold for multiple hours per day. Additionally, average travel speed analysis can help examine the total travel time between origin-destination pairs. This process can pinpoint bottlenecks that have the greatest impact on reliability along crucial travel routes for motor vehicle travel, encompassing freight and transit.

For throughways (freeways and signalized highways) shown in Figure 3.8 and Figure 3.21, 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 where travel times play a critical role 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 designated in Figure 3.21, 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. Within 2040 centers, pedestrian, bicycle, and public transportation facilities and services are prioritized and facilities are designed so people of all ages and abilities experience safe, low stress, and comfortable travel for within climate-friendly areas with minimal interference from motor vehicle traffic. 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 identified in Chapter 3 of the RTP or achieving the VMT/capita target for the region.

The following policies aim to achieve these outcomes.

<b>Mobility Policy 1</b>	<b>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.</b>
<b>Mobility Policy 2</b>	<b>Provide people and businesses a variety of seamless and well-connected travel modes and services that increase connectivity, travel 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.</b>



<b>Mobility Policy 3</b>	<b>Create a reliable transportation system that people and businesses can count on to reach destinations in a predictable and reasonable amount of time.</b>
<b>Mobility Policy 4</b>	<b>Prioritize the safety and comfort of travelers by all travel modes when planning and implementing mobility solutions.</b>
<b>Mobility Policy 5</b>	<b>Prioritize investments that ensure that Black, Indigenous and people of color (BIPOC) community members, federally recognized tribes, 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.</b>
<b>Mobility Policy 6</b>	<b>Use mobility performance targets and thresholds for system planning and evaluating the impacts of plan amendments including: vehicle miles travelled (VMT) per capita for home-based trips, system completeness for all travel modes and travel speed reliability on the throughways.<sup>14</sup></b>

The regional mobility policies apply to:

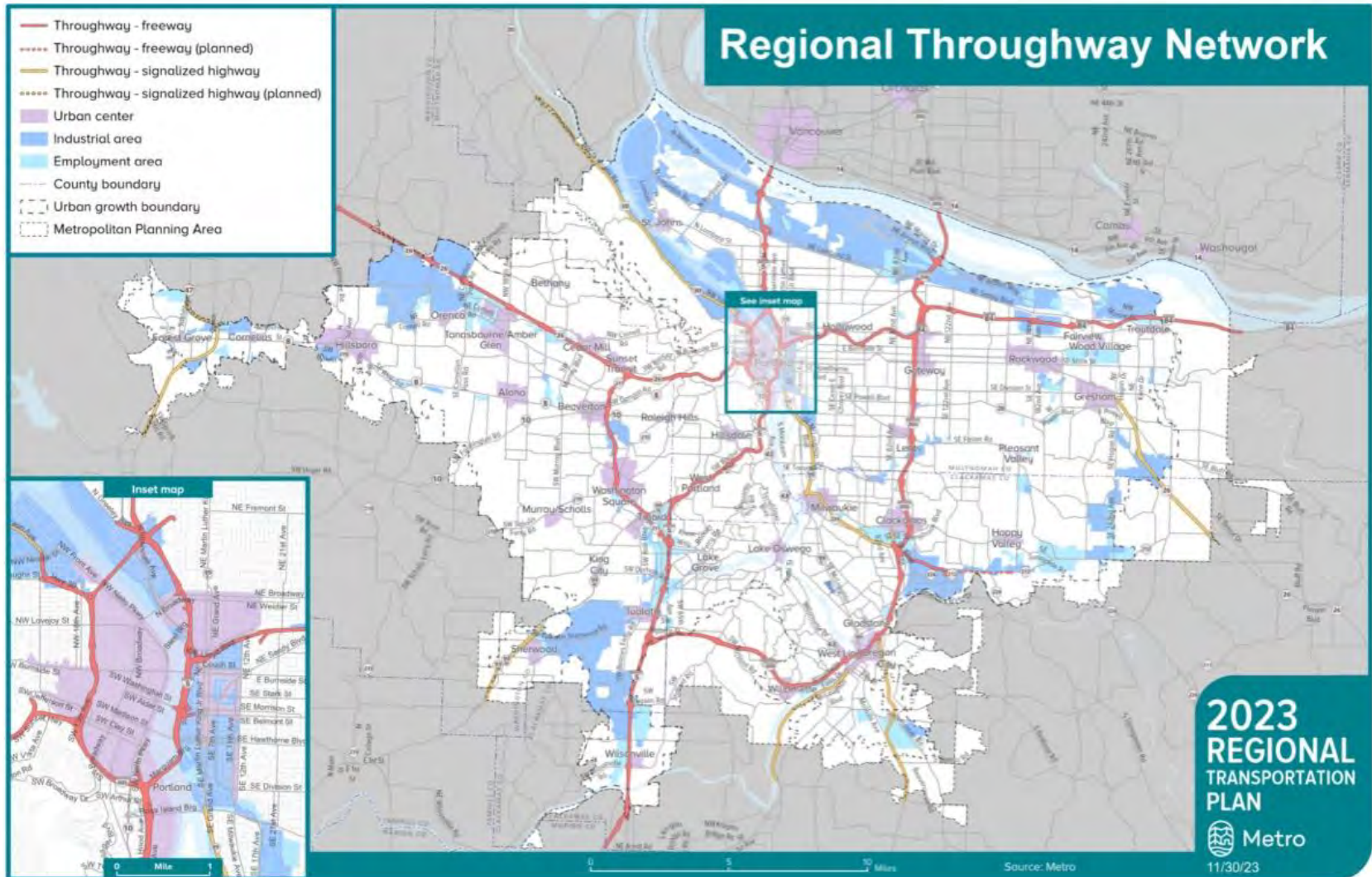
- the State highway system within the greater Portland region for:
  - identifying state highway mobility needs and solutions during system planning and plan implementation; and
  - evaluating the impacts on state highways of amendments to transportation system plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060).
- arterials and throughways (freeways and signalized highways) designated in Figure 3.21, which include state and local jurisdiction facilities, for identifying mobility needs and solutions during system planning and plan implementation.

This policy does not affect ODOT's use of Oregon Highway Plan (OHP) volume-to-capacity ratio (V/C) targets for operational decisions such as managing access and traffic control systems or identifying 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 (TSPs), acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060) and guiding operations decisions.

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<sup>14</sup> See Chapter 8 and Appendix E for more information.

Figure 3.8: Throughway classifications: Freeways and Signalized-Highways



Three performance targets and thresholds 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.

**Table 3.5: Mobility performance targets and thresholds**

Measure	Application	Targets and Thresholds	
<b>VMT/capita for household-based trips (a)</b>	<b>System planning</b>	OAR 660 Division 44 (Metropolitan Greenhouse Gas (GHG) Emissions Reduction rule) and OAR 660 Division 12 set VMT/capita reduction targets with which the RTP 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). (b)  The RTP will establish 2045 baseline VMT/capita. All subsequent applications of this policy shall not increase VMT/capita above the future baseline.	
	<b>Plan amendments (c)</b>	The plan amendment will have equal to or lower forecast VMT/capita for household-based trips than the future baseline established in the RTP. (d)	
<b>System completeness</b>	<b>System planning</b>	Complete networks and systems for walking, biking, transit, vehicles, freight and implement strategies for managing the transportation system and travel demand (e)  The planned system will be defined in the RTP and local TSPs. The RTP and local TSPs may not achieve system completeness for all modes to target levels but the RTP and local TSPs should identify future intent for all facilities given constraints and tradeoffs.	
	<b>Plan amendments</b>	100% of planned system OR reduced gaps and deficiencies (f)	
<b>Throughway travel speed (reliability) (g)</b>	<b>System planning (h)</b>	<b>RTP motor vehicle designation</b>	<b>Thresholds (j)</b>
		<b>Throughways - Freeways (i)</b> <ul style="list-style-type: none"> <li>○ I-5</li> <li>○ I-205</li> <li>○ I-84</li> <li>○ I-405</li> <li>○ US 26 (west of I-405)</li> <li>○ OR 217</li> <li>○ OR 212-Sunrise Expressway</li> </ul>	Average speed not below 35 mph for more than 4 hours per day

Measure	Application	Targets and Thresholds	
		<ul style="list-style-type: none"> <li>○ OR 213 from Beavercreek Road to I-205</li> </ul>	
		<p><b>Throughways - Signalized Highways (e)</b></p> <ul style="list-style-type: none"> <li>○ US 26 south of OR 212</li> <li>○ US 30</li> <li>○ OR 47</li> <li>○ OR 99E Portland to OR 212</li> <li>○ OR 99E from south of Oregon City</li> <li>○ OR 99W west of Sherwood</li> <li>○ OR 212</li> <li>○ OR 213 south of Beavercreek Rd</li> <li>○ OR 224</li> </ul>	Pending further review and analysis in coordination with the update to the Oregon Highway Plan and approval by the Oregon Transportation Commission
		<b>Plan amendments</b>	Same as system planning

Table notes:

- (a) See Chapter 8 (Section 8.2.3.9) and Appendix E for more information.
- (b) Meeting these targets in the RTP 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.
- (c) Plan amendments shall be found to not increase VMT/capita pursuant to the Transportation Planning Rule (OAR 660-12-0060).
- (d) See Chapter 8 (Section 8.2.3.9) and Appendix E for more information.
- (e) See Appendix E for draft guidance and system completeness elements by facility type.
- (f) See Appendix E of the RTP for draft guidance.
- (g) Application of the throughway travel speed mobility measure for use by ODOT is subject to adoption of the measure and threshold by the Oregon Transportation Commission as an amendment to the Oregon Highway Plan. The mobility targets in OHP Policy 1F, Action 1F.1 and Table 7 will continue to apply until the alternative mobility measure and thresholds are formally adopted by the OTC. This measure is used to identify transportation needs on throughways designated in the RTP. Other analysis that agencies may conduct at a more detailed scale, such as during development of a facility plan, refinement plan or TSP, may also be used to document the need for operational investment and other solutions to improve performance. When a need is identified using this measure, via observed data or traffic forecasting models, transportation agencies should then follow the adopted congestion management process and ODOT’s Oregon Transportation Plan Policy MO.2.1 and Oregon Highway Plan Policy 1G to evaluate the need using observed data and traffic forecasting tools and identify solutions to address the need.
- (h) Addressing motor vehicle congestion by increasing 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.



(i) Throughways are designated in the Regional Transportation Plan and generally correspond to Expressways designated in the Oregon Highway Plan. These are identified as Throughways-Freeways in RTP maps and policies. Some throughways designated in the RTP are not Expressways in the Oregon Highway Plan but serve an important statewide function; these throughways are identified as Throughway-Signalized Highways in RTP maps and policies. Figure 3.8 shows the Freeway and Signalized-Highway designations applied to throughways in the Portland region.

(j) The thresholds are used to identify areas of poor reliability where due to traffic volumes, average travel speeds drop below specified speed and duration thresholds. It will be used as a threshold to identify needs (deficiencies). 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.

Ongoing bi-state coordination and cooperation between Metro, the Southwest Regional Transportation Council (SW RTC) and local, regional and state partners will inform future mobility policy implementation, performance monitoring and investment decisions for the I-5 and I-205 bridge areas as they cross the Columbia River.

#### **How do the measures work together?**

Vehicle miles traveled (VMT)per 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.

- The RTP must meet the OAR 660 Division 12 and Division 44 VMT/capita reduction targets consistent with OAR 660-012-0160(6). For local 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/capita reduction targets consistent with OAR 660-012-0160.
- For local and regional plan amendments, VMT/capita will be used to determine whether the proposed plan amendment increases VMT/capita as provided for in OAR 660-012-0210 and needs to be mitigated.

System completeness and travel speed reliability on throughways (freeways and signalized highways) are secondary measures that will be used to identify needs and inform the development of the planned system. The policy requires that the RTP and 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 RTP and local TSPs in the Portland region.



The RTP and TSPs may not achieve system completeness for the regional and local “planned” system for all modes but should identify future needs and expectations for all facilities given constraints and tradeoffs. Similarly, reliability on throughways (freeways and signalized highways) will inform state and regional needs of the throughway system as defined in Table 3.5. Identifying solutions for locations that do not meet the throughways travel speed reliability threshold shall follow the RTP congestion management process<sup>15</sup> and OHP Policy 1G<sup>16</sup> and should not come at the expense of achieving the VMT/capita target.

### **Planned future work to support local and regional implementation**

The timing and implementation of the mobility policy in local TSPs and local comprehensive plan amendments will be defined as part of the update to the RTFP that is planned to occur in 2024 and 2025. Mobility policy implementation work with local and state agency partners and practitioners will continue in 2024 in advance of and, in some cases, concurrent with the RTFP update described in Chapter 8 (Section 8.2.3.11). This work will be completed in coordination with the statewide CFEC implementation program and planned Oregon Highway Plan update that is anticipated to occur from 2024 to 2027). See Chapter 8 (Section 8.2.3.9) and Appendix E for more information.

More information about the regional mobility policy update can be found at: [oregonmetro.gov/mobility](https://oregonmetro.gov/mobility). Information and the statewide CFEC implementation work can be found at: [oregon.gov/odot/planning/pages/climate-transportation-planning.aspx](https://oregon.gov/odot/planning/pages/climate-transportation-planning.aspx). Information about the Oregon Highway Plan update can be found at: [oregon.gov/odot/Planning/Pages/Oregon-Highway-Plan-Update.aspx](https://oregon.gov/odot/Planning/Pages/Oregon-Highway-Plan-Update.aspx).

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<sup>15</sup> Section 3.3.4 of the RTP states 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) and Oregon Transportation Plan policies (including Oregon Highway Plan Policy 1G). Appendix L to the RTP provides more detailed information. Sections 3.08.220 and 3.08.510 of the Regional Transportation Functional Plan (RTFP) further direct how Transportation System Plans implement the CMP.

<sup>16</sup> Policy 1G (Major Improvements) has the purpose of maintaining highway performance and improving highway safety by improving system efficiency and management before adding capacity.

### 3.3 REGIONAL NETWORK VISIONS, CONCEPTS AND POLICIES

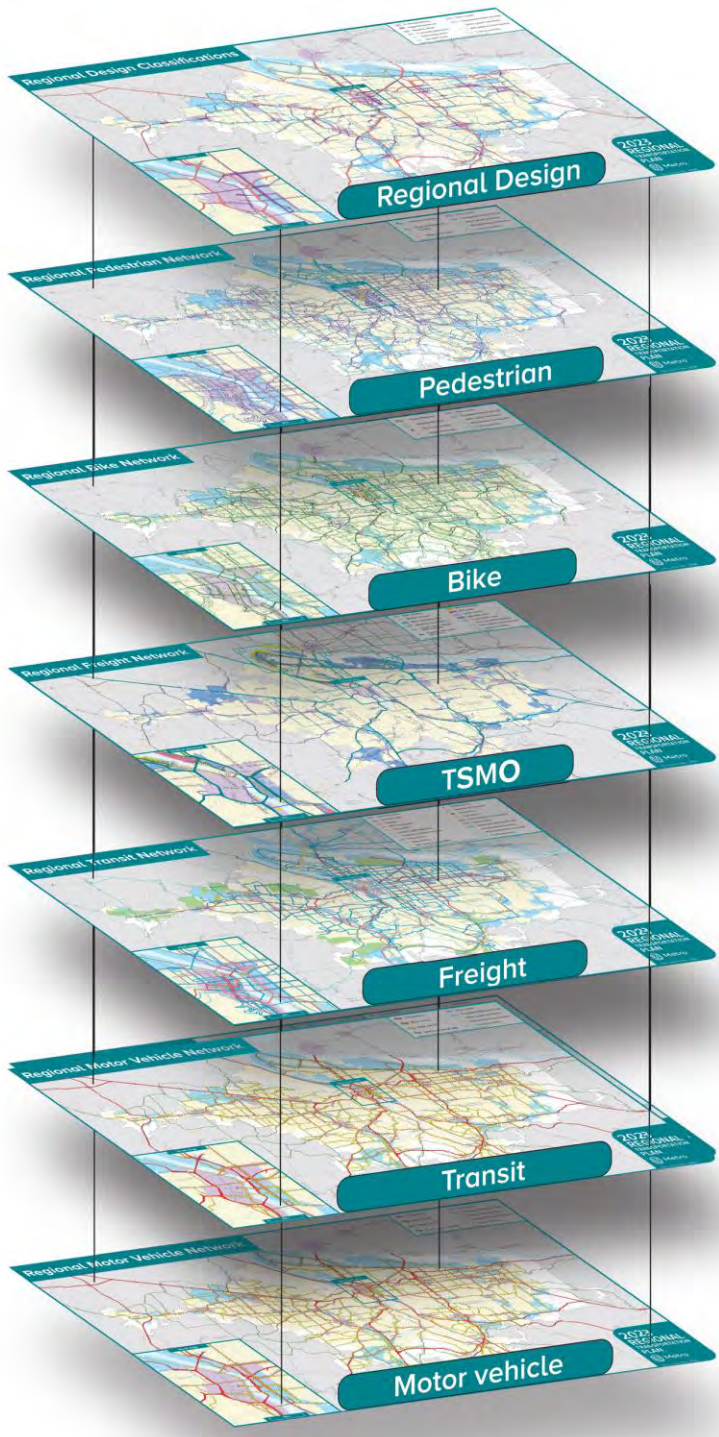
This section describes a network vision, concept and supporting policies for each component of the regional transportation system. The network vision, concepts and policies represent a complete urban transportation system that meets the plan goals and supports local aspirations for growth.



Rendering of a regional street showing a four-lane street with a planted median, crosswalks and buildings. One lane in each direction is a bus only lane. There is a bus and four cars. A painted green bikeway and sidewalk are separated from the roadway by a planted median. People are walking and crossing the 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 throughways (freeways and highways) and arterial streets, freight networks, transit networks and services and bicycle and pedestrian networks. 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 3.9.

**Figure 3.9: Regional transportation system components**





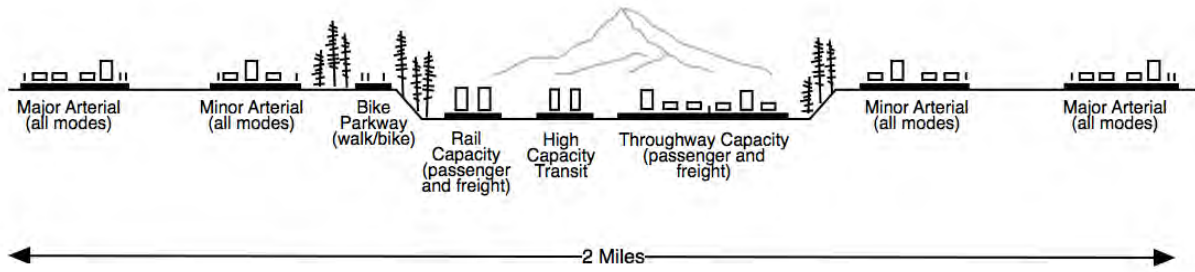
### **3.3.1 Regional mobility corridor concept**

The regional mobility corridor concept envisions regional travel corridors defined by a central throughway and high capacity transit with a network of arterial streets, frequent bus routes, freight and 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 3.10.

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 to support bicycling, walking and access to transit.

The Mobility Corridor Strategies can be found in the Appendix of the 2014 RTP, which provides a summary of the 24 corridors, describes their facilities, functions and land uses and documents transportation needs and strategies for addressing them.

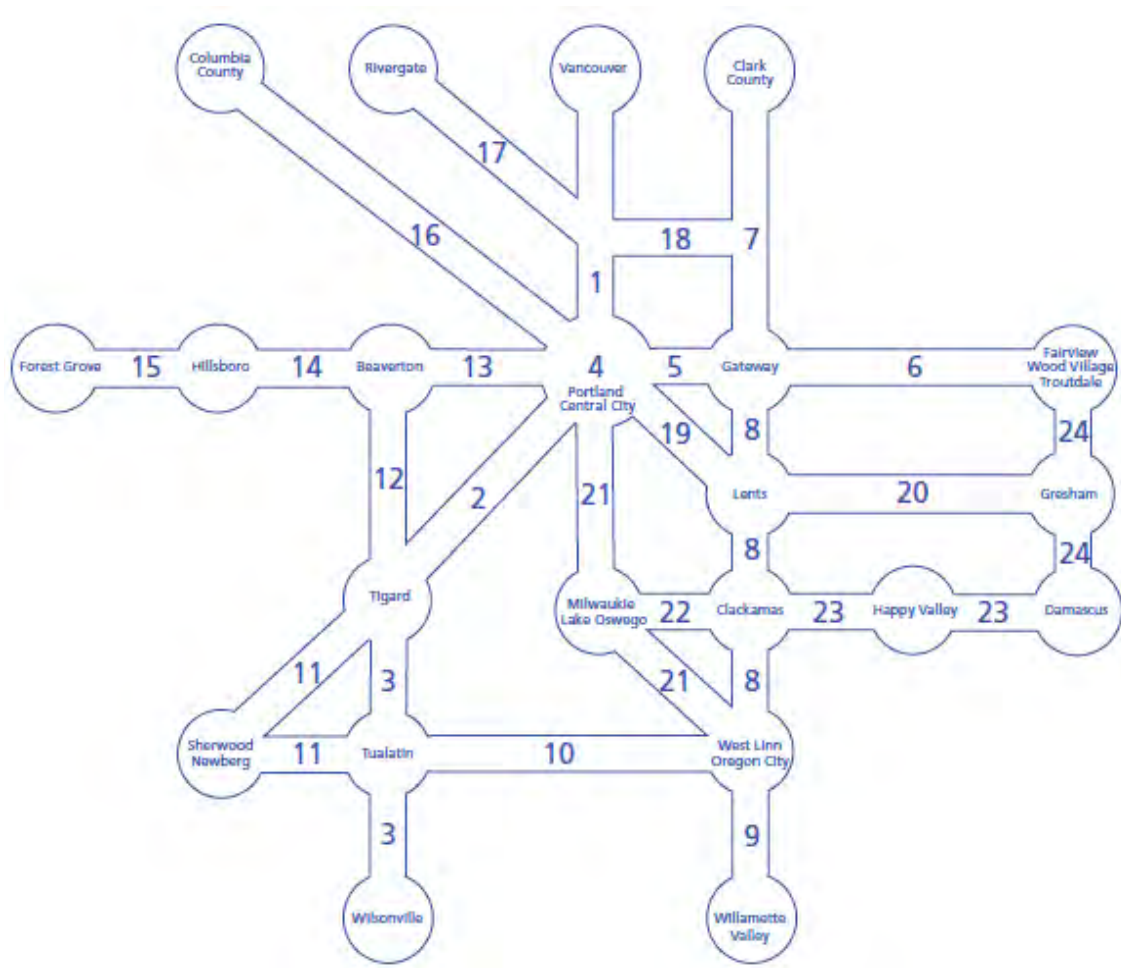
**Figure 3.10: Regional mobility corridor concept**



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 3.11 shows the general location of mobility corridors in the region.

**Figure 3.11: Mobility corridors in the Portland metropolitan region**



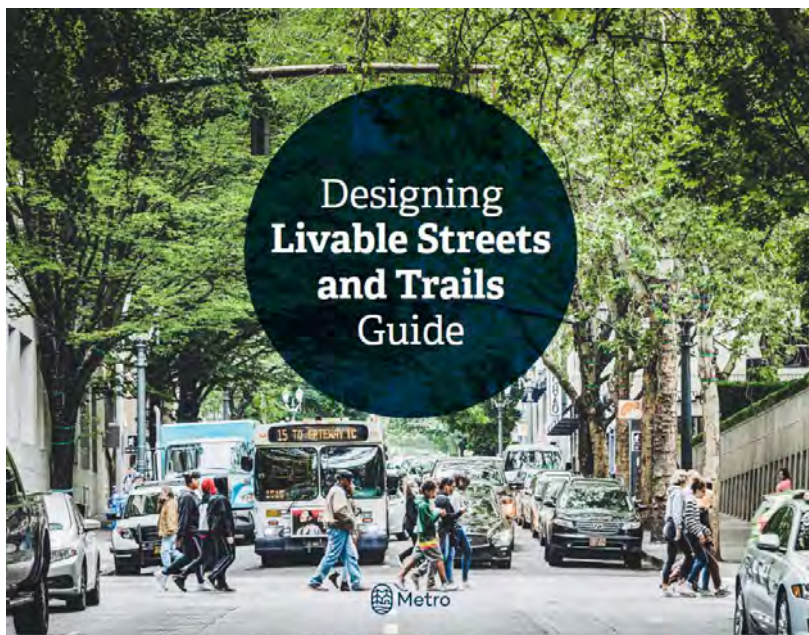


### 3.3.2 Regional design and placemaking vision and policies

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 3.12: Metro’s Designing Livable Streets and Trails Guide<sup>17</sup>**



<sup>17</sup> 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 green street 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.<sup>18</sup> 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.

### 3.3.2.1 Design and complete streets policies

<b>Design Policy 1</b>	<b>Design the transportation system to implement the planned land uses and regional urban form envisioned in the 2040 Growth Concept.</b>
<b>Design Policy 2</b>	<b>Design a well-connected transportation system that serves all modes of travel.</b>
<b>Design Policy 3</b>	<b>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.</b>
<b>Design Policy 4</b>	<b>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.</b>
<b>Design Policy 5</b>	<b>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.</b>
<b>Design Policy 6</b>	<b>Use a performance-based approach and decision-making framework to plan and design transportation projects and networks.</b>

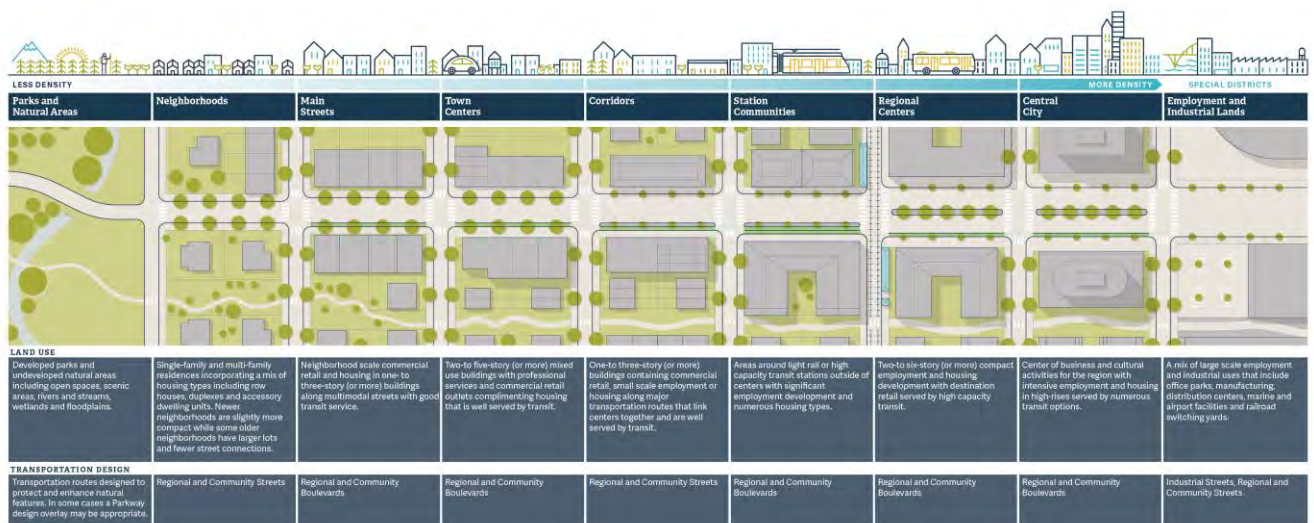
<sup>18</sup> Find regional design guidelines and other resources here: <https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails>

**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 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 3.13 illustrates how the design of transportation facilities should change in response to planned and surrounding land use.

**Figure 3.13: Land use and transportation transect**

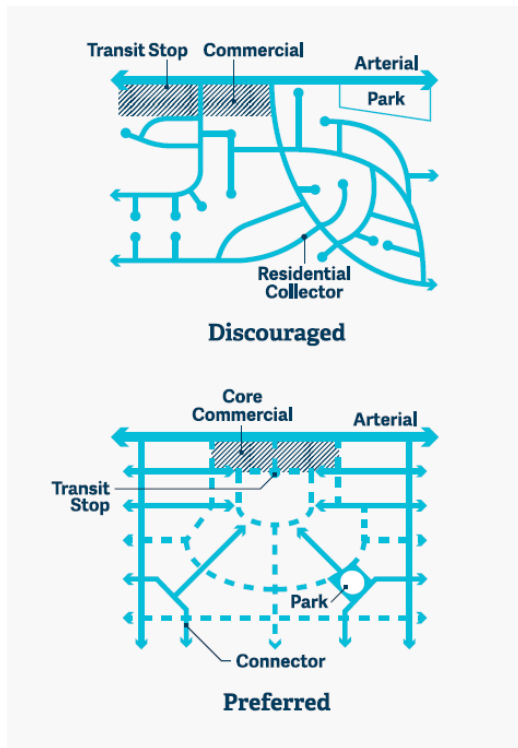


Graphic image of an illustrative road running through different types of land use. To view the full size illustration see the Designing Livable Streets and Trails at <https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails>

**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. Figure 3.14 illustrates a well-connected street network.

**Figure 3.14: Street connectivity**



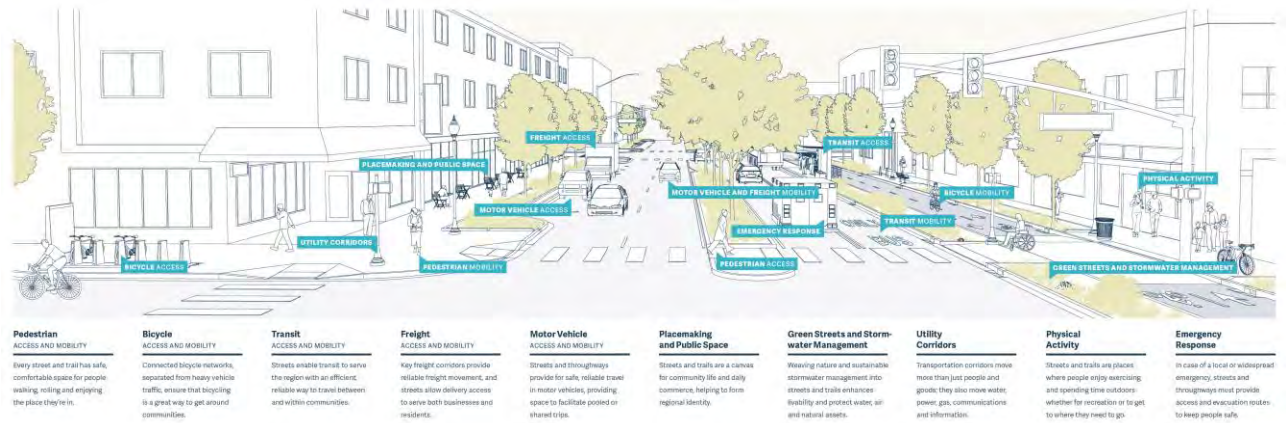
Walking and biking are easier on a connected street network, which supports the 20-minute neighborhood concept where all daily necessities are within a 20-minute walk or bike ride. Even where less-connected street networks have been established by jurisdictions, trails, paths, bridges and midblock street 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 3.15 illustrates the multiple functions that streets serve.



**Figure 3.15: Livable streets and trails functions**



Graphic image of an illustrative street with call out boxes describing the different functions of the street. To view the full size illustration see the Designing Livable Streets and Trails at <https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails>

**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.

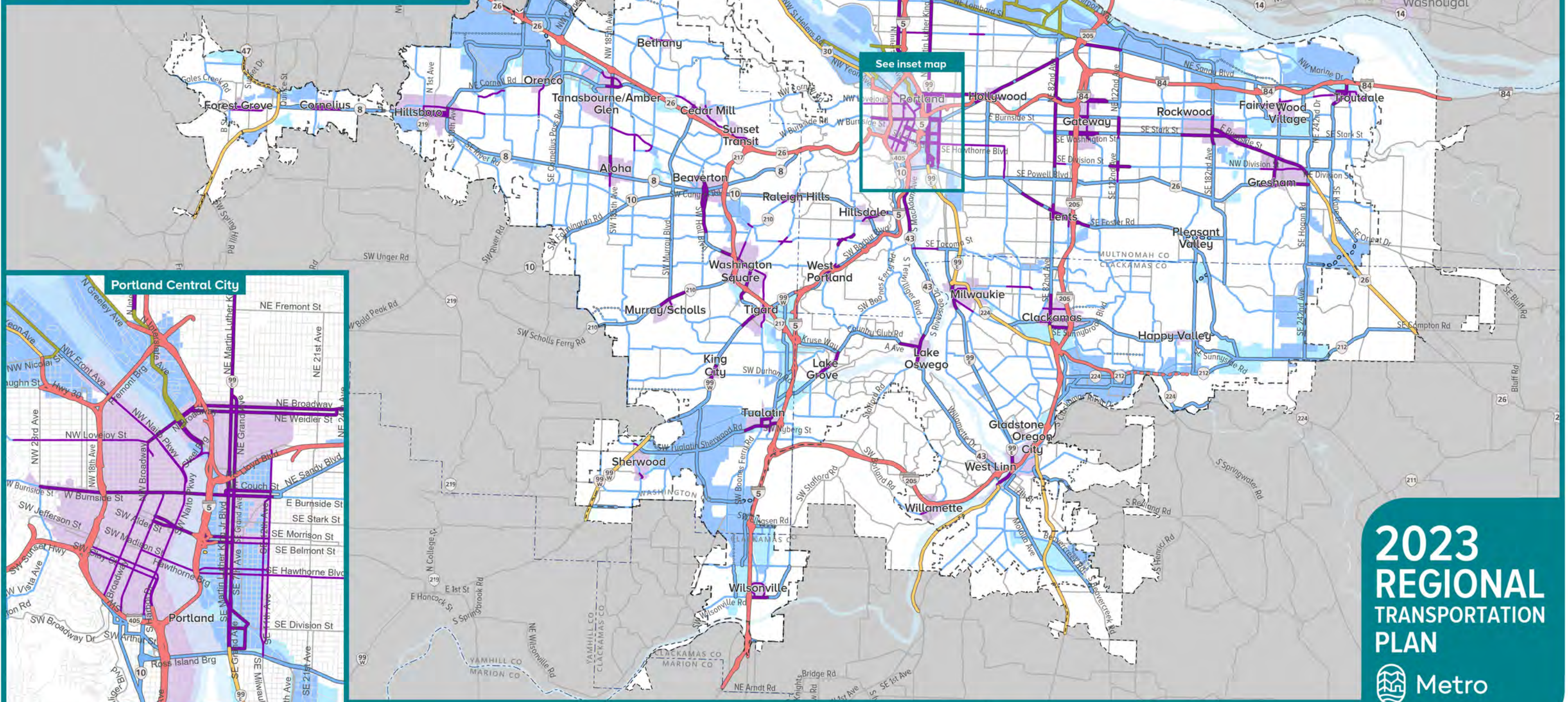
Table 3.6 summarizes typical design elements, including the planned number of motor vehicle travel lanes and target and design speed, for different travel modes for each of the regional street design classifications and illustrates how street design corresponds to 2040 land use design types and motor vehicle functional classifications. Figure 3.16 shows design classifications for arterials and thoroughways.



Figure 3.16:

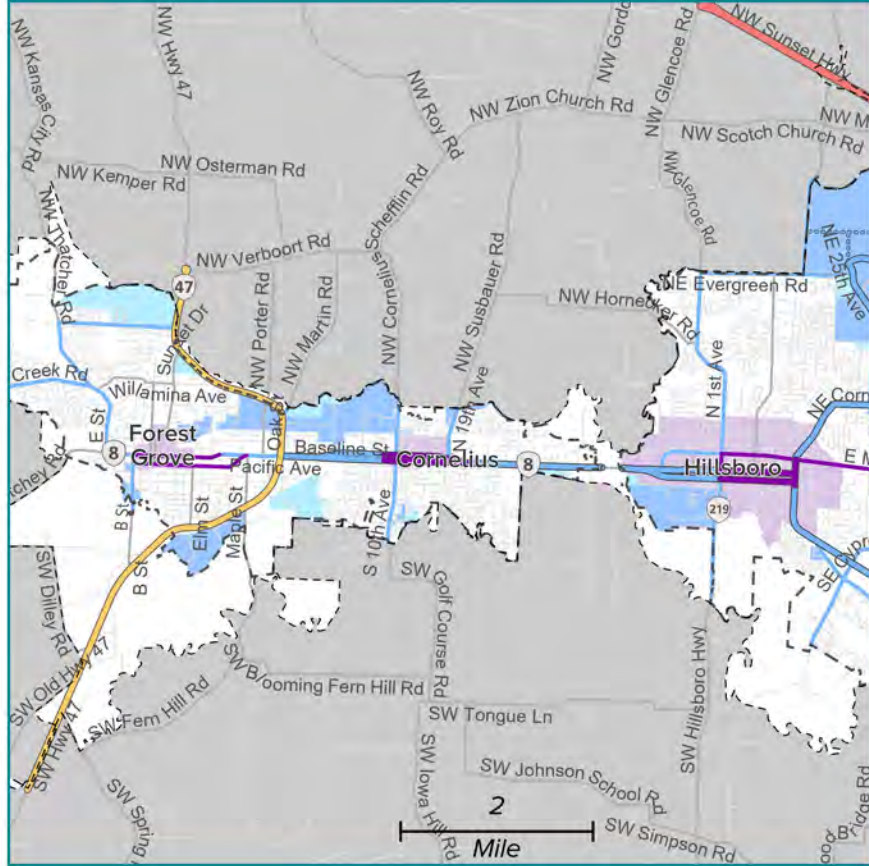
# Regional Design Classifications

- Freeway
- Highway
- - - - Freeway (planned)
- - - - Highway (planned)
- Industrial street
- - - - Industrial street (planned)
- Regional boulevard
- - - - Community boulevard (planned)
- Regional street
- - - - Regional street (planned)
- Community street
- - - - Community street (planned)
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

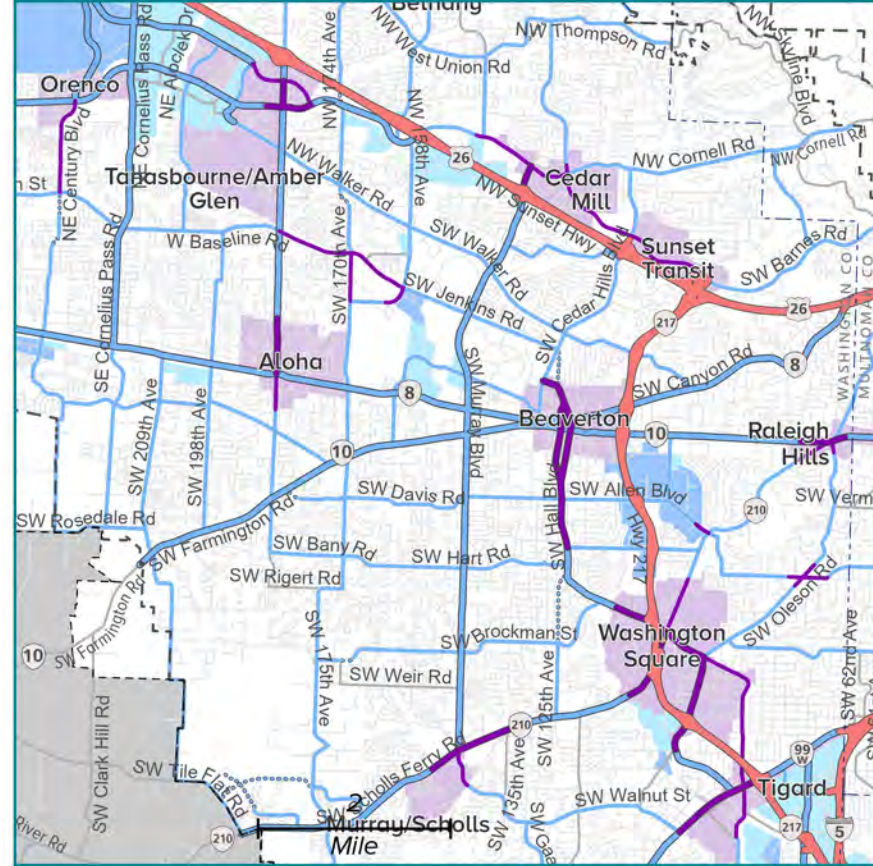




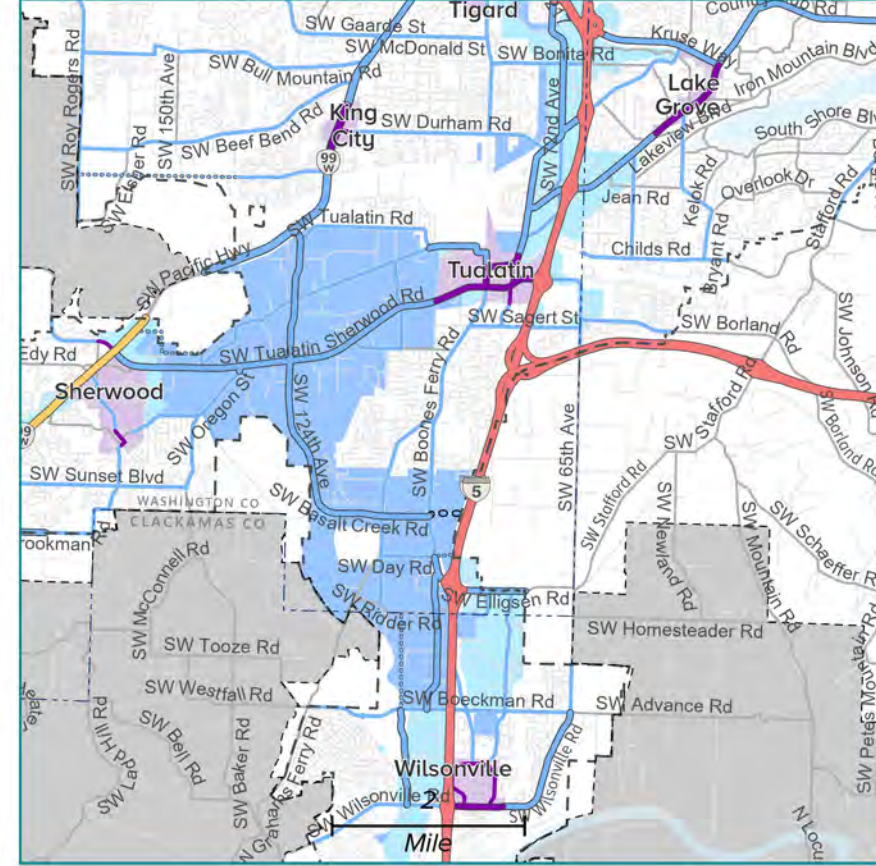
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area



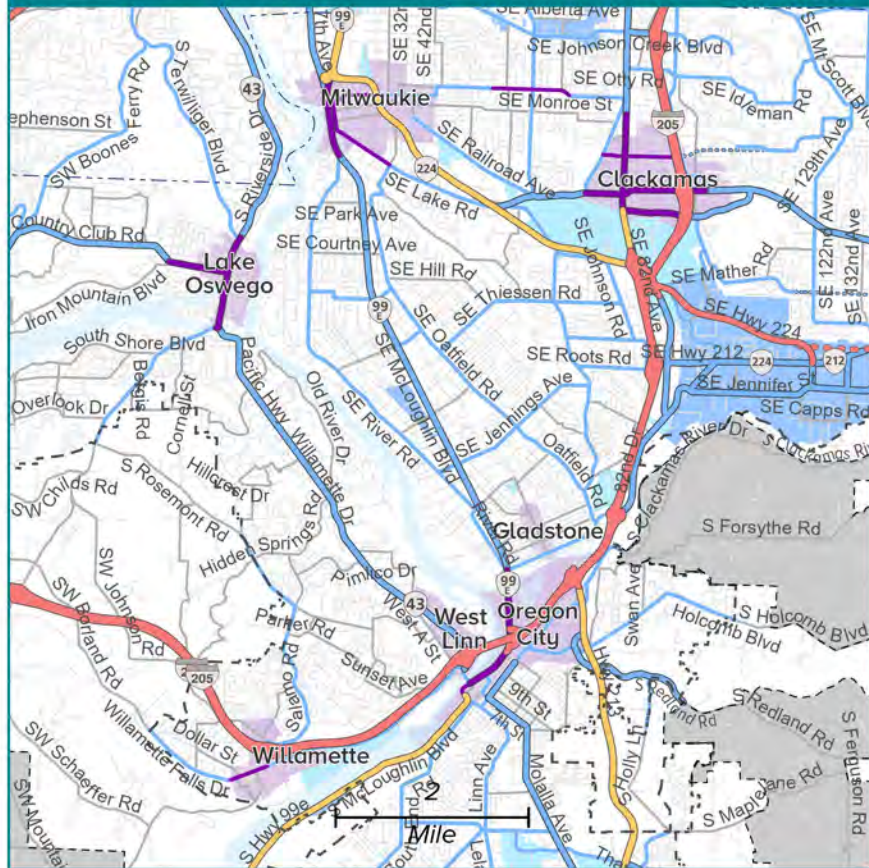
### Legend

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

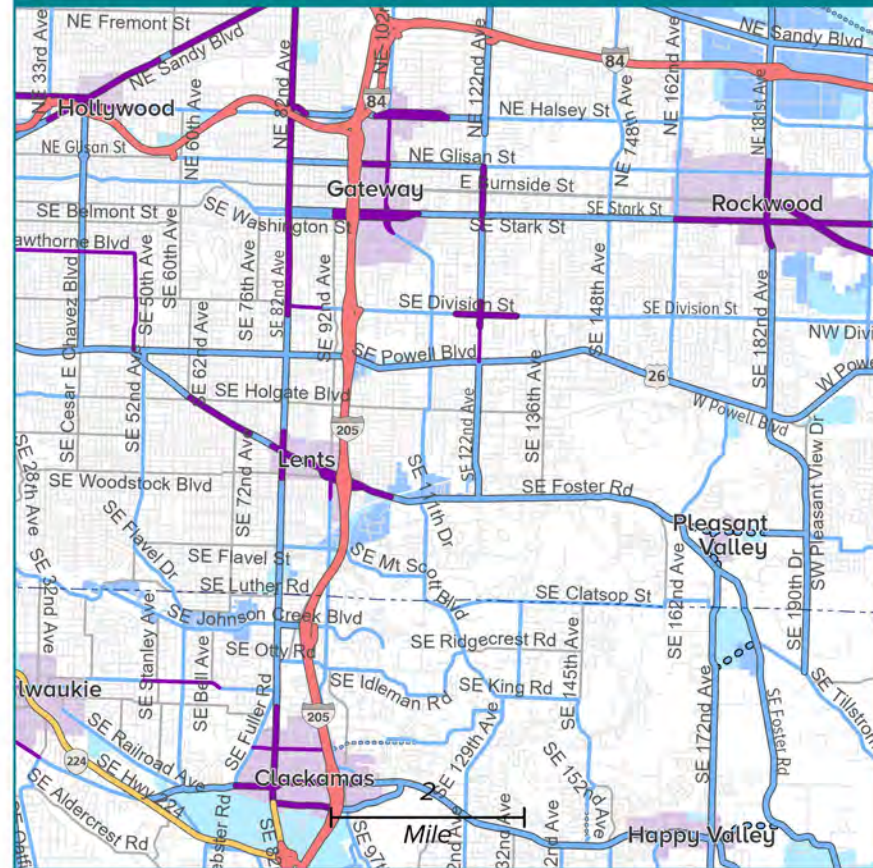
- Freeway
- Highway
- - - Freeway (planned)
- - - Highway (planned)
- Industrial street
- - - Industrial street (planned)
- Regional boulevard
- Community boulevard
- - - Community blvd. (planned)
- Regional street
- - - Regional street (planned)
- Community street
- - - Community street (planned)

- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

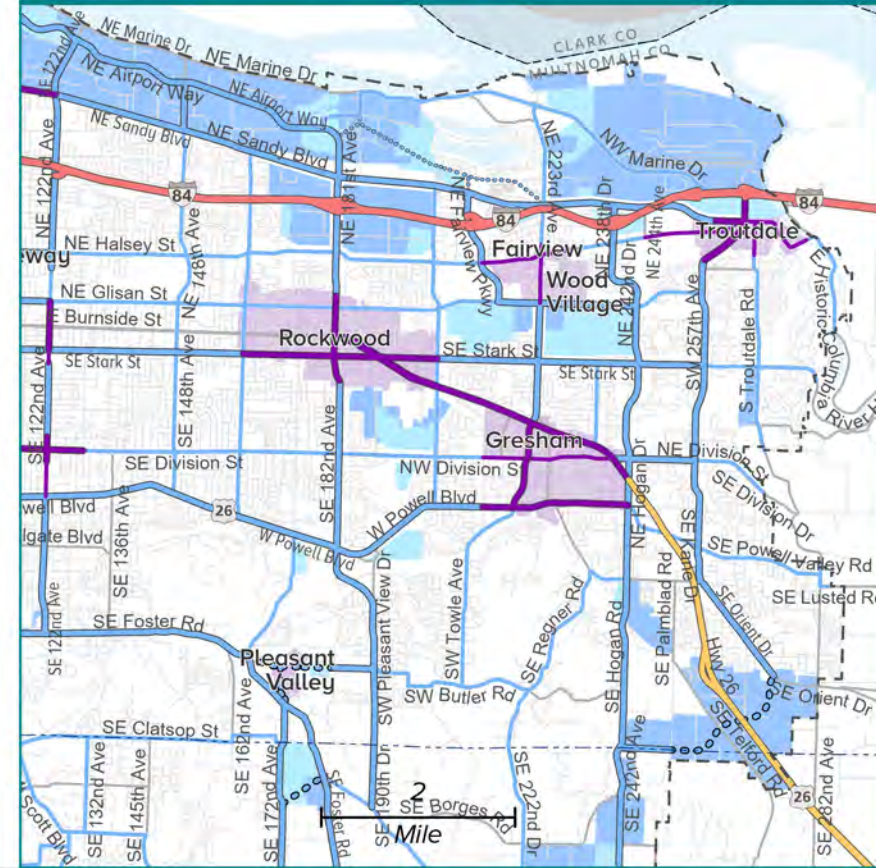
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



**Table 3.6: Planned regional transportation system and typical design components of regional design classifications**

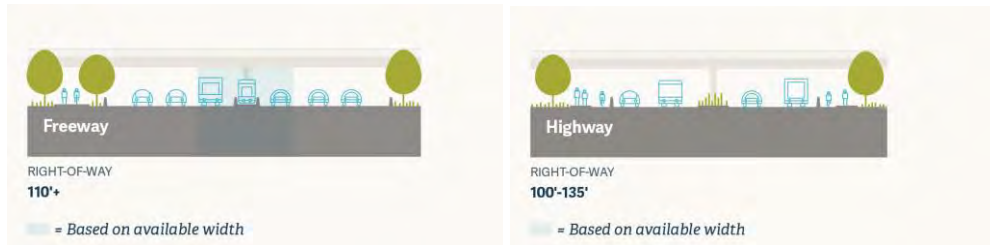
2040 Land Use Design Type	Design Classification	Street Connections	Prioritized Travel Modes	Motor vehicle Functional Classification	Target and Design Speed	Number of Lanes	Medians and Turn Lanes	Flex Zone Uses	Pedestrian Design	Bikeway Design	Transit Design	Freight Design	Green Streets/ Stormwater Management
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 1,500 ft.	Multituse 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.	Multituse 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 multituse path, enhanced bus, parking, green streets	Sidewalk with buffer or multituse path, enhanced crossings and access to transit; crossings every 200 to 530 ft. (1 to 2 blocks)	Separated bikeway or multituse 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

To view the full size table see the Designing Livable Streets and Trails at <https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails>

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 3.16.

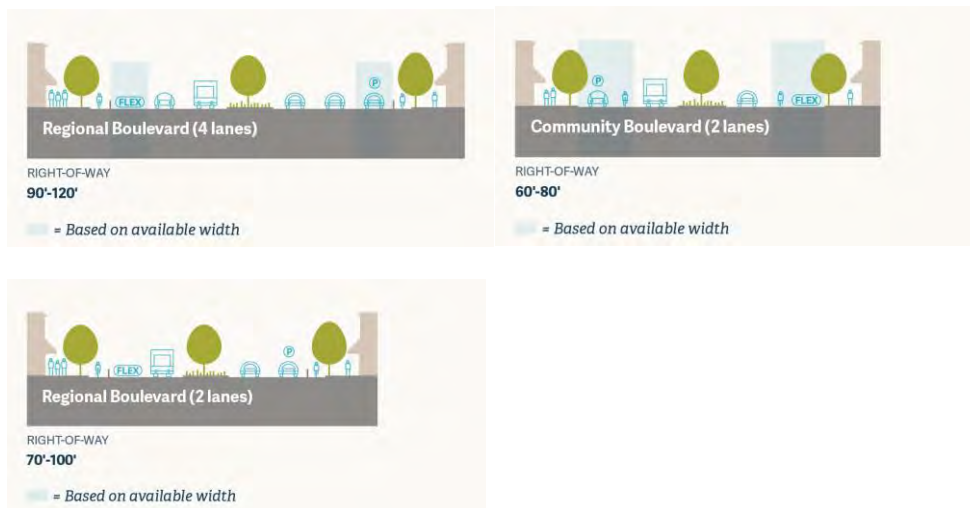
Regional street design concepts promote community livability and reliable travel by balancing all modes of travel and addressing the function and character of adjacent land uses. Linking land use and the physical design of transportation facilities is crucial to achieving state goals to limit reliance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

## Throughways - freeways and signalized highways



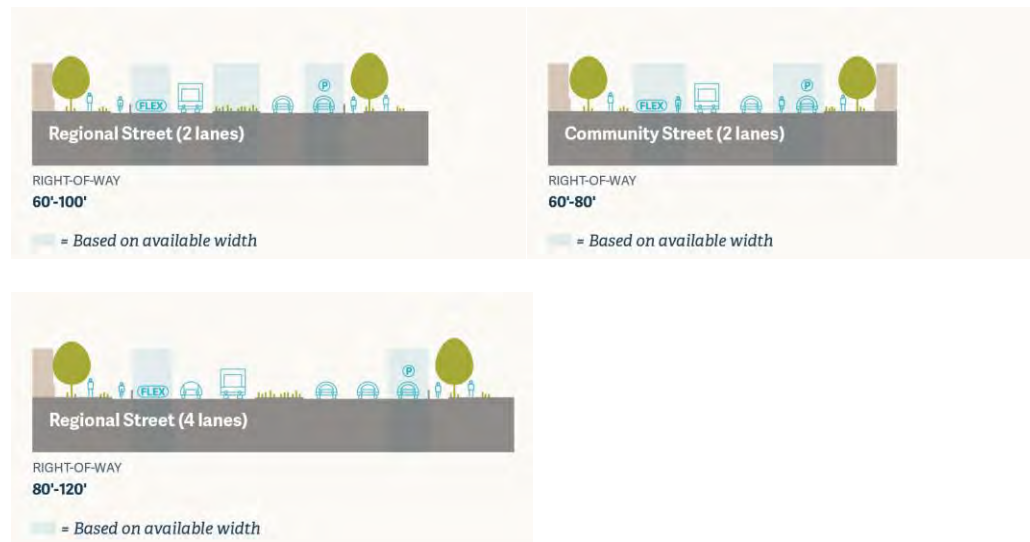
Throughways are designated as either freeways or signalized highways in the RTP. These facilities connect major activity centers, including the central city, regional centers, industrial and employment areas and intermodal facilities such as the Port of Portland. Freeways and signalized highways provide intercity, interregional and interstate connections. This design classification prioritizes long-distance and higher speed freight, motor vehicle and transit mobility. Freeways are grade separated expressways, while signalized highways have a mix of grade-separated and signalized at-grade intersections. Freeways and signalized highways cross all types of land uses, and buildings are not typically 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.

**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 can either promote or hinder desired outcomes.



**Table 3.7: Design characteristics of healthy urban arterials<sup>19</sup>**

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 street-facing buildings, wide, buffered sidewalks, separated bikeways, on-street parking and street trees can lead to 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 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: (1) walking, (2) bicycling, (3) transit, (4) freight, (5) carshare/ taxi/commercial transport and (6) private automobiles. The selection of a design vehicle is an essential part of developing street and intersection

<sup>19</sup> Understanding and Improving Arterial Roads to Support Public Health and Transportation Goals, American Journal of Public Health, August 2017.

designs. The design vehicle is the largest vehicle expected to use the street or intersection regularly. Because the selection of a design vehicle influences 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 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.**

The negative 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.<sup>20</sup> 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 by treating runoff to reduce pollution and infiltrate water into the ground and 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 more expensive to maintain and fail if not

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<sup>20</sup> 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”.

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, including:

- offering wildlife habitat;
- improving air quality;
- providing shade;
- 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. Green streets 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.

Transportation agencies typically consider the following types of environmental, tribal, cultural and historical data 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 3.17: Examples of how green infrastructure can help achieve regional goals**

RTP goal	Examples of how Green Infrastructure can help achieve regional goals
<b>Thriving economy</b>	<p>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.</p> <p>Protecting the environment and natural resources today can save money for the future and reduce infrastructure construction and maintenance costs.</p>
<b>Mobility options</b>	<p>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.</p>
<b>Safe system</b>	<p>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.</p>
<b>Climate action and resilience</b>	<p>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.</p> <p>Green infrastructure can enhance and protect the natural environment by supporting clean air and water, filtering stormwater runoff, reducing erosion and protecting, creating and connecting habitat for birds, fish and other wildlife.</p>
<b>Equitable transportation</b>	<p>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.</p> <p>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.</p> <p>All potentially affected 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.</p>

## **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.

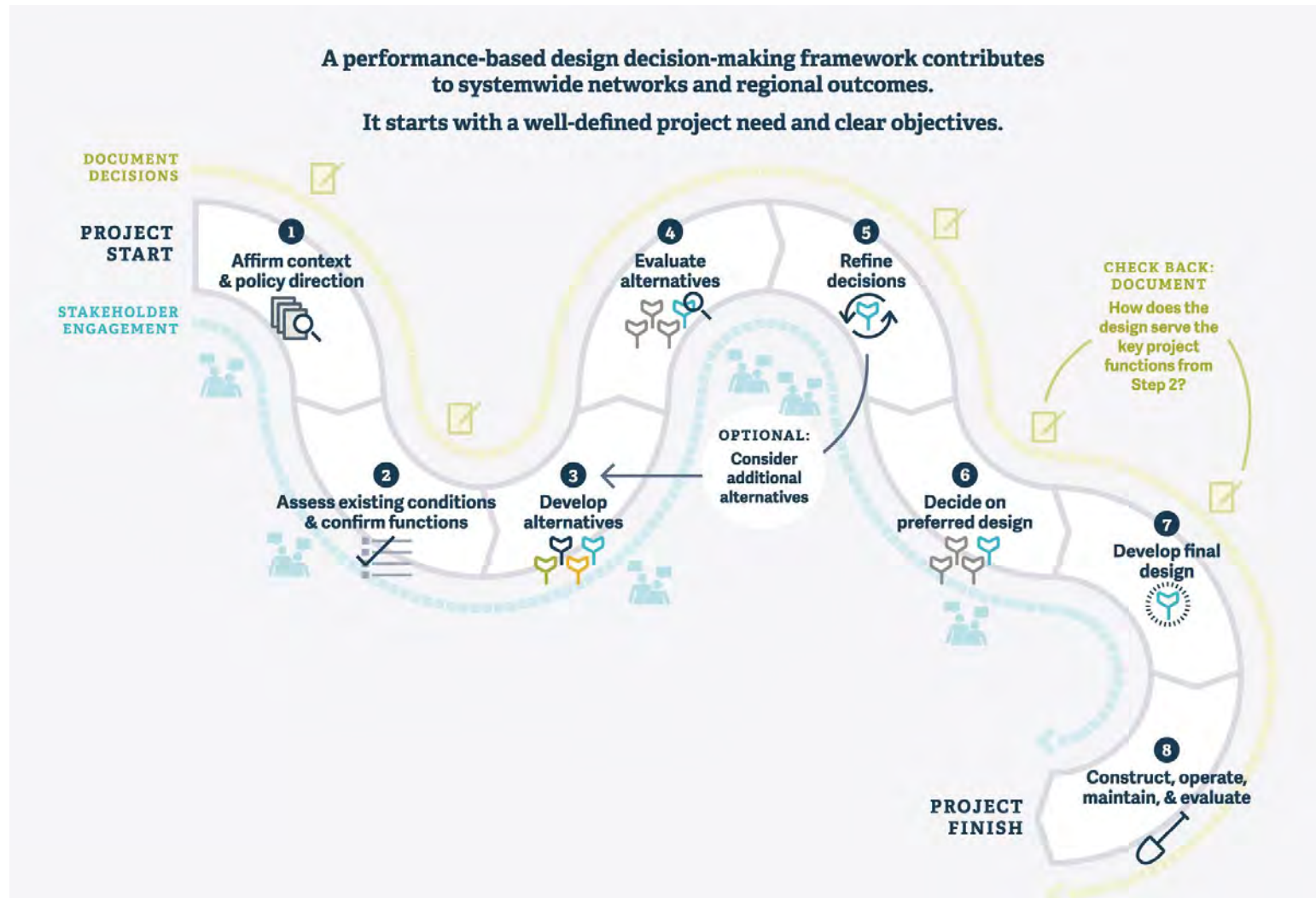
A performance-based design decision-making framework helps practitioners and stakeholders track decisions throughout the life of a project, as illustrated in Figure 3.18. This documentation process provides flexibility to choose the best design for a given context, while providing an effective way to 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 meaningful 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](https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails)<sup>21</sup> for a step-by-step guide and tools to address trade-offs and constraints.

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<sup>21</sup> Designing Livable Streets and Trails Guide <https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails>

Figure 3.18: The performance-based design decision-making framework



### 3.3.3 Regional motor vehicle network vision and policies

While the greater Portland region has changed dramatically over the past century, the shape of the major road network has not. Most regional streets were once farm-to-market roads, established along Donation Land Claim Act boundaries at half-mile or one-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 applies 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 3.19 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.

#### *Defining terms*

##### **Donation Land Claim Act**

*The Donation Land Claim Act of 1850 was a statute enacted by Congress to promote homestead settlements in the Oregon Territory. The act allowed white settlers who had arrived in Oregon before 1850 to work on a piece of land for four years and legally claim the land for themselves. This act discriminated against nonwhite settlers and had the effect of dispossessing land from Native Americans.*

**Figure 3.19: Regional motor vehicle network concept**

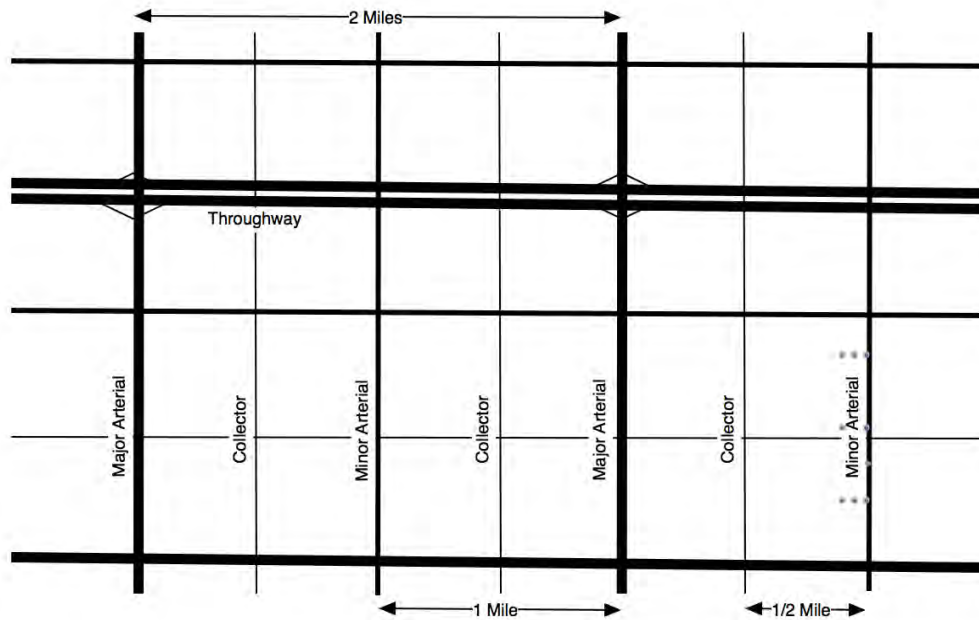


Image shows a conceptual network of streets, illustrating multimodal transportation corridors and showing ideal spacing of arterial streets. Most of the region’s travel occurs off the throughway network, on a network of multimodal arterial streets that are further complemented by a well-connected network collector and local 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**

The planned motor vehicle network is defined by the roadway capacity defined in Table 3.8 (also see Table 3.6 in Section 3.3.1). The planned motor-vehicle network, by functional classification, is shown in Figure 3.21. Adding motor vehicle capacity beyond the planned system is subject to the regional Congestion Management Process defined in Section 3.3.4.

**Table 3.8: Planned motor vehicle network capacity**

Motor Vehicle Functional Classification	Typical Number of Planned Travel Lanes
Throughway-Freeway	Up to 6 through lanes with auxiliary lanes in some places Spaced no less than one mile apart in urban areas
Throughway -Signalized Highway	Up to 6 through lanes with auxiliary lanes in some places Spaced no less than one mile apart in urban areas
Major arterial	Up to 4 through lanes with turn lanes and median Spaced about one mile apart
Minor arterial	2 to 4 through lanes with turn lanes and median Spaced about one mile apart



The regional motor vehicle concept and policies call for adequately maintaining the motor vehicle network, applying the congestion management process (Section 3.3.4) and regional mobility policy (Section 3.2.6) and data to identify needs and solutions; managing and optimizing throughway capacity to serve regional, statewide and interstate travel; and implementing a well-connected network of local, collector and arterial streets that is tailored to fit local geography, respect existing communities and planned development, and protect the natural environment. Increased network connectivity improves travel reliability and expands travel options.

<b>Motor Vehicle Policy 1</b>	<b>Preserve and maintain the region’s motor vehicle network in a manner that improves safety, security and resiliency while minimizing life cycle cost and impact on the environment.</b>
<b>Motor Vehicle Policy 2</b>	<b>Use the Congestion Management Process, Regional Mobility Policy, safety and bike and pedestrian network completion data to identify motor vehicle network needs and solutions.</b>
<b>Motor Vehicle Policy 3</b>	<b>Actively manage and optimize capacity on the region’s throughway network of freeways and highways to maintain mobility and accessibility and improve reliability for longer, regional, statewide, and interstate travel.</b>
<b>Motor Vehicle Policy 4</b>	<b>Complete the region’s planned throughway network of freeways and highways up to six travel lanes (three lanes in each direction) as envisioned in the 2040 Growth Concept.</b>
<b>Motor Vehicle Policy 5</b>	<b>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, pricing, transit service and multimodal connectivity improvements cannot adequately address identified needs consistent with the Congestion Management Process and Regional Mobility Policy.</b>
<b>Motor Vehicle Policy 6</b>	<b>When enhanced review of select roadway projects is required under OAR 660-012-0830, including auxiliary lanes, the project will first be analyzed using established statewide methods for determining whether it increases capacity and, if so, then a facility plan, refinement plan, TSP amendment or similar documentation that demonstrates need, function, impacts and alternative options evaluated to address the identified need will be prepared and publicly adopted consistent with the OTP, OHP, Congestion Management Process, and OAR 660-012-0830; or a qualifying exception will be documented.</b>

<b>Motor Vehicle Policy 7</b>	<b>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.</b>
<b>Motor Vehicle Policy 8</b>	<b>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.<sup>22</sup></b>
<b>Motor Vehicle Policy 9</b>	<b>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.</b>
<b>Motor Vehicle Policy 10</b>	<b>Prior to adding new arterial street capacity beyond the planned system of motor vehicle through lanes, demonstrate that system and demand management strategies, including access management, transit and freight priority, transit service, and multimodal connectivity improvements cannot adequately address identified needs consistent with the Congestion Management Process and Regional Mobility Policy.</b>

### **Motor Vehicle 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 (freeways and highways), shorter trips on arterial streets and the shortest trips on collector and local streets.

This approach results in a street hierarchy of:

- throughways (for example controlled-access freeways such as I-84, US 26, I-5, I-205 and I-405 and other signalized highways such as OR 99E, US 30, OR 212)
- arterial streets (for example, Cornell Road in Washington County, 82<sup>nd</sup> Avenue in the City of Portland and Sunnyside Road in Clackamas County)
- collector streets
- local streets

The traditional street classifications for throughways (freeways and highways), arterial streets and other streets are a good starting point for distributing traffic in communities

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<sup>22</sup> 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.

to avoid bottlenecks on overburdened routes or avoid the need to build overly wide streets as a community grows.

Throughways serve as longer-distance mobility routes, often with limited access, and an emphasis on connecting major destinations. Arterial streets provide both mobility, moving traffic, goods and people within the region, and access to property along the street.

Building a regional motor vehicle network to accommodate all motor vehicle traffic during peak travel periods is not feasible or practical nor would it be desirable considering the environmental, climate 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. Refer to Section 3.3.2 for street design policies and principles.

#### **Typical spacing and planned capacity for arterial streets**

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 interfere with this spacing. 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 3.19, 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 a median reflects an accepted design that can support safe travel by all 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. 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 that demand management solutions do not adequately address transportation needs.

### **Throughways and auxiliary lanes**

Throughways (freeways and highways) typically 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 and Mexico. Throughways are planned to consist of six through lanes (three lanes in each direction) with grade-separated interchanges or intersections, and serve regional, statewide, and interstate travel.

Throughways typically carry between 50,000 to 100,000 vehicles a day, providing higher-speed travel for longer motor vehicle trips and serving as primary freight routes, and sometimes transit 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 RTP Throughway-Freeway functional classification generally corresponds to the Expressways functional classification 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; these facilities are identified as Throughway-Highway on RTP maps and design classifications.

These two types of Throughways are listed in Table 3.8. Freeways are limited access and completely grade separated interchanges. Highways include a mix of separate and at-grade access points. Throughway interchanges that are designated as Freeways in the OHP should be spaced no less than one mile apart in urban areas.<sup>23</sup>

An auxiliary lane is the portion of the roadway adjoining the through lanes for speed change, turning, weaving, truck climbing, maneuvering of entering and leaving traffic and

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<sup>23</sup> One mile is the minimum interchange spacing distance identified for Freeways in urban areas in Oregon. See <https://secure.sos.state.or.us/oard/viewAttachment.action?ruleVrsnRsn=183660> for more information.

other purposes supplementary to through-traffic. The lane separates slower traffic movements from the through traffic, helping smooth the flow of traffic and reduce the potential for crashes and is not intended to function as a general purpose travel lane. Auxiliary lanes typically add motor vehicle capacity for the purpose of serving shorter, more local trips and allowing through lanes to serve longer, regional trips. Auxiliary lanes can be used to keep regional trips on the throughway system. These system-to-system interchange connections currently exist on I-5 between OR 217 and I-205. The intention is not to “add capacity” to the six through lanes, it is rather to serve trips that are traveling from one interchange to another and can stay in the same lane without merging with through traffic.

#### **Enhanced review of throughway and auxiliary lanes**

Additional throughway travel lanes, as well as auxiliary lanes and other special purpose lanes, may be warranted in some locations, including those with:

- a high number of serious or fatal crashes;
- excessive demand from a facility important to regional and state economic performance;
- substandard interchange spacing;
- connecting throughway systems that are relatively close but not directly linked, geometric constraints, slope; and
- limitations or constraints that prevent creation of a well-connected street network due to topography, existing neighborhoods, or natural resource areas.

Prior to adding new throughway capacity beyond the planned system of motor vehicle through lanes (see Table 3.8), or adding or extending an auxiliary lane of more than one-half mile in length, or re-striping an auxiliary lane to serve as a general purpose through lane, transportation agencies must demonstrate that system and demand management strategies, including access management, transit and freight priority, pricing, transit service, and multimodal connectivity improvements cannot adequately address identified needs consistent with the Congestion Management Process and Regional Mobility Policy.

When a series of auxiliary lanes are added in the same corridor or one or more existing auxiliary lanes are extended through one or more interchanges, the auxiliary lanes may begin to function more like a general purpose travel lane. Therefore, prior to adding or extending an auxiliary lane of more than one-half mile, transportation agencies must determine whether the new individual auxiliary lane alone or in combination with auxiliary lanes in the same corridor will collectively influence capacity and measurably increase vehicle miles traveled, or alternatively whether each of the auxiliary lanes are operate independently and only address localized safety issues. Appendix V defines the



parameters for future corridor refinement planning work specific to each regional mobility corridor, consistent with the Congestion Management Process and Regional Mobility Policy.

Auxiliary lane projects that meet the exemption criteria of OAR 660-012-0830 are not subject to further review. That exemption will be documented in accordance with the details in Appendix L, using ODOT’s Analysis Procedures Manual. Otherwise, auxiliary lanes will be evaluated to determine whether they would add additional vehicular capacity beyond the existing general purpose travel lanes, documented in accordance with the details in Appendix L. If an auxiliary lane will not add capacity, no further review is required. If an auxiliary lane is not exempt and would add capacity, then enhanced review will be conducted through a TSP amendment, refinement plan or facility plan, documented in accordance with the details in Appendix L.

### **Arterial streets**

Arterial streets are intended to provide general mobility for travel within the region and provide 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 carry between 10,000 and 40,000 vehicles per day. Desired travel speeds vary depending on the surrounding and planned land use. Major arterial streets accommodate longer-distance trips and serve 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. Research has highlighted the important role of major arterial streets in achieving regional goals for equity, safety, land use, economic development, and mobility, especially for transit.<sup>24</sup> Many funding, design and policy challenges exist to improving them.

Streets designated with an arterial functional classification are shown in Figure 3.21 and include Boulevard and Streets described in Table 3.6.

### **Safety on arterial streets**

Safety is a primary concern on the regional arterial system, where approximately 60 percent of the region’s fatal and severe injury crashes occur. For this reason, achieving

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<sup>24</sup> Metro “Safe and healthy urban arterials 2023 RTP policy brief”, September 8, 2022  
<https://www.oregonmetro.gov/sites/default/files/2022/10/24/Safe%20and%20healthy%20urban%20arterials%20policy%20brief.pdf>

the region's Vision Zero target will largely focus on improving safety on 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; and
- 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.

Meeting regional safety targets requires ongoing, concerted efforts to continue to make the region's arterial roadways (also referred to as urban arterials) safer, especially for pedestrians. Serious injury crash rates are used to prioritize corridor safety efforts.

#### **Collector and local street connectivity**

Collector and local streets are general access facilities that provide community and neighborhood circulation. They are not usually part of the regional transportation system except when located within designated 2040 areas or when they are part of the Regional Bicycle Network or Regional Pedestrian Network. Collector and local streets play an important role in 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](#) (RTFP) which implements the Regional Transportation Plan (RTP) and establishes the requirements for Transportation System Plans 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.<sup>25</sup> 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 and access to schools and transit stops. Designs should retain the neighborhood character and livability along these local routes.

Shown in Figure 3.20, the collector and local street network concept provides for bicycle and pedestrian travel and allows for direct access from local street networks to community destinations and transit on regional arterial streets.

**Figure 3.20: Collector and local street network concept**

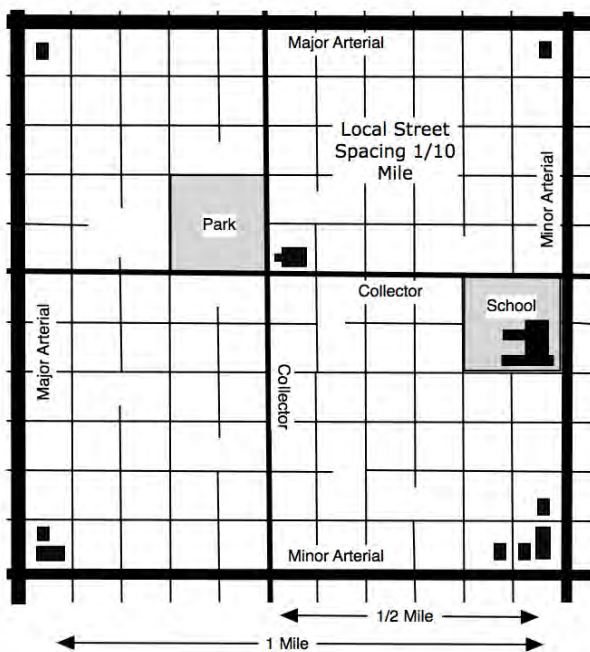


Image shows an idealized concept for illustrative purposes showing desired spacing for collectors and local streets in residential and mixed-use areas to serve local circulation, walking/rolling and bicycling. The illustration is modeled after neighborhoods in Southeast Portland.

### 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

<sup>25</sup> Regional Transportation Functional Plan <https://www.oregonmetro.gov/regional-transportation-functional-plan>

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 and 2,000 vehicles per day, with volumes varying by jurisdiction. Vehicle speeds on local streets are relatively low, which makes them good candidates for people biking, walking/rolling traveling to and within centers, to schools and to transit stops and stations.

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, to schools and to transit stops and stations on the regional transit network by people biking and walking or rolling.

#### **3.3.3.3 Regional motor vehicle network classifications and map**

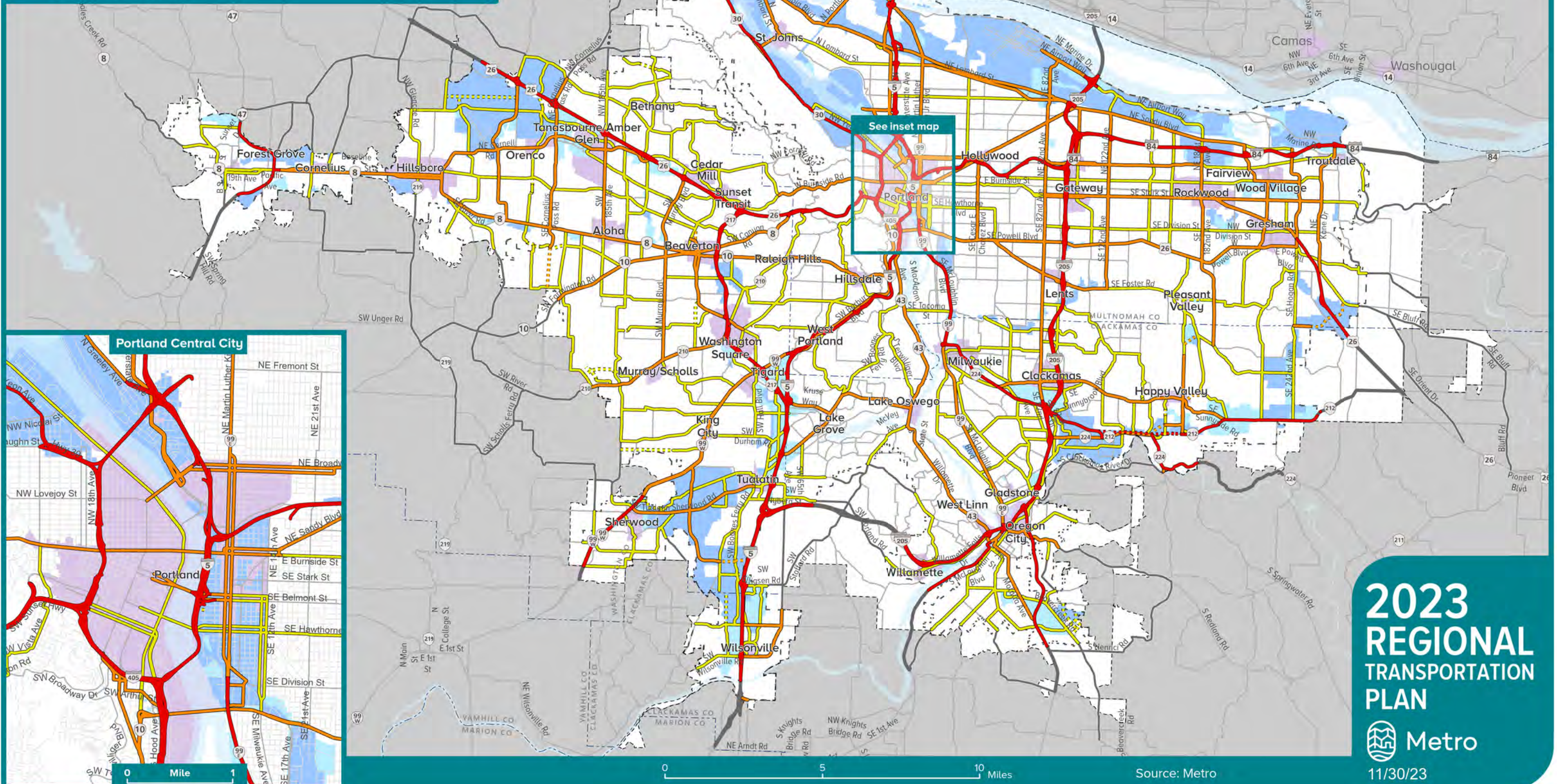
The Regional Motor Vehicle Network is shown in Figure 3.21.

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Figure 3.21  
**Regional Motor Vehicle Network**

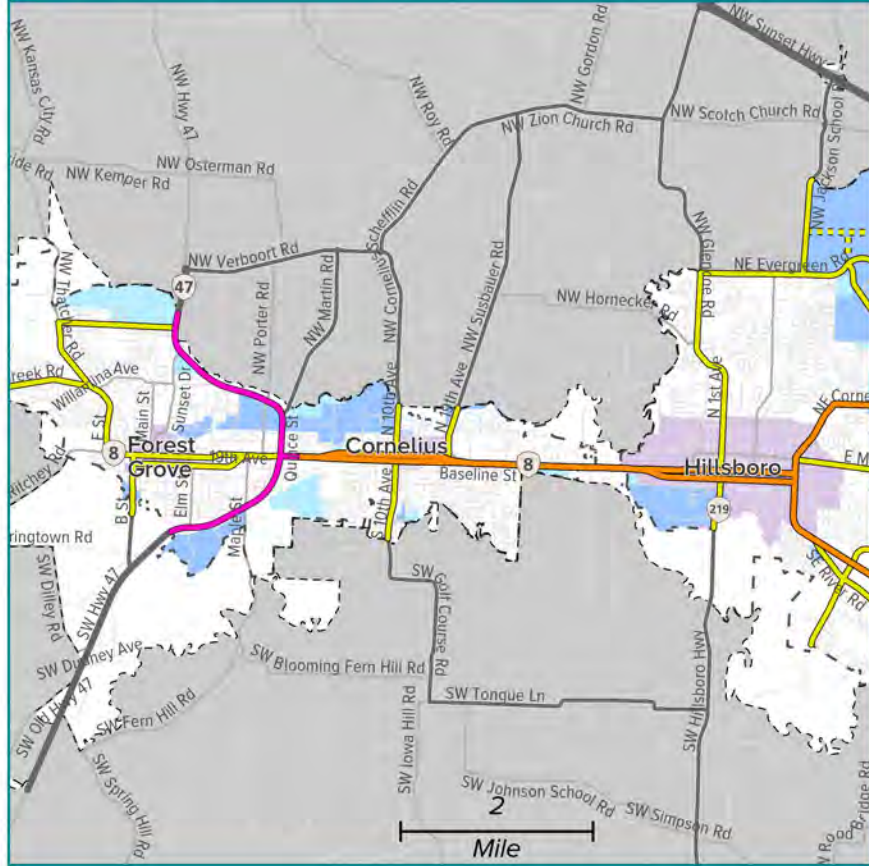
- Throughway
- - - Throughway (planned)
- Major arterial
- - - Major arterial (planned)
- Minor arterial
- - - Minor arterial (planned)
- Throughway outside UGB
- - - Arterial outside UGB
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area



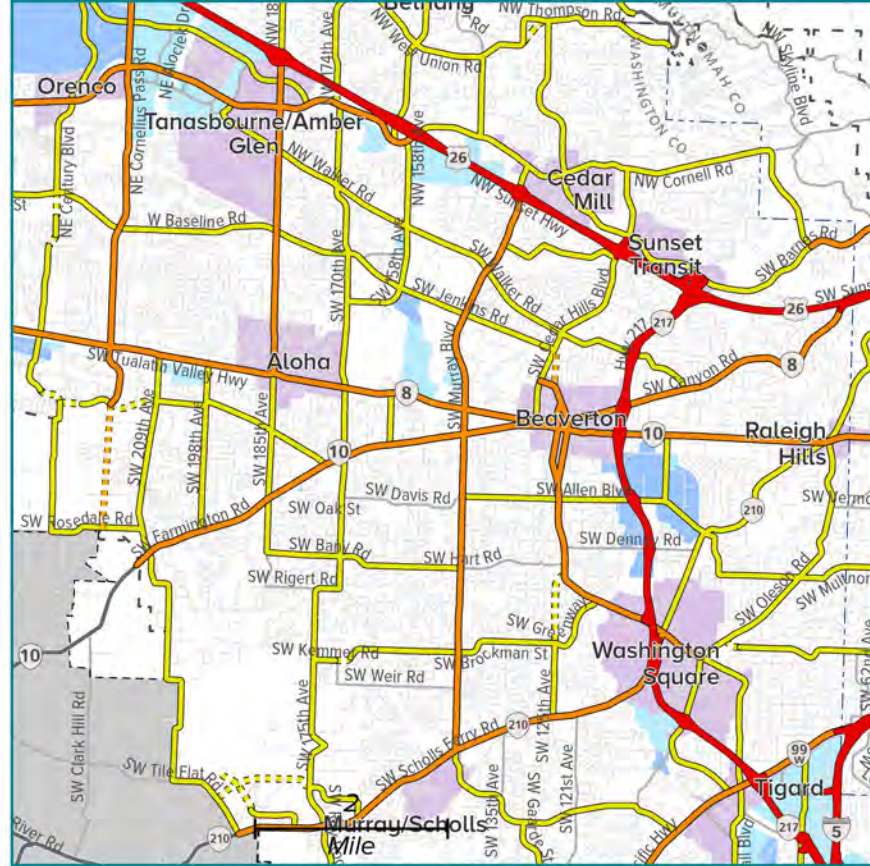
Source: Metro



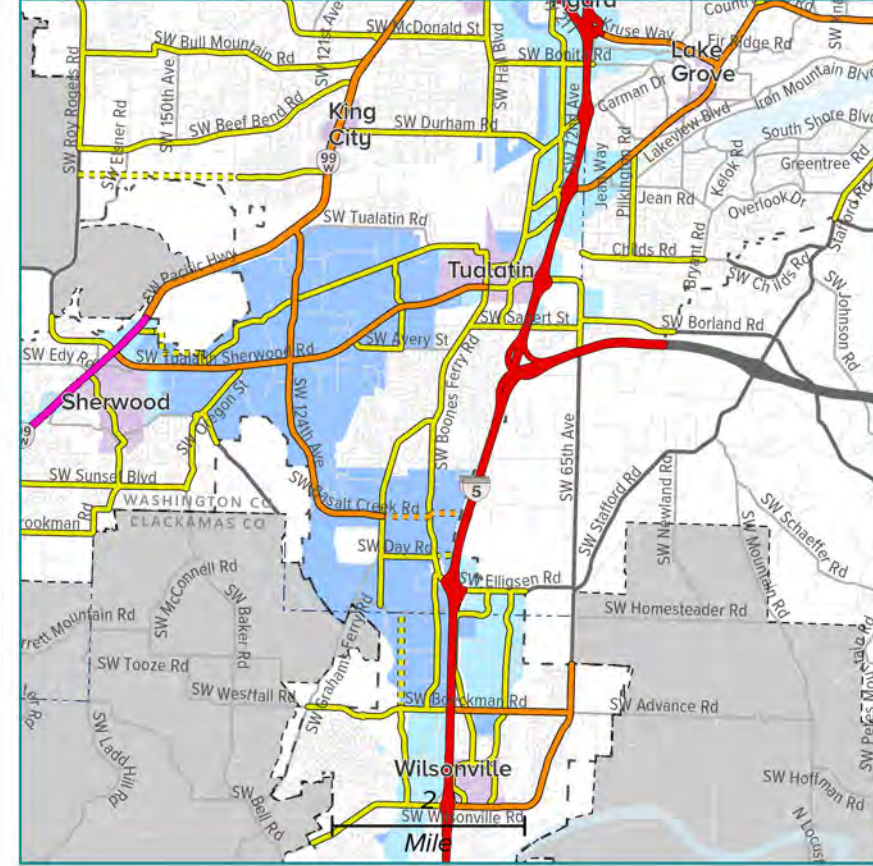
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



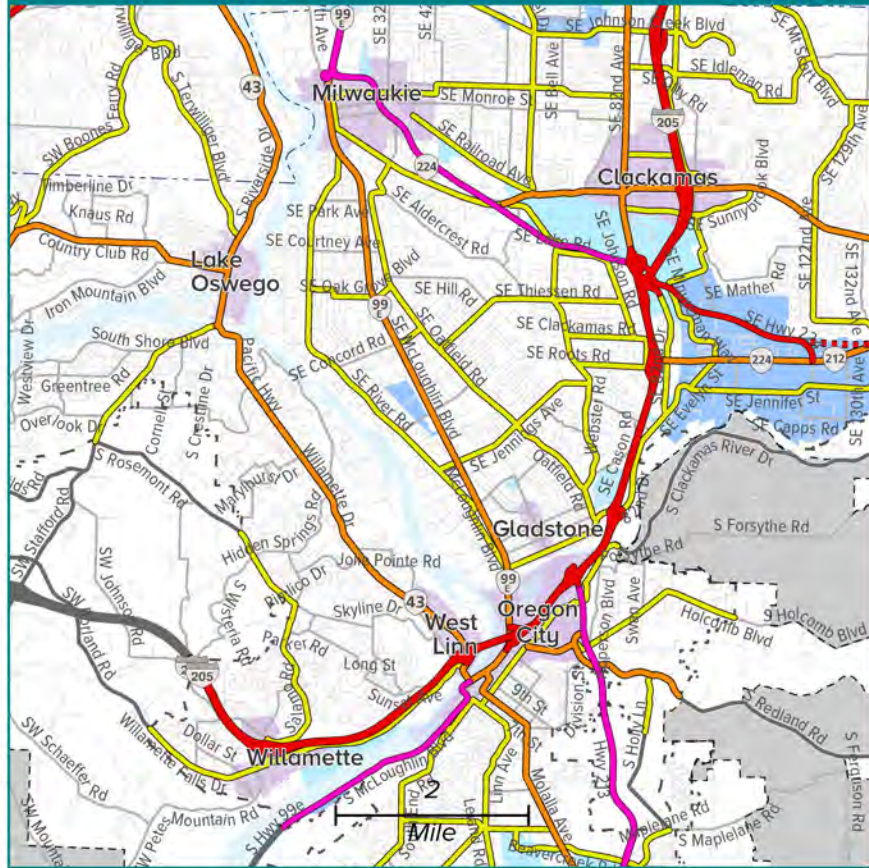
### 3. Sherwood-Tigard-Tualatin-Wilsonville area



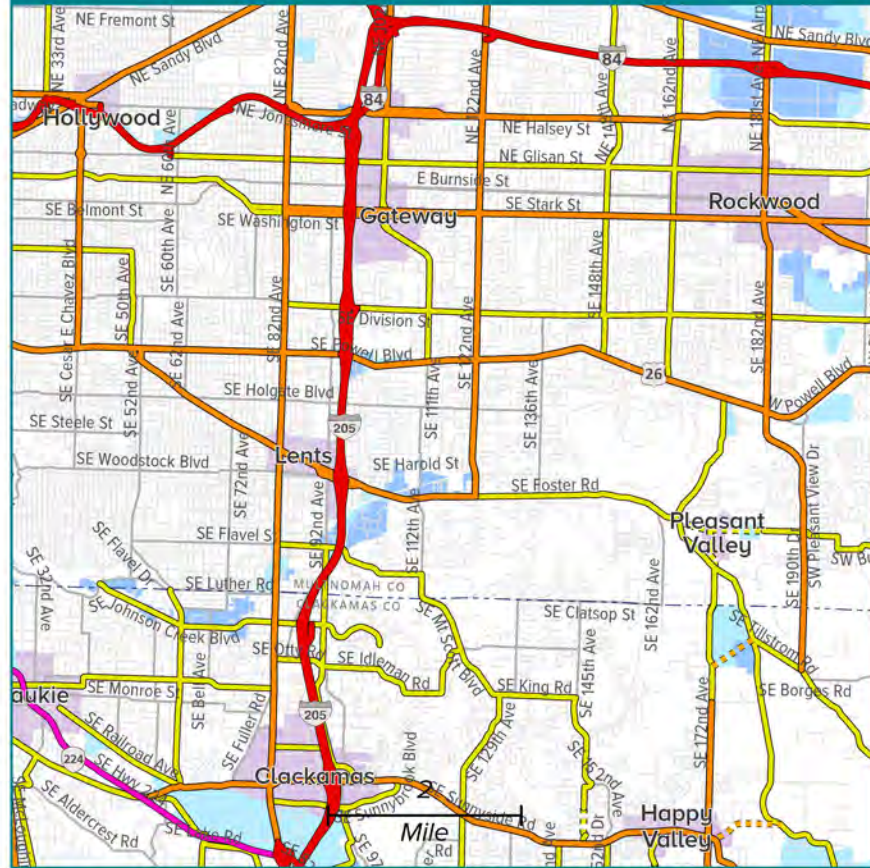
### Legend

- (dotted lines are proposed projects and do not identify specific alignments)
- Throughway
- - - - Throughway (planned)
- Major arterial
- - - - Major arterial (planned)
- Minor arterial
- - - - Minor arterial (planned)
- Throughway outside UGB
- Arterial outside UGB
- - - - Arterial outside UGB (planned)
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



### 3.3.4 Congestion management process

This section outlines the policy 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) and Oregon Transportation Plan (OTP) policies (including Oregon Highway Plan Policy 1G). Section 3.08.220 of the [Regional Transportation Functional Plan](#) (RTFP) implements the Regional Transportation (RTP) and establishes the requirements for Transportation System Plan.<sup>26</sup> 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 goals. 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 the Congestion Management Process (CMP) is a toolbox of congestion reduction and mobility strategies, as shown in Table 3.9. 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 consider 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 3.9.

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<sup>26</sup> Regional Transportation Functional Plan <https://www.oregonmetro.gov/regional-transportation-functional-plan>

**Table 3.9: Toolbox of strategies to address congestion in the region**

<p><b>1</b></p>		<p><b>Community design strategies</b></p> <ul style="list-style-type: none"> <li>• Walkable communities and job centers facilitated by compact land use in combination with walking, biking and transit connections</li> <li>• Mixed-used areas and transit-oriented development</li> <li>• Parking management and pricing</li> </ul>
<p><b>2</b></p>		<p><b>Travel Information and Incentives strategies</b></p> <ul style="list-style-type: none"> <li>• Commuter travel options programs</li> <li>• Household individualized marketing programs</li> <li>• Car-sharing and eco-driving techniques</li> <li>• Safe Routes to School programs</li> <li>• Ridesharing (carpool, vanpool) services</li> </ul>
<p><b>3</b></p>		<p><b>System management and operations strategies</b></p> <ul style="list-style-type: none"> <li>• Real-time variable message signs and speed limits</li> <li>• Signal timing and ramp metering</li> <li>• Transit signal priority, bus-only lanes, bus pull-outs</li> <li>• Incident response detection and clearance</li> <li>• Access management (e.g., turn restrictions, medians)</li> </ul>
<p><b>Emerging</b></p>		<p><b>Congestion pricing strategies</b></p> <ul style="list-style-type: none"> <li>• Peak period pricing</li> <li>• Managed lanes</li> <li>• High occupancy toll (HOT) lanes</li> </ul>
<p><b>4</b></p>		<p><b>Active Transportation strategies</b></p> <ul style="list-style-type: none"> <li>• New biking and walking connections to schools, jobs, downtowns and other community places</li> <li>• Bicycle infrastructure (e.g., bicycle racks, lockers and other bicycle amenities at transit stations and other destinations)</li> <li>• Separated pathways and trails</li> </ul>
<p><b>5</b></p>		<p><b>Transit strategies</b></p> <ul style="list-style-type: none"> <li>• High capacity transit</li> <li>• Expanded transit coverage</li> <li>• Expanded frequency of service</li> <li>• Improvements in right-of-way to increase speed and reliability of buses and MAX</li> <li>• Community and job connector shuttles</li> <li>• Park-and-ride lots in combination with transit service</li> </ul>
<p><b>6</b></p>		<p><b>Street and throughway capacity strategies</b></p> <ul style="list-style-type: none"> <li>• Local and arterial street connectivity to spread out travel</li> <li>• Addition of turn lanes at intersections, driveway restrictions and other geometric designs such as roundabouts</li> <li>• 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</li> </ul>

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

With continued regional growth, come challenges including more congestion, higher housing prices and constrained access to employment and daily needs. Increased transit service is a critical part of the overall solution to regional challenges. But the COVID-19 pandemic disrupted both transit use and service in the greater Portland region. To achieve the regional vision in the 2040 Growth Concept and Climate Smart Strategy, transportation agencies and partners must meet the needs of people using transit today, while continuing to realize the Regional Transit Vision<sup>27</sup> to increase transit use and make transit more convenient, accessible, affordable, and frequent for everyone, especially those who rely on it.

**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-minute intervals, but this isn't the only type of service. Regional and local transit service provides basic service and ensures that most of greater Portland'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 using transit priority treatments and other strategies. Improve transit rider experience with seamless connections between transit providers, including transfers, information, and payment. Additionally, road authorities can 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.

**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 greater Portland.

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<sup>27</sup> Link to 2018 Regional transit strategy <https://www.oregonmetro.gov/regional-transit-strategy>



The South Metro Area Regional Transit (SMART) in Wilsonville provides regional transit service connecting Wilsonville to Portland and communities in Washington and Clackamas counties. In 2017, the state legislature, through HB 2017, designated Clackamas, Multnomah and Washington counties as Public Transit Service Providers. The counties receive funding from the Statewide Transportation Improvement Fund to implement transit services to meet goals established by HB 2017, including providing services in areas not well-served by fixed route transit.

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 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 meet growing needs, including:

- becoming less dependent on automobiles;
- more equitably serving communities of color and other marginalized communities;
- reducing overall transportation and housing costs;
- leading healthier lives;
- reducing greenhouse gas emissions.

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

Figure 3.22 shows how the regional transit system concept would connect the 2040 centers.

**Figure 3.22: Regional transit network concept**

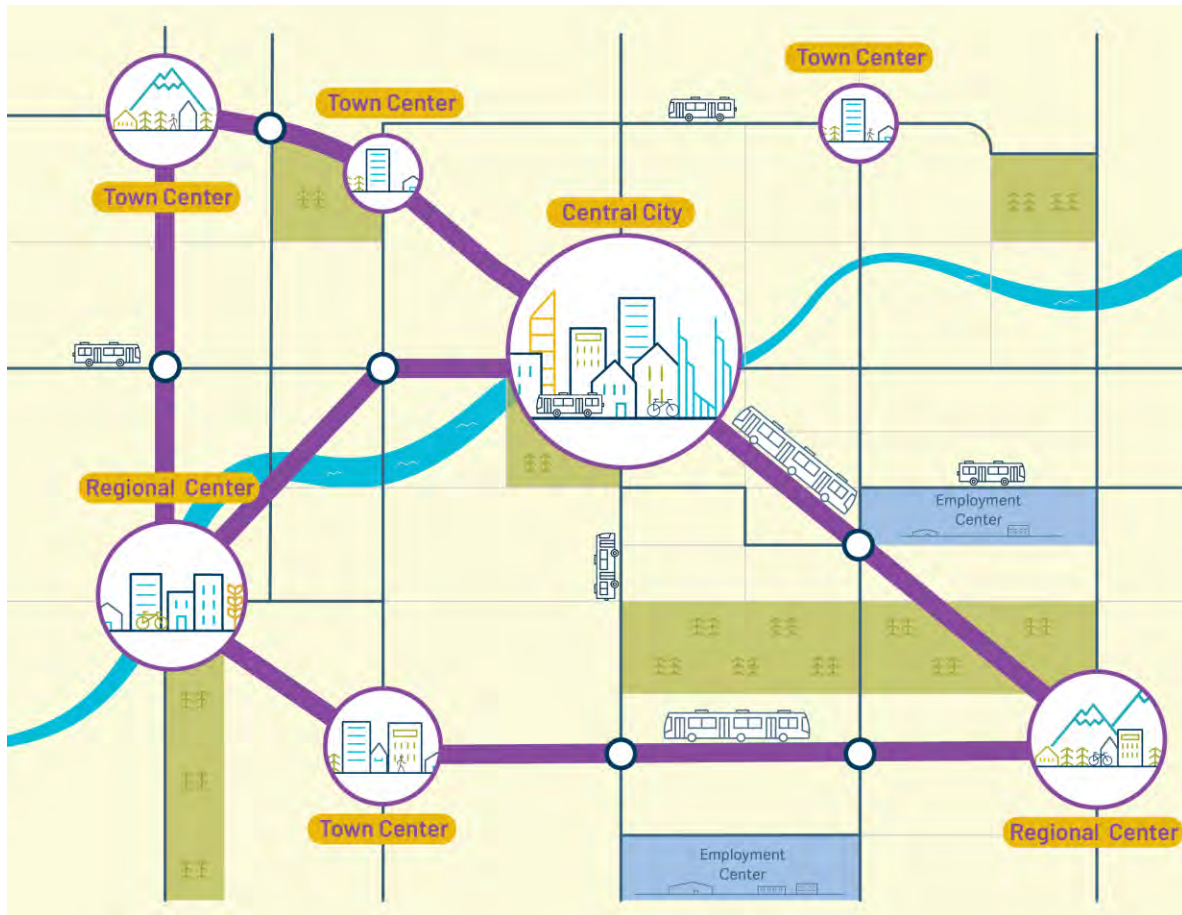


Image shows a graphic concept of the regional transit network with different levels and types of transit routes connecting centers and places in the greater Portland region. The 2040 Growth Concept set forth a vision for connecting the central city to regional centers like Gresham, Clackamas and Hillsboro with high capacity transit. The High Capacity Transit Strategy expands this vision to include town centers like Milwaukie, Troutdale, and Sherwood along corridors to build onto that vision. The RTP goes further 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.

It is important for cities and counties 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 support transit best can be found in Table 3.10.

**Table 3.10: Effects of land use on transit service**

Characteristic	Supportive	Not Supportive
Density		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		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 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**

Shown in Figure 3.24, the Regional Transit Network Map includes future regional and local buses, better bus corridors, high capacity transit and intercity rail to reflect the future transit vision as identified by the High Capacity Transit Strategy (2023), Portland Streetcar System Concept Plan, TriMet’s Service Enhancement Plans, SMART’s Transit Master Plan, as well as local Transportation System Plans. The map also highlights areas planned to be served by community-job connector shuttles, including current and planned routes identified in Clackamas and Washington County’s transit development plans.

Shown in Figure 3.25, the Regional High Capacity Transit Vision map includes existing and future high capacity transit connections envisioned in the 2023 High Capacity Transit Strategy.

The 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.

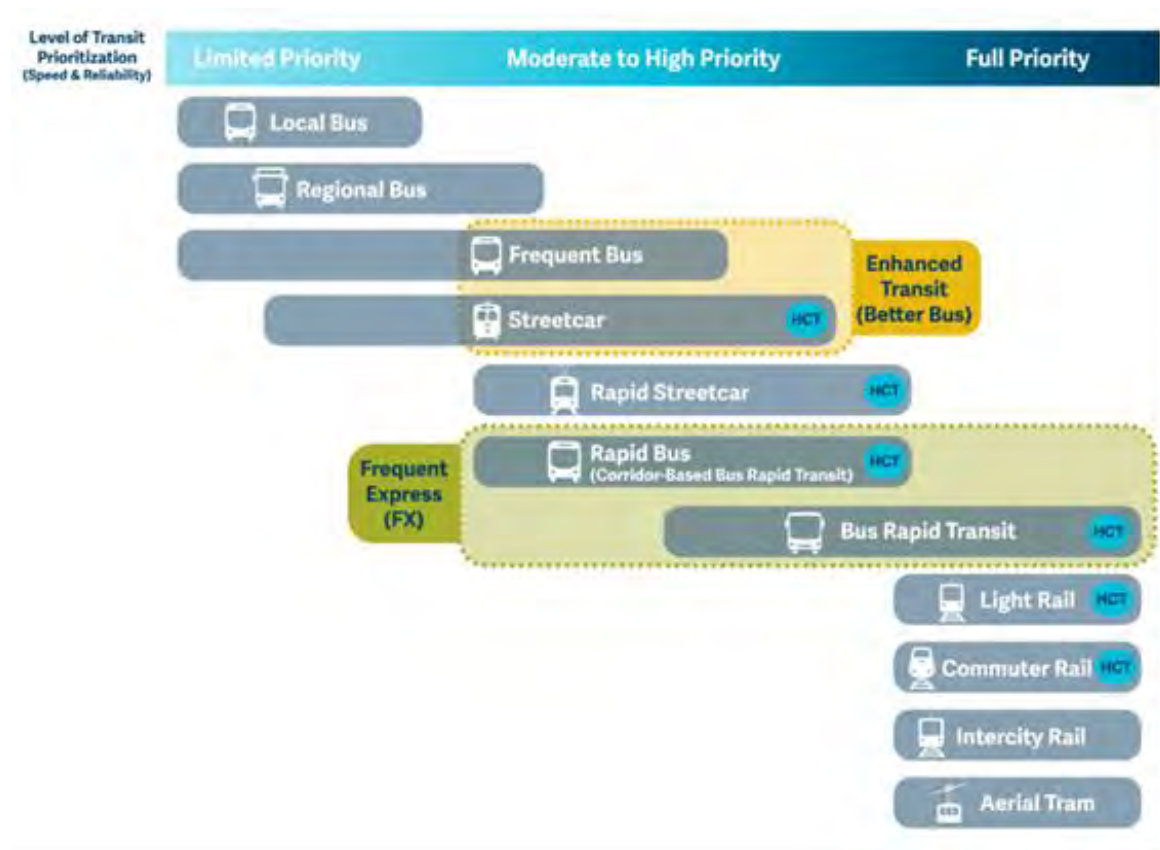
The bus system operates in mixed traffic and provides service across greater Portland. Alongside our bus system, we have implemented streetcar and corridor-based rapid buses. These services, along with frequent bus service, can and do include a variety of transit priority treatments. These tend to be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

The high capacity transit system operates with most 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. The high capacity transit system is the backbone of the transit network, meant to connect to regional centers and carry more transit riders than the local, regional, and frequent service transit lines. Figure 3.23 shows the broad transit spectrum that exists or is planned for regional transit system.

**Figure 3.23: Regional transit spectrum**

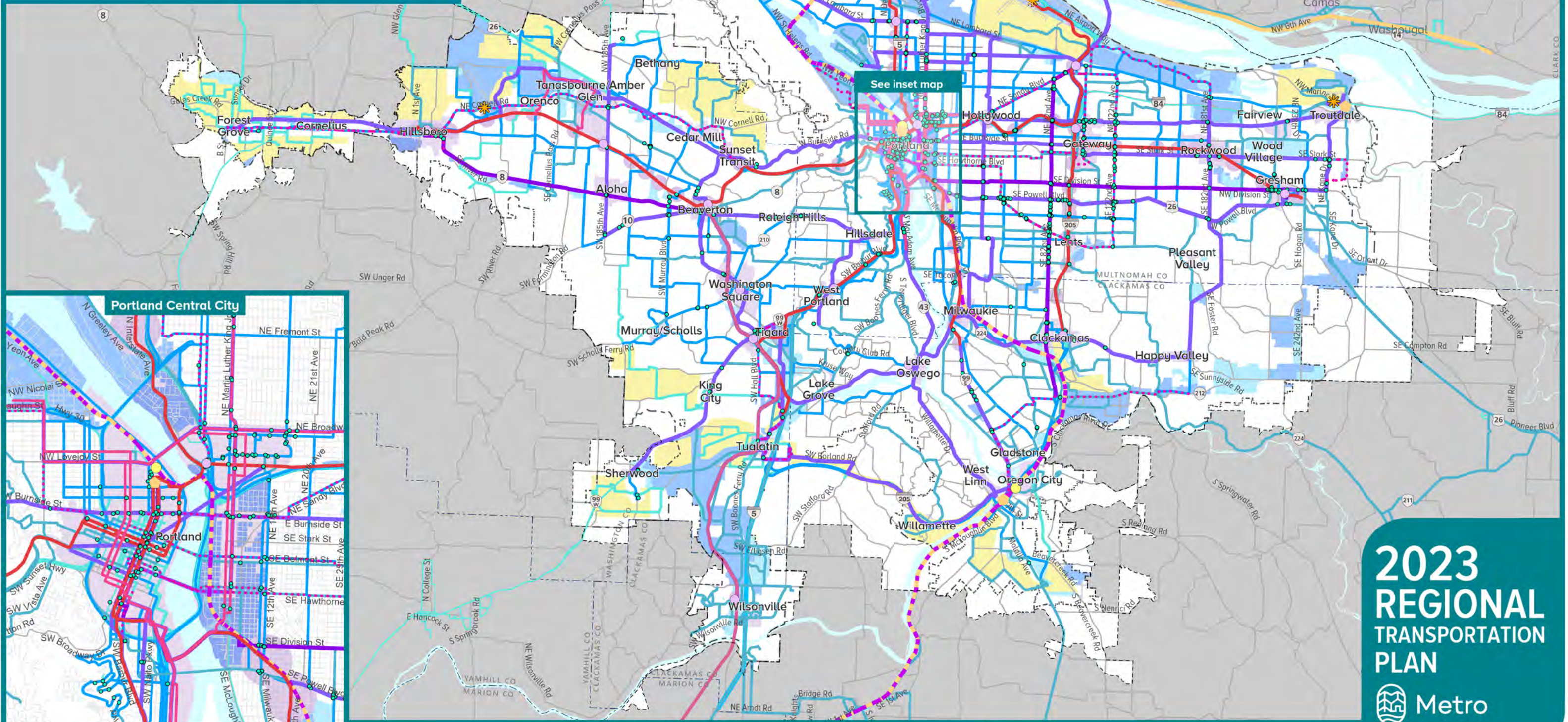


Many variables impact decisions about what type of transit mode and frequencies are most appropriate, including existing and future land uses, transit demand and opportunities and constraints.



Figure 3.24:  
**Regional Transit Network**

- Transit center
- Major bus stop
- Bus station
- Intercity rail terminal
- ✶ Air terminal
- Inter-city passenger rail
- Future high speed rail
- Light rail
- Commuter rail
- Streetcar
- High capacity transit rapid bus
- - - Better bus corridor
- Frequent bus
- Regional bus
- Planned High capacity transit
- Bus transit outside UGB
- Community job connector
- Station community
- Urban center
- Industrial area
- Employment area
- - - County boundary
- - - Urban growth boundary
- - - Metropolitan planning area



See inset map

Portland Central City

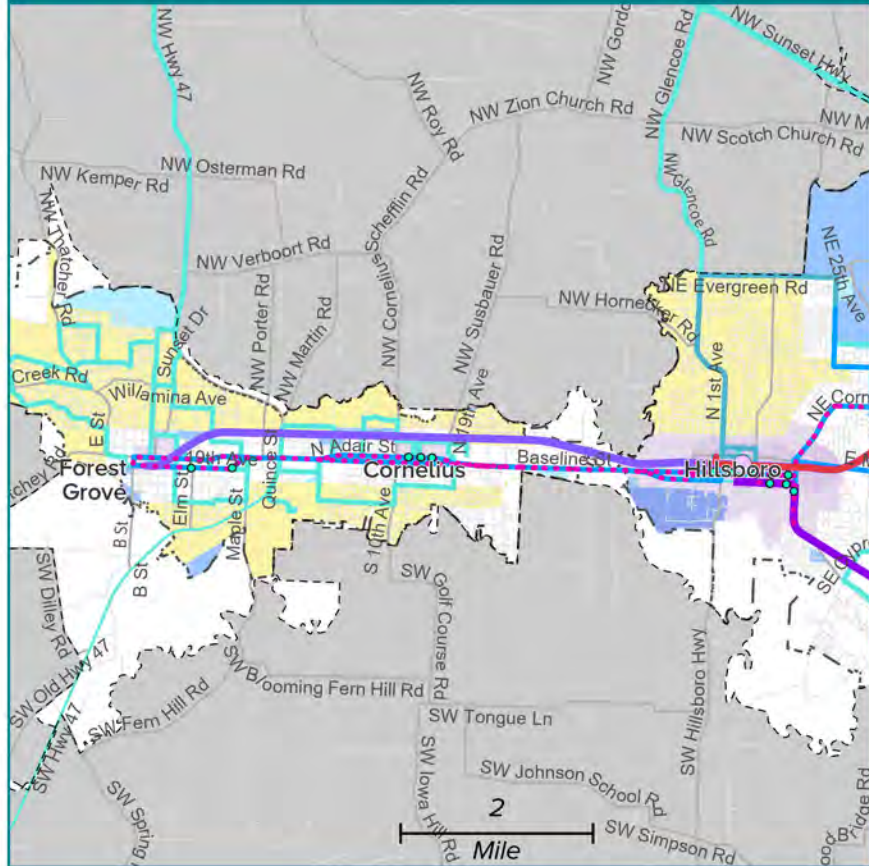
**2023**  
**REGIONAL**  
**TRANSPORTATION**  
**PLAN**



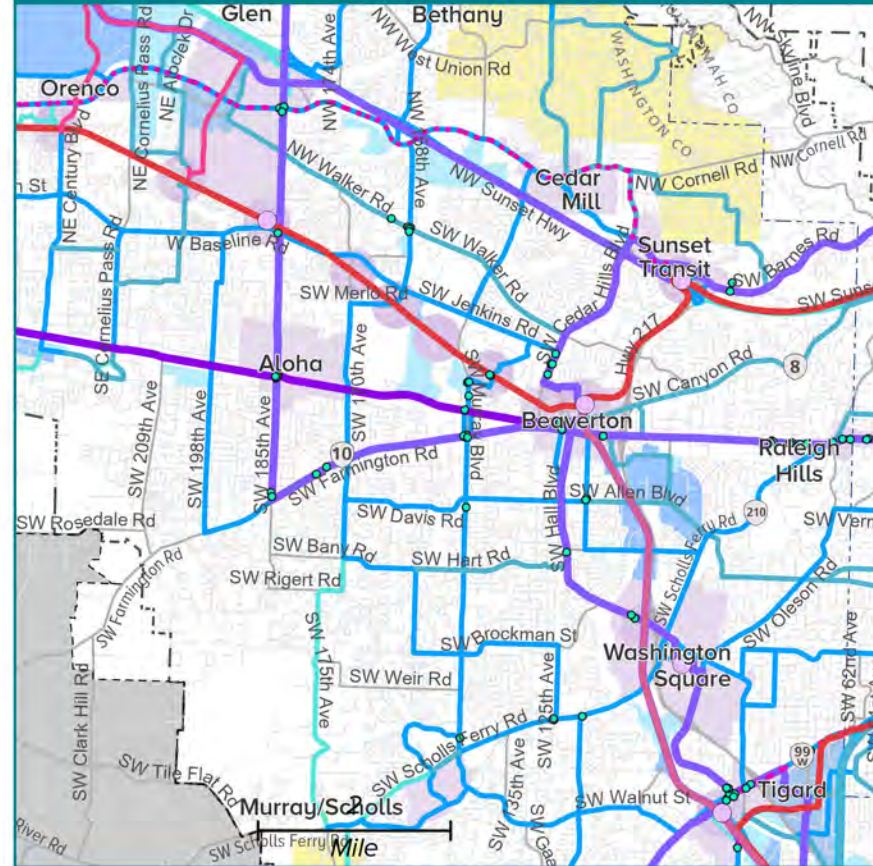
Source: Metro  
11/30/23



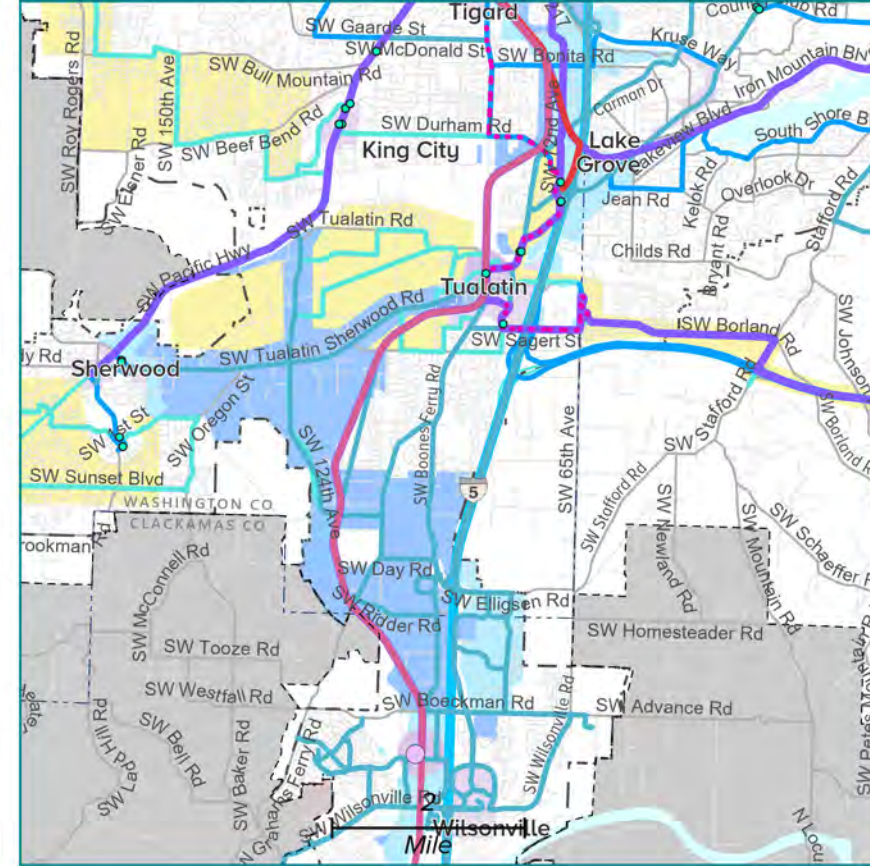
### 1. Forest Grove-Cornelius-Hillsboro area



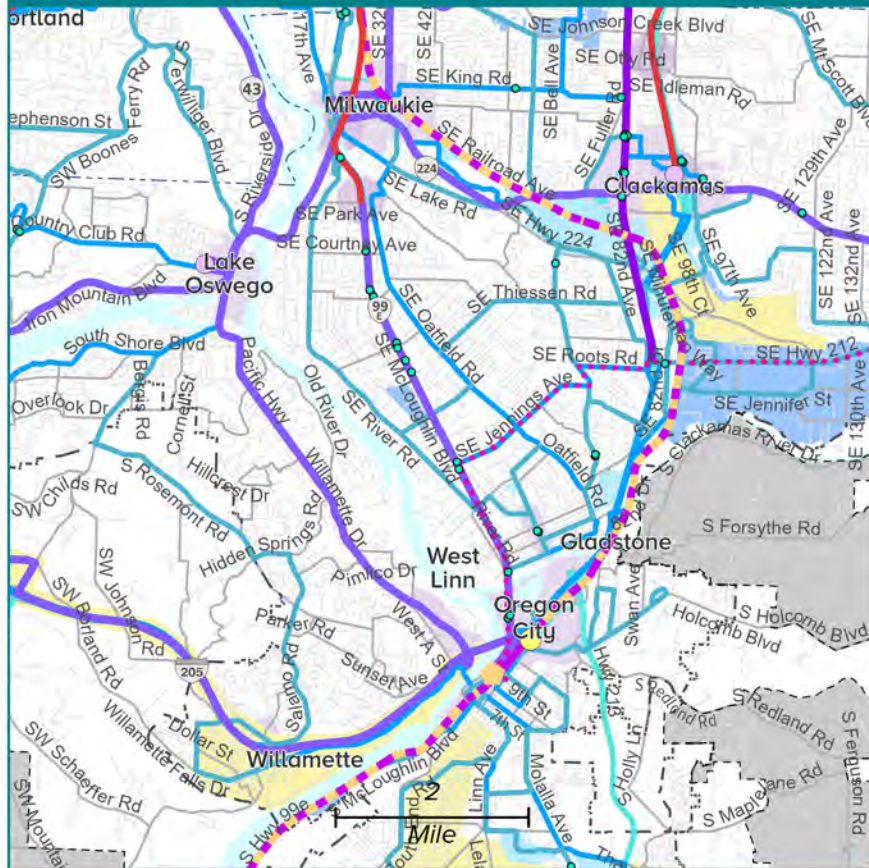
### 2. Hillsboro-Aloha-Beaverton-Tigard area



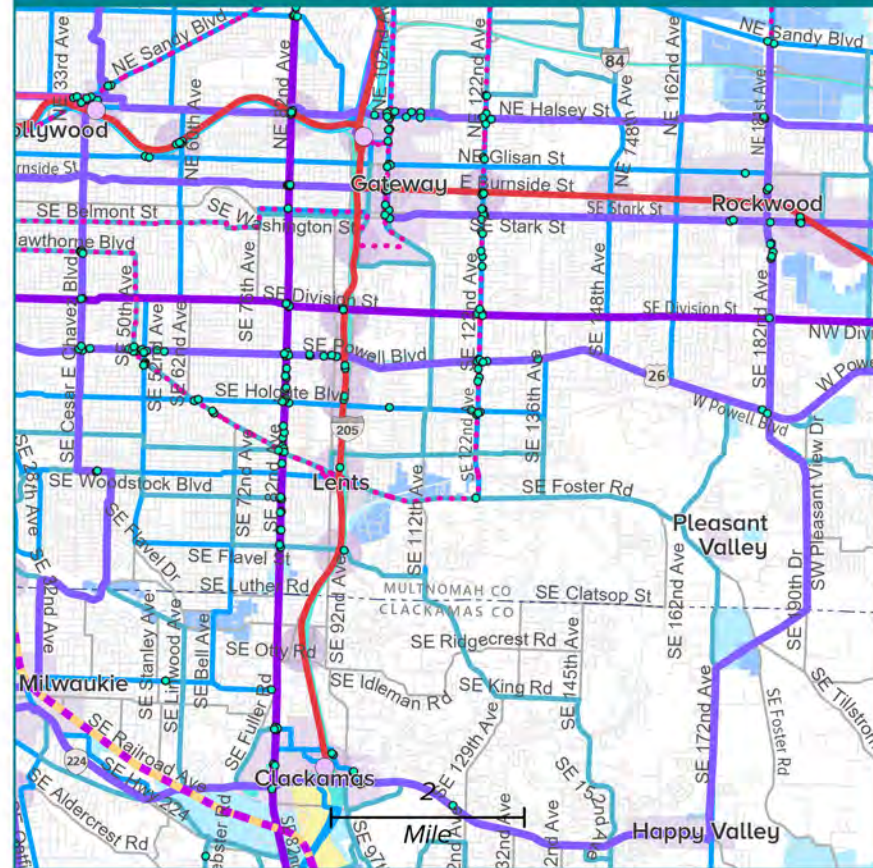
### 3. Sherwood-Tigard-Tualatin-Wilsonville area



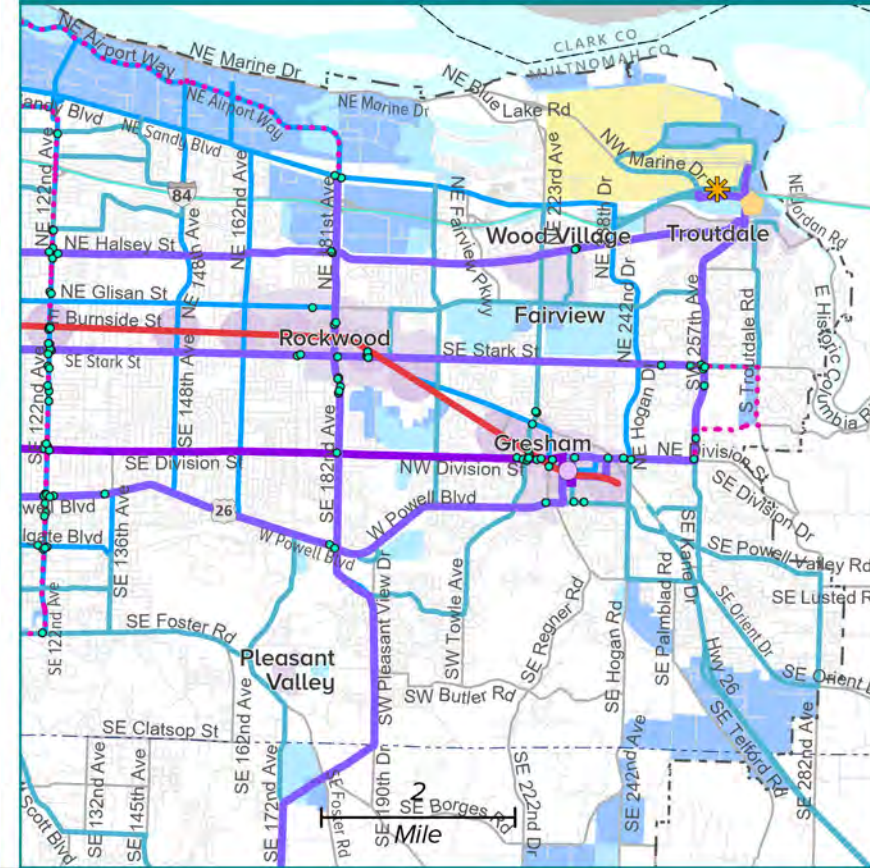
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



### Legend

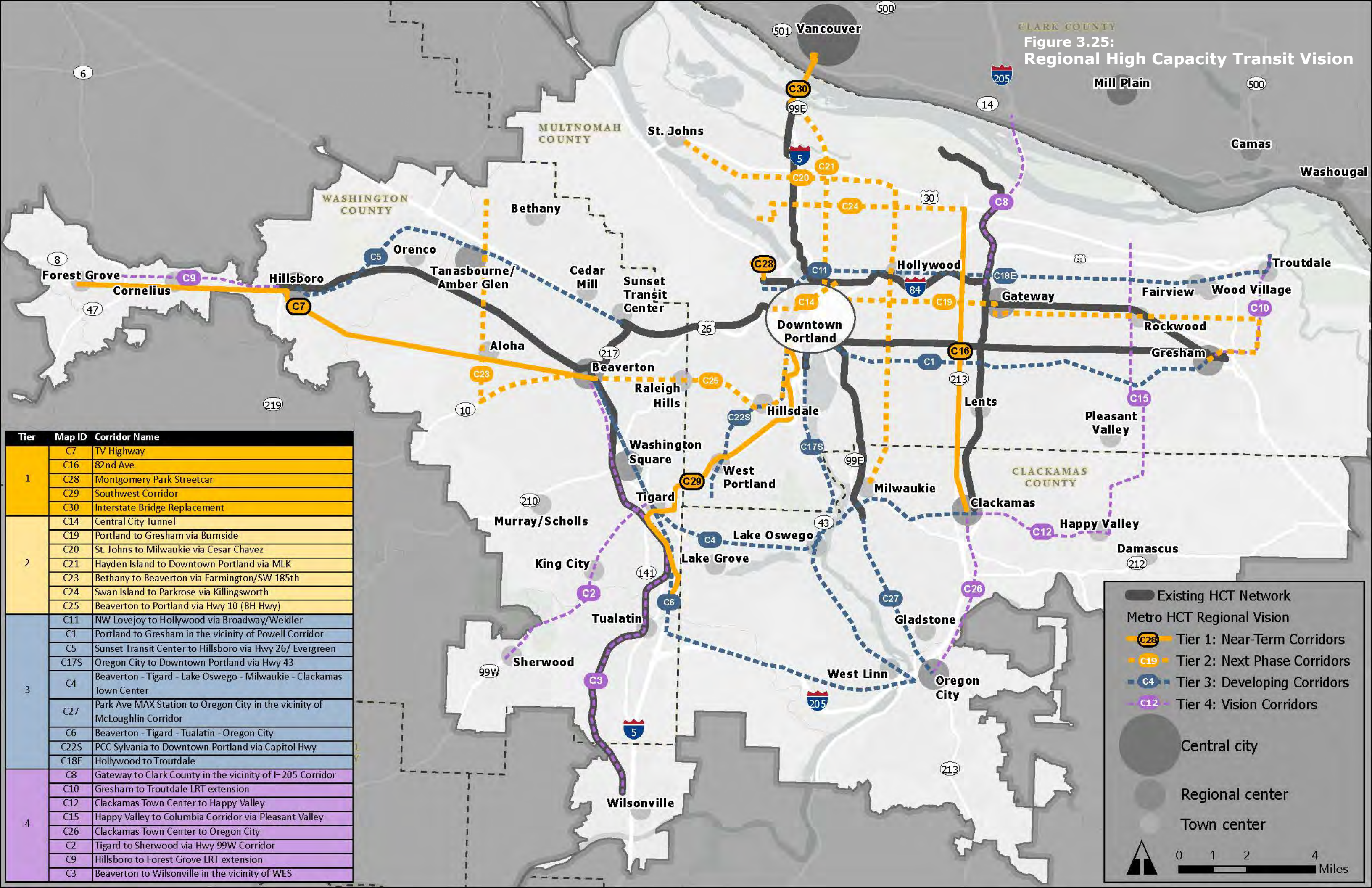
(dotted lines are proposed projects and do not identify specific alignments)

- Transit center
- Major bus stop
- Bus station
- Intercity rail terminal
- Air terminal
- Inter-city passenger rail
- Future high speed rail
- Light rail
- Commuter rail
- Streetcar
- High capacity transit rapid bus
- Frequent bus
- Regional bus
- Better bus corridor
- High capacity transit (planned)
- Bus transit outside UGB
- Community job connector
- Station community
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



CLARK COUNTY  
**Figure 3.25:  
 Regional High Capacity Transit Vision**



Tier	Map ID	Corridor Name
1	C7	TV Highway
	C16	82nd Ave
	C28	Montgomery Park Streetcar
	C29	Southwest Corridor
	C30	Interstate Bridge Replacement
2	C14	Central City Tunnel
	C19	Portland to Gresham via Burnside
	C20	St. Johns to Milwaukie via Cesar Chavez
	C21	Hayden Island to Downtown Portland via MLK
	C23	Bethany to Beaverton via Farmington/SW 185th
	C24	Swan Island to Parkrose via Killingsworth
	C25	Beaverton to Portland via Hwy 10 (BH Hwy)
3	C11	NW Lovejoy to Hollywood via Broadway/Weidler
	C1	Portland to Gresham in the vicinity of Powell Corridor
	C5	Sunset Transit Center to Hillsboro via Hwy 26/ Evergreen
	C17S	Oregon City to Downtown Portland via Hwy 43
	C4	Beaverton - Tigard - Lake Oswego - Milwaukie - Clackamas Town Center
	C27	Park Ave MAX Station to Oregon City in the vicinity of McLoughlin Corridor
	C6	Beaverton - Tigard - Tualatin - Oregon City
	C22S	PCC Sylvania to Downtown Portland via Capitol Hwy
	C18E	Hollywood to Troutdale
	C8	Gateway to Clark County in the vicinity of I-205 Corridor
4	C10	Gresham to Troutdale LRT extension
	C12	Clackamas Town Center to Happy Valley
	C15	Happy Valley to Columbia Corridor via Pleasant Valley
	C26	Clackamas Town Center to Oregon City
	C2	Tigard to Sherwood via Hwy 99W Corridor
	C3	Beaverton to Wilsonville in the vicinity of WES

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  
 Central city  
 Regional center  
 Town center  
 0 1 2 4 Miles



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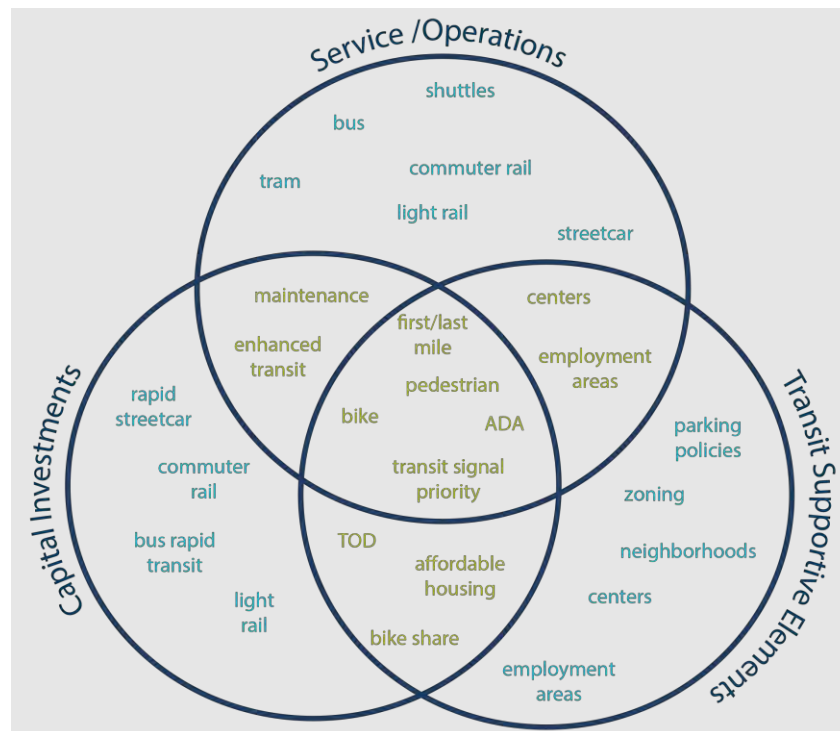
## Implementation of the regional transit vision

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

- **Transit service improvements:** local and regional transit service improvements designed to meet current and projected demand in line with local and regional visions and plans.
- **Capital investments in transit:** enhanced transit strategies that make Better Bus including signal priority and/or dedicated lanes, high capacity transit options such as bus rapid transit, light rail, commuter rail or high speed rail and other elements including transit stops and stations, first/last mile connections and multi-modal hubs, and transit-oriented development and affordable housing.
- **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 3.26 shows the relationships between these different types of investments.

**Figure 3.26: Service improvements, capital investments and transit-supportive elements**



Public agencies and transit providers must collaborate in prioritizing transit investments throughout greater Portland. With the passage of House Bill 2017, the Oregon Legislature identified transit improvements and service expansion as a priority for the state, providing funding to significantly increase and expand transit service, though not at levels needed to meet the ridership and climate change mitigation goals identified in the RTP. 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 current and future transit investments. Together, these policies support regional goals.

<b>Transit Policy 1</b>	<b>Provide a high-quality, safe and accessible transit network that makes transit a convenient and comfortable transportation choice for everyone to use.</b>
<b>Transit Policy 2</b>	<b>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.</b>
<b>Transit Policy 3</b>	<b>Meet state, regional, and local climate goals by creating a transit system that encourages people to ride transit rather than drive and transitioning to a clean fleet with net zero greenhouse gas emissions.</b>
<b>Transit Policy 4</b>	<b>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. Additional collaboration and funding are needed to support the development of this level of service.</b>
<b>Transit Policy 5</b>	<b>Complete a well-connected network of local and regional transit on most arterial streets – prioritizing expanding all-day frequent service along corridors and main streets linking town centers to each other and neighborhoods to centers.</b>
<b>Transit Policy 6</b>	<b>Continue to build out and strengthen a well-connected high capacity transit network to serve as the backbone of the transportation system. Prioritize transit speed and reliability to connect regional centers with the Central City, link regional centers with each other, and link regional centers to major</b>

town centers. Additional collaboration and funding are needed to support the development of this level of service.

**Transit Policy 7**

**Make capital, technical, and traffic operational treatments to improve transit speed, efficiency, and reliability for frequent service.**

**Transit Policy 8**

**Support expanded commuter rail and intercity transit service to neighboring communities and other destinations outside the region.**

**Transit Policy 9**

**Increase access to transit by improving pedestrian and bicycle access to and bicycle parking at transit stops and stations. Use new mobility services to improve connections to high-frequency transit when walking, bicycling or local bus service is not an option.**

**Transit Policy 10**

**Use technology to provide better, more efficient transit service, including meeting the needs of people for whom conventional transit is not an option.**

**Transit Policy 11**

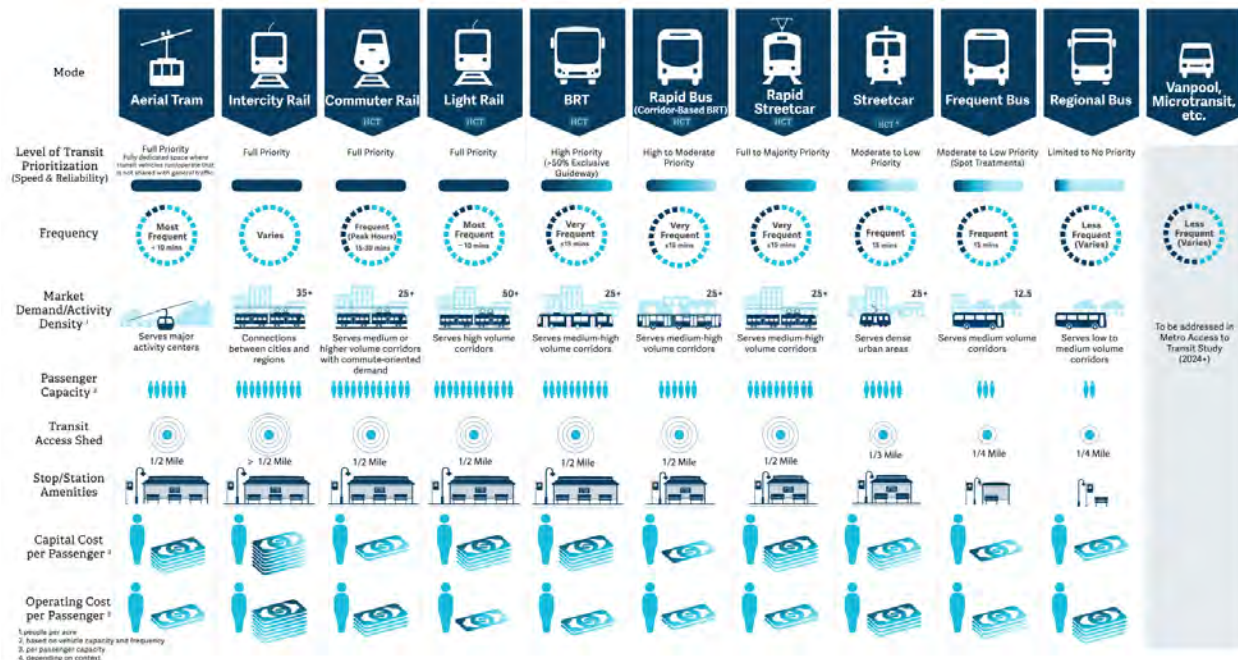
**Make transit affordable, especially for people with low incomes.**

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

Greater Portland’s economic prosperity and quality of life depend on a transportation system that provides every person and business 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 regional centers, finding resources to increase service, and redesigning streets to keep buses moving.



**Figure 3.27: Tools for building a high-quality transit system**



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 as a circulator within major centers.

An effective and seamless transit system provides 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 greater Portland region and all the jurisdictions. Preferential treatments, such as transit signal priority, bus shelters, curb extensions, lighting, enhanced sidewalks, protected crosswalks and bikeways, are fundamental to making the transit network, especially frequent bus and high capacity transit, function at its highest level. To provide frequent and reliable service, regional partners must commit to investing in transit priority treatments and high capacity transit to ensure that transit can take people where they need to go on time.

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. Similarly, typical fixed route transit service may not make sense for everyone throughout the region. People often rely on demand-response transit as well. New shared mobility models like microtransit could provide better service at lower cost in these situations and in increasing access to high-demand corridors.

Intelligent transportation systems and services 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. This could include supporting use of mobile apps and services by

providing wifi and/or charging ports on buses and trains or at stops and stations. As tolling and congestion pricing moves forward in greater Portland, 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).

Safety and security onboard transit is important. Actions to make transit safer should be identified with communities, transit riders, and transit employees. TriMet's Reimagining Public Safety process and report identifies needs and actions to address safety concerns.<sup>28</sup>

**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.**

The 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 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. An equity lens can also address disparities in:

- **Access:** New development and gentrification can lead to displacement, of which disproportionately affects people of color and people with low incomes. 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

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<sup>28</sup> Reimagining Public Safety, TriMet: <https://trimet.org/publicsafety/>

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 whose voices 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. The potential displacement from the economic pressures that these investments bring undermines long-term effectiveness. 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. 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. Meet state, regional, and local climate goals by creating a transit system that encourages people to ride transit rather than drive and transitioning to a clean fleet with net zero greenhouse gas emissions.**

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. For people to choose transit over driving, transit must be at least as 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, streetcar, or active

transportation options, regardless of the provider. It should be a short walk or bicycle ride 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, travel times need to be competitive with other forms of travel. Regional partners should continue to pursue strategies that prioritize transit travel times with 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 such as 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 greater Portland. 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 move toward a fleet without emissions, many are switching to renewable biodiesel fuel to reduce emissions in the interim. 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. 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. Additional collaboration and funding are needed to support the development of this level of service.**

While the transit system is still relatively new, it needs repairs and replacements to buses, streetcars, trains, and their infrastructure as they age. It will become increasingly important to invest in upkeep as elements of the system begin to reach the end of their useful life to maintain a state of good repair and efficiency. The Federal Transit Administration’s State of Good Repair program for rail and bus rapid transit systems that are at least seven years old includes incorporating industry best practices and recommendations related to reliability and safety to help transit agencies maintain bus and rail systems as part of the federal transportation performance management implementation.



It is also important to plan for future capacity needs of the transit system. As greater Portland and ridership grows, the region is starting to push the limits of what our existing infrastructure can handle. This creates transit bottlenecks, increasing congestion and decreasing reliability. 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 crowded buses and trains, but some trips have such high ridership that at times, riders are unable to board and must wait for another vehicle. 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 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. It is designed to provide full transit service coverage to greater Portland, ensuring that most people have transit service available to them—varying in type, frequency, and span based on needs and demand. Transit preferential treatments and passenger facilities are appropriate at higher ridership locations.

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. Community and job connector shuttles also expand the reach of transit service, 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 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. They provide a lifeline of service to people who experience barriers to accessing the transportation system. Current service is still not enough to meet the existing demand or projected growth in demand concurrent with greater Portland’s growing population.

**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. 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.

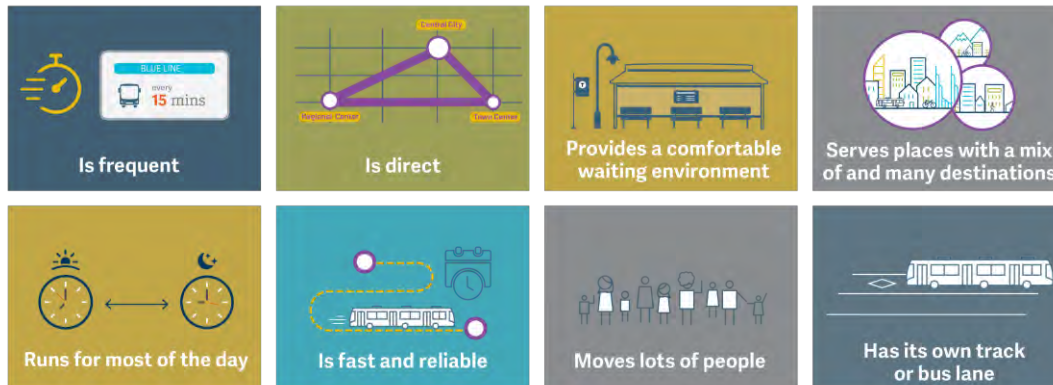
**Transit Policy 6. Continue to build out and strengthen a well-connected high capacity transit network to serve as the backbone of the transportation system. Prioritize transit speed and reliability to connect regional centers with the Central City, link regional centers with each other, and link regional centers to major town centers. Additional collaboration and funding are needed to support the development of this level of service.**

High Capacity Transit (HCT) investments help greater Portland concentrate development and growth in its centers and corridors. High capacity transit is the backbone of the transportation network, connecting people to the central city, regional centers and major town centers with fast, frequent, safe and reliable service. Linking activity centers and station communities connects people with essential jobs, services, commerce and other major destinations, including colleges, hospitals, and affordable housing. High capacity transit serves regional routes where the most people travel, often with relatively long trip lengths, to provide a viable alternative to driving in terms of convenience and travel time.

Investments in high capacity transit further develop already strong transit connections. These investments include accessibility improvements and prioritizing transit on the roadway and at signals. These investments also elevate opportunities for improvements in safety, access and livability for along the corridor. This type of service carries more transit riders more quickly, efficiently and comfortably than local, regional and frequent service transit lines through both a level of enhanced amenities and transit priority. 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. High capacity transit

operates on a fixed guideway or within an exclusive right-of-way on tracks or in the street, to the greatest extent possible.

### High Capacity Transit...



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.

### **Transit Policy 7. Make capital, technical, and traffic operational to improve transit speed, efficiency, and reliability for frequent service.**

To meet environmental, economic, livability and equity goals as greater Portland grows over the next several decades, the region needs to invest more to improve the efficiency of our system, particularly the more congested corridors in the frequent service bus network, to better support transit riders. More reliable, higher quality transit connections would better connect low-income and transit-dependent riders to jobs, school, and services. A more fine-grained network of higher-quality transit service complements high capacity transit investments to help relieve transit congestion and grow ridership.

There are many ways to increase transit speed and reliability throughout our system to make the bus better and reduce time spent traveling by transit for people riding.

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 3.11 describes the different types of treatments that have the potential to improve reliability that are part of the enhanced transit toolbox. 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 frequent bus network function at its highest level. The region should pursue these opportunities as they arise.

**Table 3.11: 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

The Better Bus program employs public partnerships to implement treatments that increase capacity and reliability, yet are relatively low-cost to construct, context-sensitive, and able to be deployed quickly throughout greater Portland where needed. Coordinated investments by multiple partners have the potential to provide major improvement over existing frequent service while being less capital-intensive and quick to implement than large-scale high capacity transit. Investments could 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 and Figure 3.25 of this chapter). 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.

**Transit Policy 8. 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 greater Portland provides an important connection to the regional transit network. Current travel patterns are showing a rising demand for intercity transit service solutions for improving

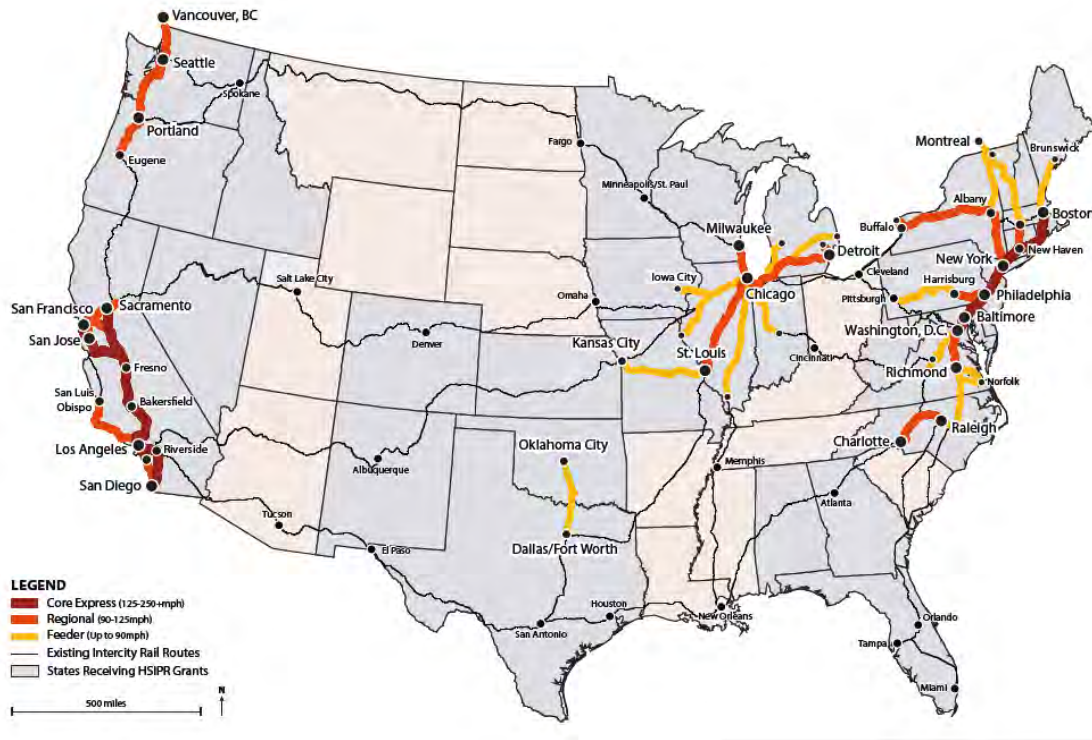


passenger rail in the future, while also balancing similarly increasing freight service needs. The following corridors have a high likelihood to support intercity or commuter rail service in the future: Portland-Newberg, Portland-Astoria, Portland-California and Chicago to Seattle via Salt Lake City 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.

Portland-Salem/Keizer-Eugene is the most promising corridor for expanding commuter rail and intercity transit service travel times, reliability, frequency and connectivity with and accessibility of regional and local transit, bicycle and pedestrian networks. There is existing Amtrak passenger rail service on a more highly used freight corridor (Union Pacific Mainline) and there is the potential for an alignment either extending or tying into WES commuter rail service on a lightly used freight corridor (Oregon Electric Line) from to Wilsonville to Salem, currently served by Wilsonville's SMART and Salem's Cherriots today. All were evaluated in the 2010 Oregon Rail study as potential solutions for improving intercity rail service on the corridor, but the alignment tying into WES attracted more riders (by one to four percent). 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 future, 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 is an important intercity rail connection between Eugene, Oregon and Vancouver, British Columbia. It is one of eleven corridors shown in Figure 3.28 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.

**Figure 3.28: 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 the development of this level of service.

**Transit Policy 9. Increase access to transit by improving pedestrian and bicycle connections to and bicycle parking at transit stops and stations. Use new mobility services to improve connections to high-frequency transit when walking, bicycling or local bus service is not an option.**

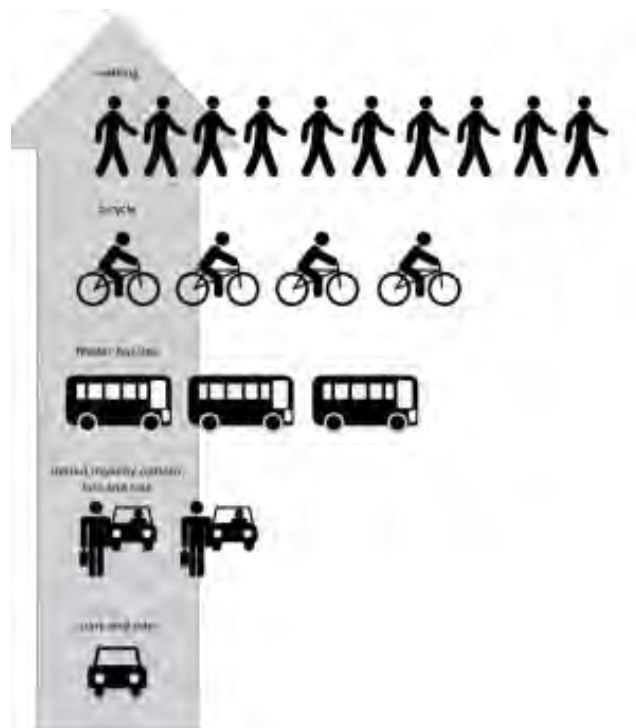
**Improve pedestrian and bicycle access to and bicycle parking at transit stops and stations**

People access transit via walking, bicycling, bus, rail, carpools, shared mobility (like Uber and Lyft or Biketown) and private automobiles. In 2040 corridors, main streets and centers, transit is supported by providing transit-supportive development and well-connected street systems to allow convenient bicycle and pedestrian access. 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 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. 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. Further, transit, pedestrian and bicycle travel benefit as improvements are made to each of the modes.

Figure 3.29 depicts the region’s priorities for providing multi-modal access to the transit system. It prioritizes walking and biking to transit and deemphasizes driving to transit. In select locations, park-and-ride facilities may provide vehicular access to the high capacity or even frequent service network for areas that cannot be well-served by local transit due to topography, street configuration, or lack of density.

**Figure 3.29: Regional transit access priorities**



Improving pedestrian and bicycle access to transit stops and stations is accomplished through filling sidewalk gaps within a mile and bicycle and trail network gaps within three miles, integrating trail connections and shade trees, and providing pedestrian and bicycle protected crossings. Additionally, amenities at stops and stations further support people walking and bicycling to transit, including shelters, shade trees and seating; bicycle repair stations, lockers, secured, covered bicycle parking and/or Bike and Rides; and co-located bike and scooter sharing facilities. Allowing bicycles on board transit also

helps expand active transportation connections, particularly the use of apps to let bicycle riders know if a bus or train has bicycle space available.

Additionally, managing or pricing parking spaces and reducing the number of spaces that developments near transit provide a safer, more active transportation-oriented environment near stations. The Climate Friendly and Equitable Communities (CFEC) rules require many cities in greater Portland 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. Many of these options, including ride-hailing and bike, e-bike, scooter, and car sharing, are available and widely used in certain parts of greater Portland. These new services can help bridge the gap to first and last-mile high frequency and, particularly, high capacity transit access. Improving connections and interactions between shared mobility and transit can be accomplished by:

- Ensuring 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.
- Dedicating 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.
- Coordinating 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.

**Transit Policy 10. Use technologies to provide better, more convenient and efficient transit service, including meeting the needs of people for whom conventional transit is not an option.**

People commuting to employment centers in more suburban areas rely on slower, often infrequent buses or may not be served by existing bus service. Similarly, greater Portland is home to many people with disabilities who require specialized vehicles and point-to-point service, as well as people who depend on transit but live in communities where fixed-route service does not make sense. These people often rely on demand-response transit or infrequent buses that provide slow service and are costly to operate.

New shared mobility models like microtransit could provide better service at lower cost where 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. 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 increase resources available to serve high-demand corridors. The growth in new mobility technologies also includes 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.

Making it easy to plan, book, and pay for trips, including across agency and even shared mobility platforms, is one way to make transit more convenient for people riding. Smartphone apps are now the most common way for people in greater Portland 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 while accounting for potential transit delays. This is especially true for people accessing transit through amidst 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 to make it easy to plan multimodal trips on 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:

- Ensuring that third-party apps use that data in a way that supports transit. 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.
- Maintaining access for the many people who can't or don't access apps or make online payments, which can include 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 services.

**Transit Policy 11. Make transit affordable, especially for people with low incomes.**

Ensuring that transit is affordable alleviates the cost of and encourages alternatives to owning automobiles. It is therefore important to ensure that transit is affordable, particularly for the riders that rely on it the most. The cost of transportation burdens many households in greater Portland 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 those most affected by transportation costs. 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.

Research has shown that people form opinions about transit early on, with early use being a key indicator of ridership in the future. 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 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.

### 3.3.6 Regional freight network concept, vision and policies

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

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 3.30 shows the components of the regional freight system and their relationships.

**Figure 3.30: Regional freight network concept**

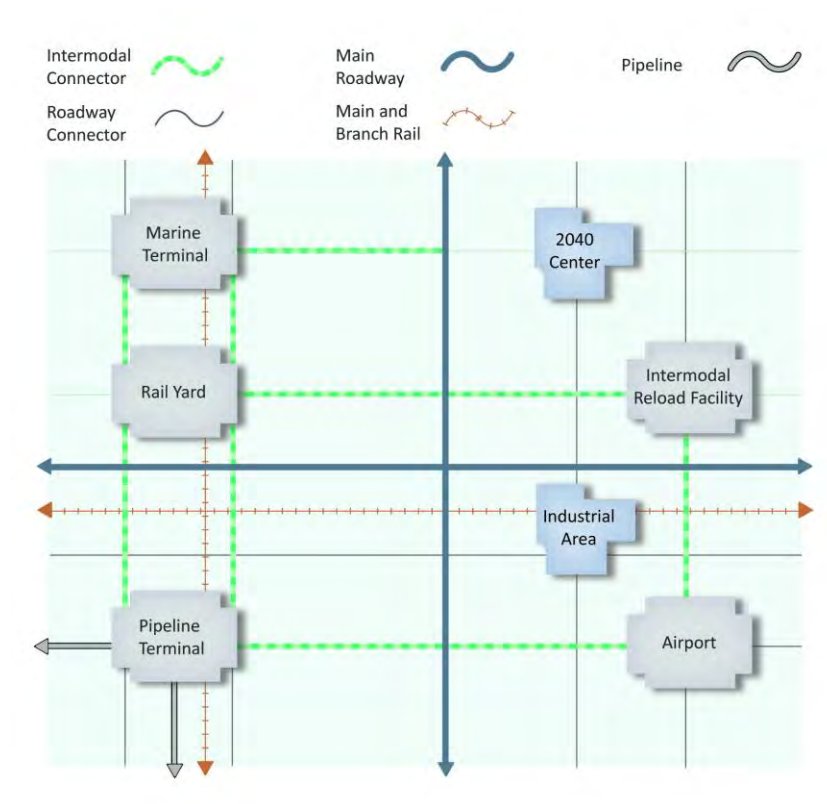


Image shows a conceptual graphic of the freight network with different freight route classifications connecting key freight hubs.



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.

### 3.3.6.1 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.

<b>Freight Policy 1</b>	<b>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.</b>
<b>Freight Policy 2</b>	<b>Manage the region’s multimodal freight network to reduce delay, increase reliability and efficiency, improve safety and provide shipping choices.</b>
<b>Freight Policy 3</b>	<b>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.</b>
<b>Freight Policy 4</b>	<b>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.</b>
<b>Freight Policy 5</b>	<b>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.</b>
<b>Freight Policy 6</b>	<b>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.</b>
<b>Freight Policy 7</b>	<b>Eliminate fatalities and serious injuries caused by freight vehicle crashes with passenger vehicles, bicycles and pedestrians, by improving roadway and freight operational safety.</b>

**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.**

**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 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 the greater Portland region has a higher-than-average dependency on traded sector industries, particularly computer and electronic products, wholesale distribution services, metals, forestry, wood, and 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.<sup>29</sup> The region’s forecasted population and job growth—an additional 917,000 residents and 597,000 jobs to be added between 2010 and 2040<sup>30</sup>—along with the associated boost in the consumption of goods and services are significant drivers of projected increases in local freight volume.

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<sup>29</sup> Federal Highway Administration, Freight Analysis Framework version 3.4, 2013

<sup>30</sup> Metro 2040 growth forecast. Represents forecasted population and jobs within 4-county area (Multnomah, Clackamas, Washington and Clark counties).

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.

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 the region's multimodal freight transportation network 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.

Freight impacts should be considered in all modal planning and funding, policy and project development, implementation, and monitoring. This also means better informing the region's residents and decision makers about the importance of freight movement on daily life 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.**

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 multimodal and intermodal system that supports the 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.<sup>31</sup> 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.

**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.

### **3.3.6.2 Regional freight network classifications and map**

The Regional Freight Network map, shown in Figure 3.31, 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.


















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.

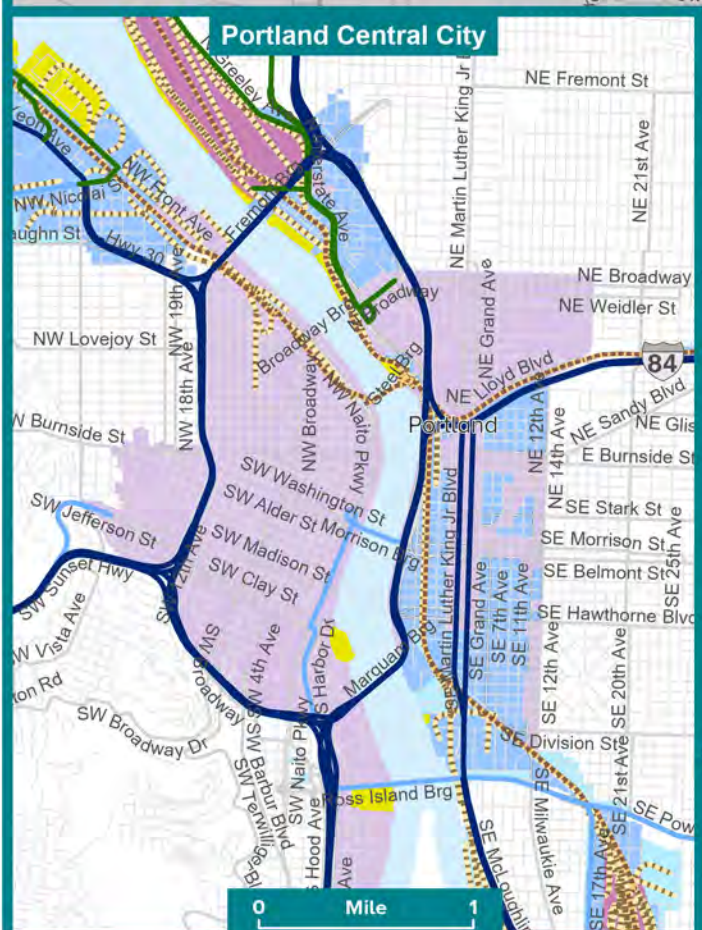
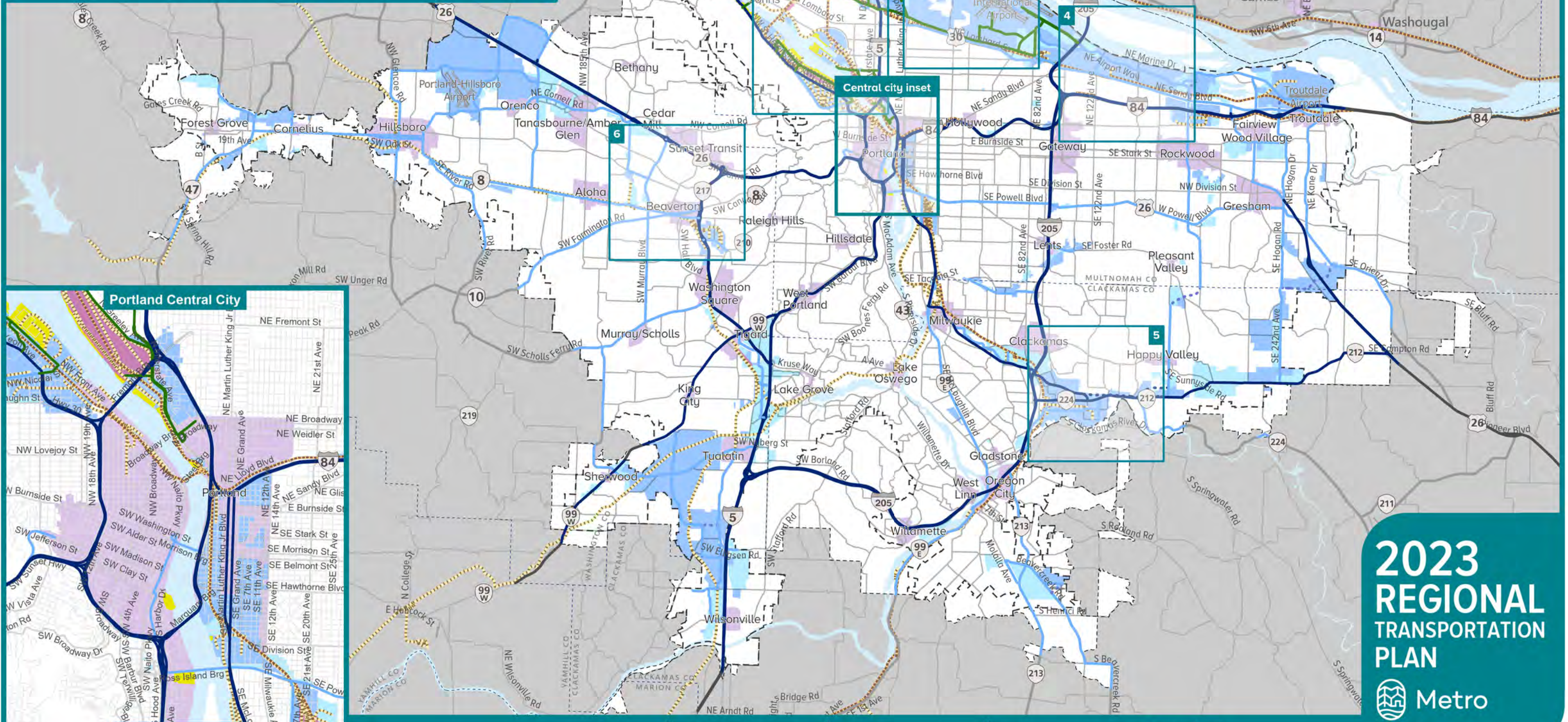
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<sup>31</sup> Port of Portland, Port of Portland Rail Plan, 2013.



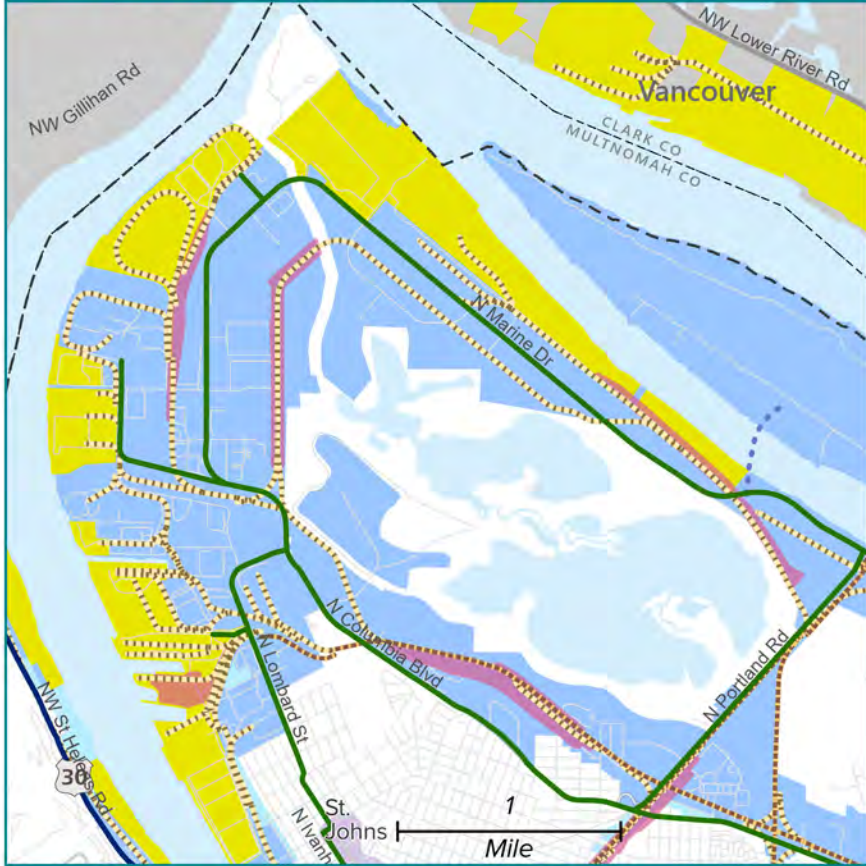
Figure 3.31:  
**Regional Freight Network**

-  Main railroad
-  Branch railroad
-  Main roadway
-  Main roadway (planned)
-  Main roadway outside MPA
-  Intermodal connector
-  Roadway connector
-  Roadway connector (planned)
-  Roadway connector outside MPA
-  Railyard
-  Marine facility
-  Urban center
-  Industrial area
-  Employment area
-  County boundary
-  Urban growth boundary
-  Metropolitan planning area

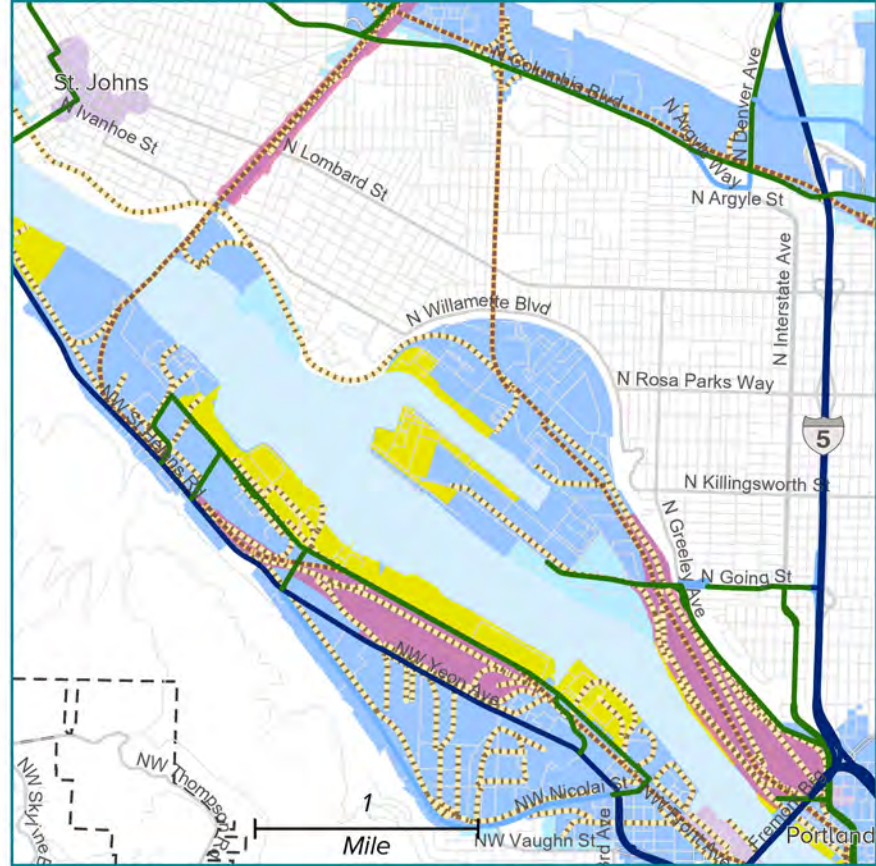




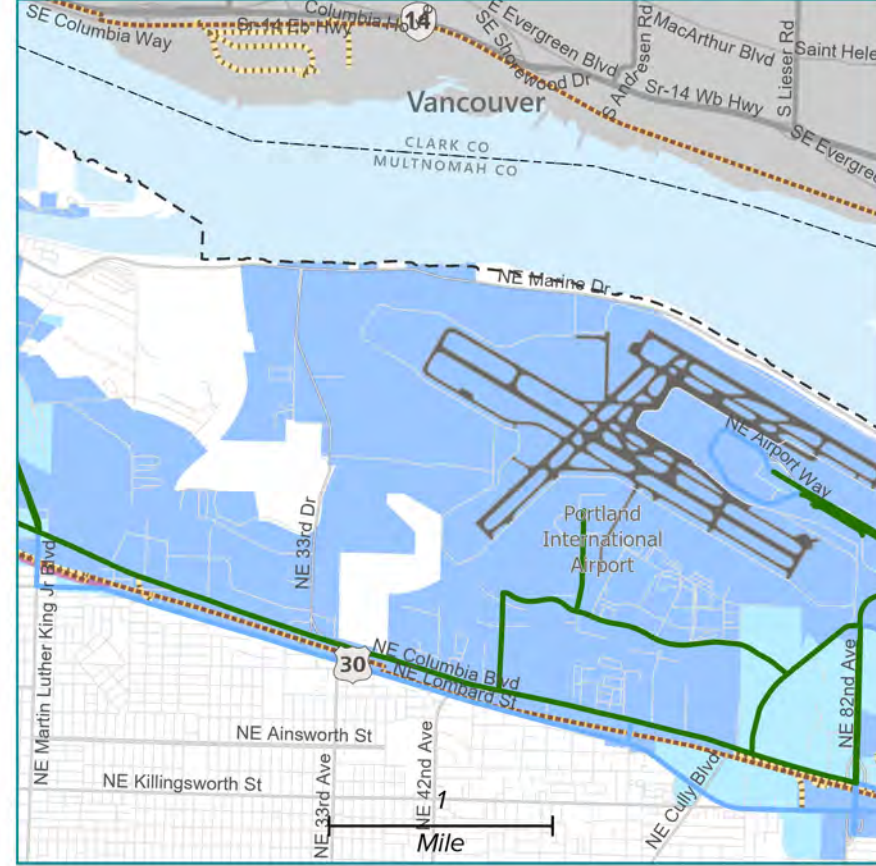
### 1. North Portland Marine Terminals



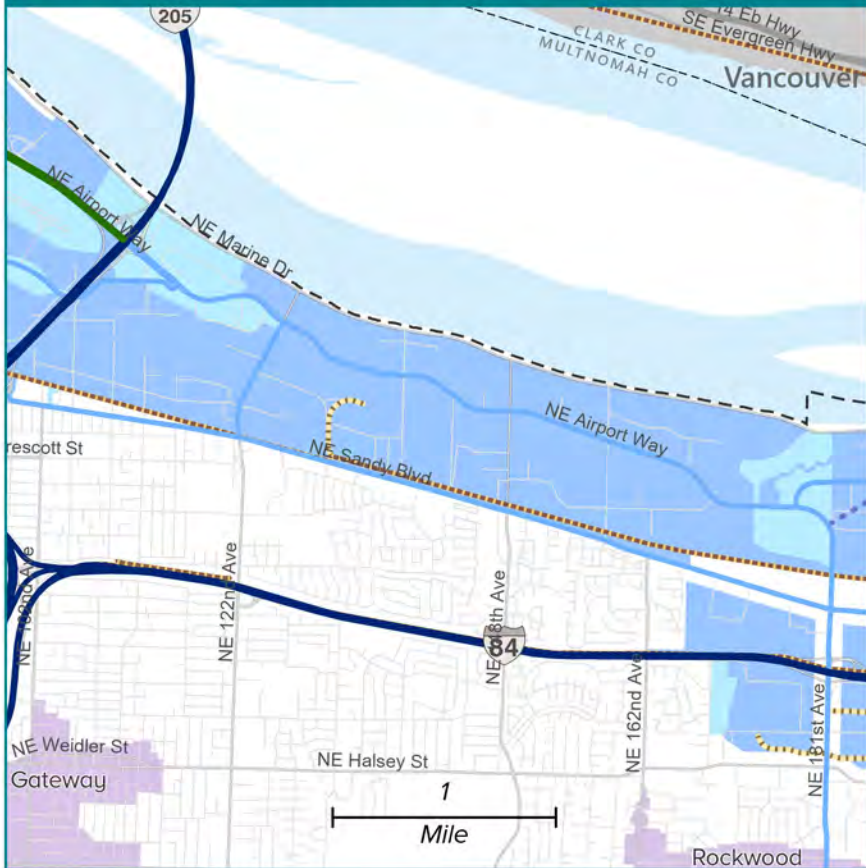
### 2. NW Industrial and Swan Island



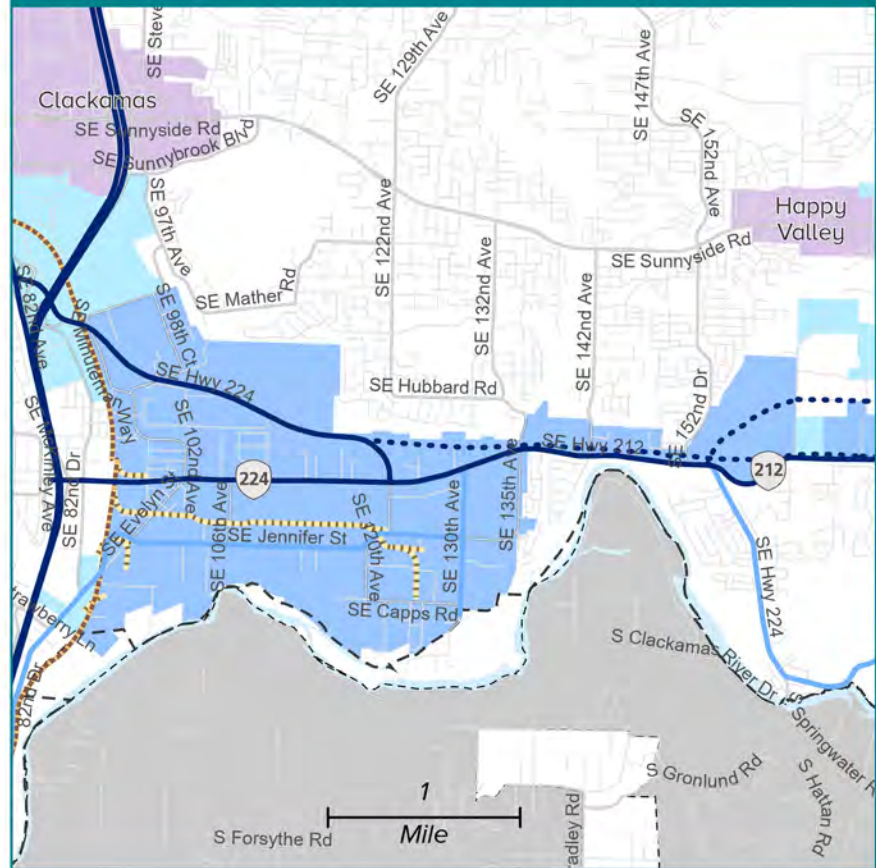
### 3. Portland International Airport



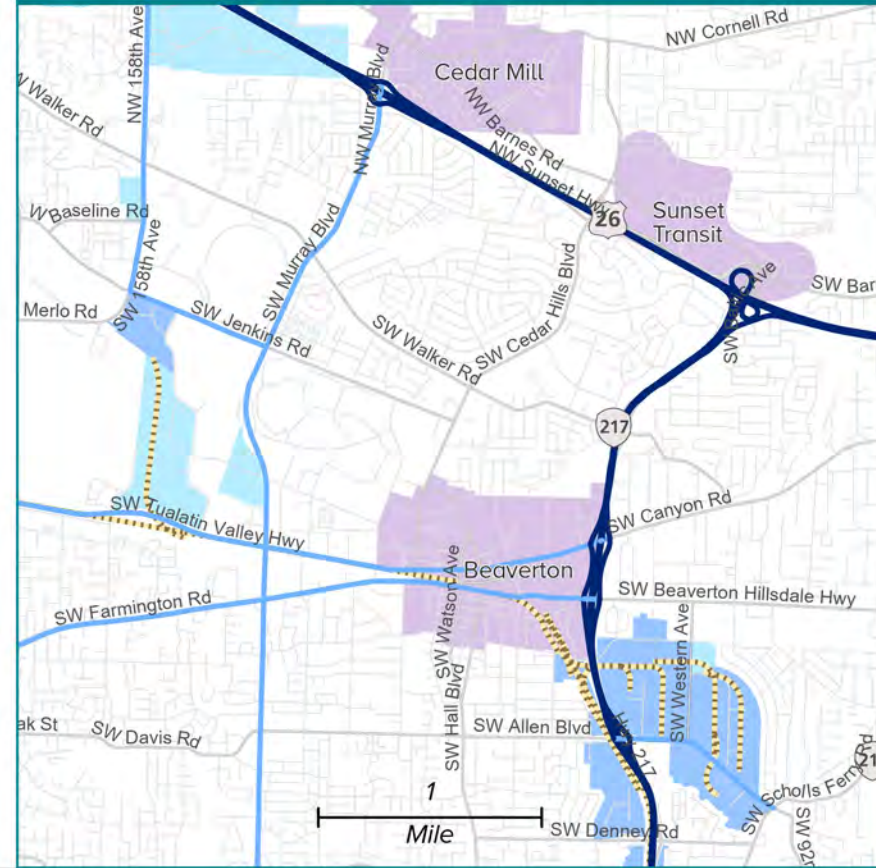
### 4. Kenton Rail Line/Columbia Corridor



### 5. Clackamas Industrial Area



### 6. Beaverton Industrial Area



### Legend

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

- Main railroad
- Branch railroad
- Main roadway route
- Roadway connector
- Main roadway route
- Roadway connector
- Freight routes outside MPA boundary
- Intermodal connector
- Marine facility
- Railyard
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



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 freight 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. Marine Drive between the marine terminals (Terminal 5 and 6) and I-5, is an example of a NHS intermodal connector. In 2014, Marine Drive 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 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.



### 3.3.7 Regional active transportation network vision

A complete and welcoming active transportation network allows people of all ages, abilities, income levels and backgrounds to access transit as well as 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, using strollers, wheelchairs or 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 always accessible.
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, including metrics for air quality and safety.
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.<sup>32</sup>

#### **3.3.7.1 Regional Active Transportation Plan (2014)**

The Regional Active Transportation Plan (ATP) 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. While it may be difficult for transportation agencies to provide a comfortable facility on some arterial streets these routes should be improved over time, through better designs and lower auto speeds accompanying a more compact urban form. In the short-term providing low-volume routes for bicycle travel will help increase the number of people riding bicycles.

Arterial streets typically provide direct routes that connect to centers and daily destinations. 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 centers and daily destinations 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

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<sup>32</sup> Underserved populations include low income, low-English proficiency, minority, older adults (over 65) and youth (under 18).

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.

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

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 RTFP, the implementing plan of the RTP, 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.
- 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 is organized around a spine of Bicycle Parkways. Bicycle Parkways are the highest functional class for bicycle routes and provide safe, comfortable, and efficient bicycle travel within and between centers, allowing for long distance travel by bicycle. Facility design may vary, but they must provide separation and protection. The regional bicycle network concept includes:

- A bicycle parkway in each of the region's Mobility Corridors (see Section 3.3.1) providing high-quality bicycle transportation options in these corridors.
- A network of bicycle parkways spaced approximately every two miles, that connects 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.
- Connections to local bikeways and transit, including signage and bicycle parking.
- Supportive elements such as bicycle signals, intersection treatments, bicycle parking, access to transit and transit vehicles.
- Implementation of bicycle supportive polices which support safe, efficient and easy bicycle travel.

Figure 3.32 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 3.32: Regional bicycle network concept**

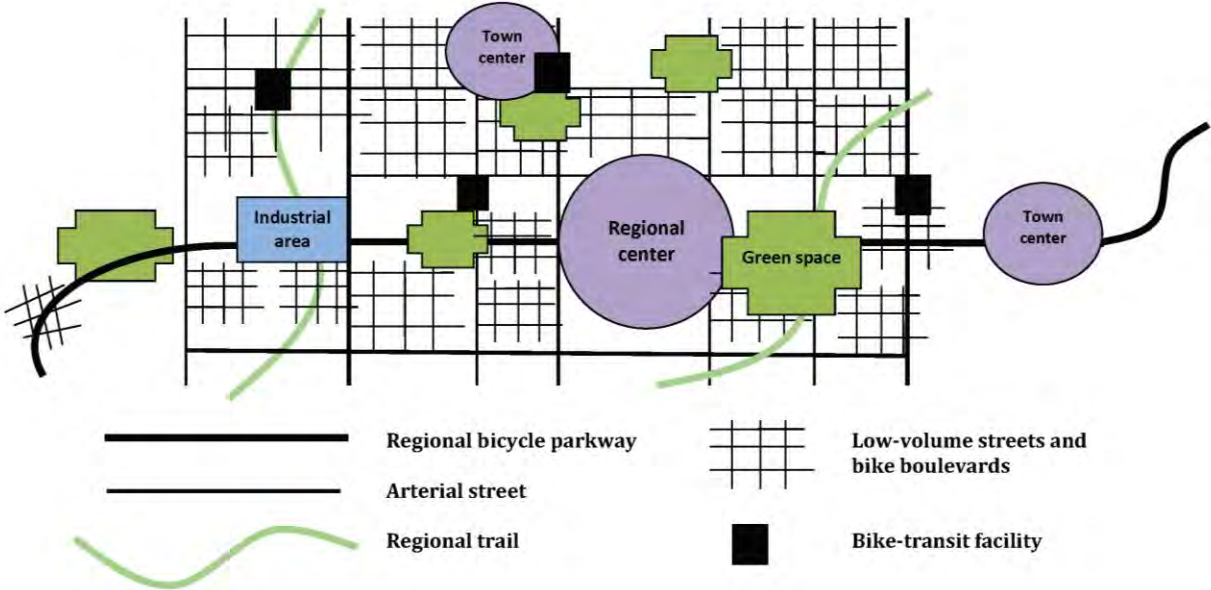


Image shows a graphic of bicycle routes connecting key regional destinations and centers. The 2040 Growth Concept sets forth a vision for making bicycling safe, convenient and enjoyable to support riding a bicycle as a legitimate travel choice for all people in the region. The Regional Transportation Plan supports this vision with a region-wide network of on-street and off-street bicycle facilities integrated with transit and regional destinations.

### 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.

<b>Bicycle Policy 1</b>	<b>Make bicycling the most convenient, safe and enjoyable transportation choice for short trips of less than three miles.</b>
<b>Bicycle Policy 2</b>	<b>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.</b>
<b>Bicycle Policy 3</b>	<b>Complete a green ribbon of bicycle parkways as part of the region’s integrated mobility strategy.</b>
<b>Bicycle Policy 4</b>	<b>Improve bike access to transit and community places for people of all ages and abilities.</b>
<b>Bicycle Policy 5</b>	<b>Ensure that the regional bicycle network equitably serves all people.</b>

#### **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.<sup>33</sup> 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.<sup>34</sup> 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

<sup>33</sup> 2011 Oregon Household Activity Survey.

<sup>34</sup> 2011 Oregon Household Activity Survey. Vehicle trips by length for trips wholly within Clackamas, Multnomah, Washington and Clark Counties.

and defined a three mile catchment area for bicycle improvements and a half mile catchment area for pedestrian improvements.<sup>35</sup>

Bicycle travel holds huge potential for providing transportation options that can replace trips made by auto, especially for short trips. Bicycle trips made in the region for all purposes grew by 190 percent since 1995.<sup>36</sup> 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 RTFP requires local transportation system plans to 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.

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<sup>35</sup> Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law

<sup>36</sup> 2011 Oregon Household Activity Survey.

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

**Figure 3.33: Bicycle parkway concept**

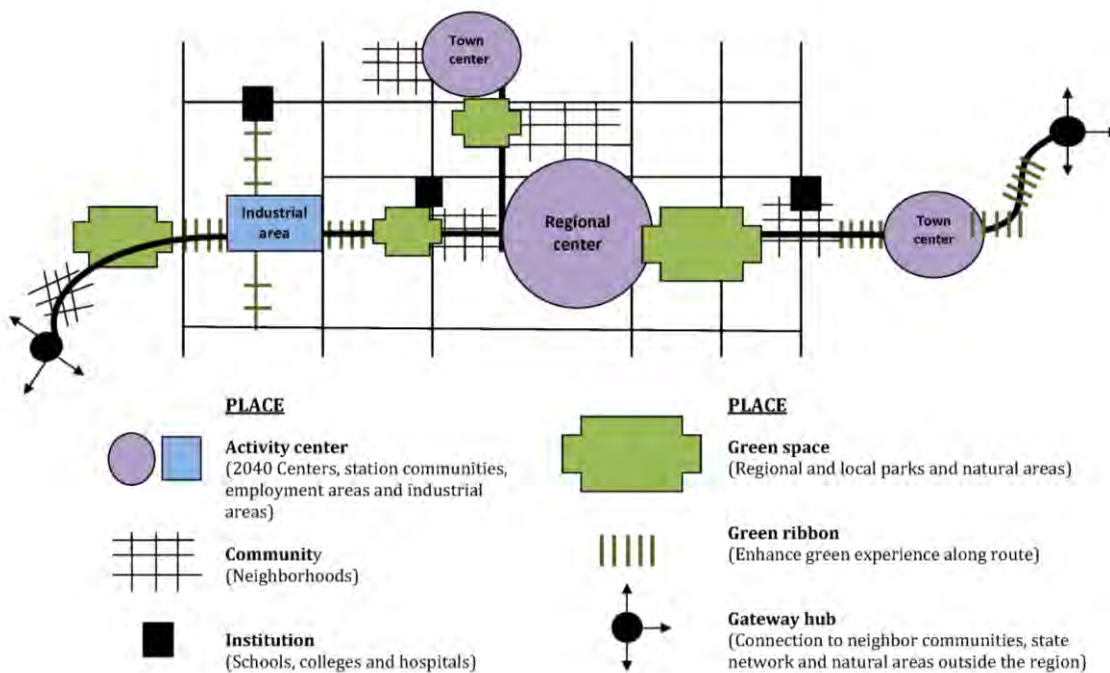


Image shows a graphic illustrating bicycle parkways connecting key destinations. A bicycle parkway serves as a green ribbon connecting 2040 activity centers, downtowns, institutions, and greenspaces within the urban area.

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, or 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 RTFP 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 3.34, the Regional Bicycle Network.

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 3.34 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 3.34 provides a vision for a future bicycle network and is used to identify gaps in the regional network. For a map of current bicycle facilities and gaps 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 be developed consistent with regional design guidelines.

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.

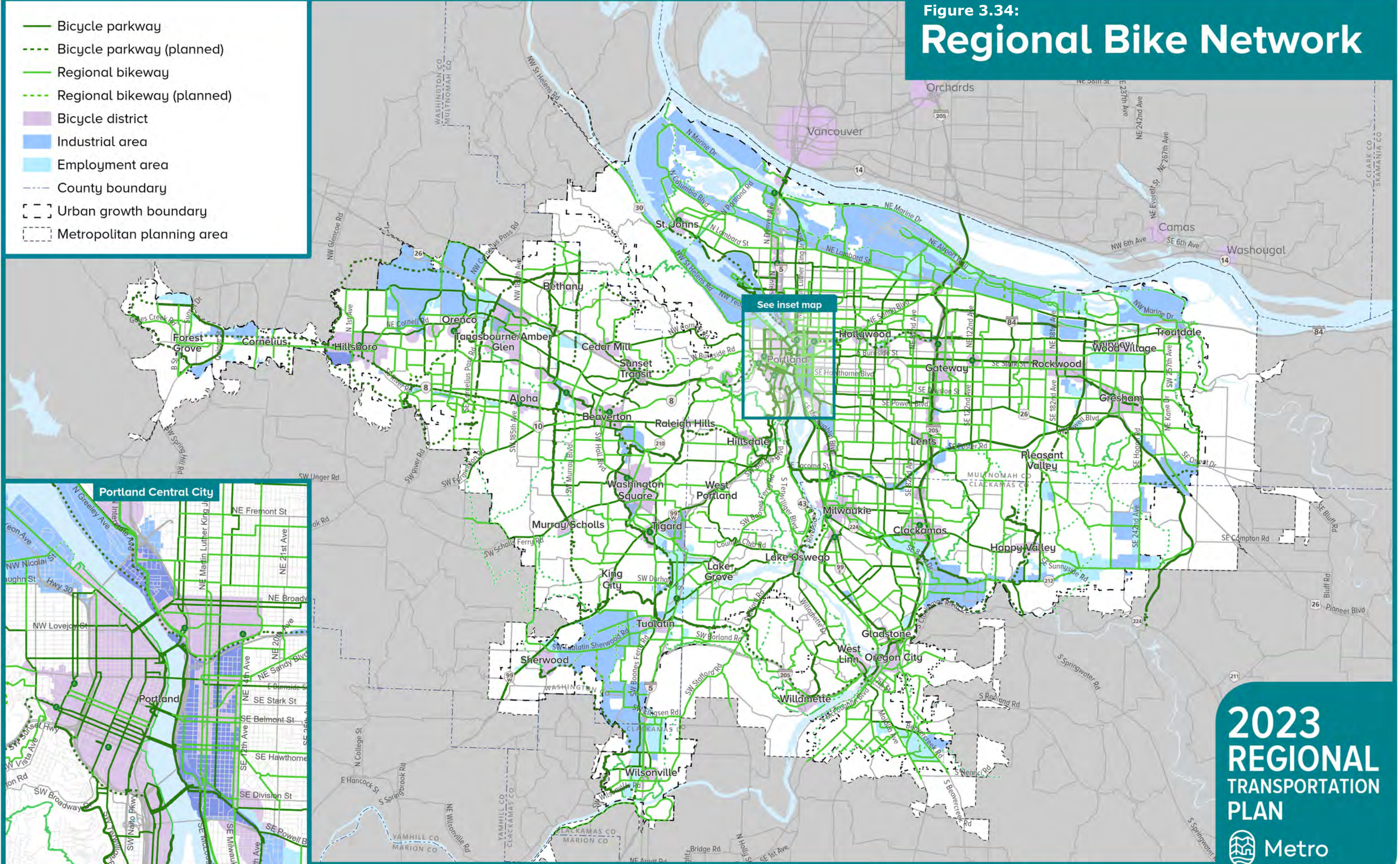
Bicycle Parkways and Regional Bikeways typically follow arterial streets but may also be located on collector and low-volume streets. On-street bikeways should be designed using a flexible “toolbox” of bikeway designs, including bike lanes, cycle tracks, protected and physically separated bicycle lanes, on-shoulder bikeways, shared roadway, wide outside lanes and bicycle priority treatments such as bicycle boulevards, also known as Neighborhood Greenways.



Figure 3.34:

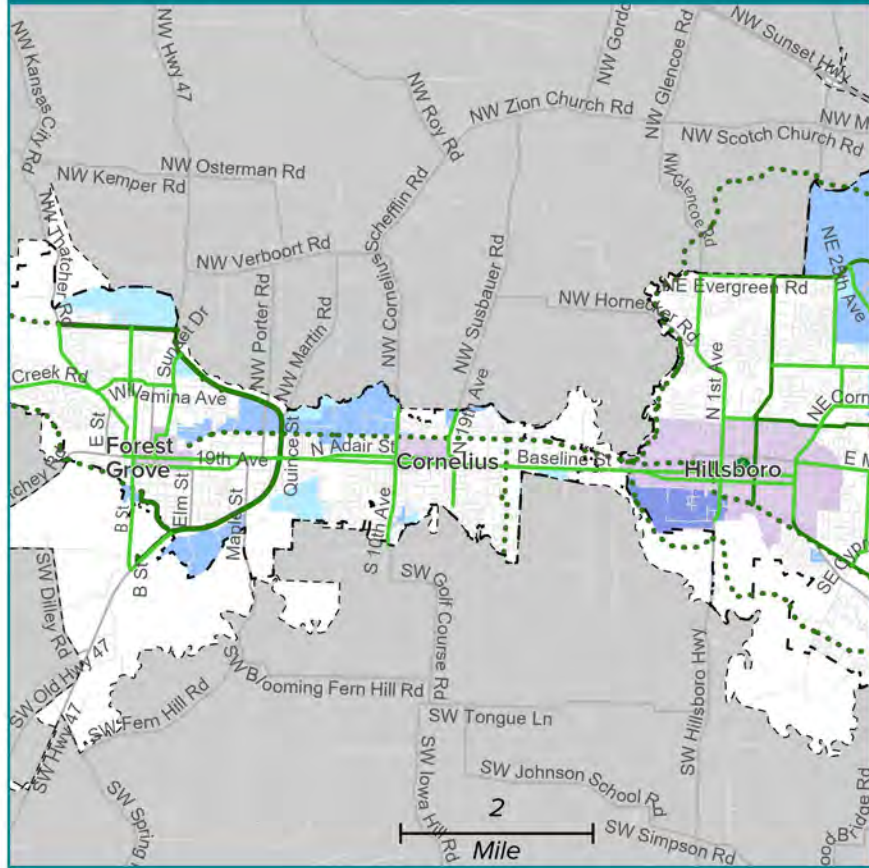
# Regional Bike Network

- Bicycle parkway
- - - Bicycle parkway (planned)
- Regional bikeway
- - - Regional bikeway (planned)
- Bicycle district
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

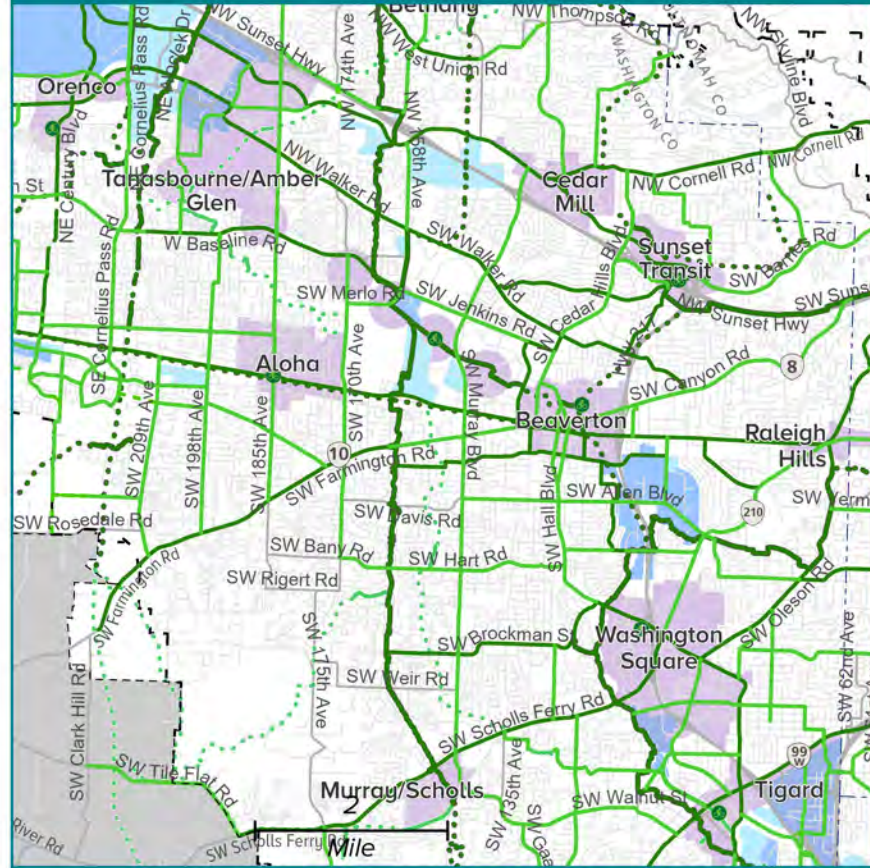




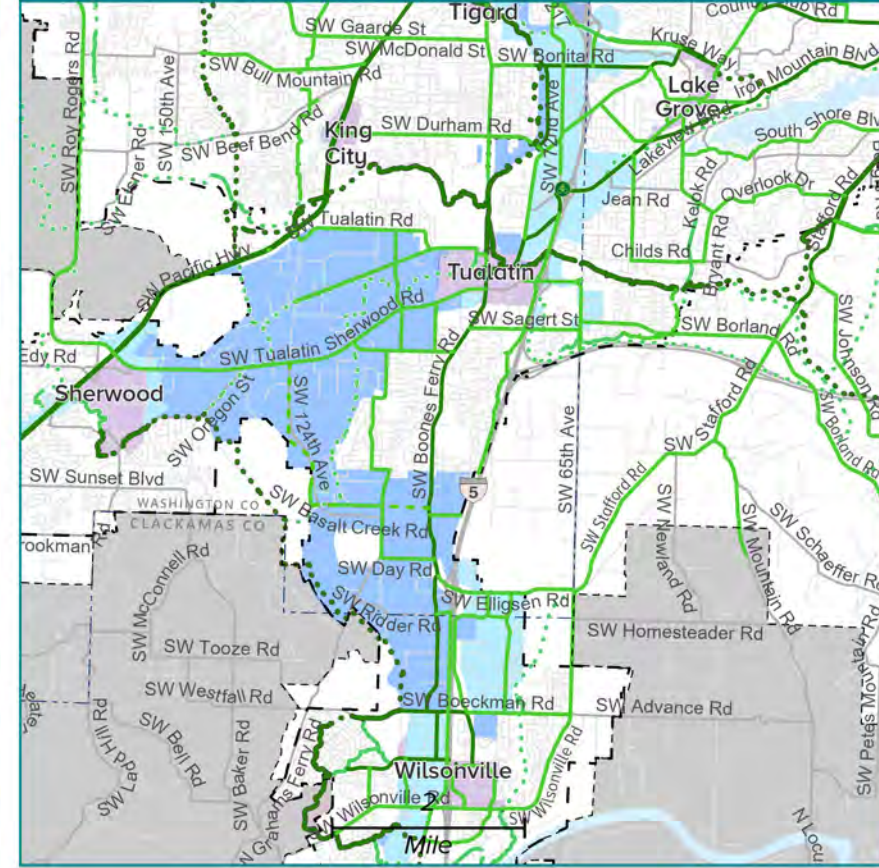
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area

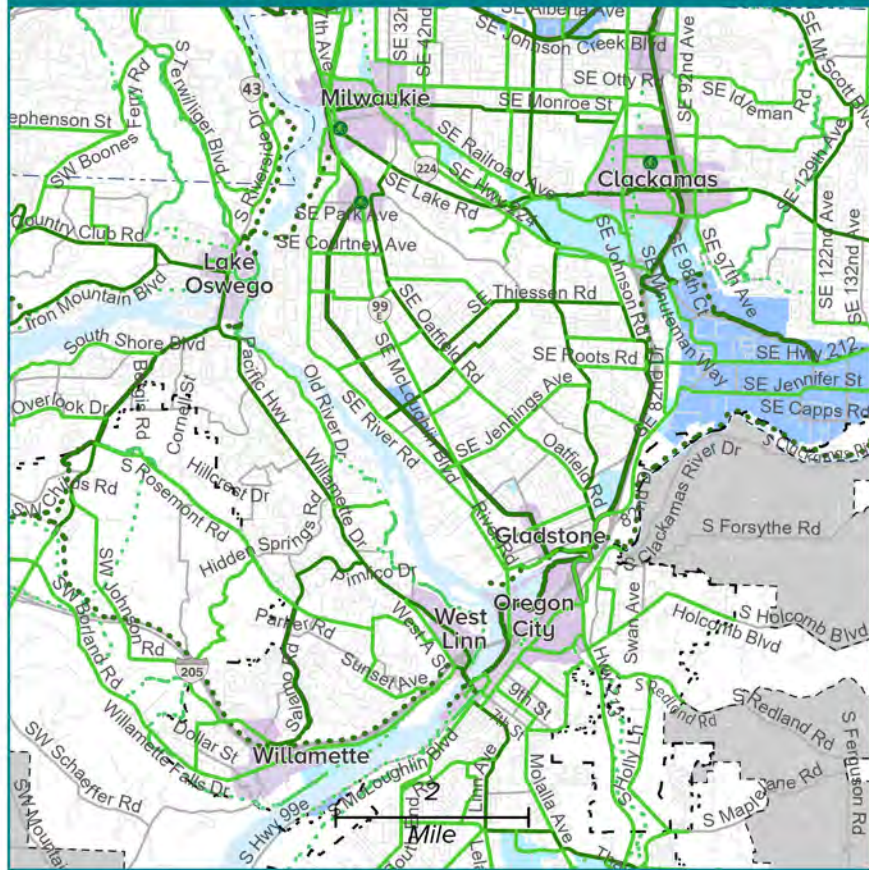


### Legend

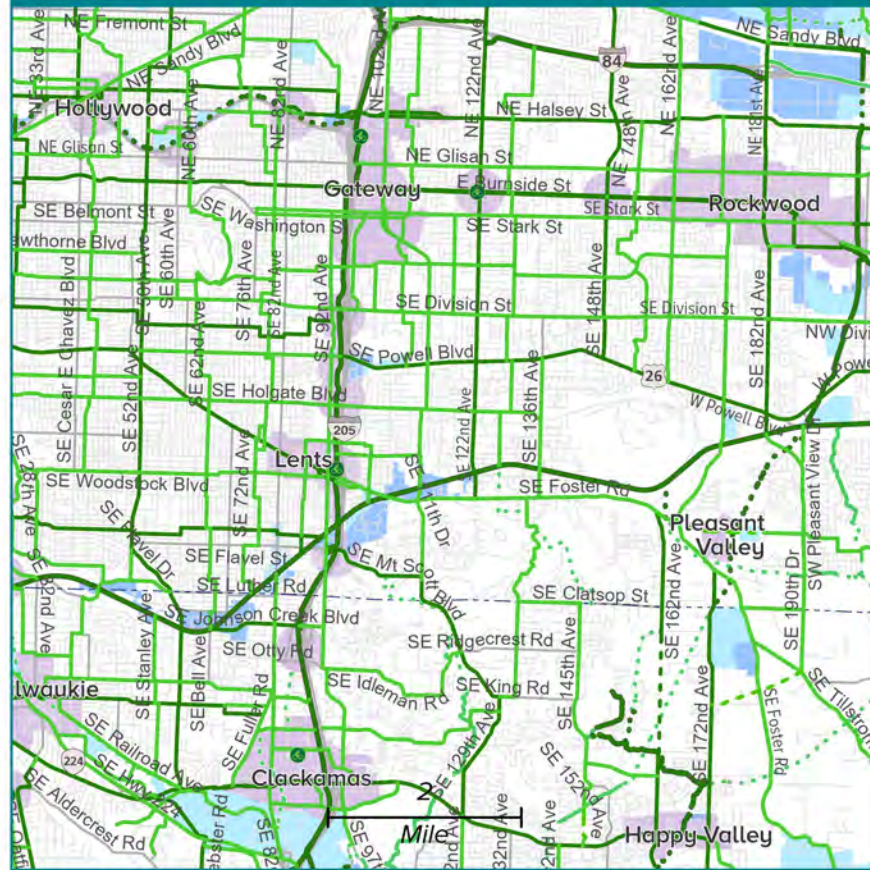
(dotted lines are proposed projects and do not identify specific alignments)

- Bicycle parkway
- Bicycle parkway (planned)
- Regional bikeway
- Regional bikeway (planned)
- Pedestrian district
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

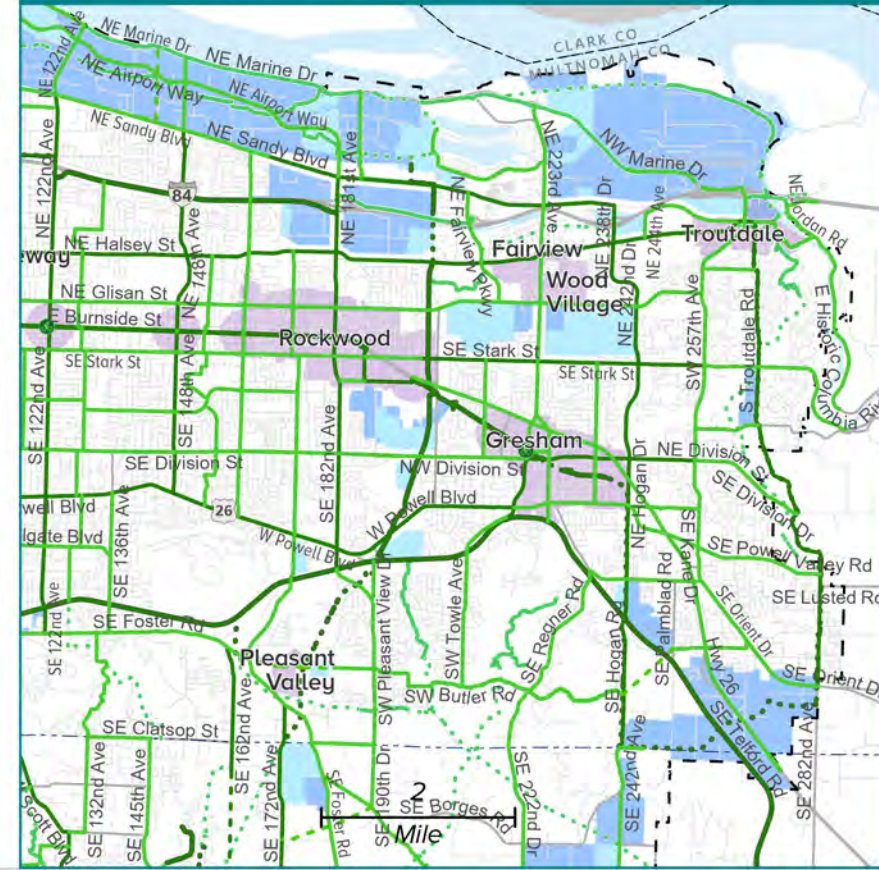
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



### 3.3.9 Regional pedestrian network concept and policies

Walking contributes to a healthy lifestyle and supports vibrant local economies. Every trip begins or ends with at least a short walk, transit is integrated with walking. However, walking is not a safe or convenient option for everyone in the region. Traffic crashes involving people walking often end in 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 RTFP 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 3.35 shows the components of the regional pedestrian network and their relationship to adjacent land uses.

**Figure 3.35: Regional pedestrian network concept**

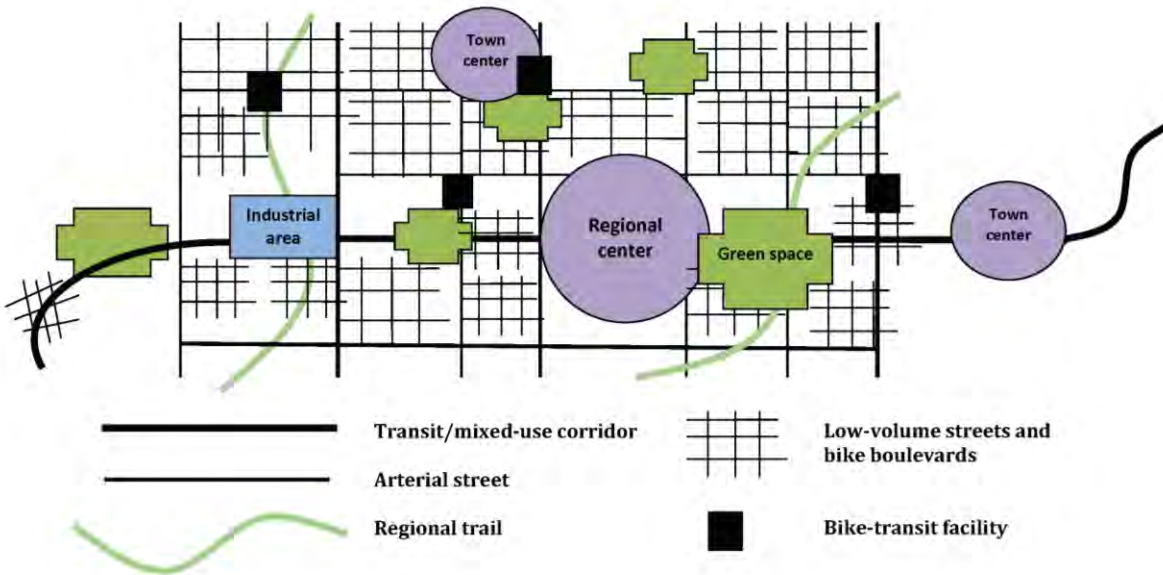


Image shows a graphic of pedestrian routes connecting key regional destinations and centers. The 2040 Growth Concept sets forth a vision for making walking safe, convenient, and enjoyable to support walking as a legitimate travel choice for all people in the region. The Regional Transportation Plan supports 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.

<b>Pedestrian Policy 1</b>	<b>Make walking the most convenient, safe and enjoyable transportation choice for short trips of less than one mile.</b>
<b>Pedestrian Policy 2</b>	<b>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.</b>
<b>Pedestrian Policy 3</b>	<b>Create walkable downtowns, centers, main streets and station communities that prioritize safe, convenient and comfortable pedestrian access for all ages and abilities.</b>
<b>Pedestrian Policy 4</b>	<b>Improve pedestrian access to transit and community places for people of all ages and abilities.</b>
<b>Pedestrian Policy 5</b>	<b>Ensure that the regional pedestrian network equitably serves all people.</b>

#### **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.<sup>37</sup> 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.<sup>38</sup> 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

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<sup>37</sup> 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.

<sup>38</sup> 2011 Oregon Household Activity Survey.



and defined a three-mile catchment area for bicycle improvements and a half mile catchment area for pedestrian improvements.<sup>39</sup>

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 RTFP 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 RTFP requires that local Transportation System Plans include an interconnected network of pedestrian routes.

Section 3.08.130 of the RTFP 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

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<sup>39</sup> Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law

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) of the RTFP 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 RTFP 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-income, people of color and people with language isolation live. Transportation is the second highest household expense for the average American, and providing transportation options in areas with low-income populations helps address transportation inequities.

Section 3.08.120[C] of the RTFP 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 RTFP. Investment programs should set priorities for sidewalk improvements to and along major transit routes and communities where physically or economically disadvantaged populations live.

### **3.3.9.3 Regional pedestrian network classifications and map**

Figure 3.36 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. This section describes the regional pedestrian network functional classifications shown on Figure 3.36, 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 3.36 provides a vision for a future pedestrian network and is used to identify gaps in the regional network. Refer to Chapter 4 for a map of existing pedestrian facilities and gaps in the region. The different functional elements of the regional pedestrian network are:

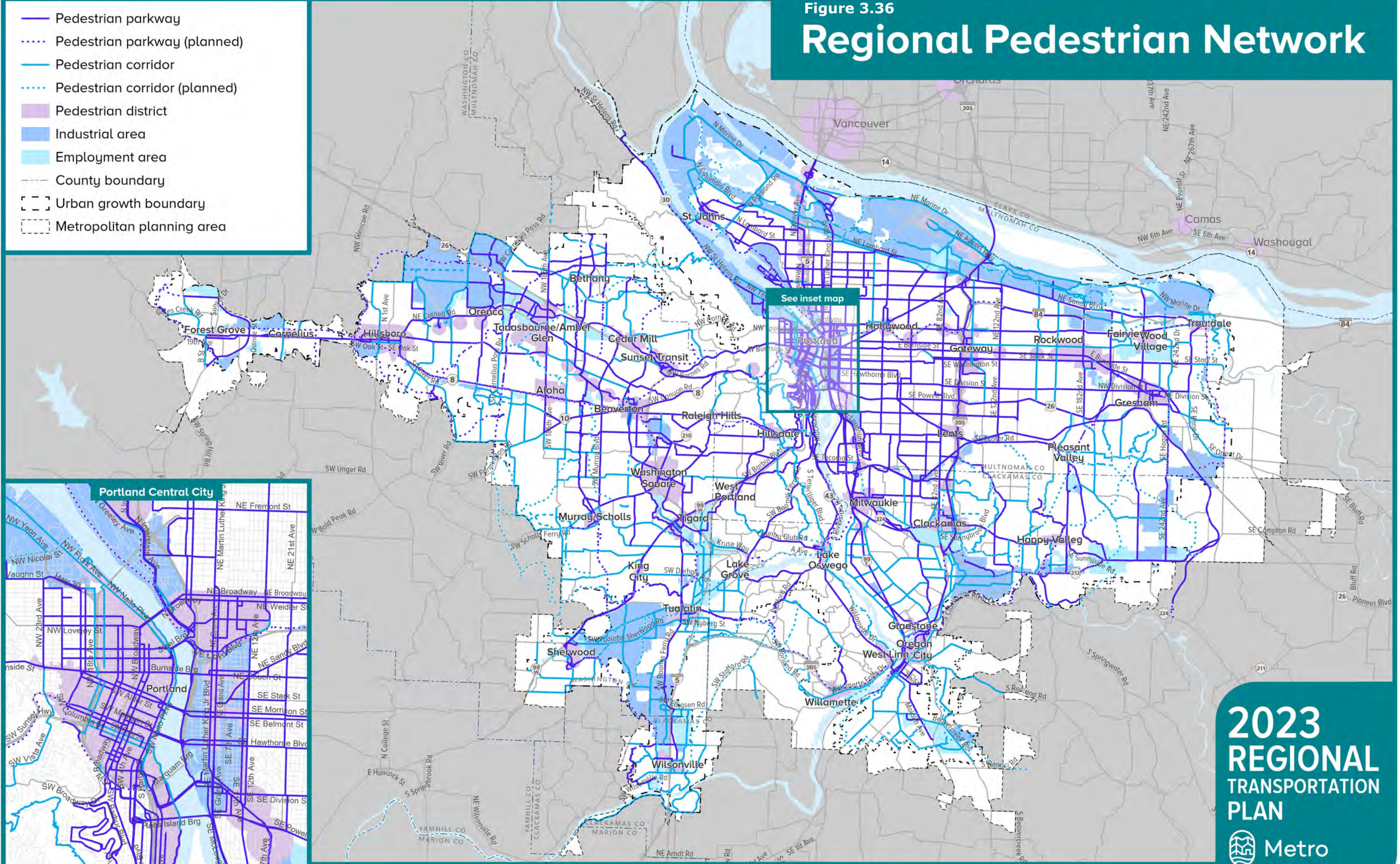
- **Pedestrian Parkways** are generally major urban streets that provide frequent and almost frequent transit service (existing and planned). They can also be regional trails.
- **Regional Pedestrian Corridors** are any major or minor arterial on the regional urban arterial network that is not a Pedestrian 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 3.36

# Regional Pedestrian Network

- Pedestrian parkway
- - - Pedestrian parkway (planned)
- Pedestrian corridor
- - - Pedestrian corridor (planned)
- Pedestrian district
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area



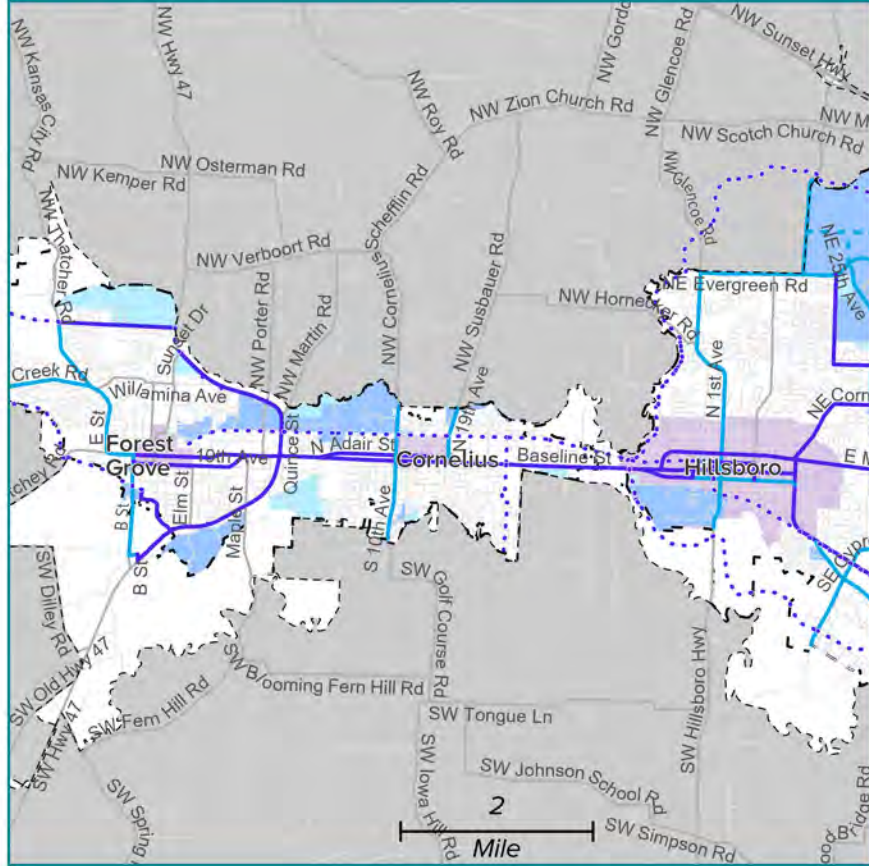
**2023**  
**REGIONAL**  
**TRANSPORTATION**  
**PLAN**



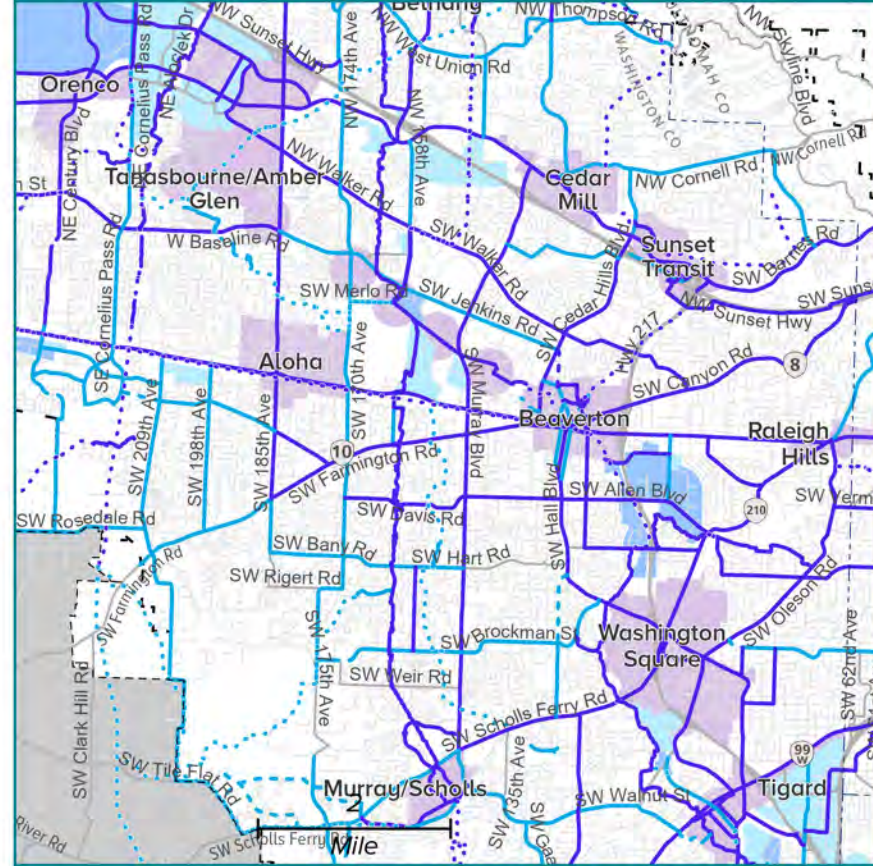
Source: Metro  
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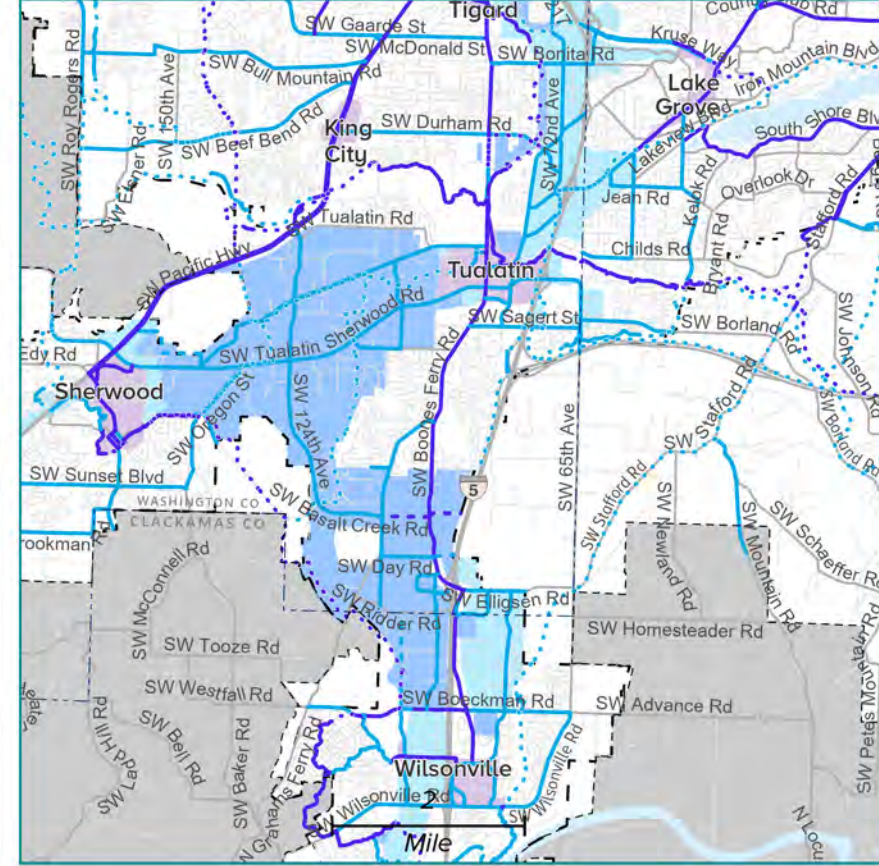
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area

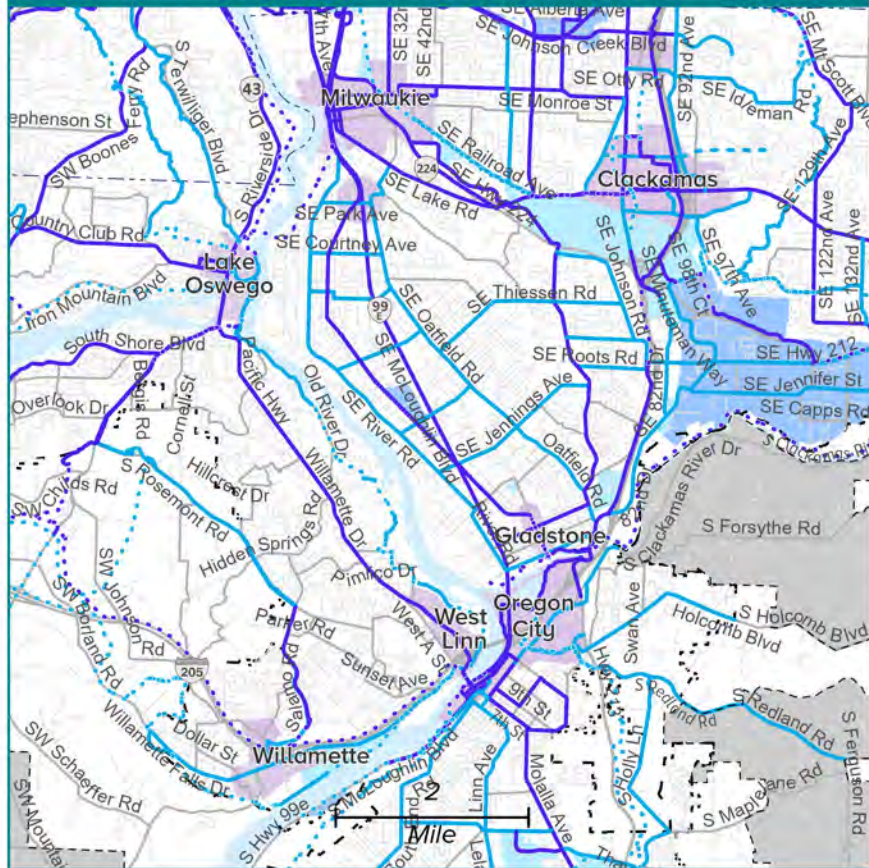


### Legend

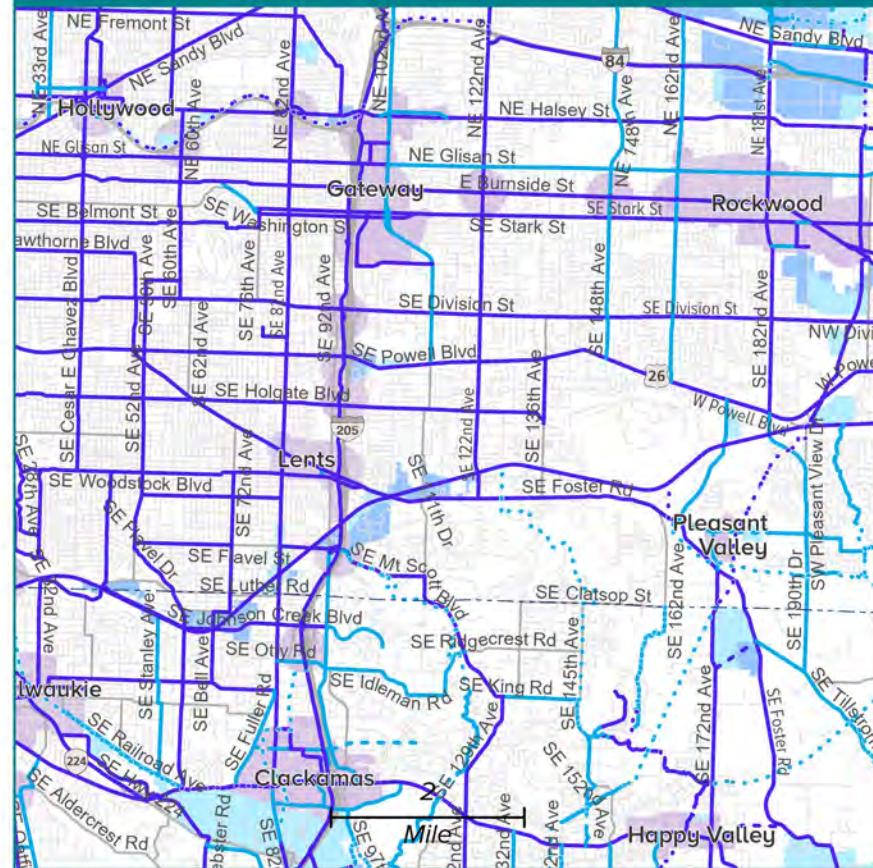
(dotted lines are proposed projects and do not identify specific alignments)

- Pedestrian pathway
- Pedestrian corridor
- Pedestrian pathway (planned)
- Pedestrian corridor (planned)
- Pedestrian district
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

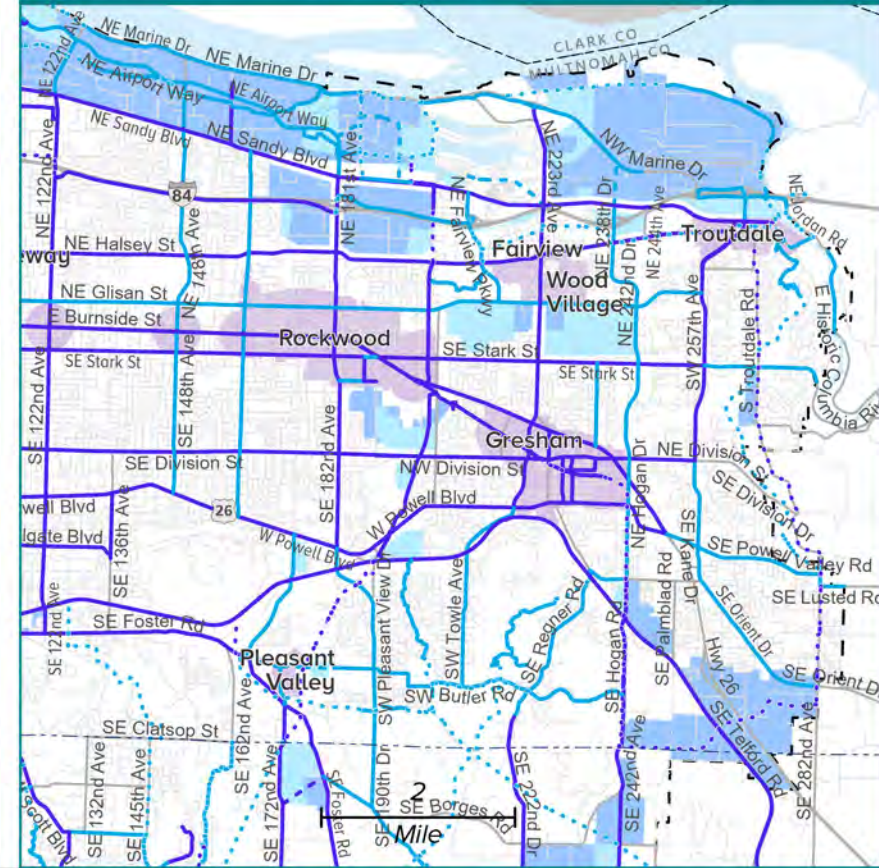
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



### **3.3.10 Transportation System Management and Operations Vision and Policies**

The region’s Transportation System Management and Operations (TSMO) vision, concept and policies address the management of the significant public investment in capital infrastructure. Taking a “manage first” approach addressed concerns about the social, environmental and financial costs of large capital projects such as building new lanes. System management can restore reliable travel and provide flexibility for travelers to use a variety of travel options. OAR 660.012, 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 updated the region’s ten-year strategy, continuing an innovative, holistic, multimodal, and cost-effective approach to managing the transportation system. The 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:

1. Provide a transportation system that is reliable for all users.
2. Connect all people to the goods, services, and destinations they need through a variety of travel choices.
3. Collaborate as effective stewards for the transportation system.
4. Eliminate the disparities in the transportation system experienced by Black, Indigenous, people of color and people with low incomes.
5. Create a transportation system where all users are free from harm.
6. 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 actions in

Table 3.12 show the range of regional work that connects TSMO work to achieving outcomes aligned with the RTP.

**Table 3.12: Examples of TSMO actions and investments in four strategic areas**

<p><b>Concepts, Capabilities, and Infrastructure</b></p> <ul style="list-style-type: none"><li>• Inventory and manage regional signal and Intelligent Transportation System Communications Infrastructure</li><li>• Manage transportation assets to secure the network</li><li>• Continue freight technology and Intelligent Transportation Systems deployment</li><li>• Facilitate ground truthing of emerging technologies</li><li>• Establish a Regional Transit Operators TSMO Group</li><li>• Unify and standardize fare subsidies for transit and Mobility on Demand</li><li>• Develop an Intelligent Transportation System travel time information data collection and distribution plan for Regional Disaster Preparedness Organization regional emergency routes</li><li>• Create continuous improvement process for existing and new signal systems and related performance</li><li>• Deploy regional traveler information systems</li><li>• Implement integrated corridor management and mainstream into corridor planning</li><li>• Create a TSMO safety toolbox</li><li>• Build and use a TSMO Toolbox to connect gaps in bicycle and pedestrian infrastructure</li></ul>
<p><b>Planning</b></p> <ul style="list-style-type: none"><li>• Develop a Mobility on Demand strategy and policy</li><li>• Pilot Origin-Destination data to prioritize TSMO investments</li><li>• Participate in regional public outreach to assist in guiding, listening and learning through TSMO focused conversations</li><li>• Update the regional ITS Architecture</li></ul>
<p><b>Listening &amp; Accountability</b></p> <ul style="list-style-type: none"><li>• Track and prioritize TSMO investments for and with Black, Indigenous, people of color and people with low incomes</li><li>• Create a community listening program</li><li>• Improve TSMO data availability to aid in traveler decisions and behavior</li></ul>
<p><b>Data Needs</b></p> <ul style="list-style-type: none"><li>• Establish TSMO performance measures baseline.</li><li>• Explore new TSMO data sources</li></ul>

### 3.3.10.3 Transportation system management and operations (TSMO) policies

<b>TSMO Policy 1</b>	<b>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.</b>
<b>TSMO Policy 2</b>	<b>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.</b>
<b>TSMO Policy 3</b>	<b>Optimize operations for reliability and mobility by coordinating and advancing operator capabilities with shared tools and interoperable technologies.</b>
<b>TSMO Policy 4</b>	<b>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.</b>
<b>TSMO Policy 5</b>	<b>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.</b>

**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 regional policy dating back to the 1990s, transportation agencies use 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.

Transportation agencies collaborate to identify and expand practices and technologies to a regional scale 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 Congestion Management Process (CMP), Climate Smart Strategy 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 for accountability. Each evaluation asks, “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 advances 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 3.37 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 agency performance “capability maturity” 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.**

TSMO responds to the barriers that can be overcome with traveler information, aiding people to find and use the most sustainable affordable and safest option. The 2021 TSMO Strategy includes actions to ensure investments and the creation of traveler information with community involvement supportive of racial equity.

**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. <sup>40</sup>

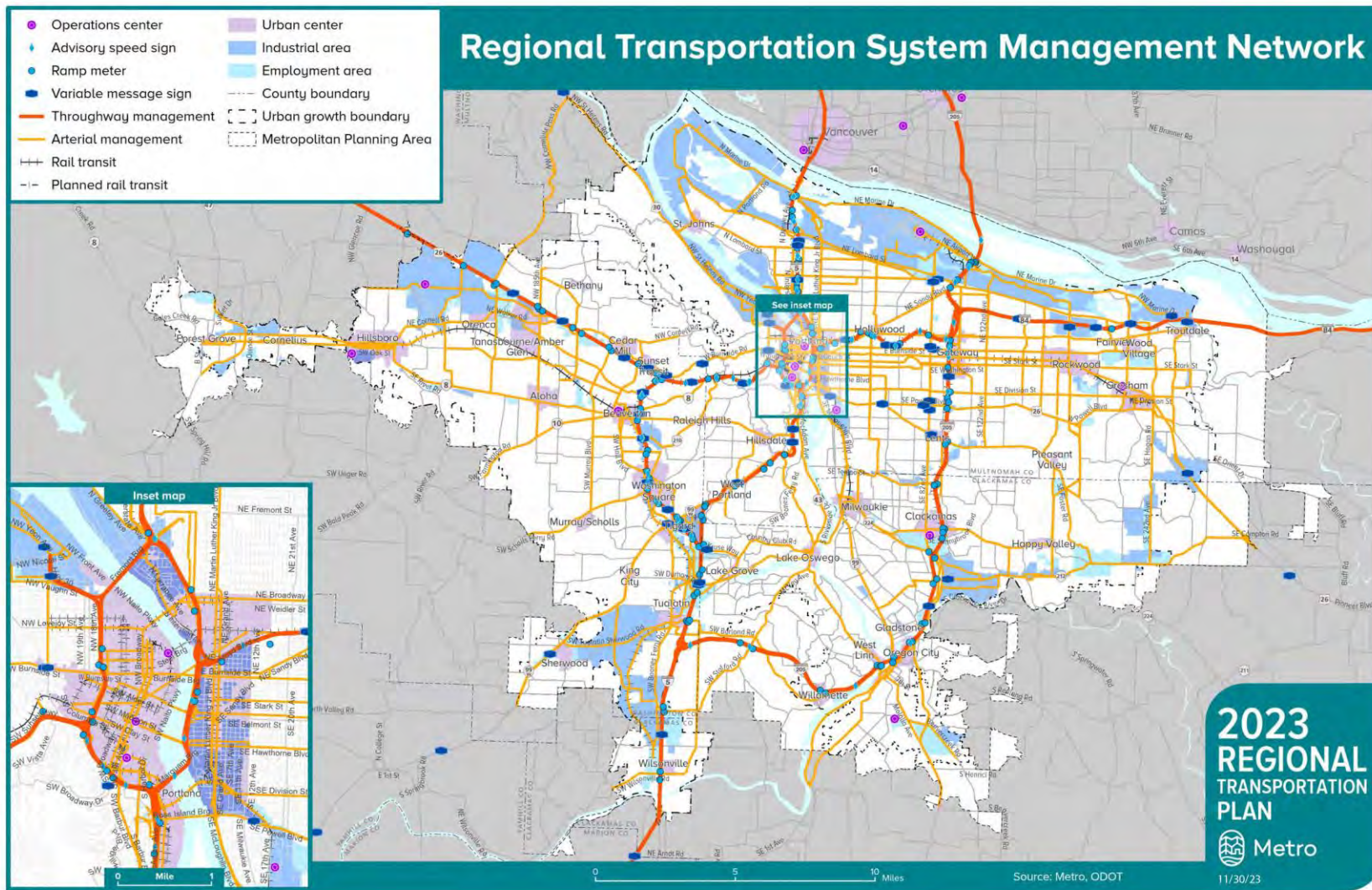
**3.3.10.4 Transportation system management and operations map**

The map for regional TSMO Figure 3.37 reflects Policy 1. This map will be used in Transportation System Plan updates and amendments. Actively managing the transportation system requires Intelligent Transportation Systems (ITS) equipment, such as variable message signs, along throughways and arterials to 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 ODOT and the private sector, the region’s operators also use crowdsource data. Crowdsource data helps evaluate reliability and can inform current travel conditions and report crashes.

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<sup>40</sup> “Ridesharing” in this context means traditional not-for-profit carpooling or vanpooling, not Transportation Network Companies such as Uber or Lyft.

Figure 3.37: Transportation system management and operations map



### **3.3.11 Transportation Demand Management Concept and Policies**

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 the transportation system is used in a balanced way to maximize investments in transportation. 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](https://www.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

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

#### **TDM Policy 1. Develop and refine regional and local TDM policies and implementation 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 Program
- ODOT Transportation Options Plan
- DEQ Employee Commute Options Rule

- Metro Climate Smart Strategy
- Metro Regional Travel Options Strategy
- Metro Transportation System Management & Operations Strategy
- Regional 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 for 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 that include information and incentives at worksites. But for Safe Routes to School programs, an entirely different approach is needed to work with parents and children to help them see the fun being able to safely walk, bike or roll to school, as well as the benefits. 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. Improve 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 marginalized communities, especially communities of color and people with low incomes. TDM investments made through a racial equity focus begin to correct these impacts and improve multiple regional priorities by addressing known burdens on marginalized communities 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 marginalized communities.

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 Black, Indigenous, people of color 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

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 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. It also includes car, scooter, or bike share that allow people to rent a nearby vehicle for short trips as well as 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 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 policy and regulation. The principles summarized in Table 3.13 guide Metro and its partners in identifying companies that share common goals when developing partnerships and pilot projects.

**Table 3.13: RTP goals and corresponding emerging technology principles**

<b>RTP goal</b>	<b>Emerging technology principle</b>
<b>Economy</b>	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.
<b>Climate</b>	Emerging technology should improve transit service or provide shared travel options and support transit, bicycling and walking.
<b>Mobility</b>	Emerging technology should promote shared trips, decrease vehicle miles traveled and minimize conflicts between modes.
<b>Safety</b>	Emerging technology should reduce the risk of crashes for everyone and protect users from data breaches and cyber attacks.
<b>Equity</b>	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**

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

**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 the 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 intended 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.



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## 2023 Regional Transportation Plan



# 2023 Regional Transportation Plan

## Chapter 4

### **Our growing and changing region**

November 30, 2023

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## 4.0 INTRODUCTION

### Purpose

The greater Portland region is an extraordinary place to call home. It is known for its unique communities, a diverse and growing economy and a well-connected transportation system. The region is surrounded by stunning natural landscapes and crisscrossed with a network of parks, trails and natural areas within a walk, bike ride or transit stop from home. It also serves as a freight gateway to domestic and international markets for businesses located throughout the state of Oregon, southwest Washington, the mountain states and the Midwest.

The region did not get this way by accident. Over the years, communities throughout the region have taken a collaborative approach to planning that has helped make the region one of the most livable in the country. Every day, the region's 2.4 million people have places to go—to work or school, to doctors and grocery stores and parks and back home again. All these trips, along with our transportation system, knit the region together—from Forest Grove to Troutdale, Vancouver and Portland to Wilsonville and every community in between.

Through our dedication to planning and working together to make local and regional plans a reality, we have set a wise course for managing growth, but new challenges continue to emerge. Our success in creating a livable region has attracted new residents and employers, but our housing supply hasn't kept up with population growth, and it has become prohibitively expensive for many people to afford homes, particularly in neighborhoods where it is easy to walk, bike or take transit. This may be one of the reasons why some recent investments in transit and trails haven't drawn as many users as they have in past decades. And even the best-laid plans couldn't have anticipated the impact of the COVID-19 pandemic, which dramatically reshaped how people travel and continues to affect the region even as the public health emergency recedes. These recent changes add to the some of the challenges already posed by the region's geographic setting, which include river crossings, topography, and vulnerability to earthquakes, wildfires, and other natural disasters.

This chapter provides a snapshot of current conditions and trends within the Greater Portland region based on the information available at the outset of the RTP process as of the middle of 2022, and it highlights key regional transportation challenges and needs for the plan to address. Chapter 6 describes the projects that are included in the RTP to address these needs, and Chapter 7 evaluates how the RTP will address these issues, often using the same metrics that are described here.

### Chapter organization

The RTP Needs Assessment is organized around the five 2023 RTP priorities: mobility, safety, equity, economy, and climate. Each section of this chapter is dedicated to one of these priorities, and contains research, maps and data describing transportation needs with respect to each priority. Because these goals are often aligned—for example, increasing transit service often



benefits mobility, climate, and equity—some sections contain similar information, or refer to relevant information in other sections.

## 4.1 MOBILITY

The Regional Mobility Policy in Chapter 3 of the 2023 RTP redefines how the region defines and measures mobility throughout the plan, establishing three performance measures for transportation agencies to use in plans and projects:

- System completeness
- Vehicle miles traveled
- Travel speed reliability on throughways

Development of the regional mobility policy began in 2019, through a joint effort of Metro and the Oregon Department of Transportation (ODOT). In late 2022 JPACT and the Metro Council accepted the draft mobility policies and implementation action plan and directed further development of the accompanying performance measures as part of completing the 2023 RTP.

The throughway performance measure and thresholds aim to identify future transportation needs on region's throughways using travel speed as a proxy for reliability. The policy defines a minimum throughway performance threshold of no more than four hours per weekday with travel speeds below 35 miles per hour on controlled access freeways (e.g., I-5, I-84, I-205, I-405, US 26 and OR 217) or 20 miles per hour on signalized highways (e.g., OR 99E, US 30, OR 212) designated in Figure 3.8. If average speeds fall below the relevant speed threshold for more than a total of four hours in a day, it indicates the system is failing at that location and a transportation need exists.

This section provides a general update on how travel patterns have evolved since the last RTP update in 2018 as well as baseline information on the three measures above. Key findings include:

- Travel declined during the COVID pandemic. Between October 2019 and October 2021, daily throughway trips on a sample of regional mobility corridors decreased by 5%, daily arterial trips decreased by 14%, and daily transit ridership decreased by 41%.
- Overall, the planned motor vehicle network is much more complete than the other modal networks.
- Active transportation networks are mostly complete near transit. However, there are plenty of small gaps that hinder people's ability to walk and bike to transit stations and other important destinations. There are larger bicycle and pedestrian gaps between urban centers and at the edges of the region, many of which are on the trail system.
- Per capita VMT in the greater Portland region has been significantly lower than the national average since 1997 and has mostly been flat or declining. But in order to meet ambitious VMT reduction targets the region will likely need to take new approaches.
- During rush hour, the average traveler can reach 43% of jobs in the region by driving, and 7% by transit. Metro and partner agencies are working to increase ridership by better connecting activity centers—potentially including many developing suburban centers—with frequent transit.

### 4.1.1 Evolving travel patterns

Between 2015 (the base year for the 2018 RTP update) and 2020 (the base year for the 2023 RTP update), the region grew significantly—by 135,000 people (an 8.4% increase), 57,000 households (8.9%) and 90,000 jobs (10.1%).<sup>1</sup> This growth is projected to continue, though not necessarily at the same rapid rate as the region saw during the previous decade. As Greater Portland continues to evolve into a major metropolitan area, with increasing housing prices and a more specialized economy, commute patterns are becoming more complex. Figure 4.30 in the Thriving Economy section provides a window into this growing complexity; it shows how workers commute within and between counties in and around the region. Over 45% of workers in the 3 Metro-area counties work in a different county than where they live.

Though the number of jobs and homes in the region is growing, the way that people commute hasn't changed much. Table 4.1 shows commute mode shares for 2010 and 2019 (the base year for the 2023 RTP update, and the last year of available data that does not reflect the impacts of the COVID-19 pandemic). The table shows both absolute change in mode shares between 2010 and 2019 (which better captures which modes are dominant in the region, but can understate change for modes other than driving because they are less widely-used to begin with) and relative change (which better captures the extent to which usage of different modes is growing or declining relative to current levels, but can also amplify small variations that are due to margins of error or other reporting issues). This data is built up from Census tract-level estimates for all tracts within the MPA boundary, weighted according to the population in each tract.

**Table 4.1: Commute mode shares in the Greater Portland region, 2010-2019 (American Community Survey five-year estimates, 2006-10 and 2015-19 data)**

Mode	2010 mode shares	2019 mode shares	Absolute change 2010-2019	Relative change 2010-2019
Drive alone	69.5%	67.8%	-1.7%	-2.4%
Carpool	9.9%	9.2%	-0.7%	-6.6%
Transit	7.7%	8.1%	0.4%	5.3%
Walk	3.7%	3.6%	-0.1%	-2.4%
Bike	2.3%	2.6%	0.2%	10.4%
Work from home	6.0%	7.6%	1.6%	26.4%

Between 2010 and 2019, vehicle commute shares fell slightly, the share of people biking or taking public transportation to work rose slightly, and there were very small changes in how many people walk to work. This reflects the challenges inherent in achieving the RTP's goal of supporting a shift from driving to other modes. Though the region has prioritized investments in transit and active transportation over the past several decades, the motor vehicle network is far more built-out than other networks and people's daily travel habits are deeply ingrained, so even major multimodal investments only produce incremental changes. The rising cost of housing, especially in walkable neighborhoods near transit stations, may also play a role since it makes it

<sup>1</sup> Metro Regional Travel Model.

harder for people with lower incomes—who tend to be more likely to use modes other than driving, particularly transit—to afford a home that offers access to options.

The biggest change captured in Table 4.1 is the growth of working from home. The share of people working from home increased by a relative 25% between 2010 and 2019—double the growth in transit, which is the next-fastest-growing mode in the region—and as of 2019 there were almost as many people in the region working from home as there were taking transit to work.

Furthermore, the data shown above only captures people who work from home full time; if it accounted for people who work from home a few days per week it would show an even larger percentage of people teleworking.

It is important to note that the data shown above only capture commute trips. These trips make up less than 30% of all trips in the region, but since commutes are often time-sensitive, longer-distance trips they account for a significant share of congestion and vehicle miles traveled. Metro’s travel surveys find that people are significantly more likely to walk and carpool and less likely to drive alone or take transit when taking non-commute trips than they are when commuting.

### **Impacts of the COVID-19 pandemic on travel**

The data discussed above highlights how slowly transportation behavior often changes. However, major events like recessions and natural disasters can have immediate and drastic impacts on how people travel, and it can take a while for conditions to stabilize afterward. The COVID-19 pandemic that began in March 2020 was just such an event. Even though the federal government has now declared the COVID-19 public health emergency over, offices and hotels are still emptier than they were before the pandemic, and the impacts of the pandemic are still rippling through the economy and the transportation system.

The RTP is a plan for the next 20 years. Using pre-pandemic data to assess needs allows the RTP to focus on the long-term demographic and economic changes that shaped the region’s growth over the past several decades, and that are likely to continue to determine how the region grows in the future. Most of the data in this chapter is from 2020 or before. 2020 is the base year for the 2023 RTP update, is often the most recent year for which data are available.

Many aspects of life and travel have already returned to their “normal” pre-pandemic state, while others are trending that way. It’s possible that some of the impacts of the pandemic will be so long-lasting that they lead to a “new normal” somewhere between conditions at the peak of the pandemic and those beforehand. Considering this possibility—which begins with understanding how transportation patterns have continued to evolve since the pandemic<sup>2</sup>—helps the RTP be more resilient under different potential futures. Figure 4.1 below shows how travel demand changed for transit and on different types of streets during the year following the pandemic.

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<sup>2</sup> Most data in this section comes from Metro’s Emerging Transportation Trends Study, which can be found at: <https://www.oregonmetro.gov/public-projects/2023-regional-transportation-plan/research>



**Figure 4.1: Trip volumes by mode and by facility type, indexed to February 2020 levels, February 2020-2021 (PBOT freight route and arterial count data; ODOT throughway count data; TriMet transit ridership performance reports; data were compiled in April 2021<sup>3</sup>)**

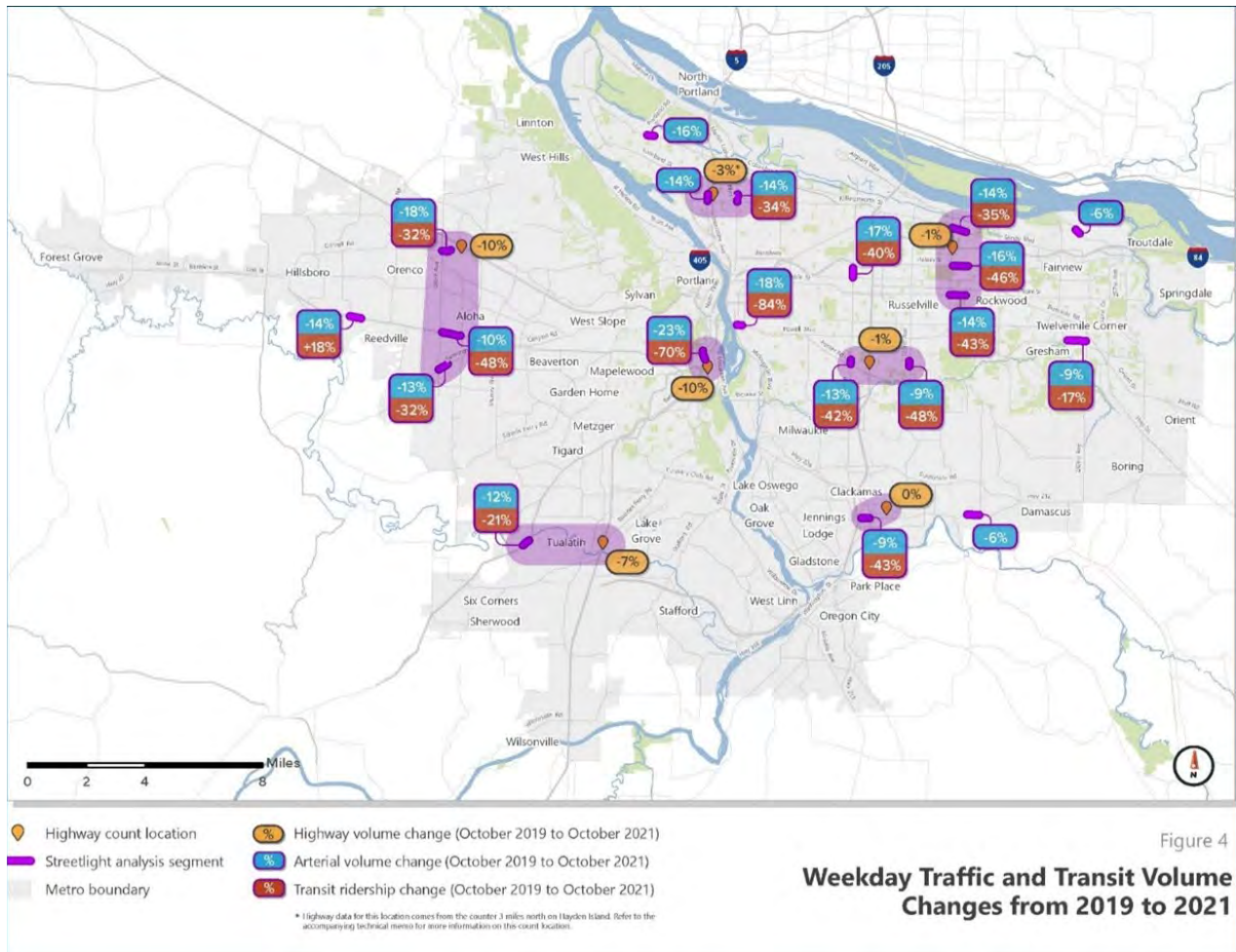


All different types of travel shown fell during the initial months of the pandemic, but some fell more steeply and/or recovered more slowly than others. Trips on freight routes fell the least and recovered most quickly, potentially because goods kept moving during the pandemic and many freight routes also connect workers to jobs that remained in-person during the pandemic. Throughway trips recovered to 80% of pre-pandemic levels by May 2020, and then continued to fluctuate, which could reflect normal seasonal changes in travel demand, extreme weather events, and/or the spread of new COVID variants. Arterial travel appeared to be recovering less slowly, but the data shown only covers the first half-year of the pandemic.

Metro collected data for a set of throughways, arterials and transit routes that reflect key corridors in the region. Figure 4.2 below shows the results. Changes in throughway volumes are shown in yellow, changes in arterial volumes are shown in blue, and changes in transit ridership are shown in red.

<sup>3</sup> This figure, as well as some of the other data in this section, reflects the underlying availability of source data at the time of compilation. Some of this data comes from limited-duration collection and reporting efforts that agencies undertook when the pandemic began to understand its impact.

**Figure 4.2: Weekday vehicle and transit volume changes, October 2019–October 2021 (ODOT throughway count data; Streetlight arterial volume data; TriMet transit ridership by route data)**



Average daily throughway trips across the study locations decreased by 5% between October 2019 and October 2021, while arterial trips declined by 14% and transit ridership fell by 41%. In almost every location studied, arterial volumes decreased more significantly than throughway volumes. Transit volumes fell particularly significantly in locations closer to the center of the region.

These findings are consistent with research about the pandemic’s broader impacts on transportation, which has found that teleworking reduces vehicle trips and miles traveled, as well as transit ridership, particularly near job centers. Transportation agencies in the region are already responding to these dynamics—for example, TriMet’s recent Forward Together concept<sup>4</sup> realigns transit service to focus on routes that have maintained ridership through the pandemic and that serve people with low incomes, who were more likely to continue to rely on transit over the past several years. If teleworking rates remain high, it would likely lead to slightly lower levels

<sup>4</sup> <https://trimet.org/forward/>

of VMT per capita and transit use than the region would otherwise experience, all other things being equal.

### 4.1.2 System completeness

Meeting Mobility goals depends on providing a variety of seamless and well-connected travel modes so that people have multiple options for making trips.

Table 4.2 below summarizes the completeness of different regional modal networks, using the planned networks developed during the 2018 RTP. This is an initial analysis, conducted at the outset of the RTP process, to identify network gaps and issues that many transportation agencies sought to address through the investments described in Chapter 6 of the RTP. Chapter 7 contains an updated analysis of system completeness that describes how these investments, in combination with the existing network, make progress toward completing the planned networks included in the 2023 RTP. These planned networks are based on extensive analyses of network conditions and deficiencies as of July 2022, as well as relevant policies and performance/design standards that apply across the region.<sup>5</sup> This table also reports on the completeness of the bicycle and pedestrian networks<sup>6</sup> near transit stations and along the arterials, which helps people make safe multimodal trips. Completing active transportation networks in Equity Focus Areas (EFAs) is a priority under the RTP’s Equity policies, and completing networks in 2040 centers and employment/industrial areas is important to supporting a Thriving Economy—see those sections for a discussion of bike/ped system completeness in those specific communities.

**Table 4.2: System completeness by modal network and location within the region (2018 RTP networks, RLIS data and 2022 partner agency data)**

Network	Total planned miles	Number of miles completed	Percent of miles completed
<b>Region-wide</b>			
Transit network	1,460	788	54%
Pedestrian network	1,040	597	57%
Bicycle network	1,149	626	55%
Trail network	560	245	44%
Motor vehicle network	1,171	1,146	98%
<b>Near transit</b>			
Pedestrian network	837	539	64%
Bicycle network	881	538	61%
<b>Along arterials</b>			
Pedestrian network	725	414	57%

<sup>5</sup> For further information, see the [Regional Transit Strategy](#), the [Regional Active Transportation Plan](#), the [Regional Trail System Plan](#), and forthcoming updates to the Regional Mobility Policy.

<sup>6</sup> Metro distinguishes between on-street bicycle and pedestrian gaps in facilities like bike lanes and sidewalks and off-street bike/ped gaps in facilities like trails. On-street facilities are generally needed to provide good active transportation connections in centers, near transit, and along arterials, whereas off-street facilities provide longer-distance connections between these areas. Table 4.2 focuses on the on-street bike/ped network.

Network	Total planned miles	Number of miles completed	Percent of miles completed
Bicycle network	619	412	66%

Overall, the planned motor vehicle network is much more complete than the other modal networks. Consistent with the 2040 Growth Concept, the active transportation networks are generally more complete near transit. However, the fact that the pedestrian network along arterials is not significantly more complete than it is in the rest of the region is a concern given that 77% of pedestrian crashes occur on arterials.

However, several important gaps remain in these areas. The maps below identify these gaps by comparing the regional visions (i.e., planned systems) for these networks—which are based on extensive coordination with agency partners and on analysis of transportation and land use data—to the facilities that are on the ground today in order to identify gaps in the system.

Figure 4.3 below shows gaps in the transit network where planned transit has not yet been built. The map differentiates between gaps in frequent (thick lines) and regular (thin lines) transit service, and between gaps in the financially constrained network, which the region has identified funding to complete (green), and gaps in the strategic network, which the region has not yet identified funding to complete (blue). It also shows the location of existing regular and frequent service (orange lines). All of this information is overlaid with Equity Focus Areas (blue cross-hatching) to highlight how the current and planned network serves these communities that particularly need improved transit service (see the Equity section for more details on transit-related Equity needs).

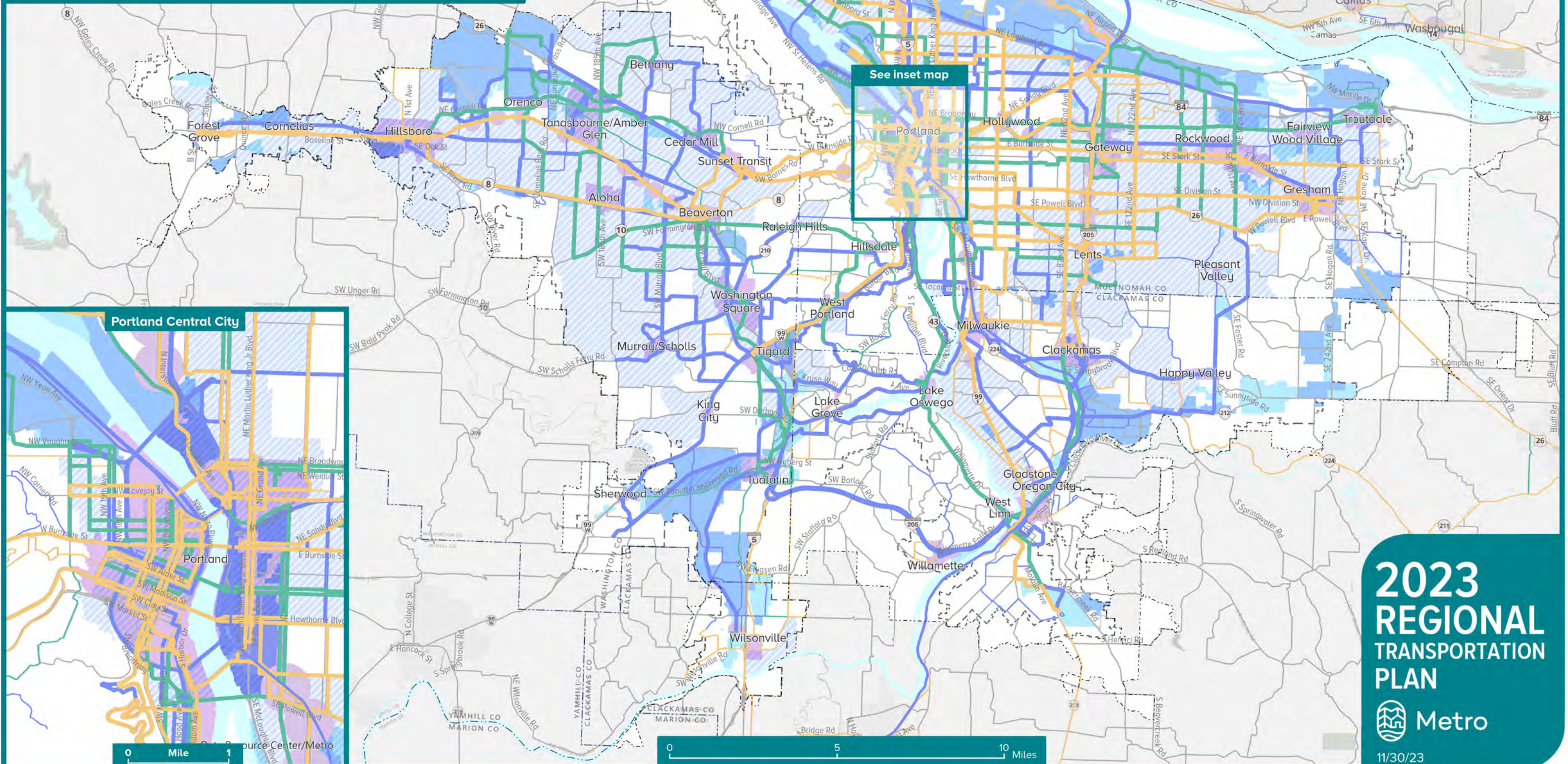


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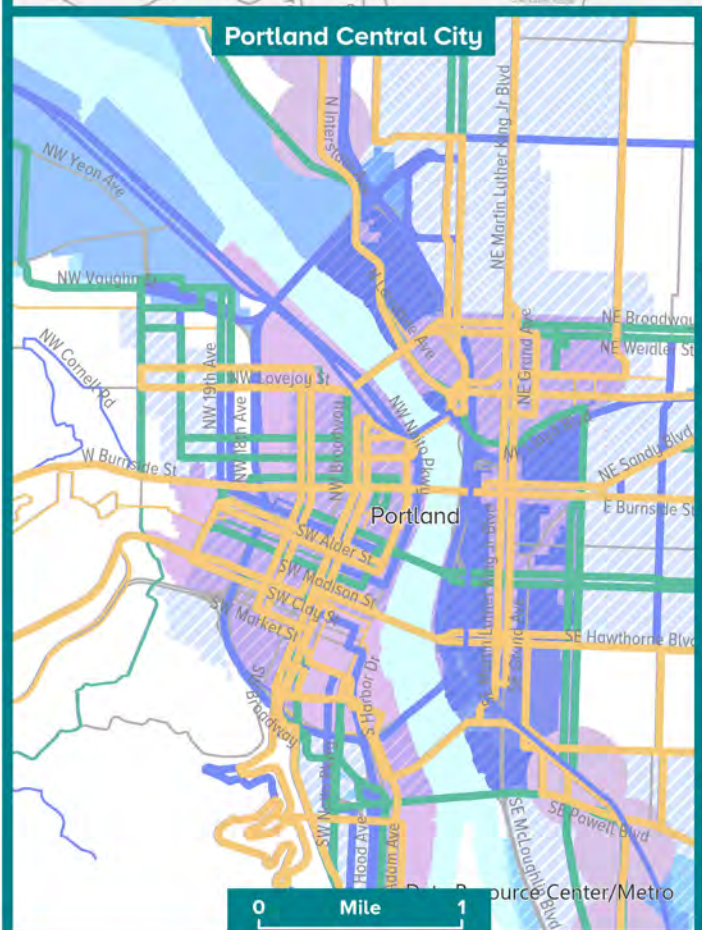


# Regional Transit Network Gaps

- Existing Regional Transit Network
  - Regular service
  - Frequent service
- Gap in Regional Transit Network (Financially-constrained)
  - Regular service
  - Frequent service
- Gap in Regional Transit Network (Vision)
  - Regular Service
  - Frequent service
- Equity focus area
- Station community
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area



See inset map

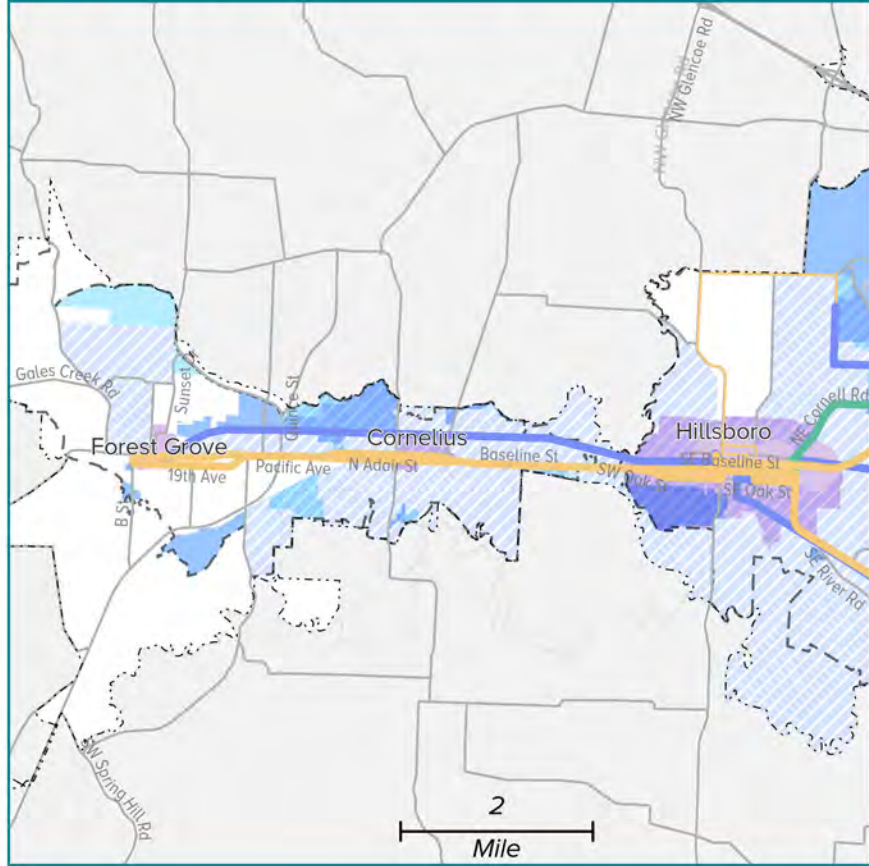


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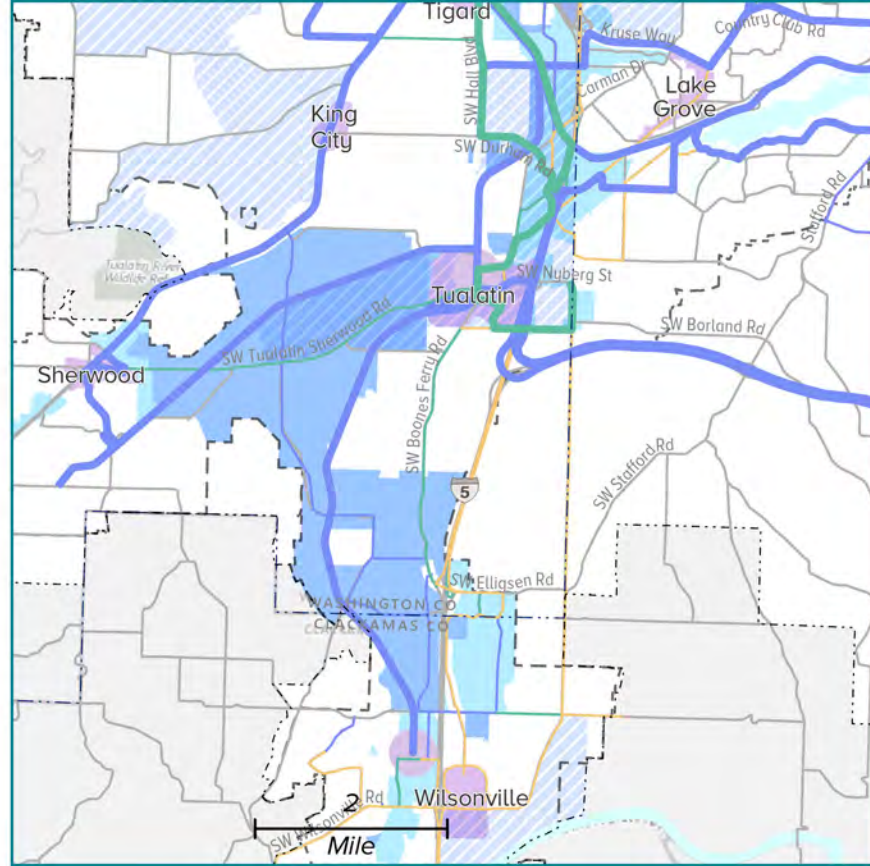
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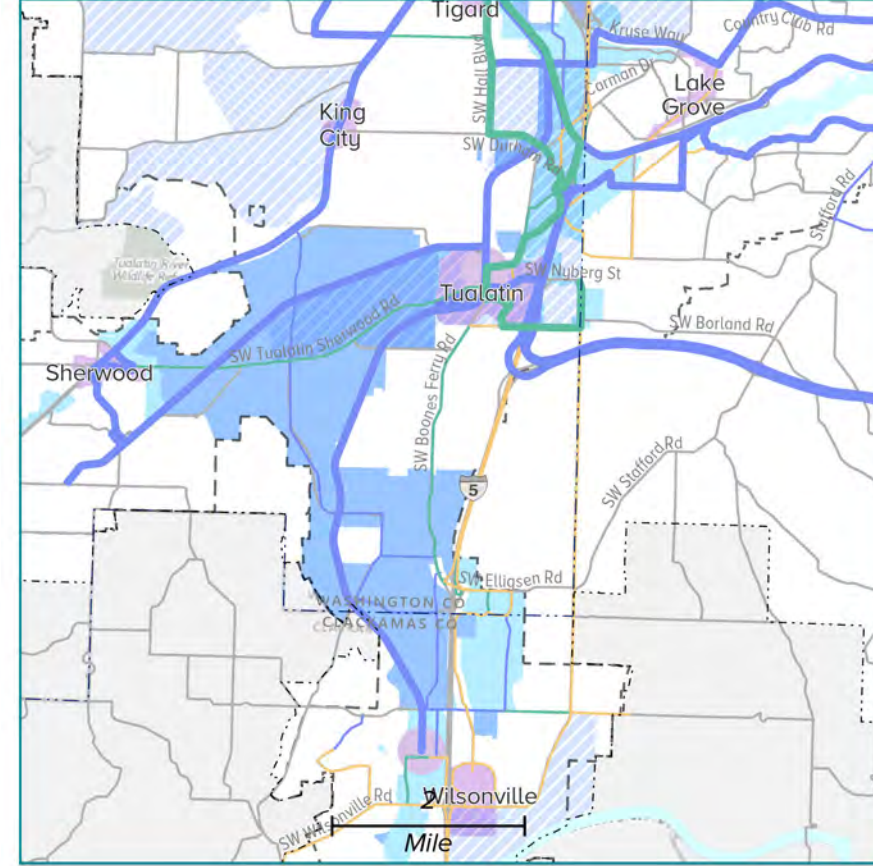
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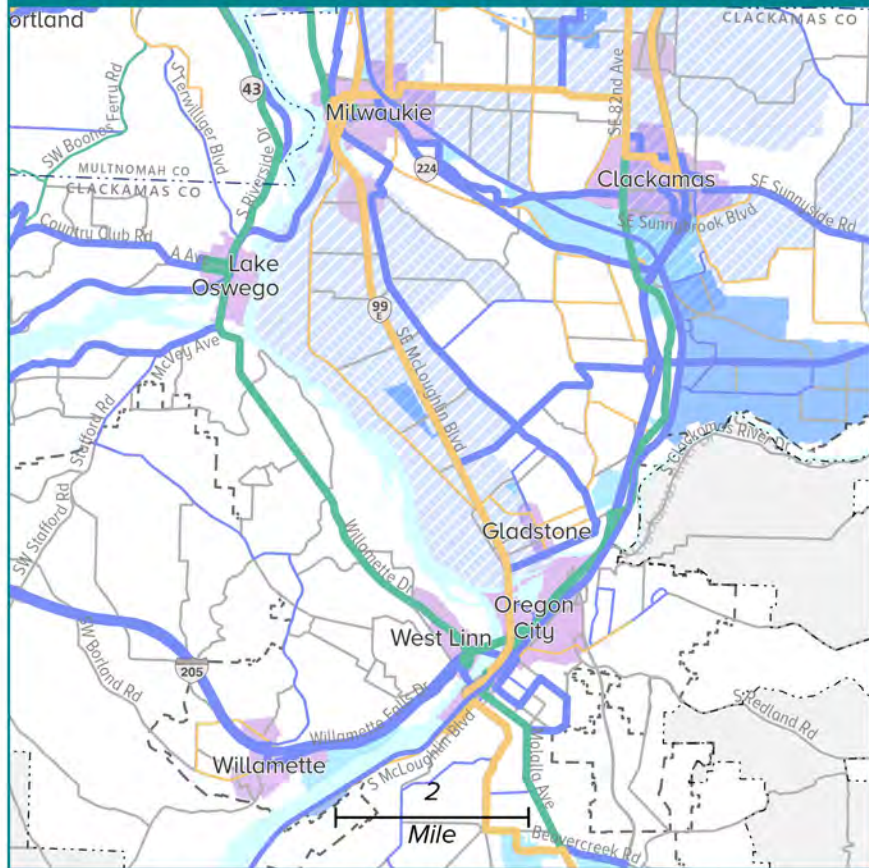
### 2. Hillsboro-Aloha-Beaverton-Tigard area



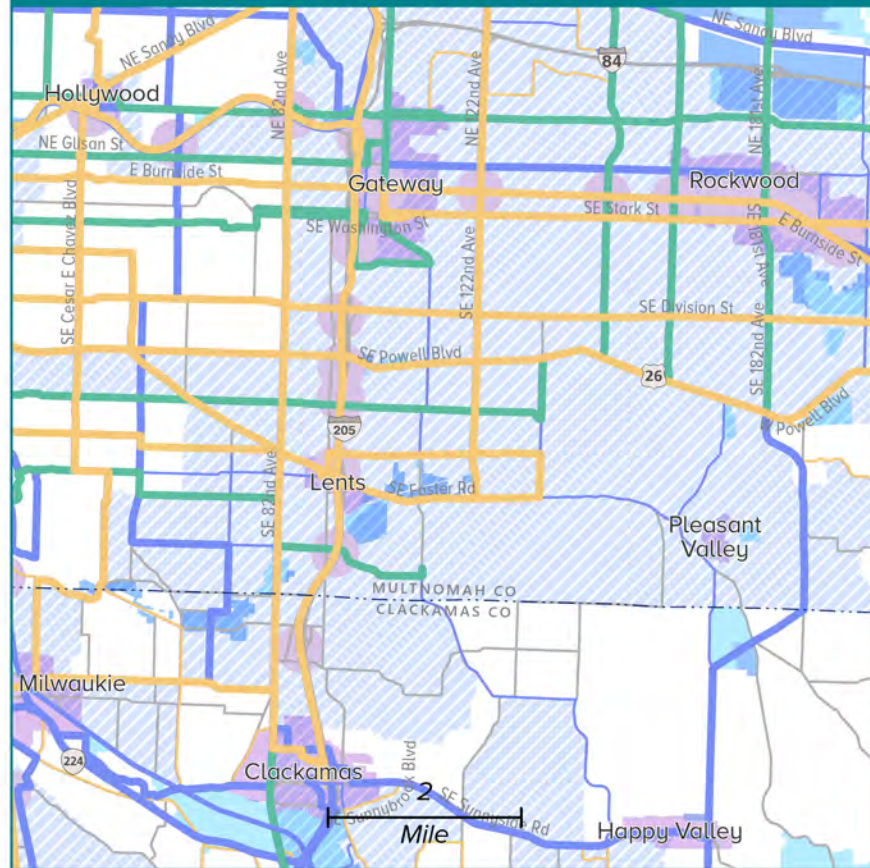
### 3. Sherwood-Tigard-Tualatin-Wilsonville area



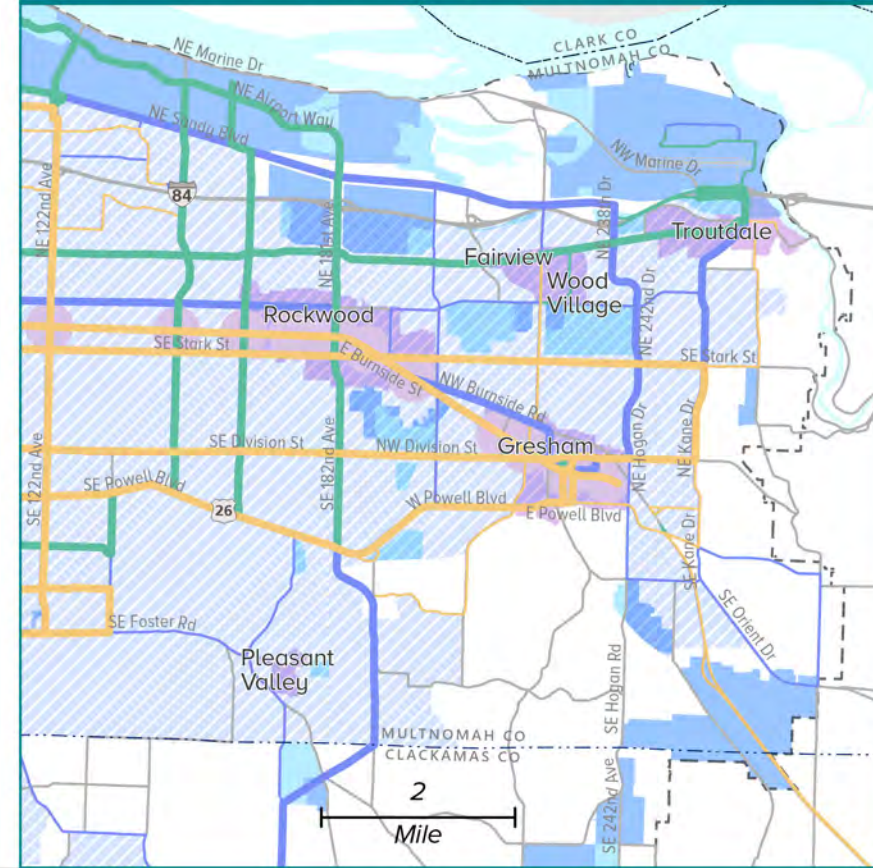
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



### Legend

- Existing Regional Transit Network
  - Regular service
  - Frequent service
- Gap in Regional Transit Network (Financially-constrained)
  - Regular service
  - Frequent service
- Gap in Regional Transit Network (Vision)
  - Regular Service
  - Frequent service
- Equity focus area
- Station community
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

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Filling the gaps in the frequent transit system (thick green lines) are particularly important to meeting the region's Climate goals. The 2018 RTP relied on a planned increase in frequent transit service to meet GHG reduction targets, and the thick green lines indicate routes where this transit has yet to be implemented. These gaps are distributed over most of the more populated parts of the region, and there are large concentrations of them in East Portland and the Orenco/Bethany/Aloha area.




Figure 4.4 and Figure 4.5 show gaps in the regional pedestrian and bicycle systems. Completed facilities are shown in purple or green; gaps are shown in red. The maps distinguish between gaps in on-street facilities like sidewalks and bike lanes (darker shades) and gaps in off-street facilities like trails (lighter shades). Both the pedestrian and bicycle networks are overlaid with urban centers identified in the 2040 growth concept since RTP policies direct pedestrian and bicycle investments toward centers of activity where short distances between destinations make it easy to travel on foot. As noted above, we encourage readers to look at these maps in detail. Pedestrians and bicyclists are vulnerable users of the transportation system, and even a small gap in the network can make an entire trip feel unsafe and/or inconvenient.

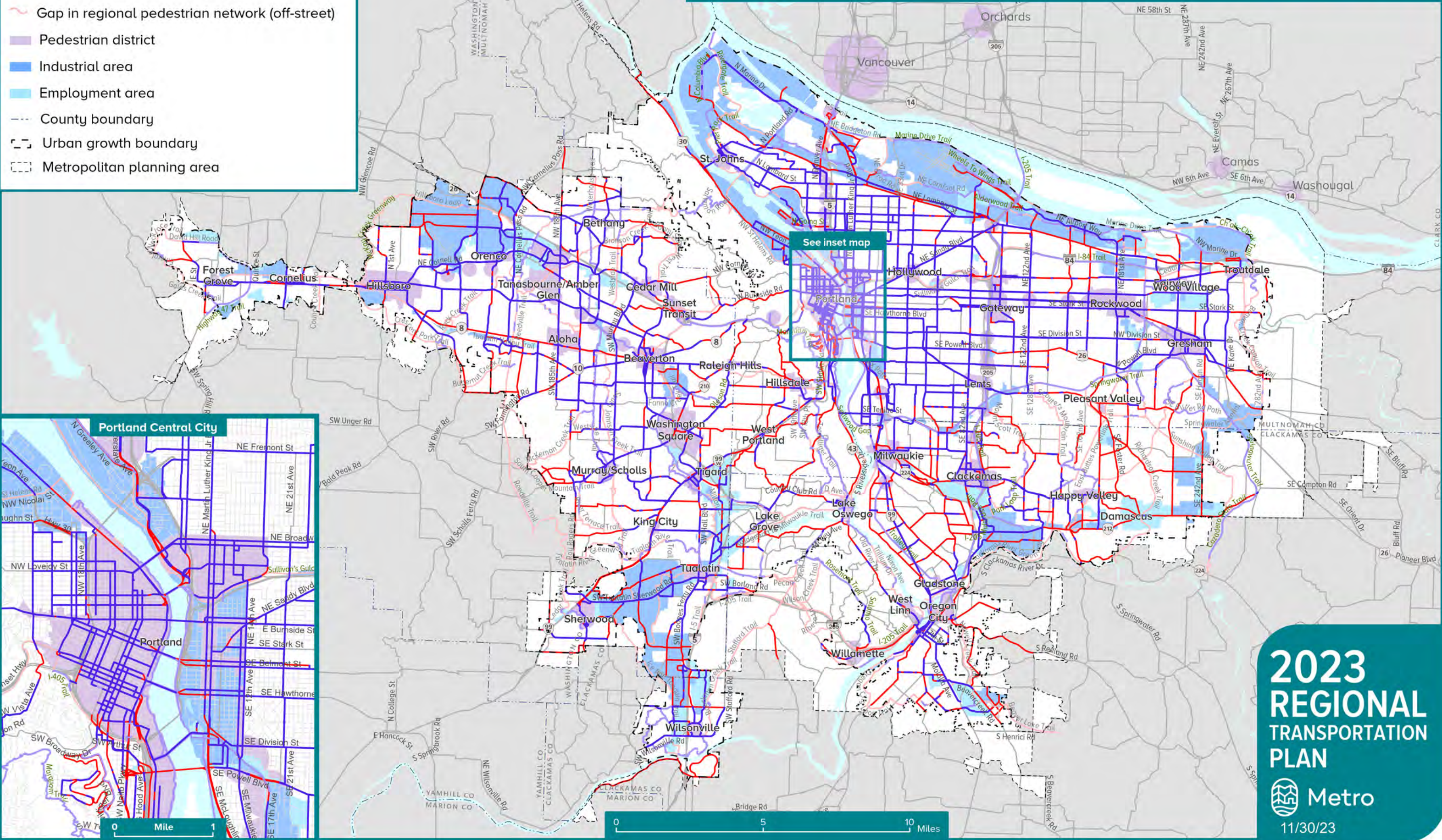


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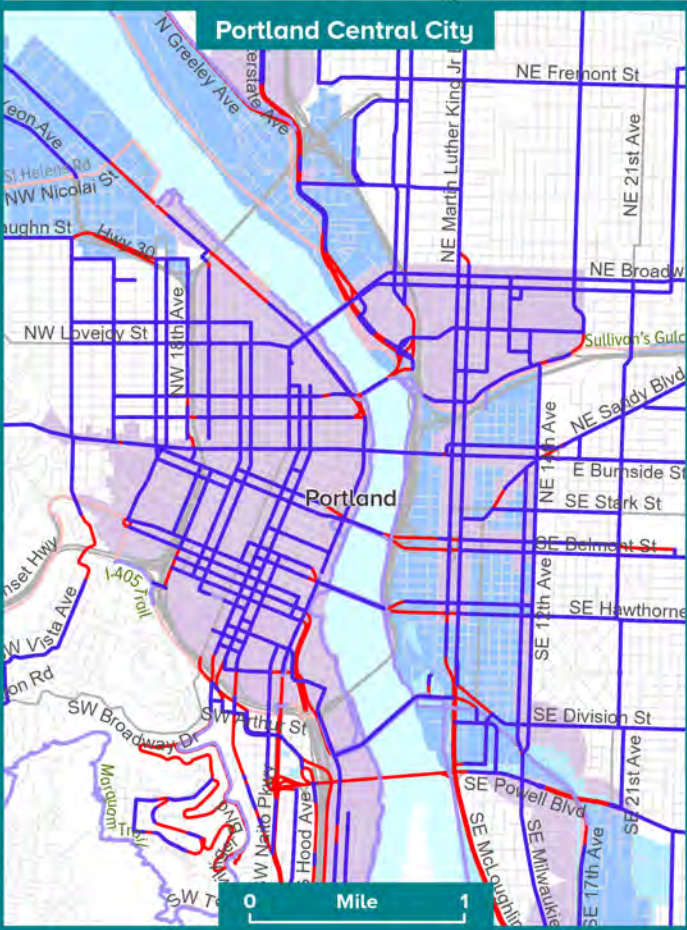


# Regional Pedestrian Network Gaps

-  Regional pedestrian network (on-street)
-  Gap in regional pedestrian network (on-street)
-  Regional pedestrian network (off-street)
-  Gap in regional pedestrian network (off-street)
-  Pedestrian district
-  Industrial area
-  Employment area
-  County boundary
-  Urban growth boundary
-  Metropolitan planning area



See inset map



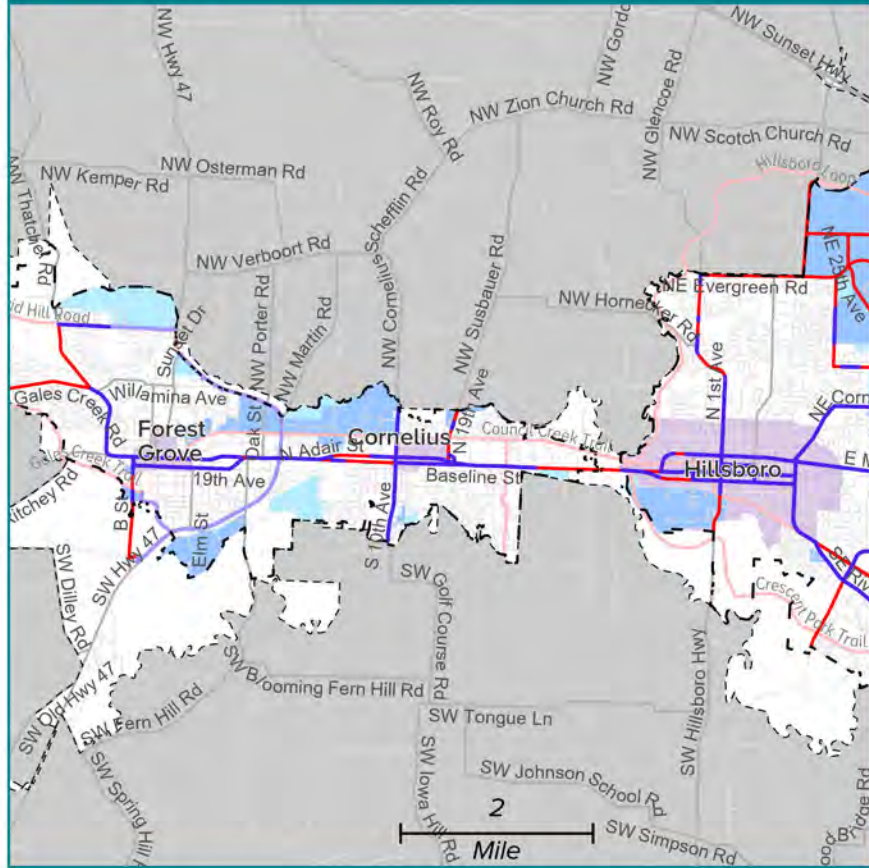
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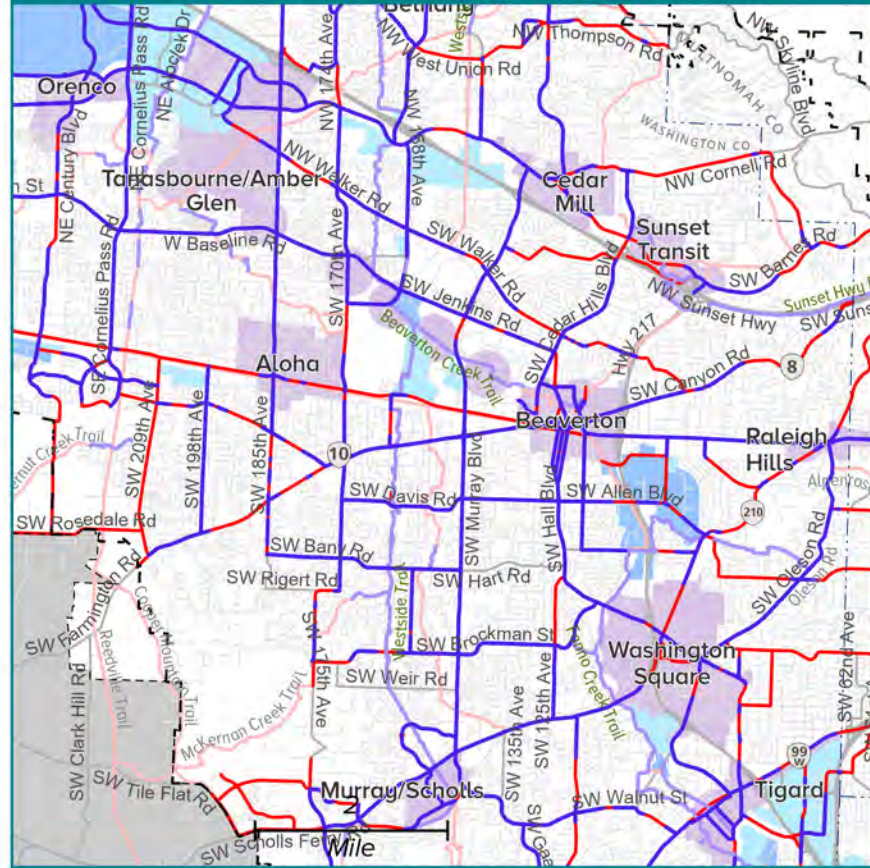
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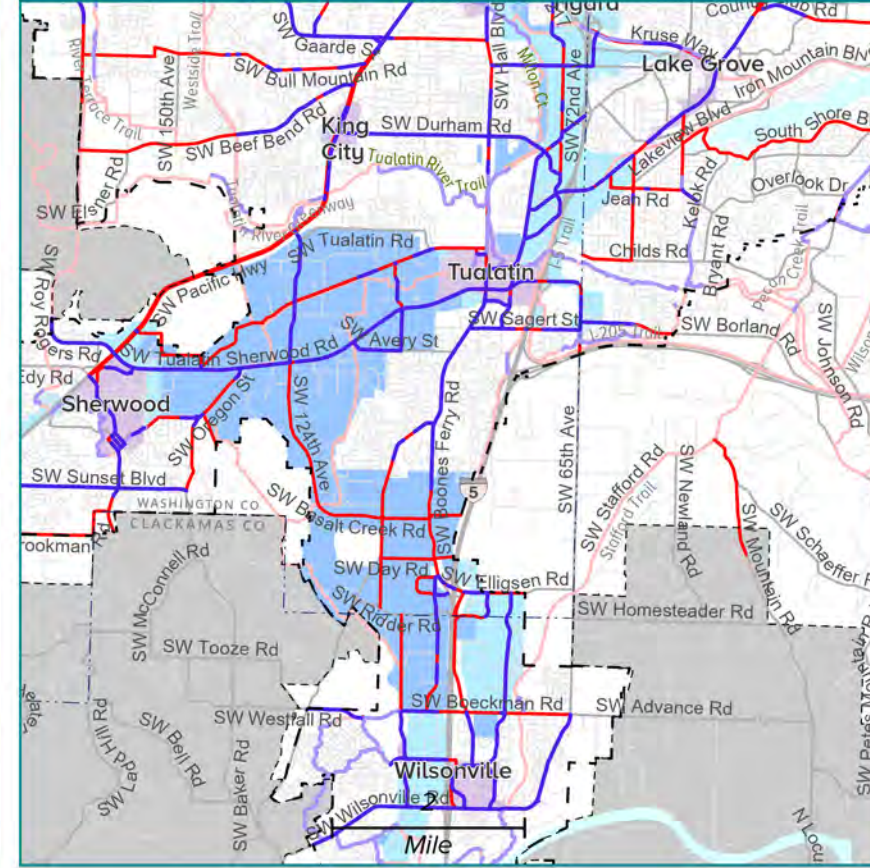
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area

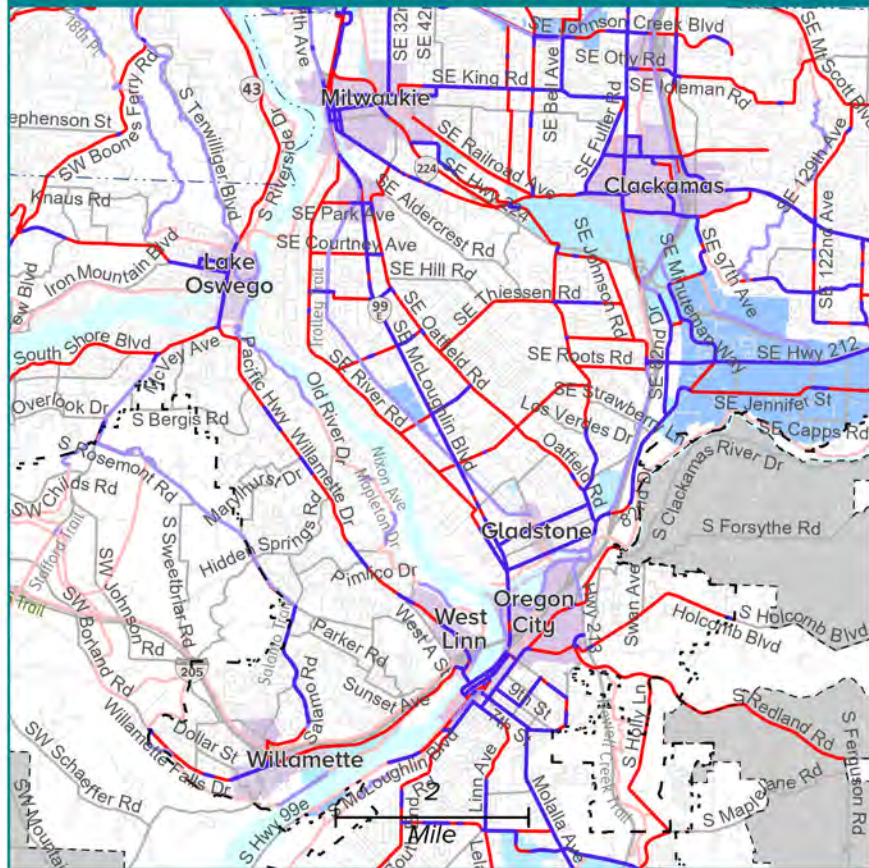


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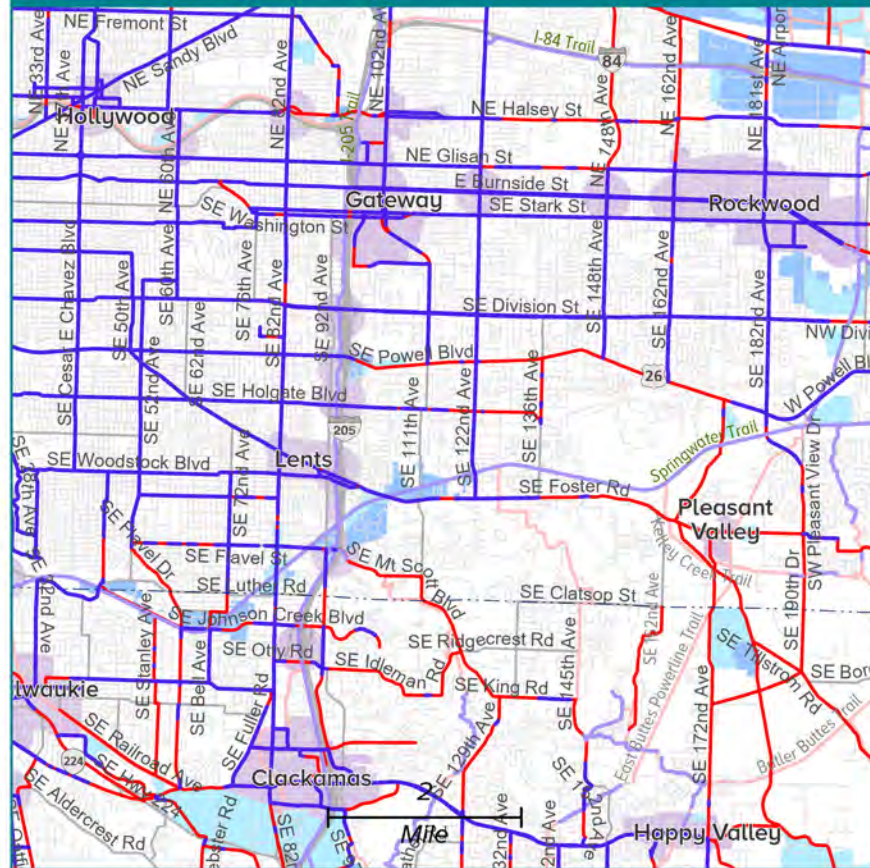
(dotted lines are proposed projects and do not identify specific alignments)

- Regional pedestrian network (on-street)
- Gap in regional pedestrian network (on-street)
- Regional pedestrian network (off-street)
- Gap in regional pedestrian network (off-street)
- Pedestrian district
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

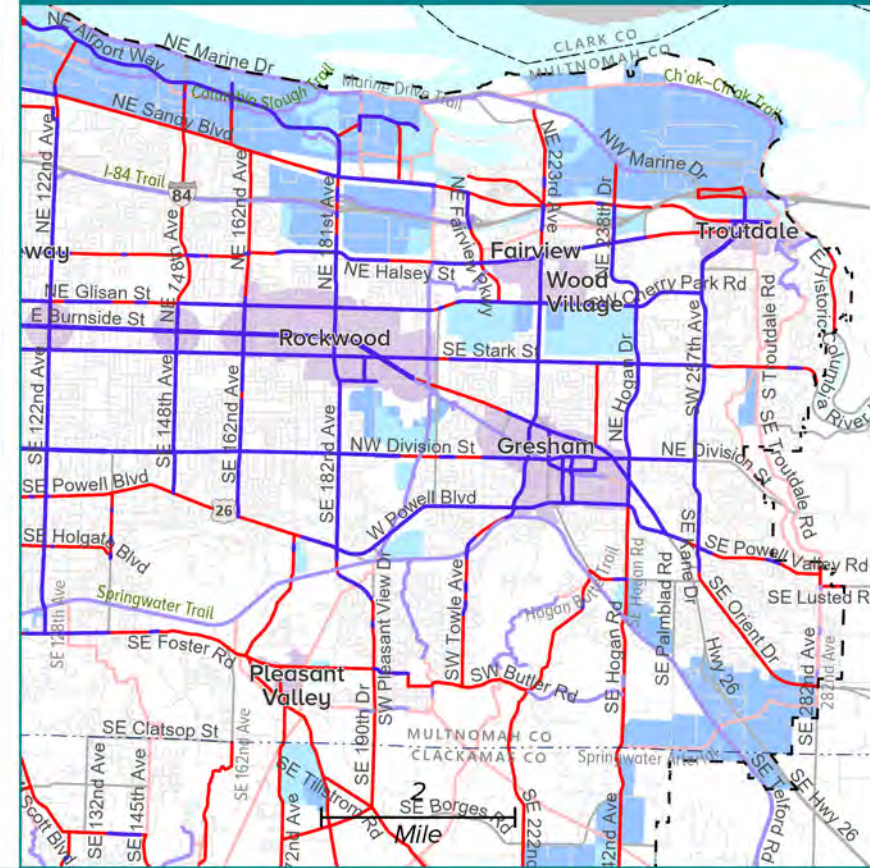
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham

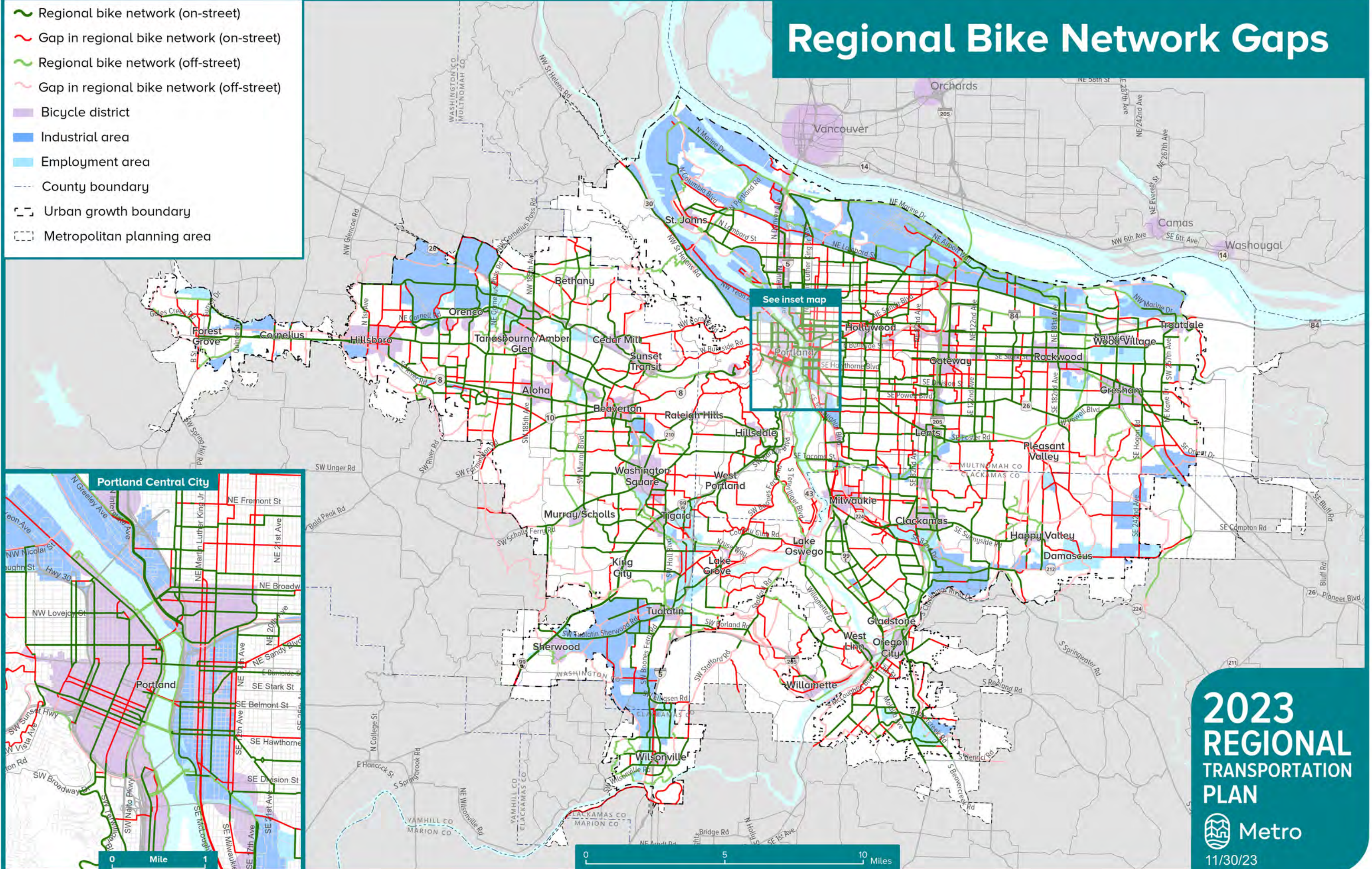


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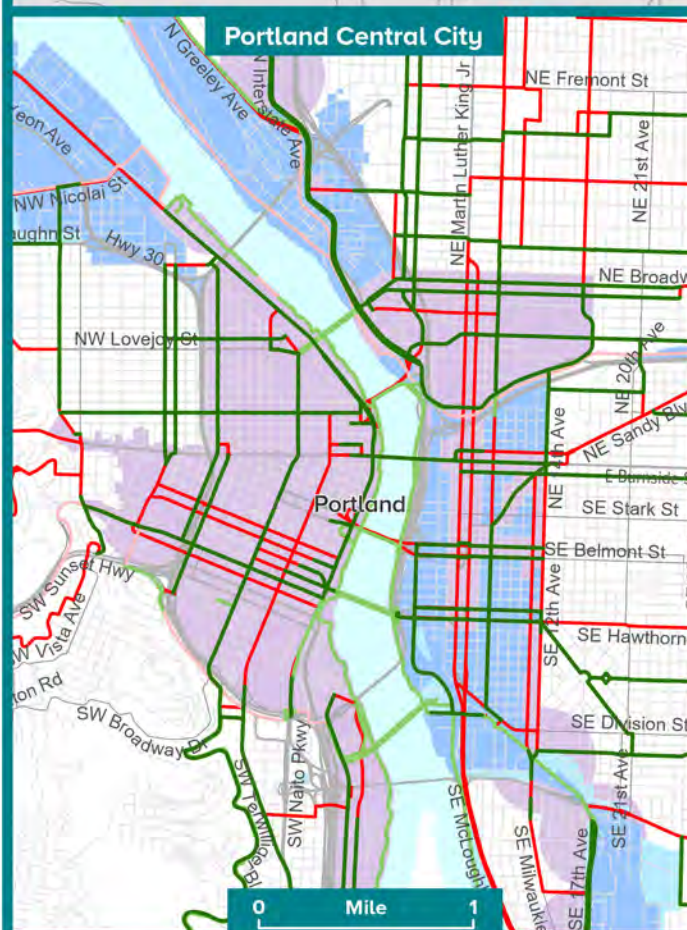


# Regional Bike Network Gaps

-  Regional bike network (on-street)
-  Gap in regional bike network (on-street)
-  Regional bike network (off-street)
-  Gap in regional bike network (off-street)
-  Bicycle district
-  Industrial area
-  Employment area
-  County boundary
-  Urban growth boundary
-  Metropolitan planning area



See inset map

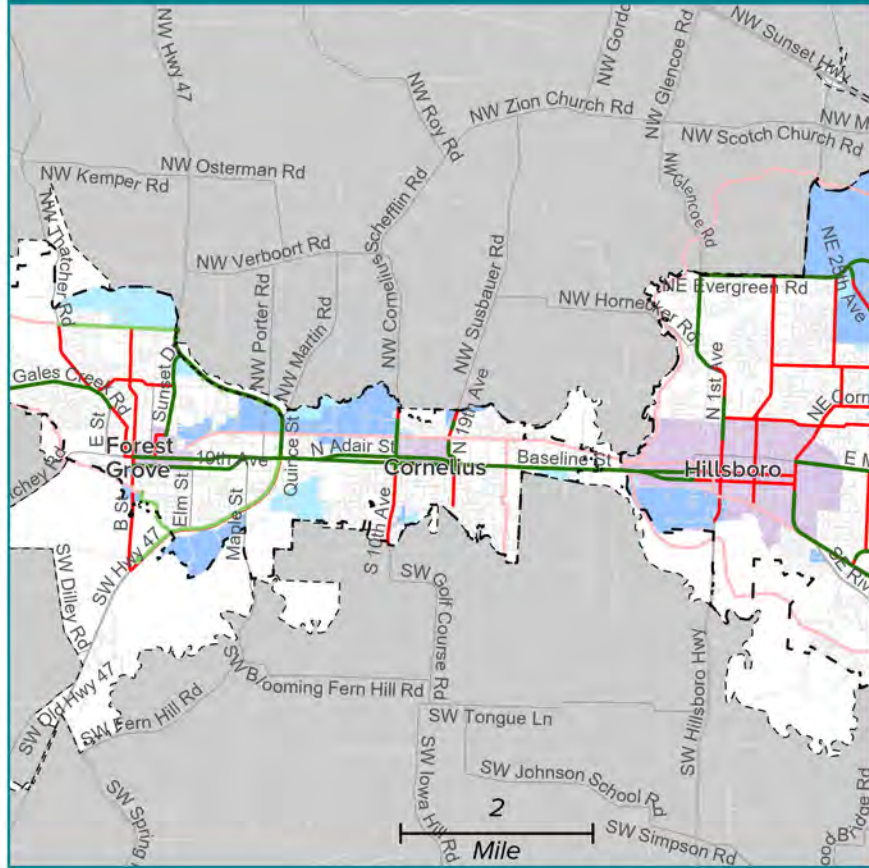


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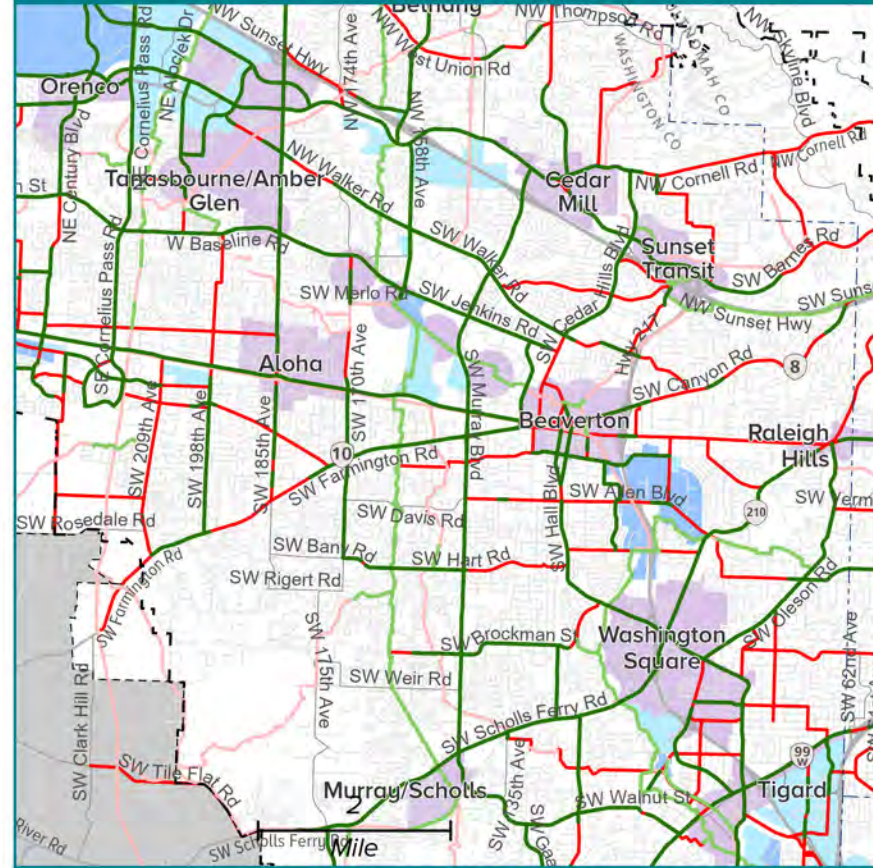
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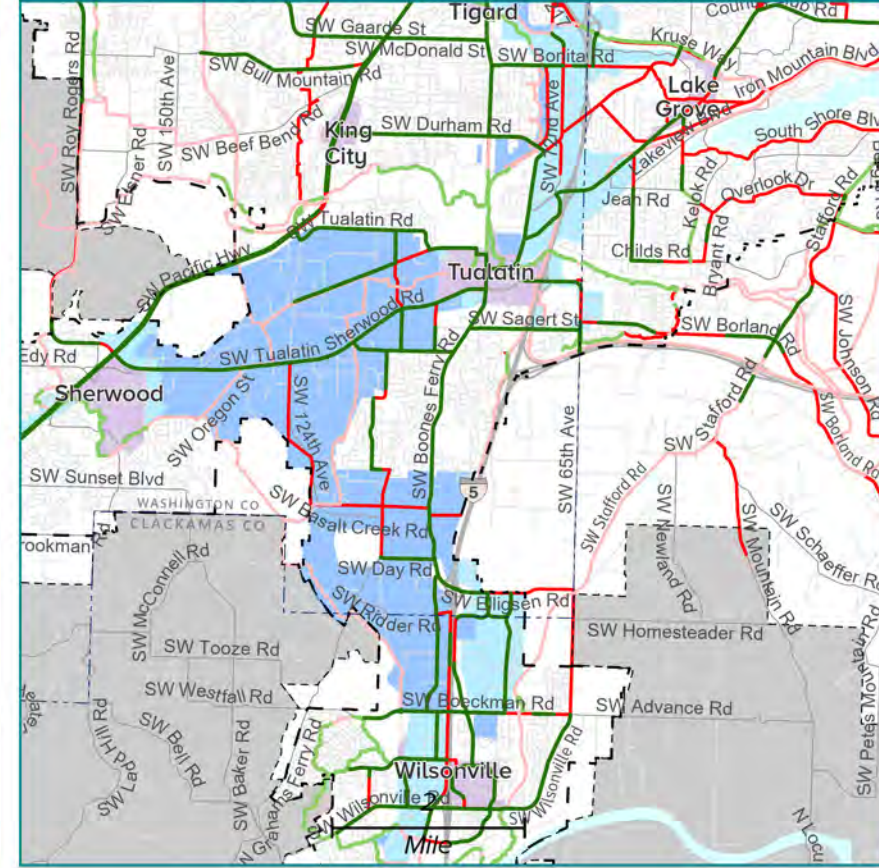
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area

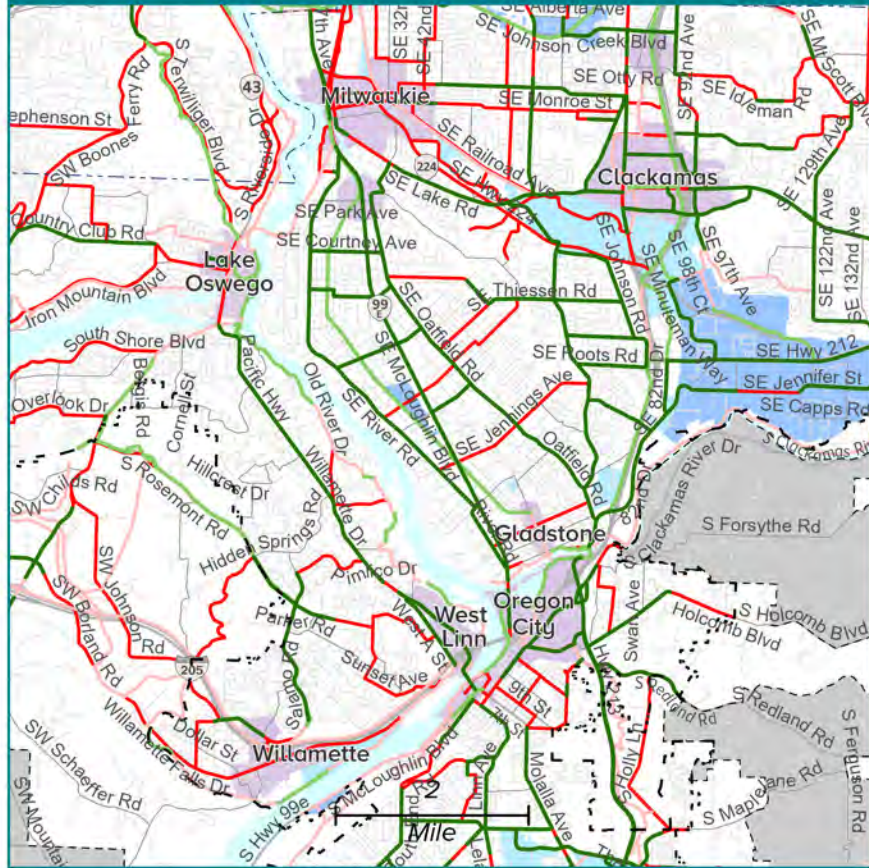


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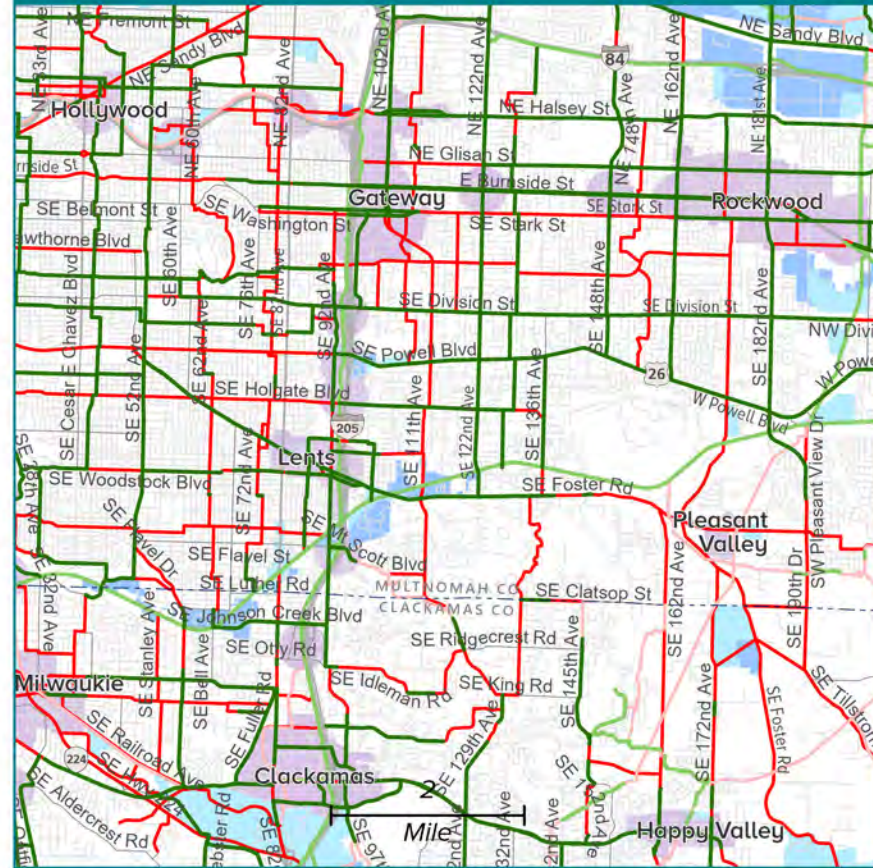
(dotted lines are proposed projects and do not identify specific alignments)

- Regional bike network (on-street)
- Gap in regional bike network (on-street)
- Regional bike network (off-street)
- Gap in regional bike network (off-street)
- Bicycle district
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

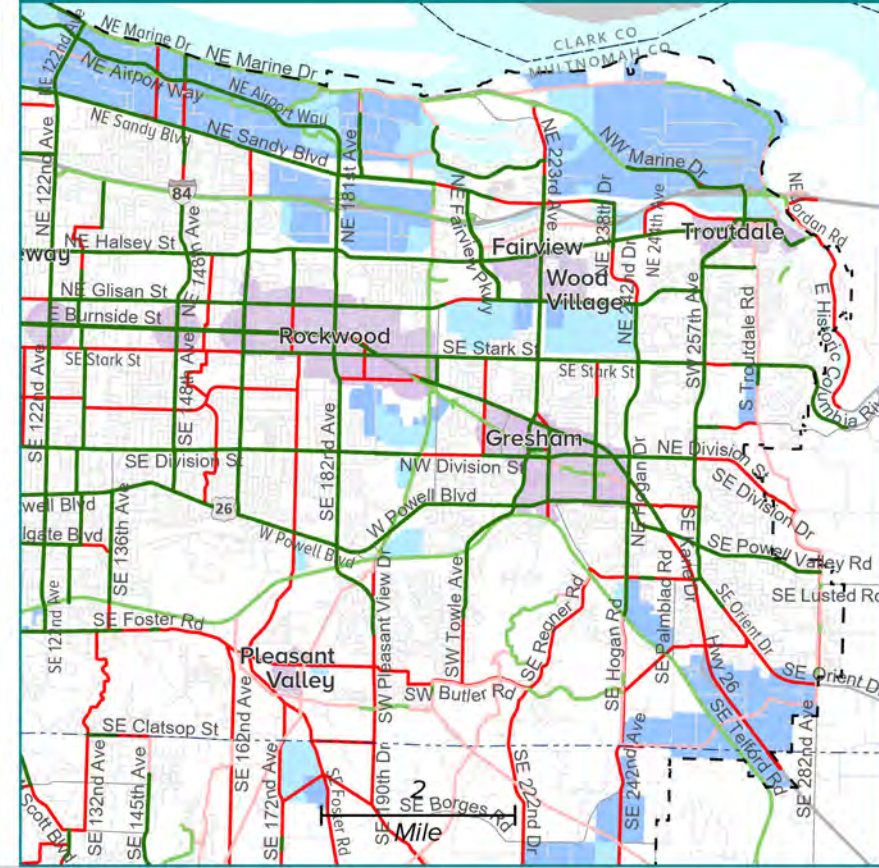
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### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



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Both the bicycle and pedestrian networks are generally more complete in the region’s urban centers, which is consistent with RTP policies that direct transportation investments to support implementation of the 2040 growth concept. But even within those centers there are plenty of small gaps that hinder people’s ability to walk and bike—and that can also impact transit use and the economy. Walking is the most primary form of transportation. Whether an entire trip is done on foot or using a wheelchair or similar mobility device, people must walk for at least a part of every trip, even when the rest of the trip takes place on transit, in a vehicle or on a bicycle. Pedestrian activity thrives where the pedestrian facilities are well connected, safe and attractive—meaning well lit, free of debris and in good repair—and where there are frequent protected crossings. A 2022 PSU-Metro study found that pedestrian facilities also had a positive economic effect on surrounding communities.<sup>7</sup>

Closing the gaps shown above can be a relatively low-cost way to complete critical connections in areas that are already generally well-suited for walking and bicycling. There are larger bicycle and pedestrian gaps between urban centers and at the edges of the region, many of which are on the trail system. Closing these gaps has the potential to transform how people travel in communities where most trips are by car, especially when pedestrian projects are accompanied by complimentary investments in transit and community development.

Figure 4.6 below shows gaps in the regional trail network in red and completed trail segments in green, as well as the same urban centers that are included as overlays in the bicycle and pedestrian maps above. Trails are long-distance, high-quality bicycle and pedestrian facilities that provide connect regional centers, and they often pass through natural areas and/or include landscaping and natural features.










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<sup>7</sup> <https://www.oregonmetro.gov/active-transportation-return-investment-study>

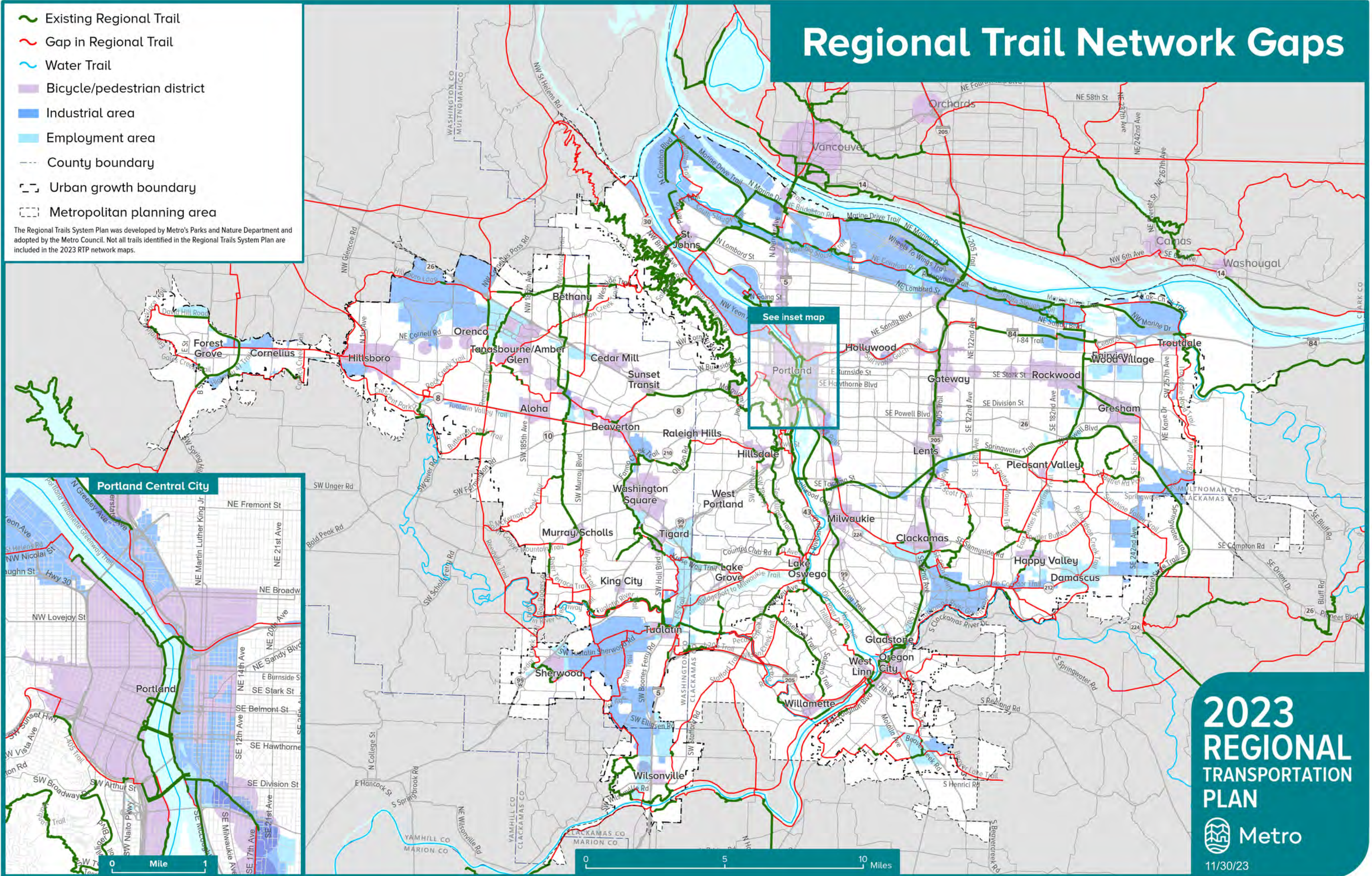
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# Regional Trail Network Gaps

-  Existing Regional Trail
-  Gap in Regional Trail
-  Water Trail
-  Bicycle/pedestrian district
-  Industrial area
-  Employment area
-  County boundary
-  Urban growth boundary
-  Metropolitan planning area

The Regional Trails System Plan was developed by Metro's Parks and Nature Department and adopted by the Metro Council. Not all trails identified in the Regional Trails System Plan are included in the 2023 RTP network maps.



See inset map

**2023**  
**REGIONAL**  
**TRANSPORTATION**  
**PLAN**

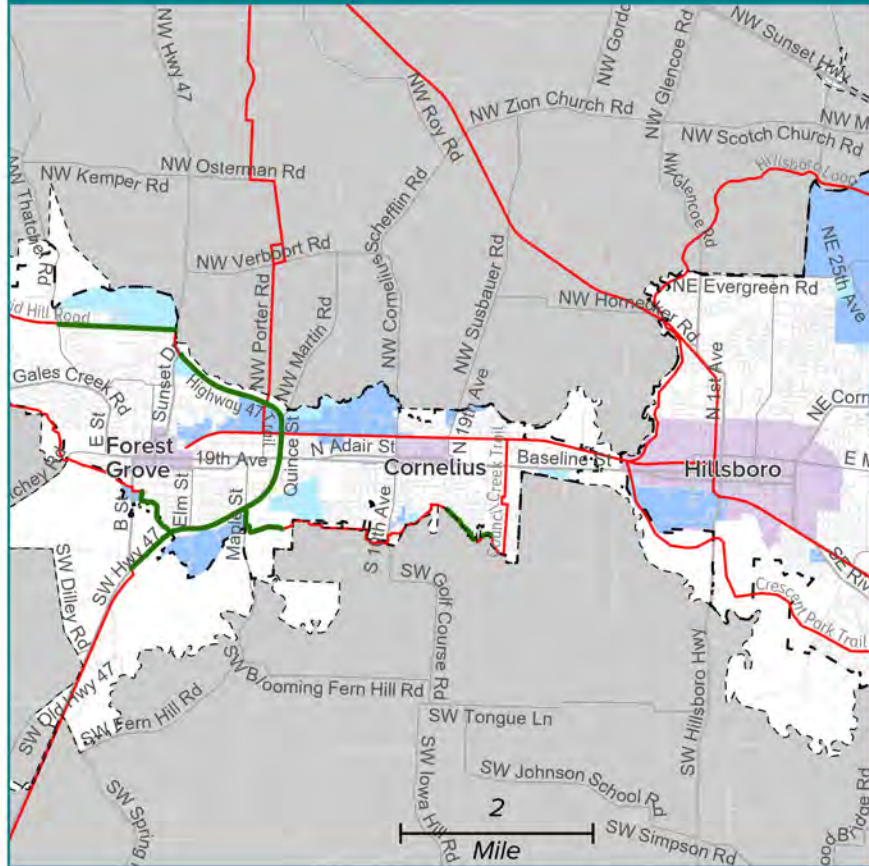


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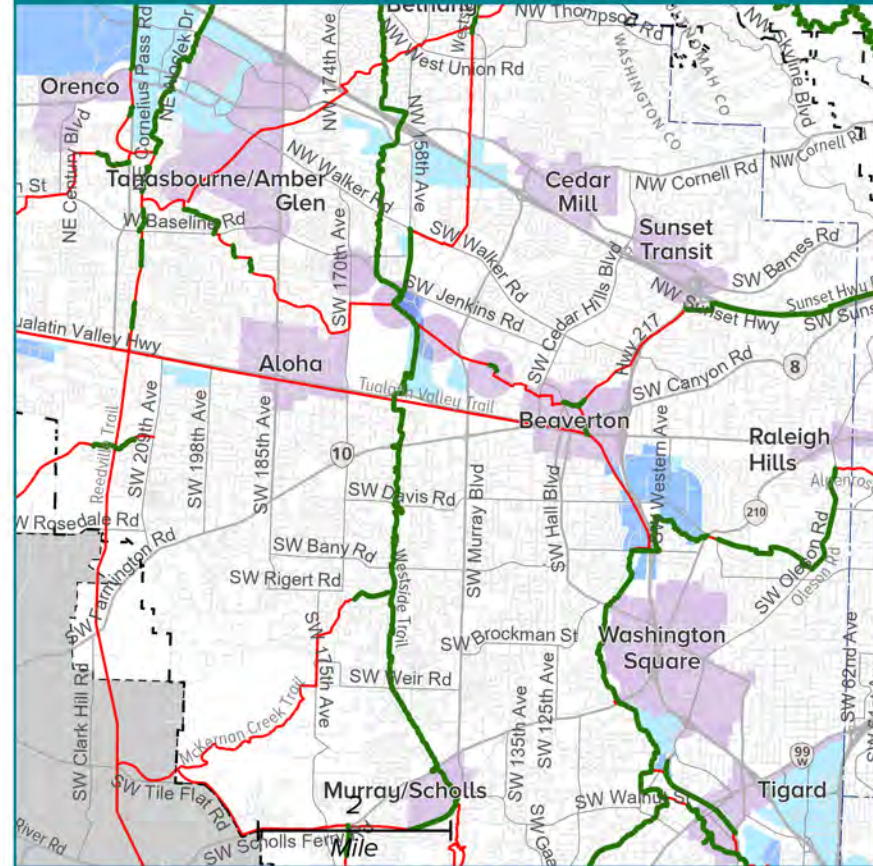
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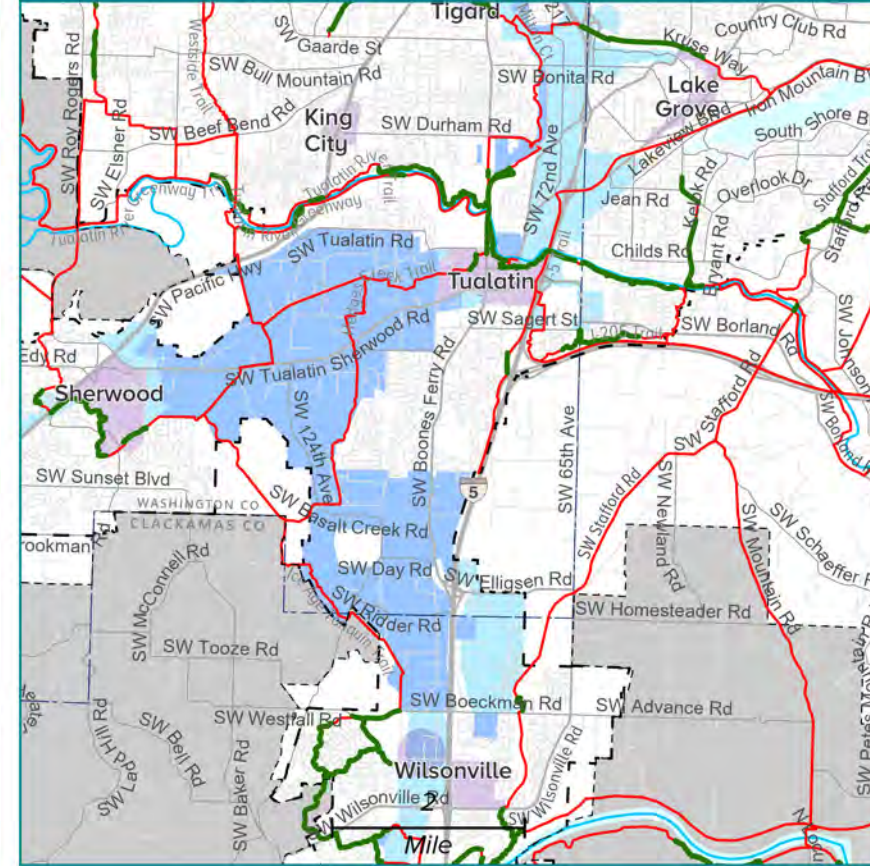
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area

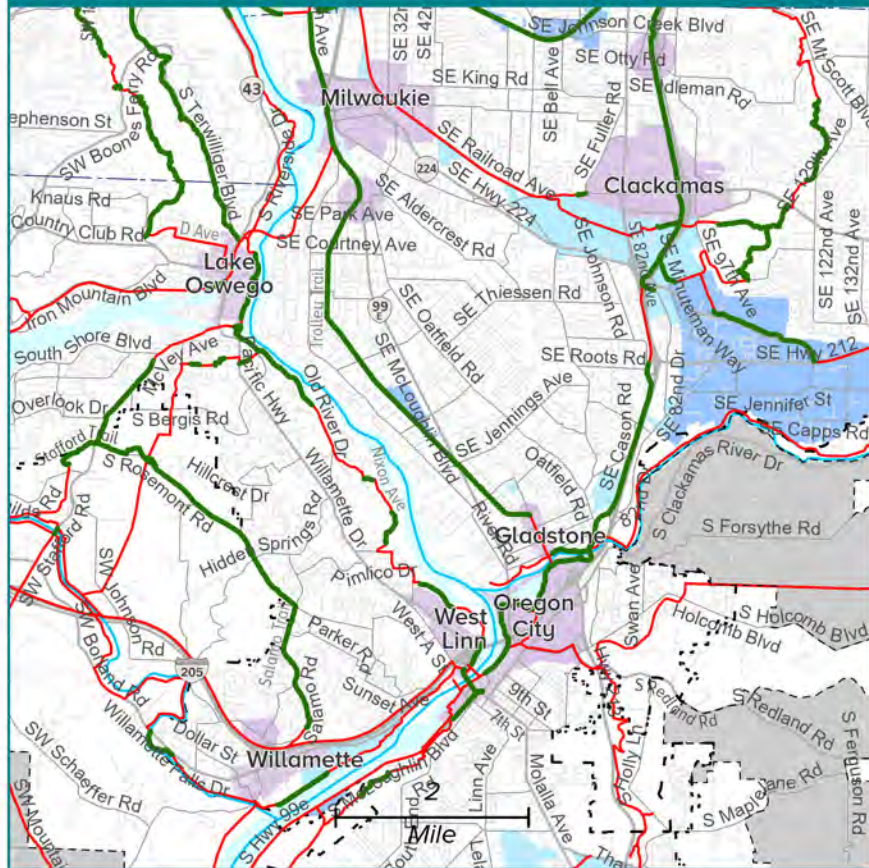


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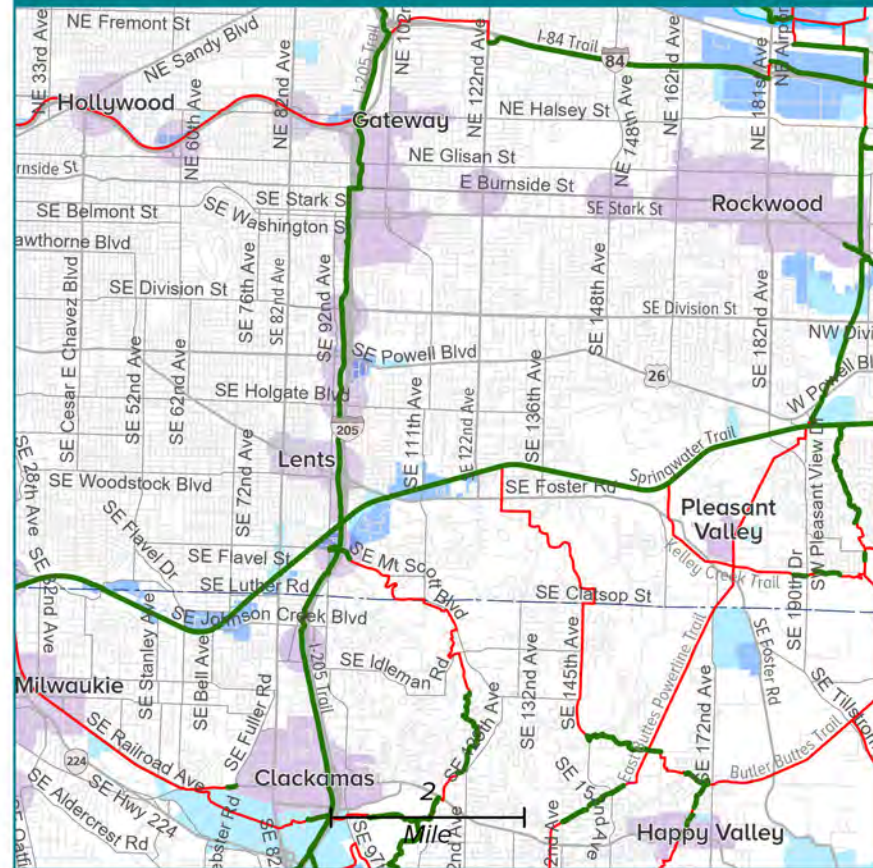
(dotted lines are proposed projects and do not identify specific alignments)

- Regional trail network
- Gap in regional trail network
- Water trail
- Bicycle/pedestrian district
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area

### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



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Trails are also part of the bicycle and pedestrian networks shown above, and this map underscores how filling many of the longer-distance gaps shown above depends upon completing the regional trail system.

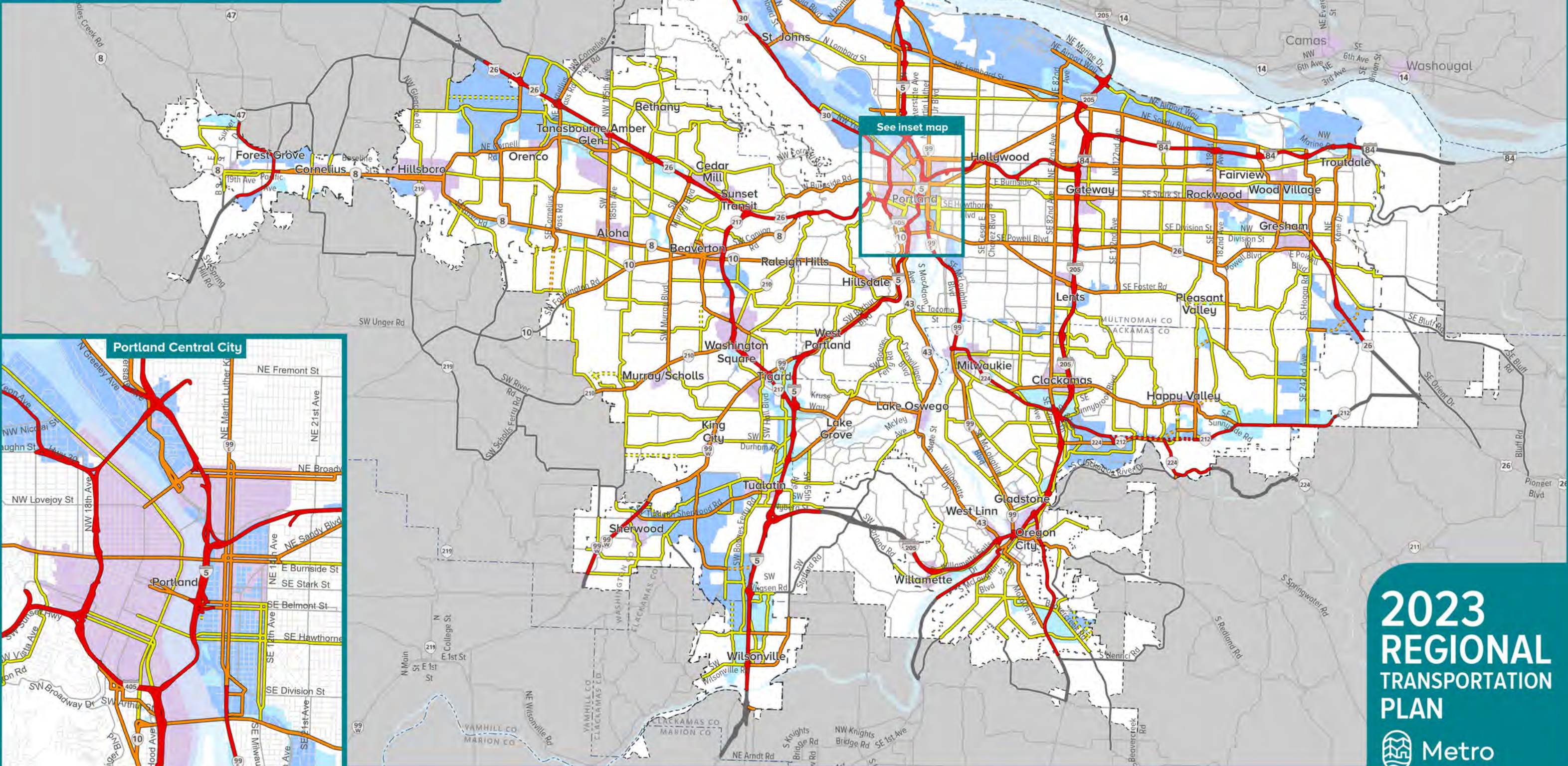
Figure 4.7 shows the planned motor vehicle network by facility type, including planned facilities that have not yet been built, which are shown in dashed lines. As the map below shows, the network is largely built out.

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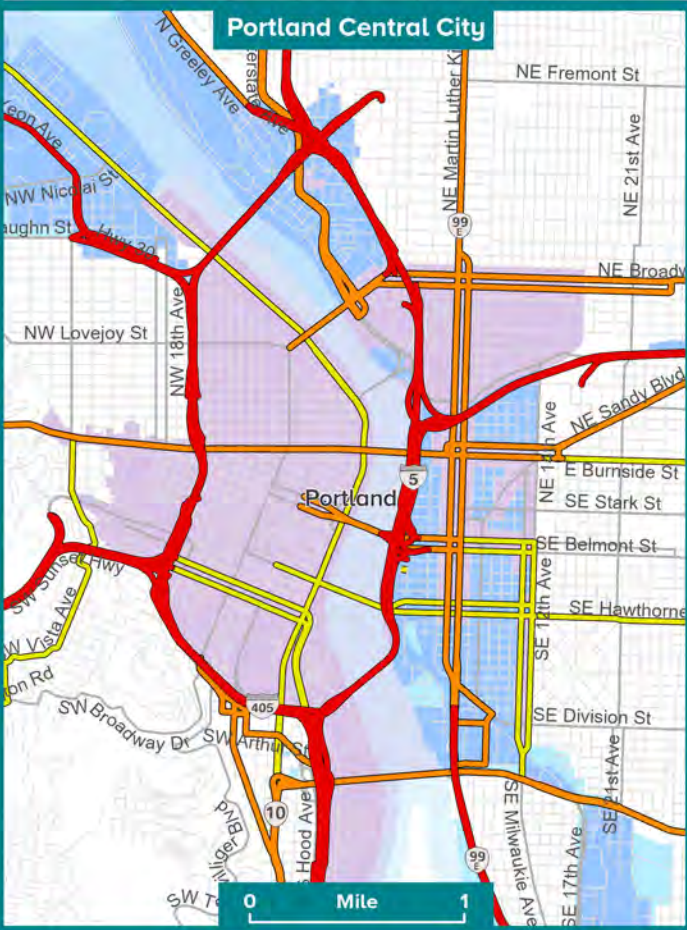


# Regional Motor Vehicle Network

- Throughway
- - - - Throughway (planned)
- Major arterial
- - - - Major arterial (planned)
- Minor arterial
- - - - Minor arterial (planned)
- Throughway outside UGB
- - - - Arterial outside UGB
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area



See inset map



0 5 10 Miles

Source: Metro

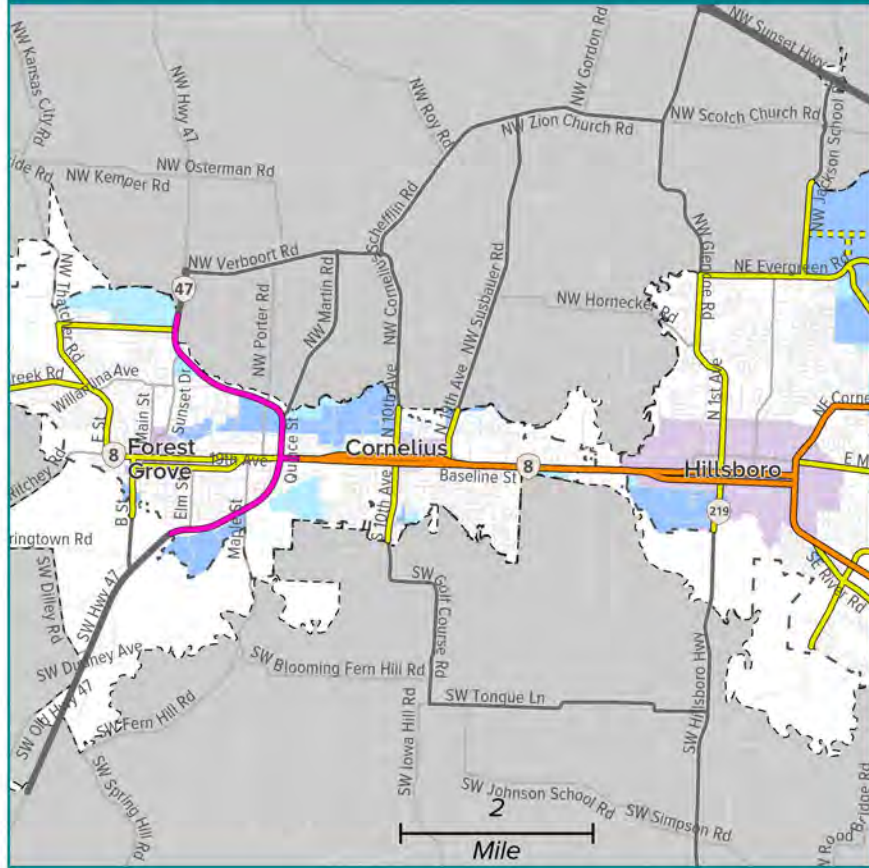
**2023**  
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**TRANSPORTATION**  
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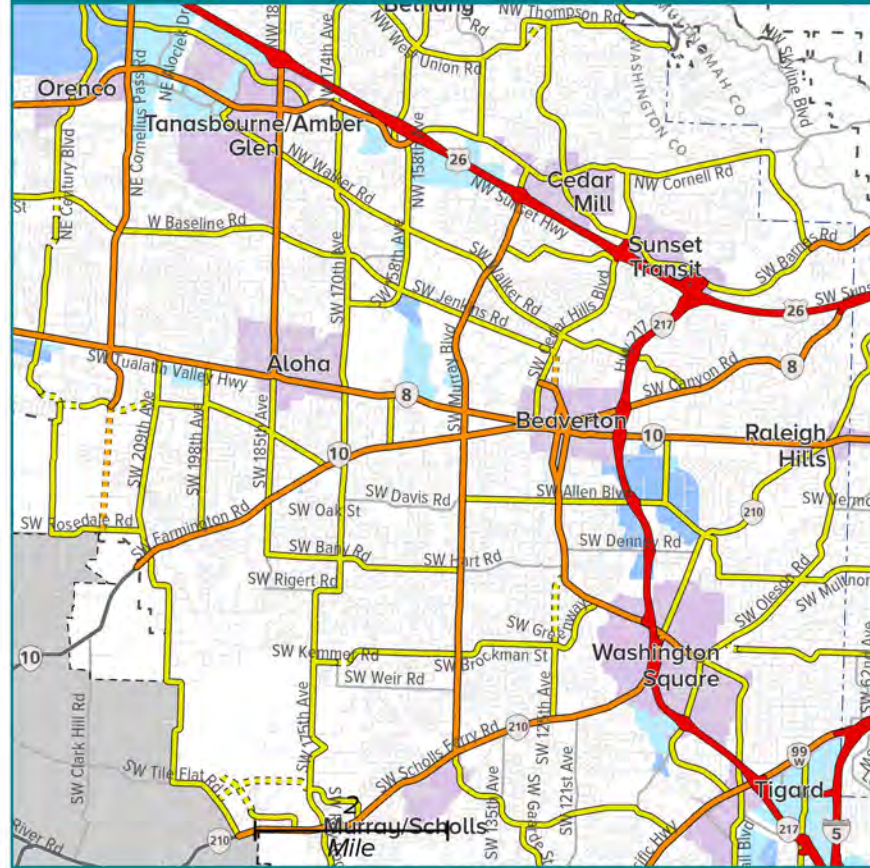
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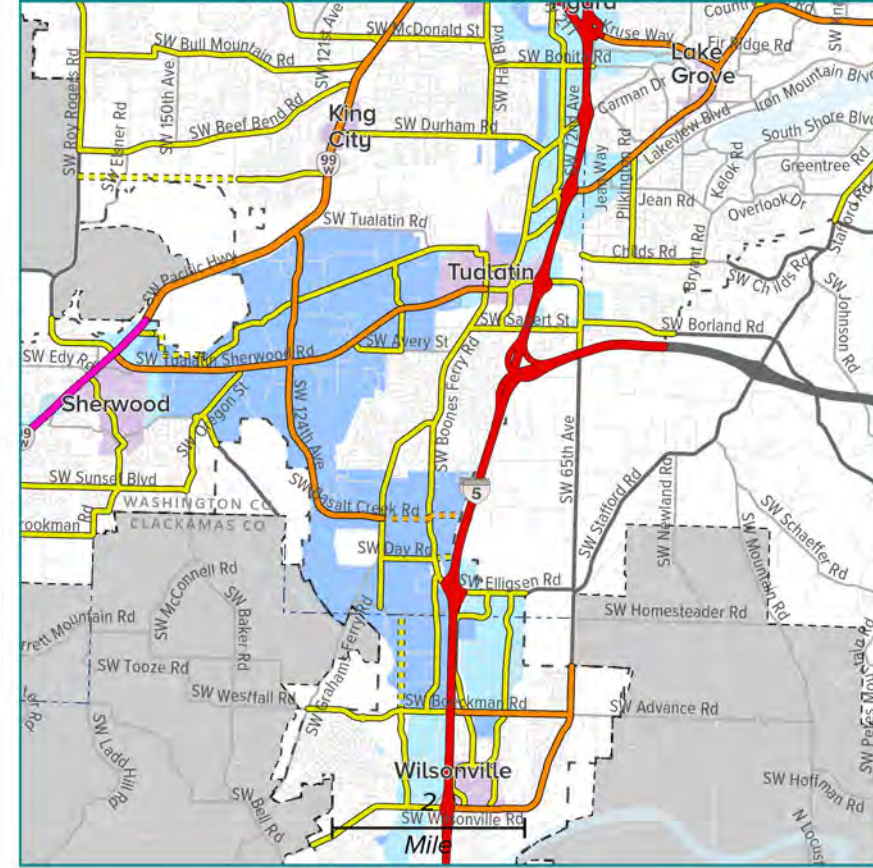
### 1. Forest Grove-Cornelius-Hillsboro area



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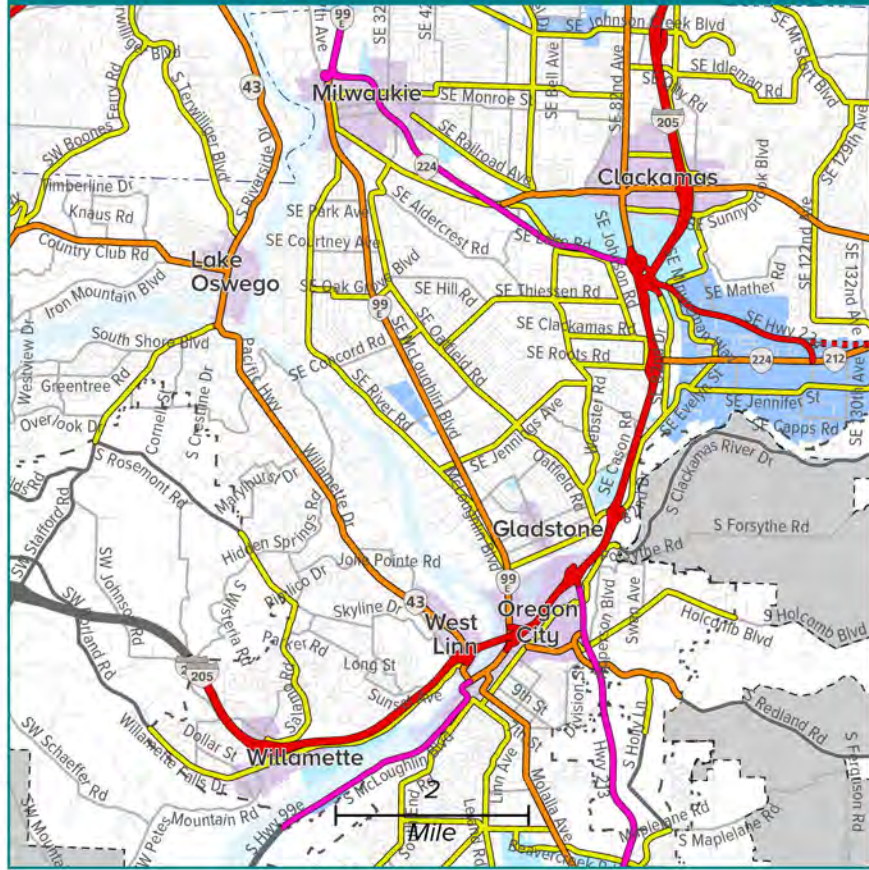
### 3. Sherwood-Tigard-Tualatin-Wilsonville area



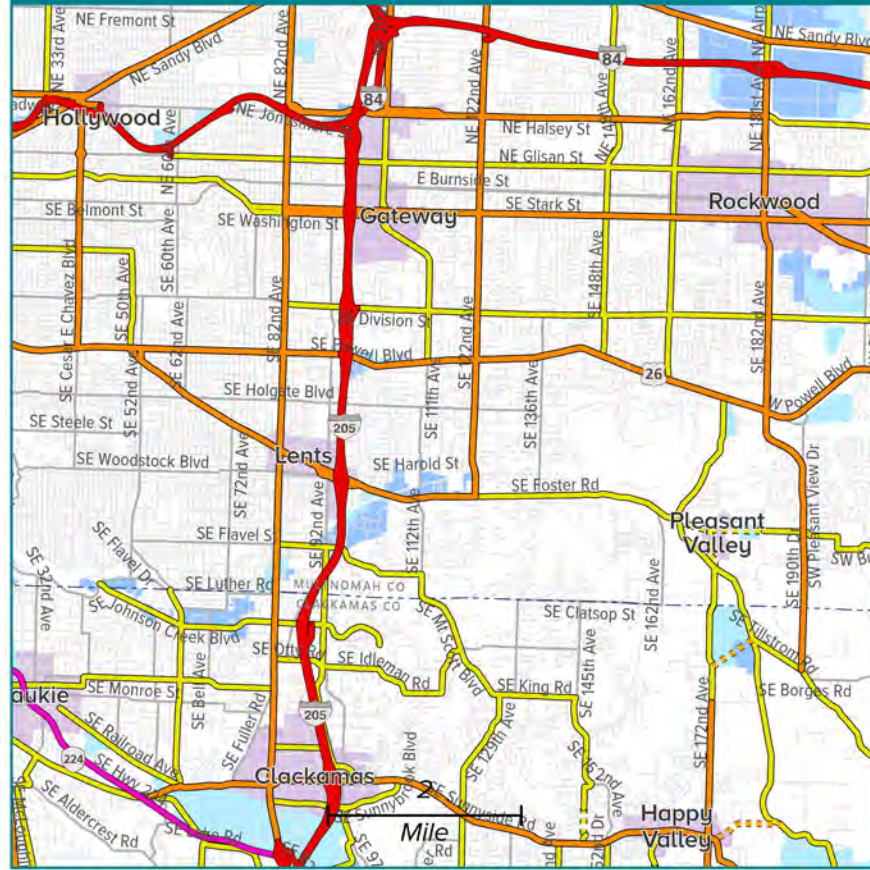
### Legend

- (dotted lines are proposed projects and do not identify specific alignments)
- Throughway
- - - - Throughway (planned)
- Major arterial
- - - - Major arterial (planned)
- Minor arterial
- - - - Minor arterial (planned)
- Throughway outside UGB
- Arterial outside UGB
- - - - Arterial outside UGB (planned)
- Urban center
- Industrial area
- Employment area
- County boundary
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### 4. Lake Oswego-Milwaukie-Oregon City area



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### 4.1.3 VMT per capita

Vehicle miles traveled (VMT) per capita measures how much the average person in the Portland region drives each day. Many transportation agencies in the region use VMT per capita to measure progress toward creating vibrant communities and providing multimodal travel options. All other things being equal, VMT per capita tends to be lower in compact communities with a mix of destinations and good access to transit and other options.<sup>8</sup> As discussed at the beginning of this section, the Regional Mobility Policy establishes VMT per capita as a critical performance measure for Mobility, and the State has also established VMT per capita as the key metric used in determining whether the RTP meets its climate targets. See the Climate section for information on historical, current, and projected future levels of VMT in the region.

### 4.1.4 Throughway travel speed reliability

The regional mobility policy in Chapter 3 of the 2023 RTP identifies *travel speed* on throughways as one of three mobility performance measures. The other two measures—*system completeness* and *vehicle miles traveled per capita*—are discussed above and in the climate section, respectively.

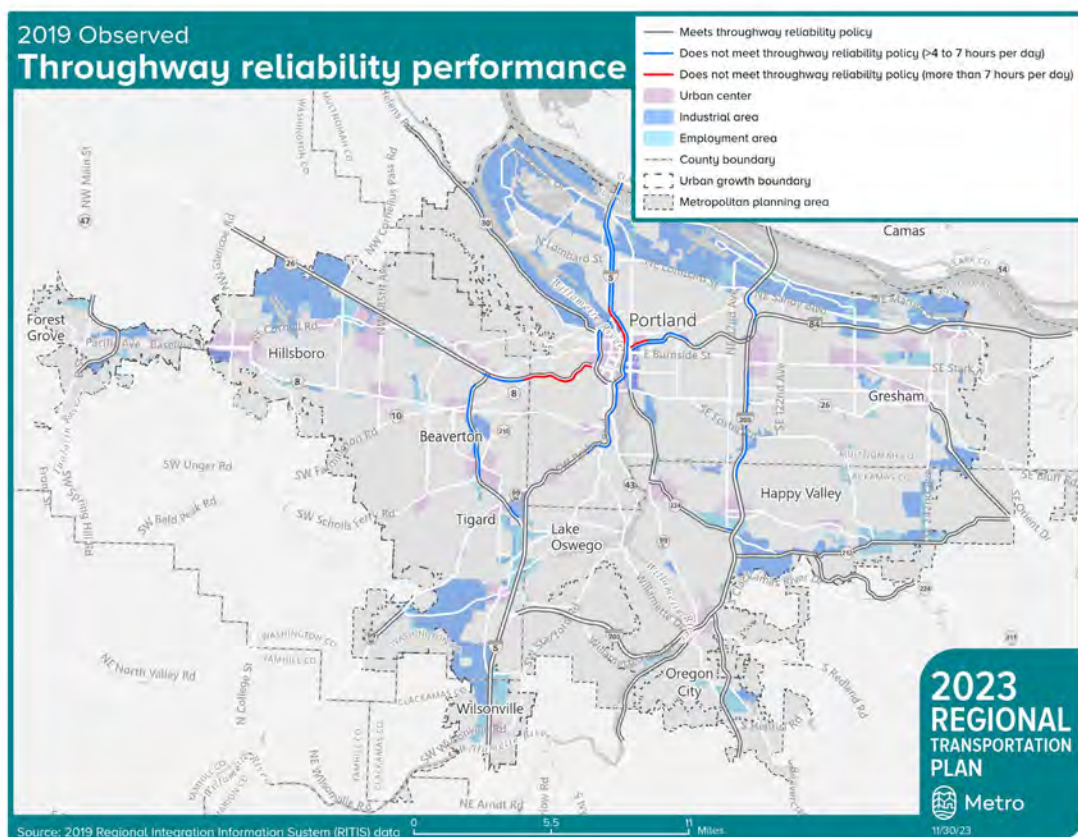
Development of the regional mobility policy began in 2019 through a joint effort of Metro and the Oregon Department of Transportation (ODOT). In late 2022, JPACT and the Metro Council accepted the draft mobility policies and directed further development of the accompanying performance measures as part of completing the 2023 RTP.

The throughway performance measure and thresholds aim to identify future transportation needs on region's throughways using travel speed as a proxy for reliability. The policy defines a minimum throughway performance threshold of no more than four hours per weekday with travel speeds below 35 miles per hour on controlled-access freeways (e.g., I-5, I-84, I-205, I-405, US 26 and OR 217) or 20 miles per hour on signalized highways(e.g., OR 99E, US 30, OR 212) designated in Figure 3.8. If average speeds fall below the relevant speed threshold for more than a total of four hours in a day, it indicates the system is failing at that location and a transportation need exists. Figure 4.8 shows current throughway reliability results using 2019 weekday speed data collected via the Regional Integrated Transportation Information System (RITIS) platform.

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<sup>8</sup> <https://nap.nationalacademies.org/catalog/12747/driving-and-the-built-environment-the-effects-of-compact-development>

**Figure 4.8: 2019 throughway travel speed reliability performance (2019 RITIS data)**



In 2019, a total of 38 miles (13% of the region’s throughway network) did not meet the mobility policy threshold for throughways. More information about the methodology and detailed results for all segments are provided in Appendix E.

#### 4.1.5 Transit frequency

Completing a high-quality transit network is critical to meeting regional Mobility goals. Half of all trips are over three miles, and these trips account for the majority of VMT.<sup>9</sup> Transit is the mode that is best-suited to provide a climate-friendly and affordable alternative to driving for these longer-distance trips. And transit is the most useful when it provides fast, convenient, and accessible transit connections between activity centers. Figure 4.9 below highlights communities that have the densities necessary to support frequent transit<sup>10</sup> (orange) and compares their

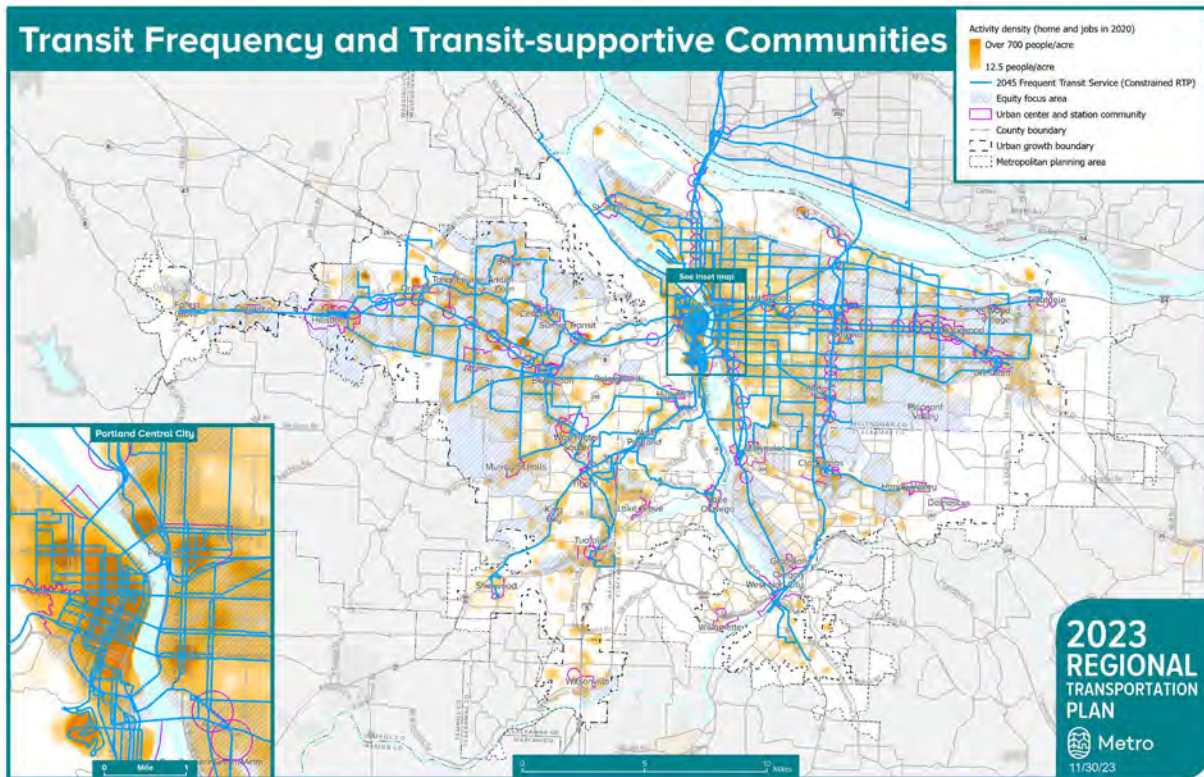
<sup>9</sup> <https://www.bikeleague.org/content/national-household-travel-survey-short-trips-analysis>

<sup>10</sup> The High Capacity Transit and Regional Transit Strategies specify a threshold of 5 households or 15 jobs per acre for communities served by frequent transit. In order to map both jobs and housing at the same scale, Figure 4.9 combines jobs and housing into a single measure of activity density (jobs plus residents per acre) and uses a threshold of 12.5 jobs and/or residents per acre to identify communities that support frequent transit. The average household in the region includes 2.5 people, so 5 households per acre is equivalent to 12.5 residents per acre.



location with 2020 frequent transit service (i.e., lines with peak headways of 15 minutes, shown in blue). It also shows EFAs in light blue cross-hatching (see the Equity section for additional discussion of this map).

**Figure 4.9: Map of high-frequency transit (headways of less than 15 minutes) and transit-supportive communities (12.5 or more people and/or jobs per acre), 2020 (Metro regional travel model and distributed growth forecast)**



If transit service is well-coordinated with land use, this map should show purple lines connecting most of the orange/red clusters of high density. This is the case in much, but not all, of the region, particularly in the south and west and on north/south corridors in the east side of the region.

#### 4.1.6 Access to destinations

Measuring how many destinations people can access via transit and automobile within a given travel time is a common way of understanding the overall utility of transit and driving. The RTP aims to increase access to destinations, particularly for transit. A truly multimodal transportation system is one in which people who travel by transit can reach the same number of jobs via transit within a given travel time as they can via automobile. Table 4.3 below compares accessibility via transit and automobile during peak hours and other times of the day. This analysis uses a 45-minute travel time to measure transit access and 30-minute travel times to measure automobile

access,<sup>11</sup> which accounts for the time needed for people to walk between their origins/destination and their car/transit stop and transfer between different transit routes, etc.

**Table 4.3: Percent of jobs accessible by driving and by transit by time of day, 2020 (Metro travel model and land use data)**

	Percent of jobs accessible within...	
	... a 30-minute drive	...a 45-minute transit trip
During rush hour	41%	7%
Outside of rush hour	46%	6%

The good news is that driving offers good access to jobs throughout the region—the average resident can reach almost half of the region’s job within a 30-minute commute. The challenge to creating a multimodal system is that driving offers much better access than taking transit does. Across all times of day, people can reach five to ten times as many destinations by auto as they can by driving.

<sup>11</sup> These travel times were recommended by the 2018 Transportation Equity Working Group to account for the fact that transit trips are typically longer than automobile trips.

## 4.2 SAFETY

The RTP establishes a Vision Zero goal for the Portland region to eliminate traffic-related deaths and severe injuries by 2035. Safety analysis for the draft needs assessment is based on the most recently available data. To track trends over time, most of the analysis uses a five-year average of crash data because of the random nature of crashes.

Key findings from the Safety needs assessment include:

- From 2016 through 2020, 2,814 people were killed or experienced a life-changing severe injury from a traffic crash in the greater Portland region, an average of 563 people per year.
- Traffic fatalities in the Portland region have been increasing for users of all modes, except for people bicycling. Severe injury crashes are also increasing, though not as dramatically as fatal crashes.
- Pedestrians experience a disproportionately high number of traffic deaths.
- Fatal and severe crashes are concentrated at a small number of corridors and intersections, which the RTP refers to as High Injury Corridors and High Injury Intersections.
- There is a high level of overlap between the updated 2023 High Injury Corridors and those identified in the 2018 RTP.
- About 40% of traffic fatalities occur on state-owned highways.
- Black, American Indian and Alaska Native people experience a disproportionate number of traffic deaths.
- Three quarters of serious pedestrian and bicycle crashes, and 65% of all serious crashes, occur in areas identified as Equity Focus Areas.
- Safety issues are a concern for children walking and bicycling to school.

Since the 2018 RTP was adopted, city, county, regional and state partners been developing and implementing safety action plans. Metro's two-year progress report on the Regional Transportation Strategy<sup>12</sup> highlighted this work and identified actions near-term actions to make more progress on improving safety in the region. While it is discouraging to see traffic fatalities and severe injuries increase as agencies and community partners work to address safety, it often takes a while for the impact of Vision Zero policies to become apparent. Countries and cities that have adopted the Safe System Approach and committed to achieving zero serious crashes typically begin to see substantial results in about 10 years, reducing traffic fatalities upwards of 40-60%.<sup>13</sup>

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<sup>12</sup> June 2021. <https://www.oregonmetro.gov/sites/default/files/2021/08/03/RTSS-progress-report-20210603.pdf>

<sup>13</sup> Road Safety Annual Report 2020, International Transport Forum: [https://www.itf-oecd.org/sites/default/files/docs/irtad-road-safety-annual-report-2020\\_0.pdf](https://www.itf-oecd.org/sites/default/files/docs/irtad-road-safety-annual-report-2020_0.pdf)



### 4.2.1 Historical crash analysis

The RTP includes ambitious targets to reduce fatal and serious injury crashes by 16% by 2020, by 50% by 2025, and to zero by 2035, and identifies a trajectory for the intervening years that allows the region to meet these targets. Table 4.4 summarizes regional progress toward these performance measures.

**Table 4.4: Federal Safety Performance Measures for Traffic Fatalities and Serious Injuries, 2016-2020 (Oregon Department of Transportation crash data analyzed by Metro)**

Performance Measure	5-year rolling averages		
	2011-2015 Baseline	2016- 2020 Target	2016- 2020 Actual
Number of fatalities	62	52	93
Fatalities per 100 million vehicle miles traveled	0.6	0.5	0.9
Number of serious injuries	458	384	512
Serious injuries per 100 million vehicle miles traveled	4.5	3.6	4.8
Number of non-motorized fatalities and serious injuries	113	95	129

The region is not on track to meet its targets. In fact, across all the measures summarized in Table 4.4, the region’s streets have gotten less safe since Metro established this goal and began collecting baseline data. These findings are consistent with an interim Safety Performance report that Metro published in 2021,<sup>14</sup> which was based on 2019 data. Figure 4.10 shows more detail on recent traffic fatalities in the region, showing past data alongside projected trends and Vision Zero targets.

<sup>14</sup> <https://www.oregonmetro.gov/sites/default/files/2021/03/04/Metro-safety-annual-performance-report-2015-2019.pdf>

**Figure 4.10: Five-year average rates of fatal crashes, 2007-2020, with trendlines and Vision Zero targets (ODOT crash data, analyzed by Metro staff)**

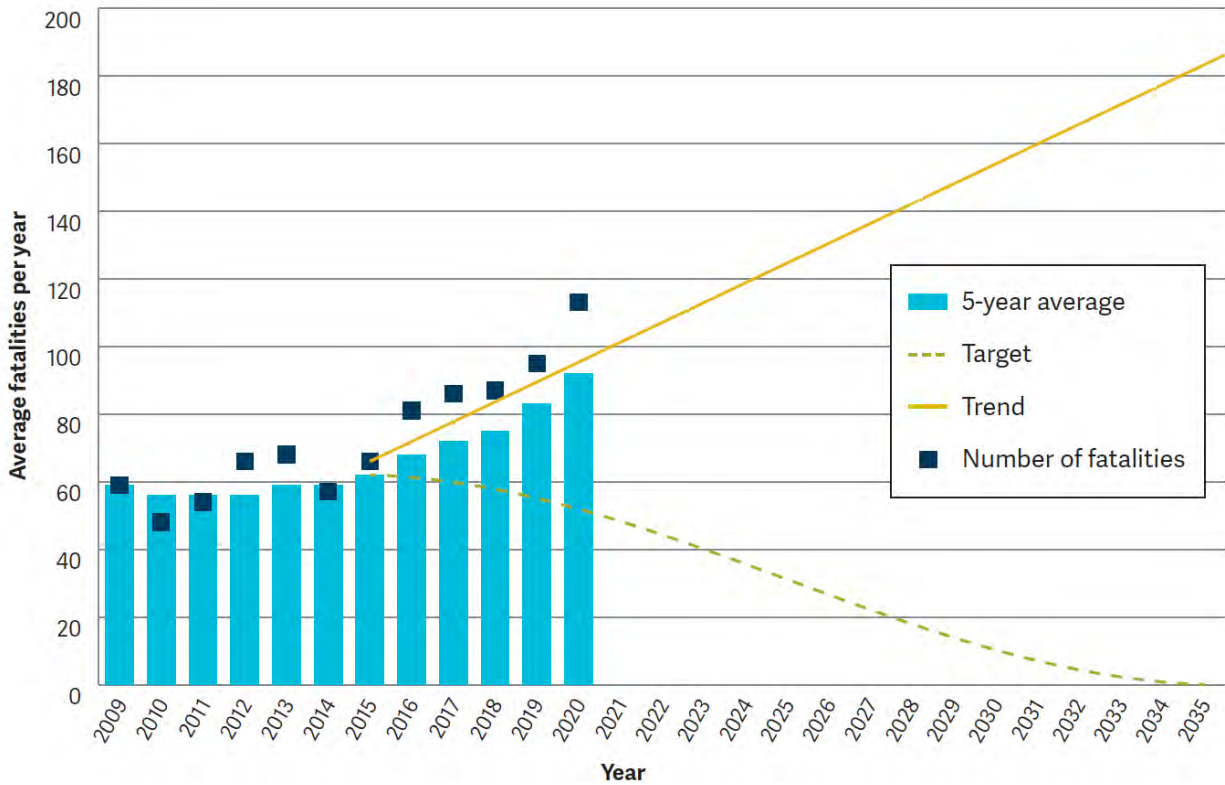
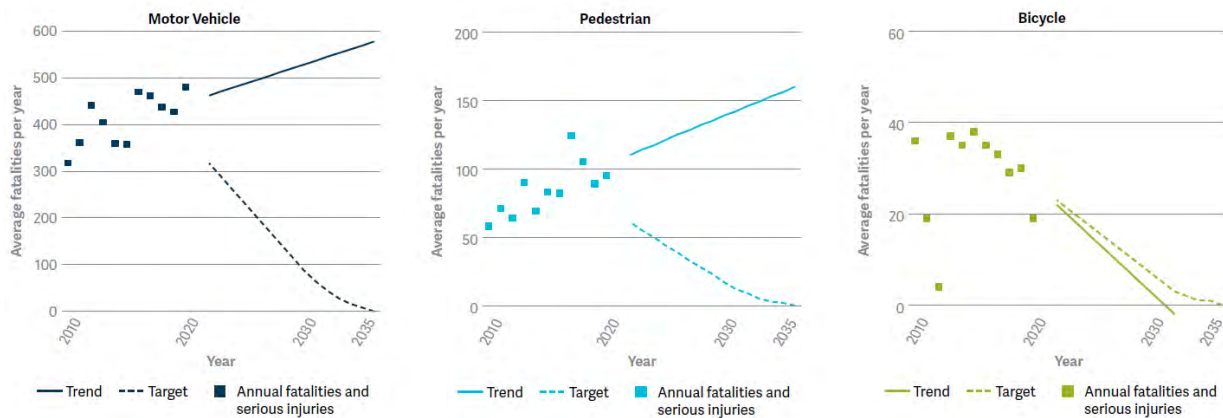


Figure 4.11 shows a similar view of safety data, but it captures both serious injury and fatal crashes and breaks out results by mode to provide more detail on how rising crash rates are affecting different travelers.

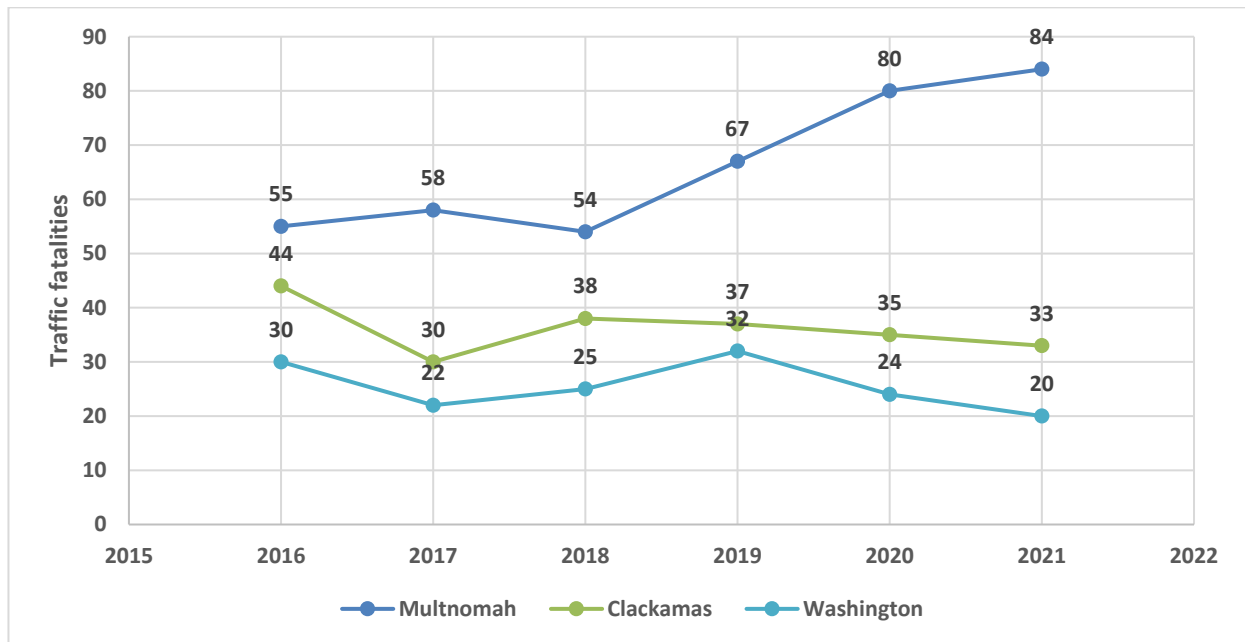
**Figure 4.11: Five-year average rates of fatal and serious injury crashes by mode, 2007-2020, with trendlines and Vision Zero targets (ODOT crash data analyzed by Metro)**



Serious crashes in the Portland region have been increasing for users of all modes except for people bicycling. Pedestrian crashes are increasing at an especially high rate.

As Figure 4.12 shows, the increase in regional fatalities is driven by an increase Multnomah County. Fatal crashes have remained relatively flat in Clackamas and Washington Counties. The fact that there are more crashes in Multnomah County than in Washington and Clackamas is not surprising; half of the passenger miles traveled in the region take place in Multnomah County, and higher travel volumes mean greater exposure to crashes, all other things being equal. However, the recent increase in fatalities is concerning given that the proportion of travel occurring in Multnomah County does not appear to have increased during that same period. Local analysis is critical to understanding how local conditions, including traffic volumes, percent of people walking and bicycling, and other factors influence traffic safety.

**Figure 4.12: Annual fatalities by county, 2016-2021 (ODOT preliminary fatal crash data)**



Speed, alcohol, and/or drugs continue to be the most common contributing factors in severe and fatal crashes in the region. During 2016-2020, speed was involved in 35% of fatal and 16% of severe injury crashes, and alcohol or other drugs were involved in 38% of fatal and 14% of severe injury crashes. However, each crash captured in the data above is complex and involves multiple contributing factors and circumstances, including traffic exposure and built environment variables.

Preliminary analysis reveals many safety issues near the region’s public elementary, middle and high schools. Within a mile buffer around the average school, there are 8.1 miles of dangerous

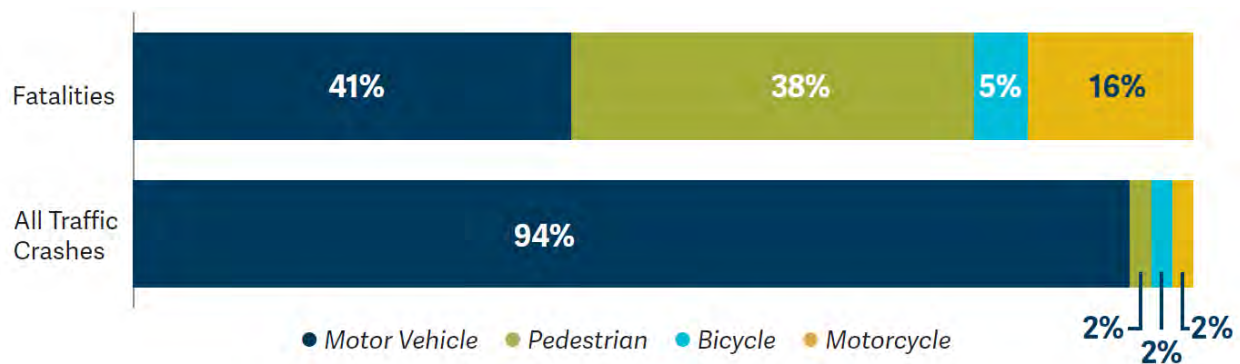


streets and 38 of fatal, severe, or bicycle and pedestrian injury crashes. One-quarter of the region’s schools are surrounded by streets with mostly incomplete sidewalks.<sup>15</sup>

### 4.2.2 Crashes by mode

Crashes have different impacts on different users of the transportation system. In general, vehicle crashes are more frequent, because most people in the region drive for most of their trips, but crashes that involve people walking, and riding bicycles and motorcycles are more severe, because their bodies are more exposed. Figure 4.13 compares fatal crashes by mode to all crashes by mode.

**Figure 4.13: All crashes and fatal crashes by mode, 2016-2020 (ODOT data analyzed by Metro)**



As this chart illustrates, traffic deaths disproportionately impact people who walk, bicycle and ride a motorcycle. Pedestrians experience the most disproportionate impact. Auto-only crashes comprise 94% of all crashes and 41% of all fatal crashes, whereas pedestrian crashes make up 2% of all crashes and 38% of all fatal crashes. In other words, pedestrians who are involved in a crash are much more likely to die—26 times more likely—than non-pedestrians. Pedestrian traffic deaths are steadily increasing, are the most common type of fatal crash, and have the highest severity of any crash type. This trend is being seen across the country and is attributed in part to vehicles getting larger over the years. Designing safe streets, particularly on arterials, is critical to pedestrian safety; 77% of serious pedestrian crashes occur on arterials.

### 4.2.3 High Injury Corridors

A majority of the serious and fatal crashes in the region, as well as the crashes that involve vulnerable users,<sup>16</sup> consistently occur on a small number of roads. Metro focuses its analysis on

<sup>15</sup> i.e., less than 50% of the sidewalks within one mile are complete. For the purposes of this analysis, a street with a sidewalk on either one or both sides counts as “complete.”

<sup>16</sup> When defining High Injury Corridors and Intersections, Metro accounts for pedestrian and bicycle injuries, which are particularly likely to be severe because these travelers’ bodies are exposed to traffic. Fatal and severe injury crashes are given a weight of ten and other injury crashes for pedestrians and bicyclists are given a weight

High Injury Corridors, which are the corridors where 60% of these crashes occur, and High Injury Intersections, which are the 5% of intersections with the highest rates of these crashes. Figure 4.14 shows High Injury Corridors (orange lines) and Intersections (those that are in the top 5% for severe injury rates are marked in pink; those that are in the top 1% are marked in red). There is a high level of overlap between the updated High Injury Corridors and those identified in the 2018 RTP.

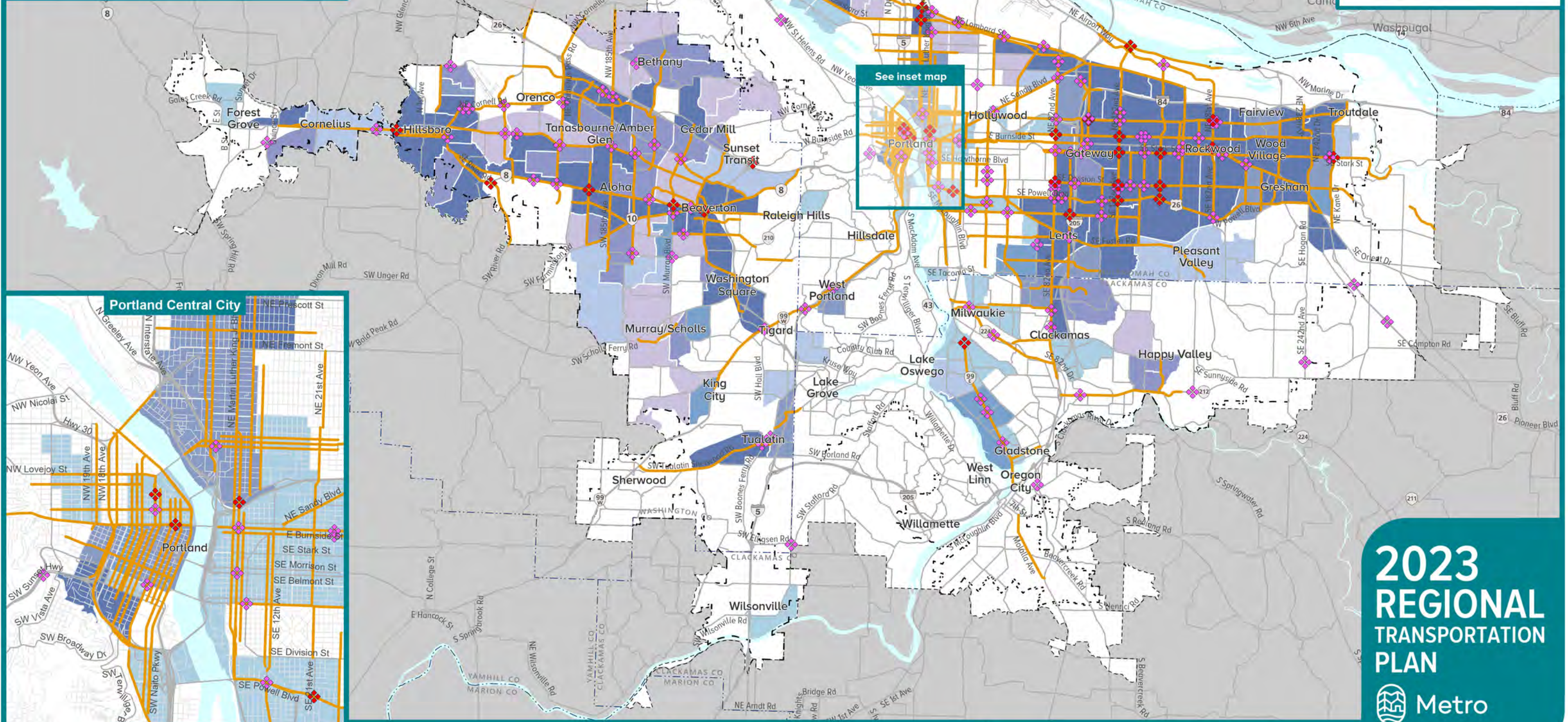
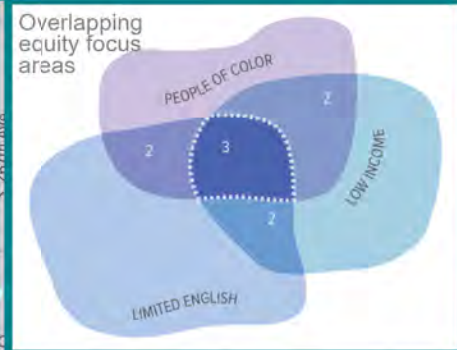
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of three. Pedestrian and bicycle involved crashes are less frequent, but compared to vehicular crashes, they are significantly more likely to result in death or serious injury (this is true for motorcycle crashes as well, hence the need for consideration of separating out these crashes in future analysis). This weighting factor reflects the higher degree of risk involved in bicycle and pedestrian crashes. Metro's methodology provides a high-level, planning level analysis that compares all roads in the region, appropriate for identifying and prioritizing needs at the regional scale. Supplemental local analysis, including identification of safety corridors at the county and city geography, should also be used to identify needs and priorities in the RTP.

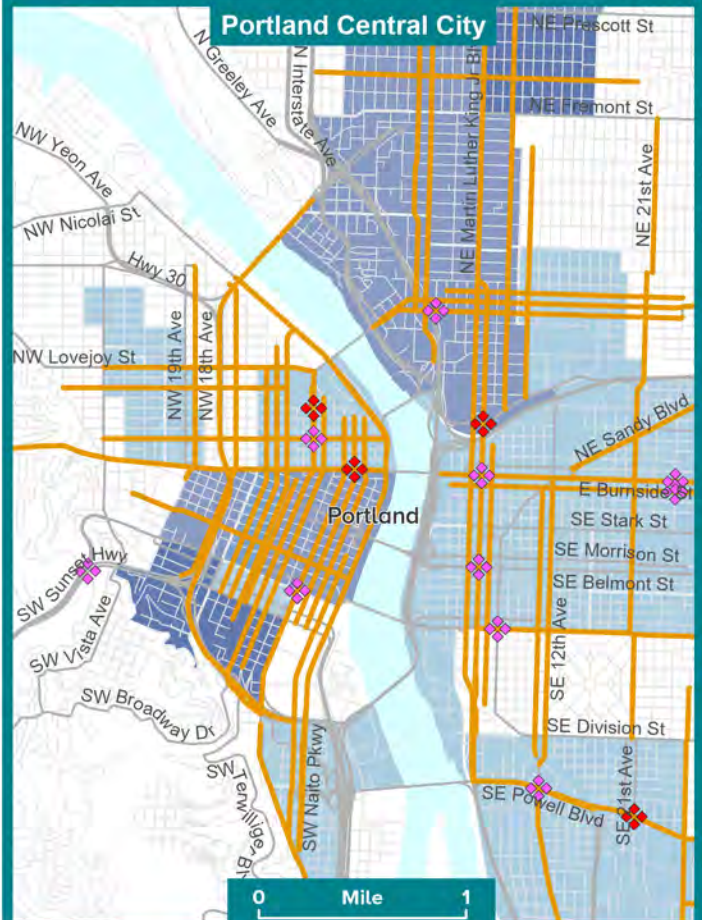


# Regional High Injury Corridors and Intersections

- ◆ Top 1% high injury intersection
- ◆ Top 5% high injury intersection
- High injury corridor
- People of color equity focus area
- Limited english equity focus area
- Low income equity focus area
- County boundary
- - - Urban growth boundary
- - - Metropolitan planning area



See inset map



**2023**  
**REGIONAL**  
**TRANSPORTATION**  
**PLAN**

Sources: ODOT and Metro

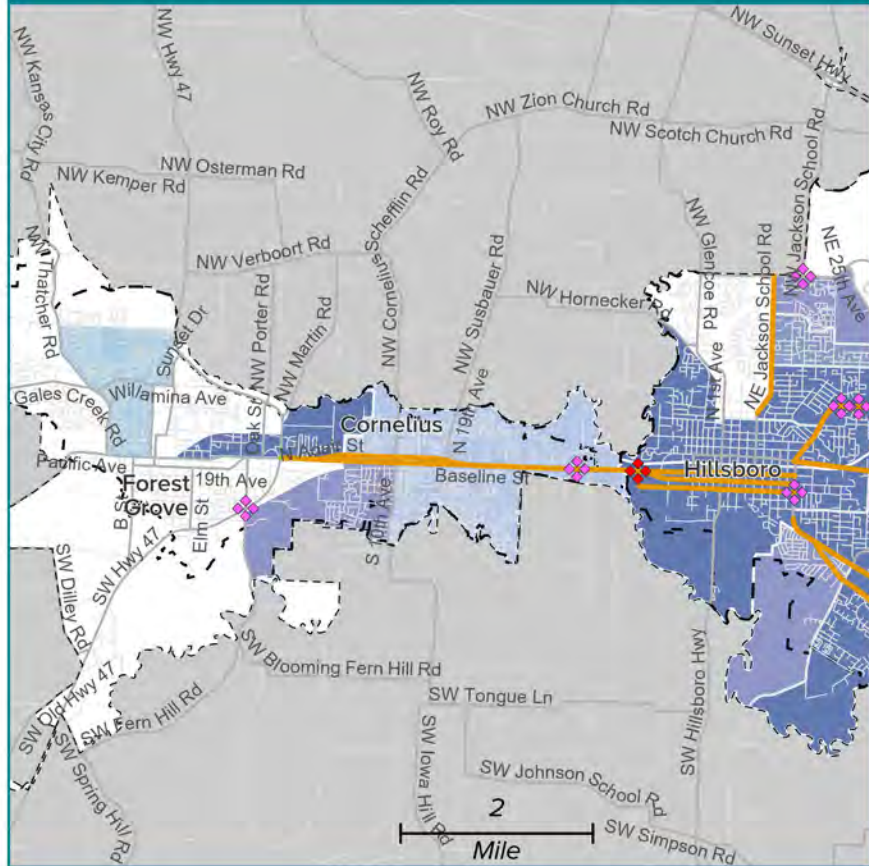
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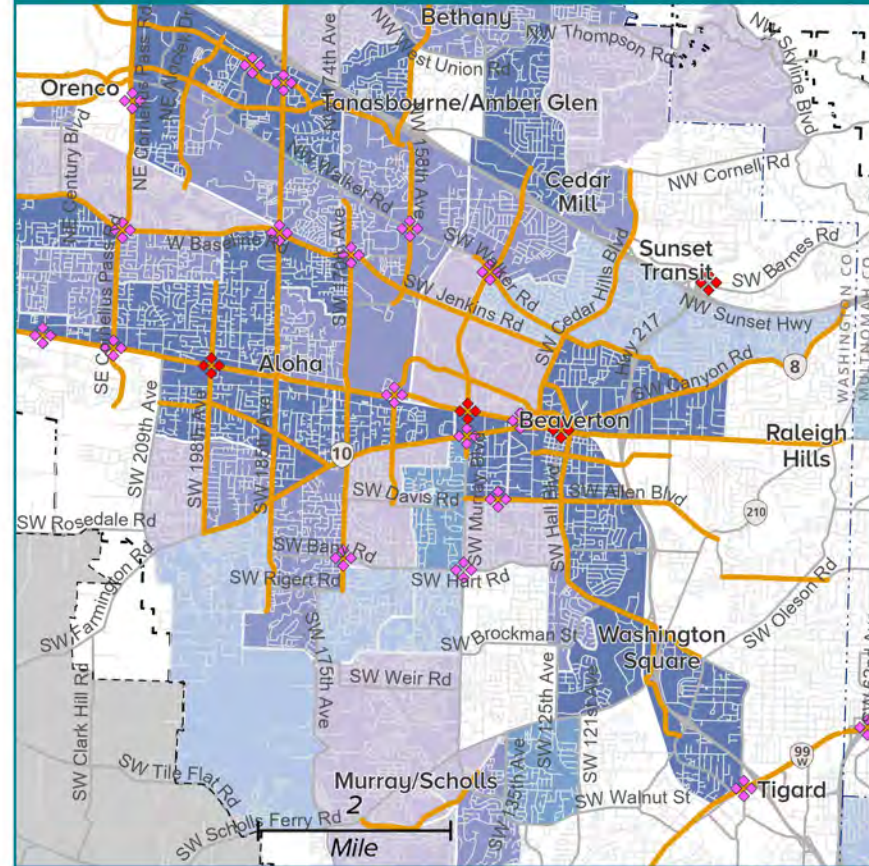
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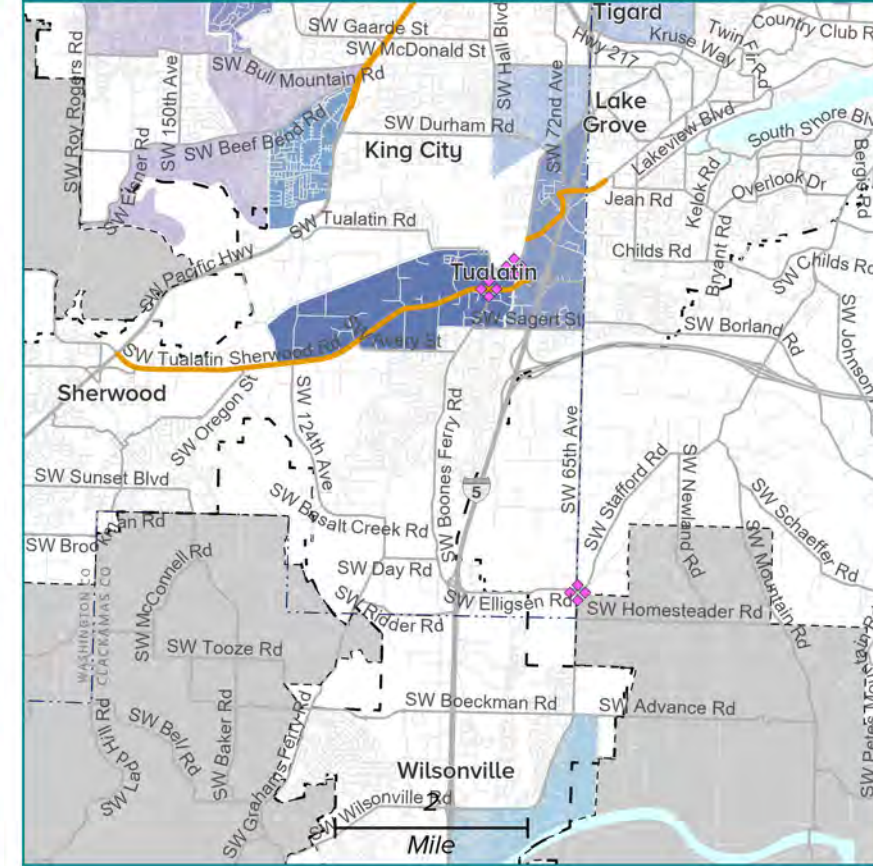
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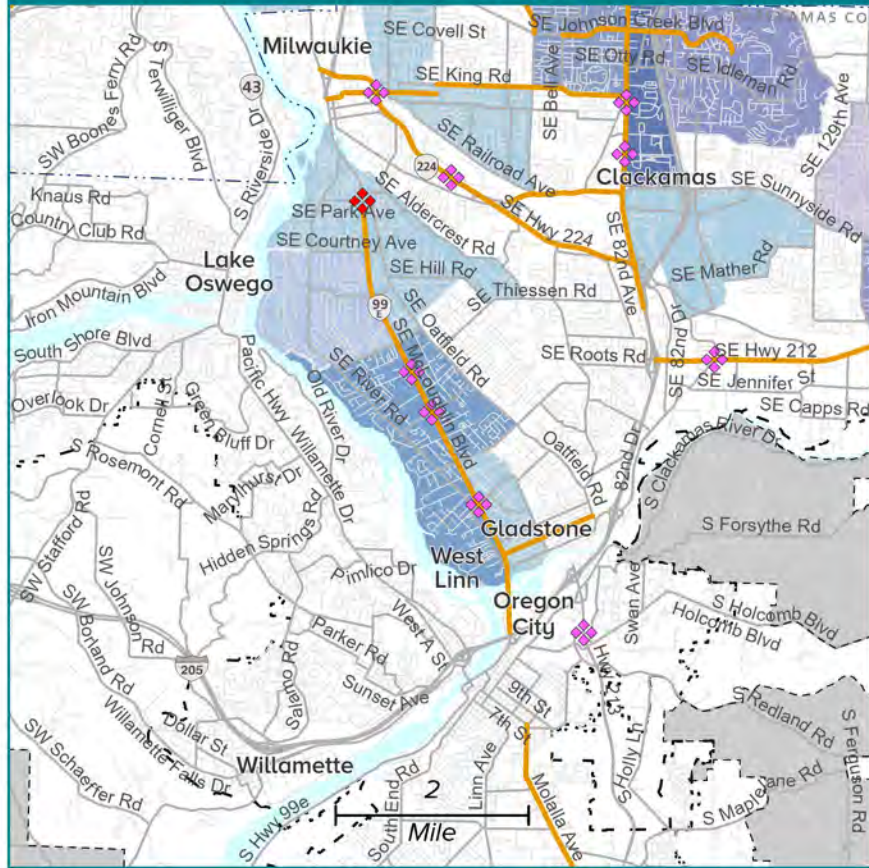


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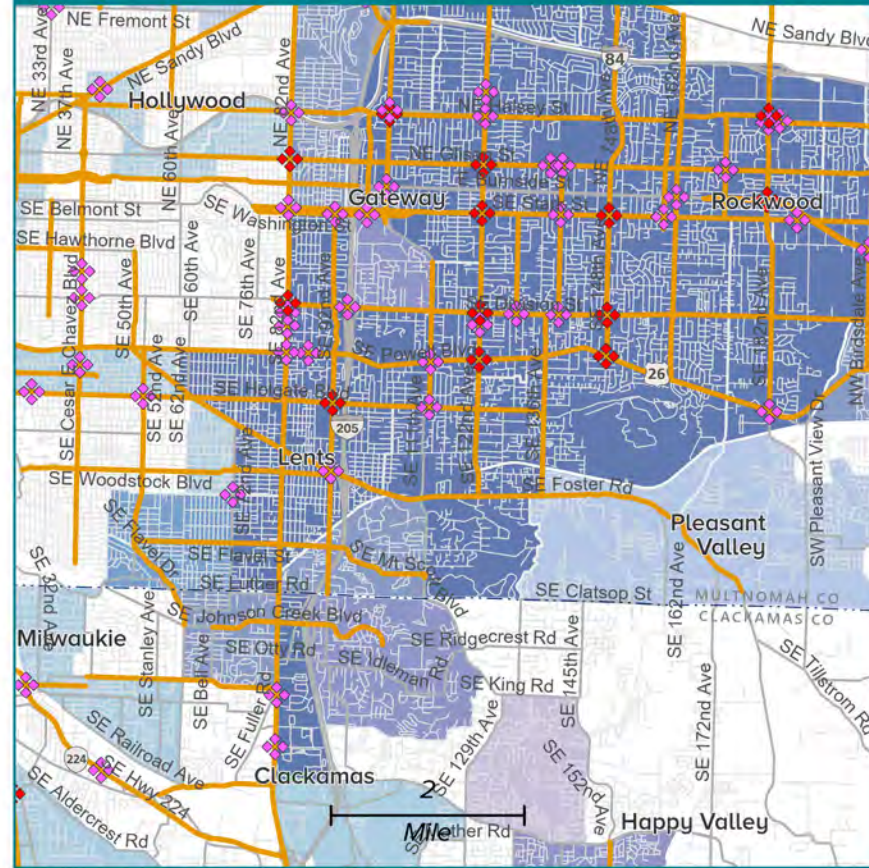
- ◆ Top 1% high injury intersection
- ◆ Top 5% high injury intersection
- High injury corridor
- People of color
- Limited English
- Low Income
- County boundary
- Urban growth boundary
- Metropolitan planning area



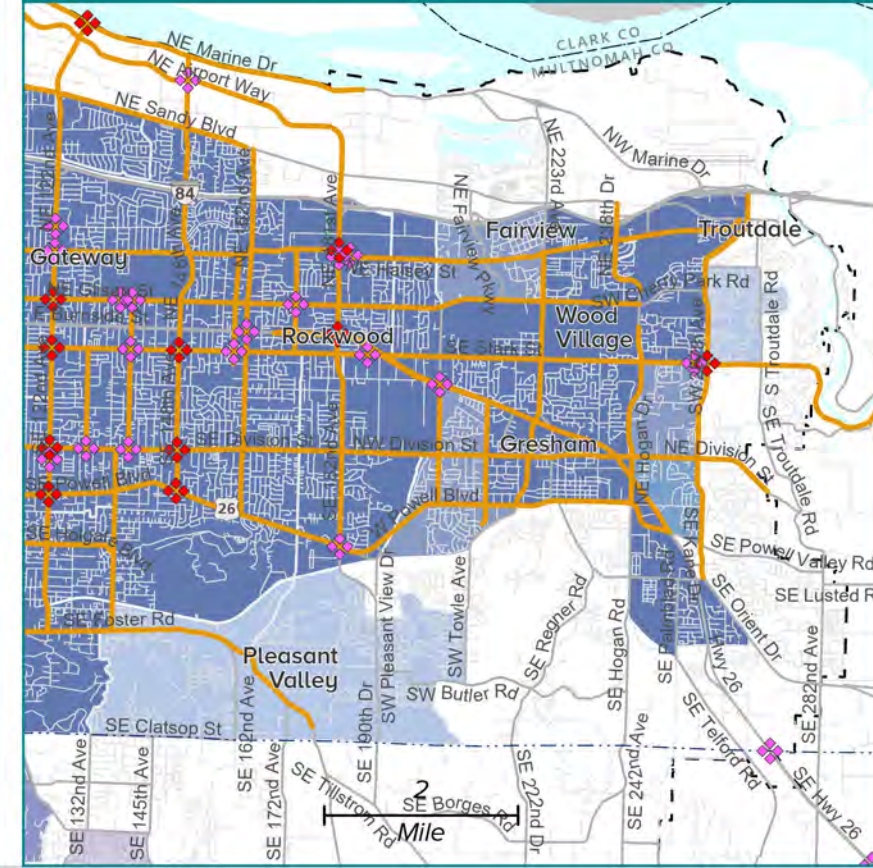
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### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



The information on this map was derived from digital databases on Metro's RLIS to represent elements of the 2023 Regional Transportation Plan adopted as part of Metro Ordinance No. 23-1496. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.



While there are typically many factors that contribute to the serious crashes that make these corridors unsafe, not yielding right-of-way is a predominant cause of serious crashes for most of the corridors. Disregard for traffic signals is another leading cause. Pedestrian crashes are a leading serious crash type in all high injury corridors. Other top serious crash types are turning movement and angle.

Roadways with the highest number of serious crashes per mile between from 2016 to 2020 are shown in Table 4.5. These roadways have many features in common:

- All are within Equity Focus Areas.
- All are within Multnomah County except for Tualatin Valley Highway.
- All are transit corridors except for East Burnside Street.
- All are arterials with 3 to 5 lanes and posted speeds of 30 mph or higher, except for East Burnside Street, which is posted at 20 mph.

**Table 4.5: Roadways within the MPA with two or more serious traffic injuries per mile, 2016-2020 (ODOT crash data analyzed by Metro)**

Roadway	From	To	Length (miles)	Annual serious injuries per mile
181st Ave.	NE Sandy Blvd.	SE Yamhill St.	2.12	3
Division St.	SE 79th Ave.	SE 178th St.	4.97	2
Powell Blvd.	SE 84th Ave.	SE 168th Ave.	4.38	2
Burnside Rd.	SE 199th Ave./NE Eleven Mile Ave.	E Powell Blvd./SE Powell Valley Rd.	3.10	2
82nd Ave.	SE Main St.	SE Crystal Springs Blvd.	3.42	2
S 122nd Ave.	E. Burnside St.	SE Foster Rd.	3.24	2
Glisan St.	NE 58th Ave.	NE 150th Pl.	4.65	2
N 82nd Ave.	NE Lombard St.	SE Salmon St.	3.37	2
Outer Stark St.	SE 153rd Ave.	NE Hood Ave.	3.88	2
Inner Stark St.	SE Thorburn St.	SE 151st Ave.	3.90	2
Grand Ave.	NE Hancock St.	SE Powell Blvd.	2.66	2
Weidler St.	N. Broadway	NE 24th Ave.	1.37	2
N 122nd Ave.	NE Marine Dr.	NE Davis St.	3.14	2
Tualatin Valley Hwy	SW 214th Ave.	SW 139th Way	3.99	2
E Burnside S.	E 2nd Ave.	E Gilham Ave.	3.52	2

The RTP recommends the use of proven safety countermeasures<sup>17</sup> to address High Injury Corridors and Intersections identified in Chapter 3 and locally identified safety needs. Local safety

<sup>17</sup> The Safety Division of the FHWA provides information on proven safety countermeasures at <https://safety.fhwa.dot.gov/provencountermeasures/>

action plans describe in detail the projects that are needed to resolve safety issues at these locations and others identified by partner agencies.



## 4.3 EQUITY

RTP Equity Policy 3 directs Metro and its agency partners to “Prioritize transportation investments that eliminate transportation-related disparities and barriers for marginalized communities, with a focus on communities of color and people with low incomes.” Through extensive outreach, Metro has heard that these communities need fast, frequent, affordable, and reliable transit connections to key destinations and safer walking and biking infrastructure. The Needs Assessment evaluates equity through that lens and finds:

- The Portland region continues to grow more racially and ethnically diverse.
- The region is aging. The share of people 65 and older is growing while all other age groups are declining. However, people under 44 will continue to be in the majority.
- The COVID-19 impact had particularly severe and long-lasting impacts on people of color and workers with low incomes.
- Regional transportation agencies can advance equity by investing in transit service and safe biking and walking infrastructure in Equity Focus Areas (EFAs), which are communities with concentrations of people of color, people with low incomes, and people with limited English proficiency.
- The region has made significant progress in improving transit service and bike/ped infrastructure in EFAs, but not enough to address deep-seated inequities. Transit still offers much less access to destinations than driving does, and serious crashes are still concentrated in EFAs.

### 4.3.1 History of discriminatory planning in the Greater Portland region

The disparities described in this chapter are the result of specific decisions made over the years by governments, institutions, and the public to marginalize people of color and other groups. Many of these decisions had generational impacts that continue to contribute to the inequities we see today. Knowing this history is critical to fully understanding and resolving these disparities.<sup>18</sup>

Oregon has a unique history of passing laws that discriminate against Black people. In the 1840s and 50s, State legislative bodies passed a series of laws that made it illegal for Black people to live in Oregon, and Oregon was the only state with such laws in its constitution. These State policies, along with federal policies such as the Japanese Internment law of 1942, as well as a series of actions that the real estate industry and government agencies took to concentrate people of color in particular neighborhoods and disinvest in those neighborhoods, all contribute to the region’s history of discriminatory planning. Throughout the last century, people of color and people with lower incomes have been impacted by planning decisions that targeted struggling areas for development. Major roads and freeways were often built on top of already disadvantaged

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<sup>18</sup> The information in this section is adapted from Metro’s Equitable Transportation Funding Research Report: <https://www.oregonmetro.gov/sites/default/files/2022/11/16/Equitable-Transportation-Funding-Research-Report-11142022.pdf>.

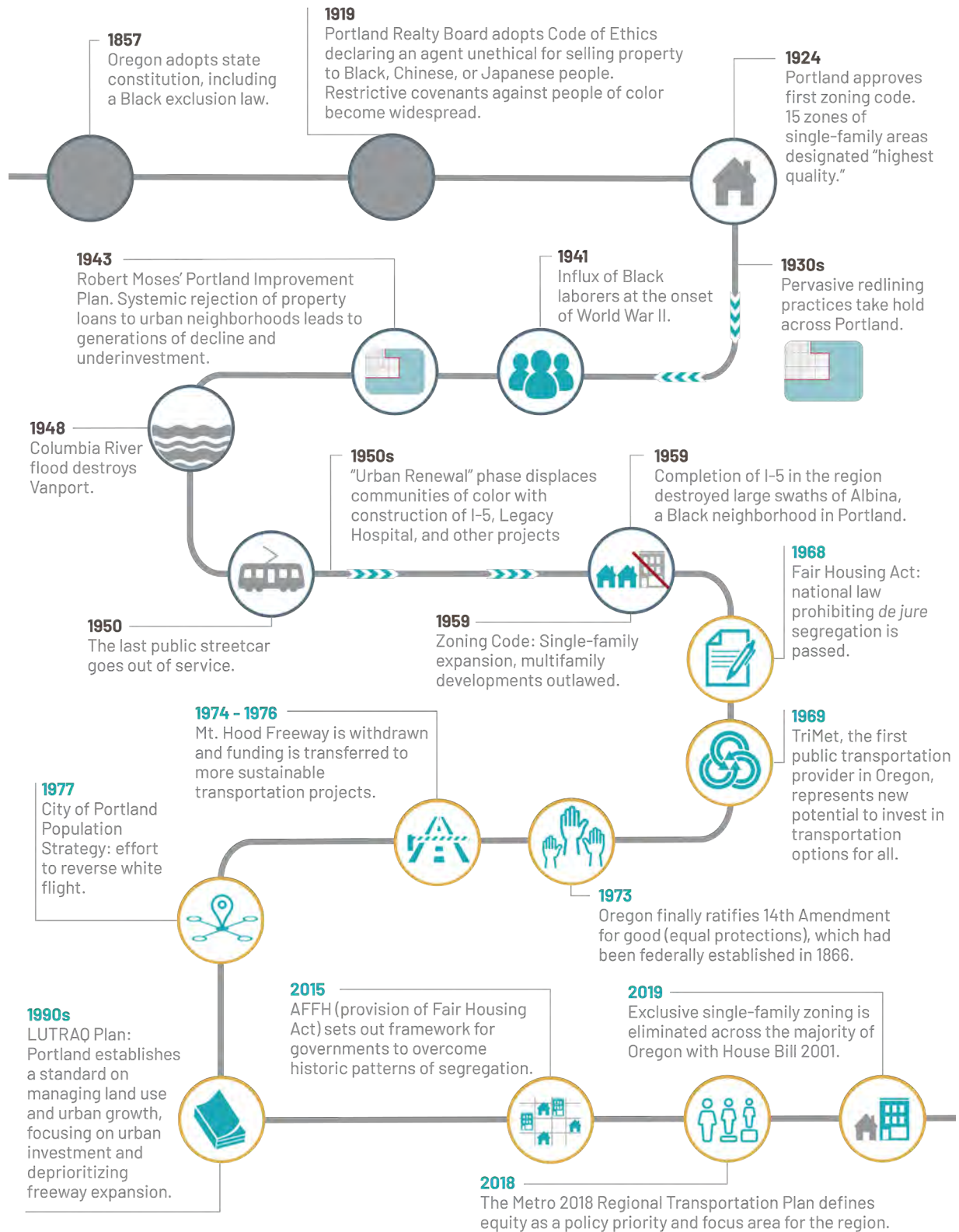
communities to avoid affecting wealthy, white neighborhoods. These decisions split neighborhoods, displaced families, permanently damaged communities, and even led to higher rates of air pollution and chronic illness.<sup>19</sup>

Figure 4.15 provides a visual timeline of discriminatory planning in the greater Portland region from the late 19<sup>th</sup> century to the present, and also chronicles more recent efforts to restore justice. In the graphic, gold circles reflect the shift away from discrimination and the beginning of a path toward equity.

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<sup>19</sup> [Oregon Metro. \(2022\). "2023 Regional Transportation Plan Update: Work Plan."](#)

**Figure 4.15: Timeline of discriminatory planning and advancements toward equity in the Greater Portland region**





Beginning in the 1920s, local governments throughout the region used exclusionary zoning to prevent people of color from owning property in certain neighborhoods, was common practice in the greater Portland region.<sup>20</sup> The real estate industry— including realtors, bankers, appraisers, and landlords—also used redlining, discriminatory lending, and restrictive covenants to steer people of color toward certain neighborhoods and exclude them from others.<sup>21</sup> Local governments also used single-family zoning to support these practices by forcing multi-family development into segregated neighborhoods.<sup>22</sup> Agencies significantly increased the amount of land zoned for single-family housing throughout the 1930s, 1940s, and 1950s. By the end of this period, multi-family zones accounted for only 5 percent of residentially zoned lands. These practices created concentrated people of color and people with lower incomes in neighborhoods that were vulnerable to disinvestment, industrial uses, infrastructure development, and urban renewal plans.<sup>23</sup>

Urban renewal, whereby government agencies razed and redeveloped ‘blighted’ areas in their jurisdictions, swept the United States in the mid-twentieth century. Local governments used this power to implement sweeping redevelopments in marginalized, often Black, communities without consulting people who lived there. The new developments that were created through urban renewal took on many forms: transportation infrastructure, large-scale multi-family housing, event centers, parks, and office buildings, etc. The agencies who led these projects often systematically displaced the people who lived in these neighborhoods and bought out landowners for a fraction of their property’s value. Portland and many other cities across the U.S. have a long and well-documented history of urban renewal projects—including some that were approved by voters, such as the development of Memorial Coliseum in the heart of Portland’s Black community.<sup>24</sup>

Portland’s Albina neighborhood developed into a thriving business district after the population boom throughout World War II and became a haven and area of opportunity for Black people living in the city. This sudden population growth also led to the development of Vanport in North Portland, which was initially built to provide temporary housing for shipyard workers. Many of these workers were African American and were unable to find other suitable nearby housing. In 1948, Vanport was destroyed by a flood, taking numerous lives and forcing people who lived there to relocate, and many moved to Albina. In the 1950s, federal, state and local transportation agencies built the Interstate 5 freeway through Albina, and local governments razed other parts of Albina to build Memorial Coliseum and Emanuel Hospital, destroying homes and businesses, forcing displacement, and tearing the fabric of the neighborhood apart.

Exclusionary zoning and racial segregation still influence where people live and work today. Exclusive single-family zoning was eliminated in the majority of Oregon through the passing of

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<sup>20</sup> [https://www.oregonencyclopedia.org/articles/blacks\\_in\\_oregon/#.Y0mqhXbMJPY](https://www.oregonencyclopedia.org/articles/blacks_in_oregon/#.Y0mqhXbMJPY)

<sup>21</sup> [Department of Land Conservation and Development. \(2022\). “Housing Choices \(House Bill 2001\).”](#)

<sup>22</sup> [Department of Land Conservation and Development. \(2022\). “Housing Choices \(House Bill 2001\).”](#)

<sup>23</sup> [Hughes, Jena. \(2019\). “Historical Context of Racist Planning.” \*Bureau of Planning and Sustainability\*.](#)

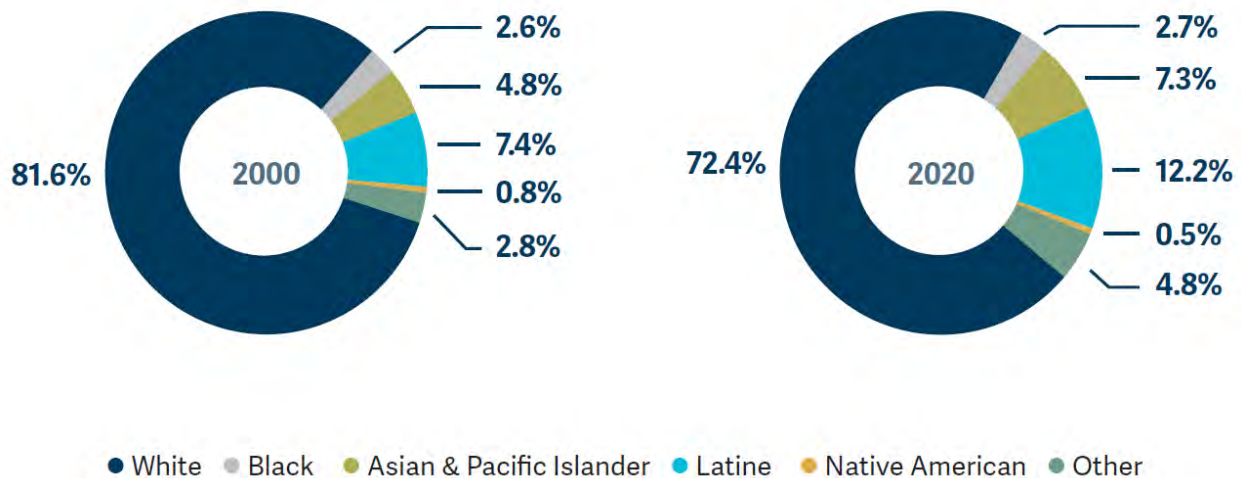
<sup>24</sup> [Killen, John. \(2015\). “Throwback Thursday: 60 years ago, Portland began urban renewal plan for South Auditorium district.” \*Oregon Live\*.](#)

House Bill 2001. As of June 2022, cities with a population over 25,000 and cities in the greater Portland region must allow duplexes, triplexes, quadplexes, cottage clusters, and townhouses in residential areas. Yet much still needs to be done to untangle the legacy of displacement and damage inflicted in years past. Even with the progress made since the late 1960s, the disproportionate impact of lack of transportation access to opportunities for people of color and people with low-income persists. Gentrification, population growth, and increasing demands on housing continue to threaten to further destabilize people of color and low-income communities. Implementing the recommendations in this report and continuing efforts to advance racial and income equity in future RTPs, plans, and programs, are critical to righting the wrongs of the past.<sup>25</sup>

### 4.3.2 Demographic and economic changes

People of color make up an increasing share of people who live in the region. The portion who identify as people of color has been increasing steadily over the past several decades; from under 1% in 1960 to 28% in 2020. Figure 4.16 shows how the racial and ethnic makeup of the region’s population changed between 2000 and 2020.

**Figure 4.16: Population by race and ethnicity<sup>26</sup> in the Portland region and surrounding counties,<sup>27</sup> 2000 and 2020 (U.S. Census)**



Over the 20-year time span captured in the figure above, the share of people in the region who identify as people of color grew from 18% nearly 28%. This change was driven primarily by

<sup>25</sup> Much of the existing academic literature and subsequent discussions are around the City of Portland, however the patterns of exclusion and discrimination are well established to have been rampant across the country, Oregon, and the greater Portland region.

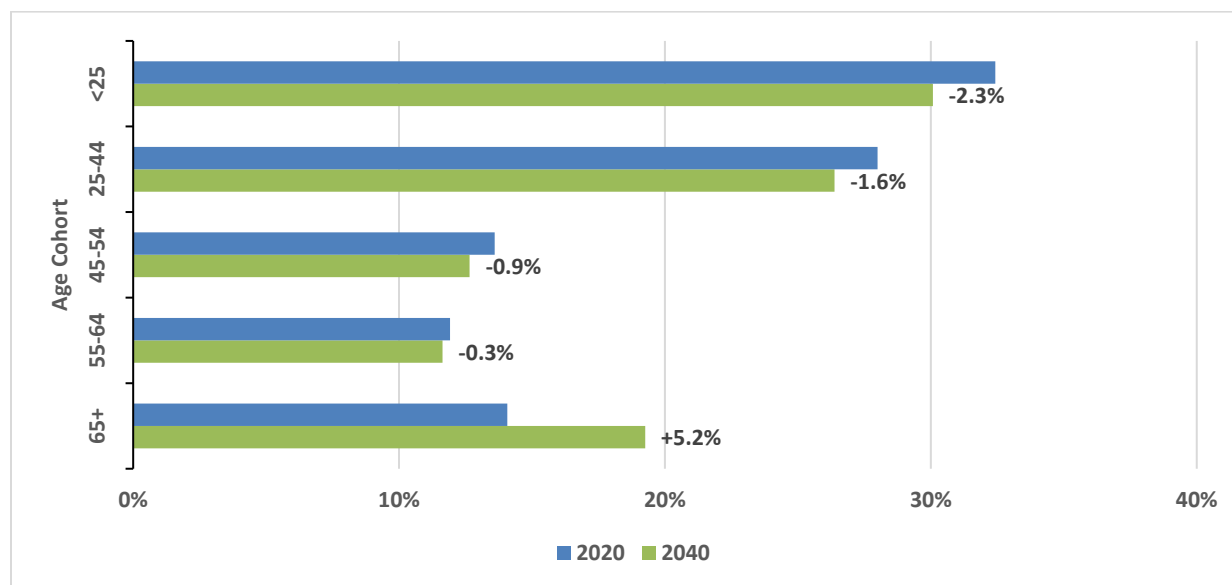
<sup>26</sup> The U.S. Census uses different terms for race and ethnicity than Metro does. This figure uses the terms commonly used by Metro for brevity and consistency, but respondents defined themselves using the options presented by the Census, which include: White alone; Black or African American; Asian, Native Hawaiian, and Pacific Islander; Hispanic or Latino; American Indian and Alaska Native; and Other.

<sup>27</sup> For consistency with regional and state population forecasts, Metro uses a broader 7-county region (Clackamas, Clark, Columbia, Multnomah, Skamania, Washington, and Yamhill counties) in its demographic data.

growth among Latinos, Asian Americans and Pacific Islanders, as well as an increasing number of people who identify as “other.”<sup>28</sup>

Figure 4.17 shows Metro’s forecasts for how the share of population in different age groups will change between 2020 and 2040.

**Figure 4.17: Current and forecasted population by age cohort in the 7-county greater Portland region, 2020 and 2045 (MetroScope)**



Just like the national population, our region’s population is aging, and the share of people over 65 is projected to grow by 5%, while shares of all other age groups are declining. However, the two youngest age groups—people under 25 and people 25 to 44—are projected to remain the two largest age groups in the region. By 2040, close to 50% of the region’s population will either be under 25 or over 65. Though these two groups have very different transportation needs, they also have some important similarities—lower rates of commuting by auto, high proportions of people who cannot drive due to age or disability, and lower participation in the labor force, which means that their travel patterns are less likely to be driven by commuting.<sup>29</sup>

### 4.3.3 Inequities in housing and employment

The 2018 RTP undertook a wide-ranging review of data and research on equity, both nationally and in the Portland region, and highlighted several inequities in different marginalized groups’ access to housing and jobs.

<sup>28</sup> The Census Bureau increased the number of options for people to classify themselves as members of two or more races between 2000 and 2020. For the purposes of comparing data from 2020 with data from 2000, similar race/ethnicity categories were used as in 2000 – combining Asian people and Pacific Islanders – although the Census Bureau now differentiates between the two, and including people who identify as being part of two or more races in the “other” category.

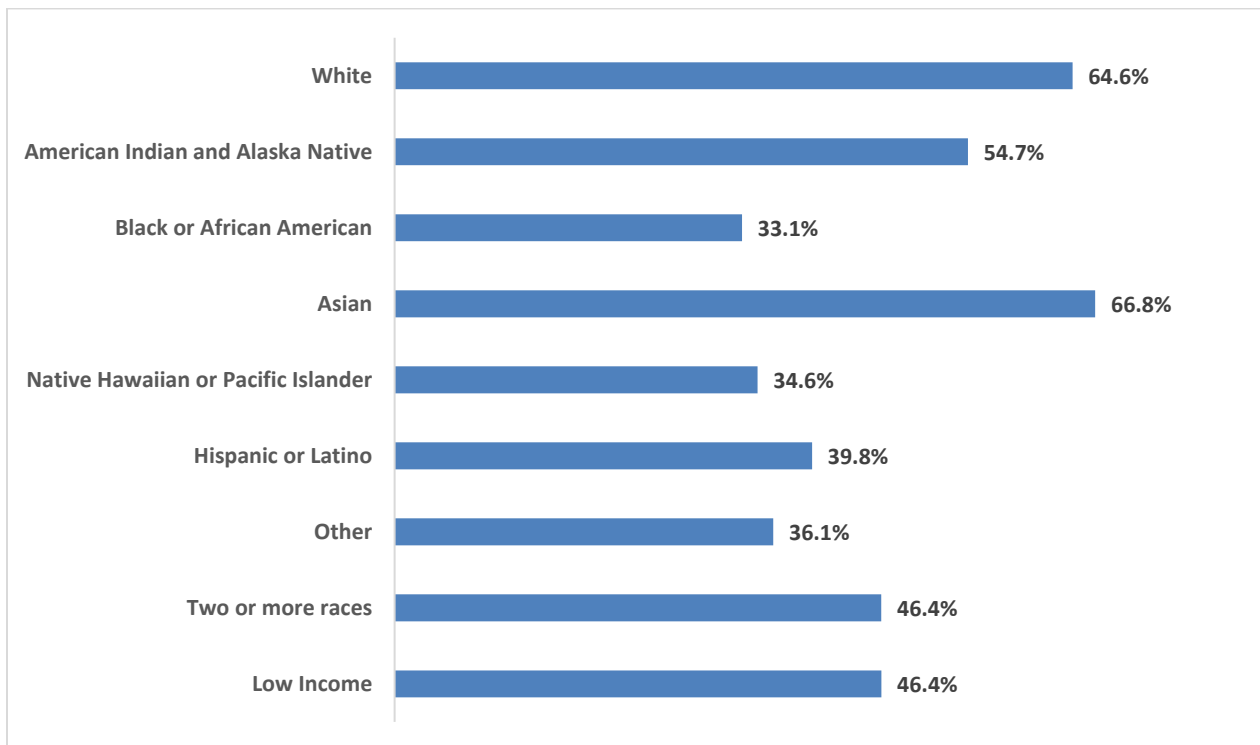
<sup>29</sup> <https://www.census.gov/content/dam/Census/library/publications/2020/acs/acs-45.pdf>



- People with low incomes and most people of color (with the exception of Asian Americans) and people with low incomes are significantly less likely to own a home than white people.
- People of color are being displaced to areas of the region that lack good access to transportation options, jobs, and other important destinations.
- People of color and people with low incomes can access fewer jobs within a typical commute distance than white people.

Many of these inequities were exacerbated by the COVID-19 pandemic. The health impacts of the pandemic fell significantly upon the region’s Latino population, and its economic impacts were particularly damaging for people with low incomes—both workers, who were more likely to lose their jobs, and students, who experienced greater learning loss due to the pandemic. Significant disparities in access to jobs and housing persist. Figure 4.18 shows how homeownership rates are still much lower for most non-white racial and ethnic groups and for households earning below \$75,000 per year than they are for white people.

**Figure 4.18: Homeownership rates by race and income for Multnomah, Washington and Clackamas Counties, 2020 (American Community Survey)**

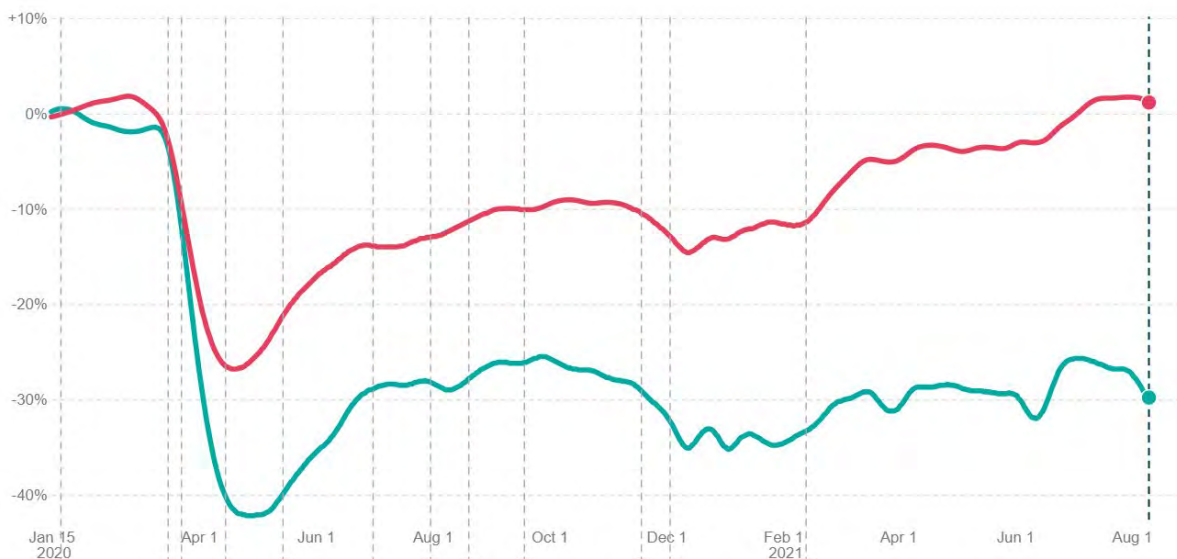


Public agencies are working to address these disparities by creating more affordable housing, supported by a regional affordable housing bond measure, which was passed by voters in 2018. The bond aims to fund the construction of 3,900 designated affordable housing units across the region, with a focus on providing homes for people of color. Though the bond measure represents significant progress in building affordable housing, it only provides a small portion of the roughly 48,000 units in the region that Metro estimates are necessary to meet the region’s needs.

Homeownership rates can affect how communities respond to the transportation projects that are the focus of the RTP. Some transportation projects—in particular, new light rail lines and bicycle/pedestrian trails—can potentially increase the value of adjacent properties. This benefits homeowners who live nearby, but it can create higher housing costs and displacement risks for people who rent. This means the groups shown as having low homeownership rates in Figure 4.18 are more likely to see new transportation investments as threatening their ability to remain in their communities.

The inequities created by the COVID-19 pandemic become very visible when comparing employment patterns for lower- and higher-income workers. Overall, the U.S. experienced historically high levels of unemployment in summer 2020, immediately following the onset of the COVID-19 pandemic. By Spring 2022, the overall unemployment rate had fallen to levels that could be considered low even by pre-pandemic standards. However, this broad trend masks significant differences in the employment rate between workers with lower incomes and those with higher incomes. Figure 4.19 shows unemployment rates over the past three years for both workers who more than the median wage (approximately \$30 per hour, or \$60,000 per year) and workers who earn less.

**Figure 4.19: Regional employment rates for workers earning above and below the median wage (indexed to January 2020) January 2020 – August 2021 (Earnin, Intuit, Kronos and Paychex data, analyzed by Cambridge Systematics for the Commodities Movement Study)**



As of August 2021, the employment rate for workers in the Portland region who earned above the median wage had increased by 1.2% over pre-pandemic (January 2020) levels, whereas the employment rate for workers earning below the median wage fell by 29.8%. In other words, the pandemic opened up a 30-point employment gap between workers earning above the median and workers earning below the median wage.

#### 4.3.4 Transportation needs in Equity Focus Areas

RTP Equity Focus Areas were identified in Chapter 3 to guide transportation plans toward focusing on communities with the greatest needs, and to benefit as many people in need as possible, while accounting for regional growth and change. They highlight the communities in the region with the highest densities of people of color, people with low incomes, and people who speak limited English.

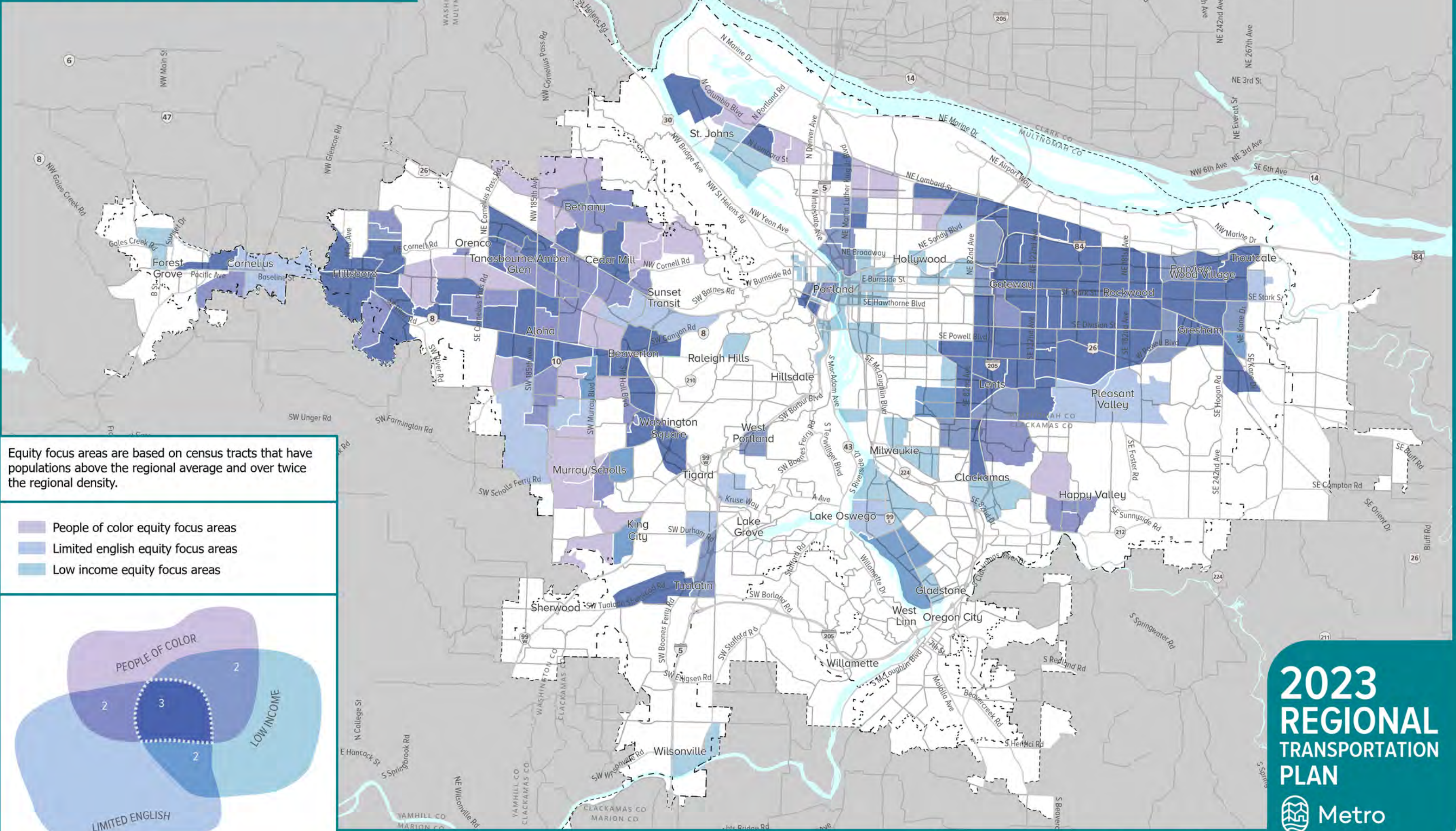
Figure 4.20 shows the updated Equity Focus Areas used in the 2023 RTP analysis, including which of the three populations included in the definition of EFAs are concentrated within each EFA, and uses shading to illustrate how these different populations overlap with each other. These EFAs are based on 2016-20 American Community Survey data (for income and English proficiency) and 2020 Census data (for race). Appendix M provides more detail on the data sources and calculations used to create and update EFAs.



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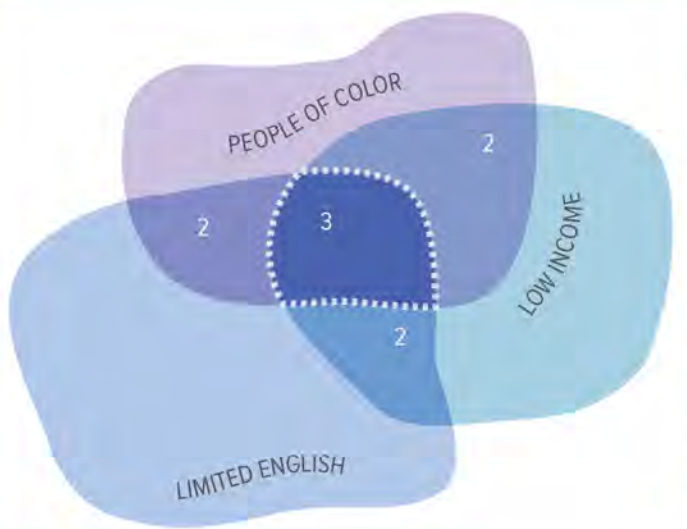


# Equity Focus Areas



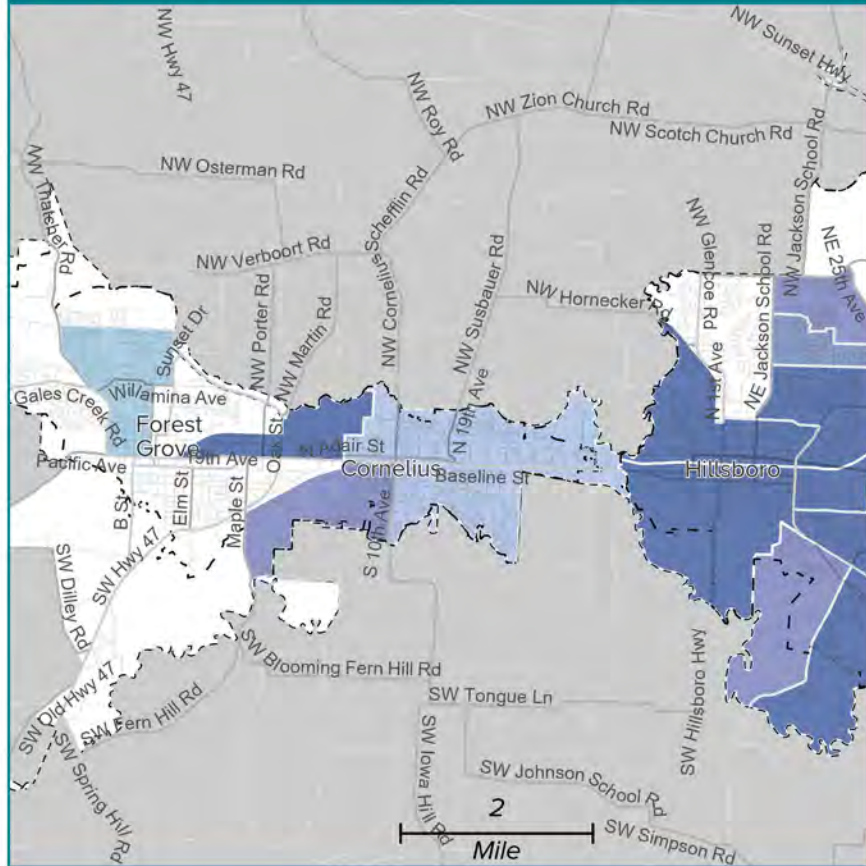
Equity focus areas are based on census tracts that have populations above the regional average and over twice the regional density.

- People of color equity focus areas
- Limited english equity focus areas
- Low income equity focus areas

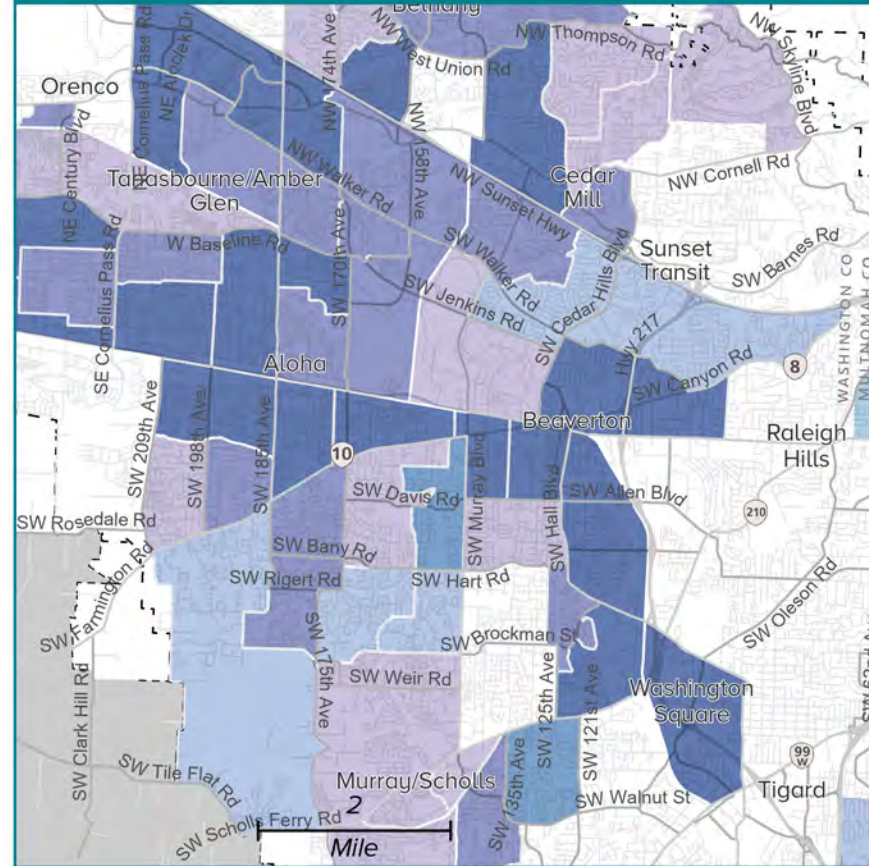




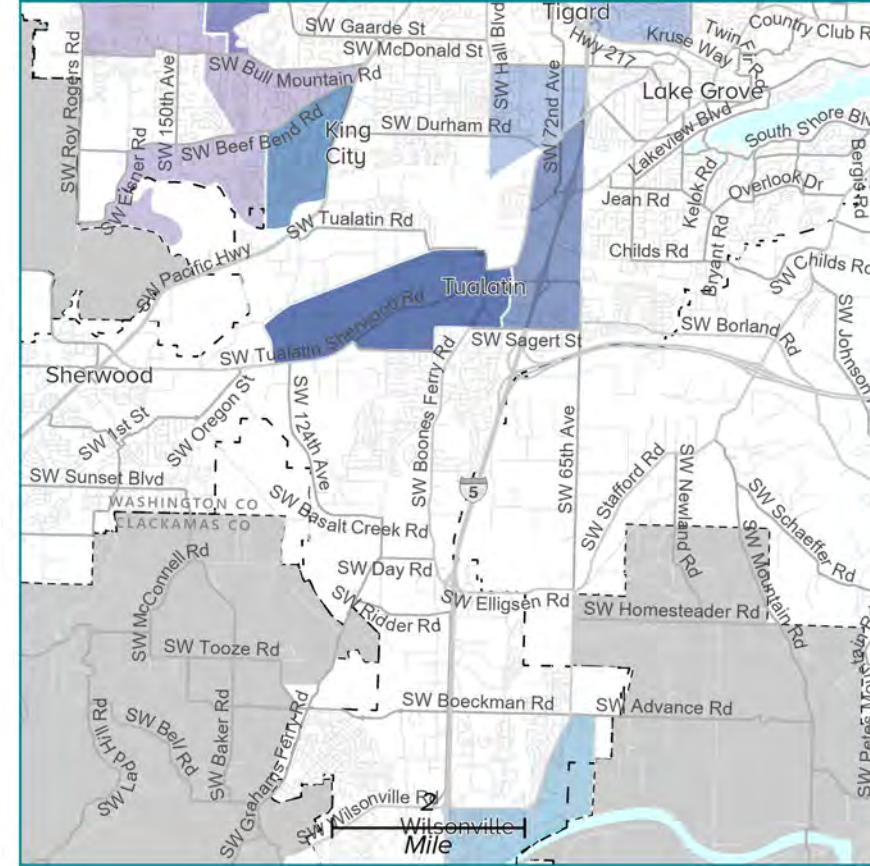
### 1. Forest Grove-Cornelius-Hillsboro area



### 2. Hillsboro-Aloha-Beaverton-Tigard area



### 3. Sherwood-Tigard-Tualatin-Wilsonville area



### Legend

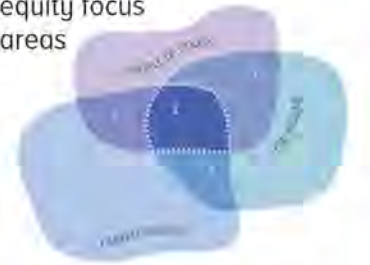
Equity focus areas are based on census tracts that have populations above the regional average and over twice the regional density.

#### Equity Focus Areas

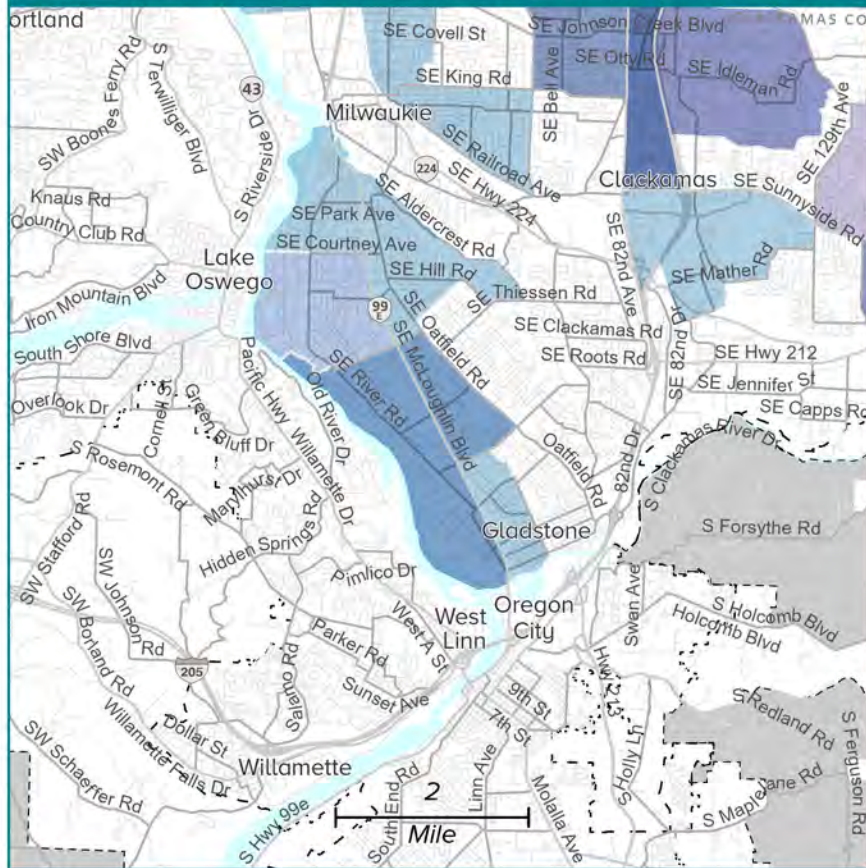
- People of color
- Limited english
- Low income

- County boundary
- Urban growth boundary
- Metropolitan planning area

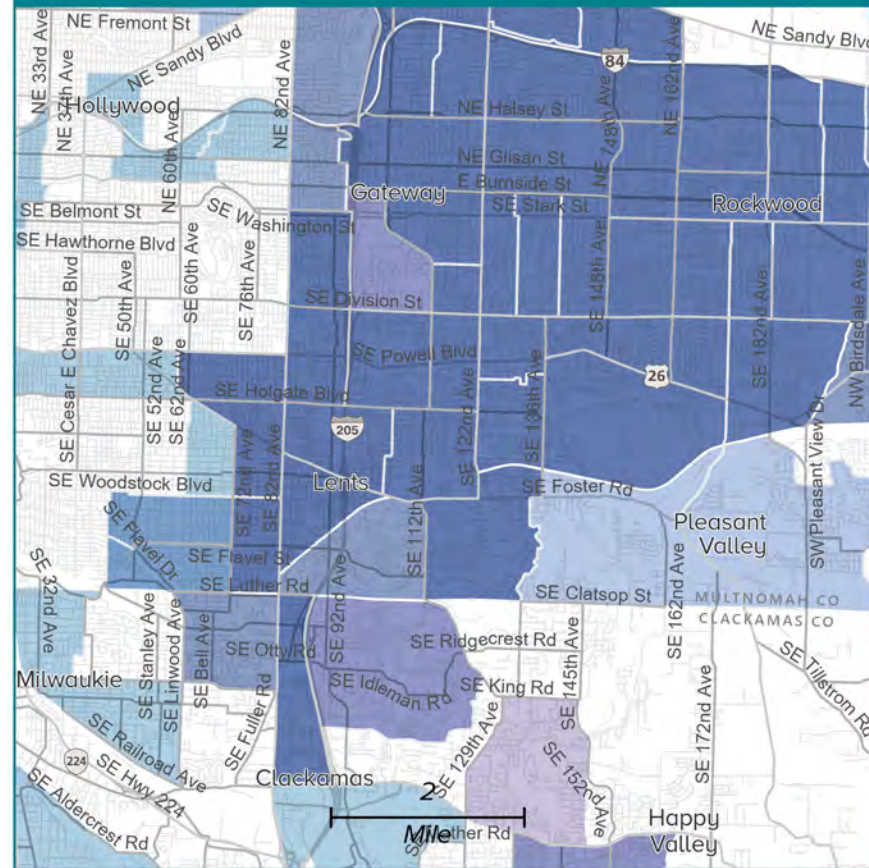
Overlapping equity focus areas



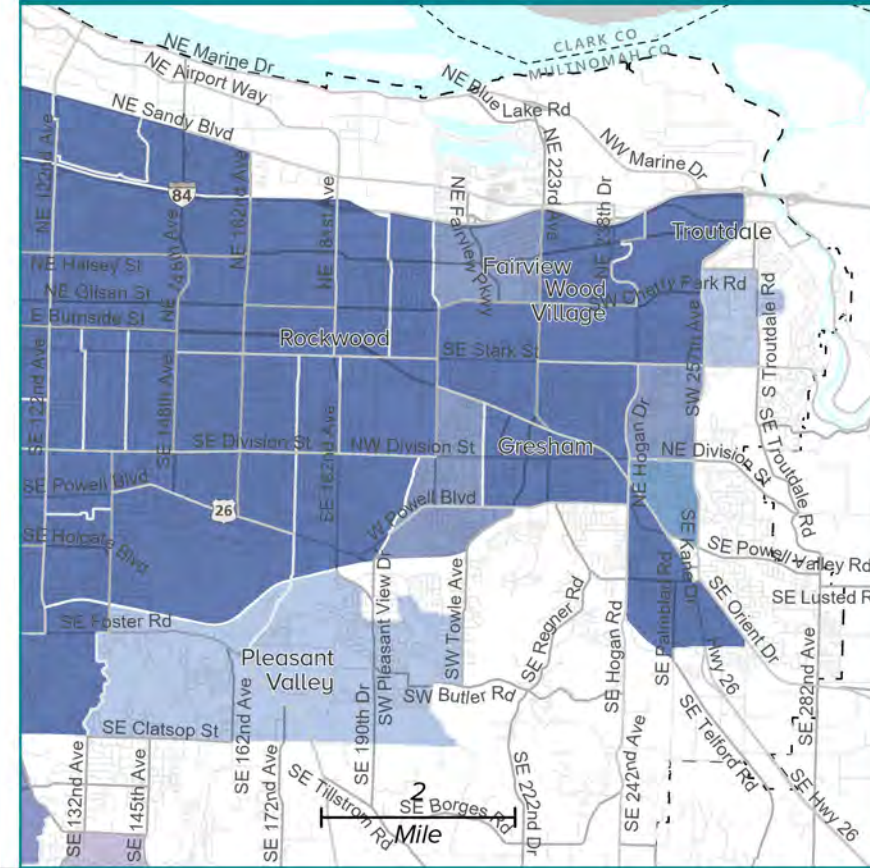
### 4. Lake Oswego-Milwaukie-Oregon City area



### 5. Hollywood-Gateway-Rockwood area



### 6. Fairview-Wood Village-Troutdale-Gresham



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EFA are located throughout the region, and there are large concentrations of all three EFA populations in East Portland and Multnomah County and along Tualatin Valley Highway in Washington County. These are largely the same areas that were highlighted during the 2018 RTP equity analysis.<sup>30</sup> Directing transportation investments—particularly projects designed to meet the needs of the people they serve—toward the EFAs that are highlighted above helps to meet this goal.

The equity policies in Chapter 3 of the RTP direct Metro and partner agencies to both learn more about marginalized people’s transportation needs<sup>31</sup> and also to act on what they learn.<sup>32</sup> Since 2018, Metro has conducted extensive outreach to people of color, people with low incomes, and other marginalized people to better understand their transportation needs through the development of the 2020 regional transportation funding measure, the Regional Mobility Policy update, and other processes, including the RTP update.<sup>33</sup> Metro has consistently heard that these communities need safer and more accessible travel options—specifically better transit service and safer streets for bicycling and walking, including:

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

### **Access to transit and to destinations**

Figure 4.21, which is discussed in more detail in the previous section on Mobility, shows where gaps in the regional transit network are located. These gaps show places where planned transit has not yet been built. The map differentiates between gaps in frequent (thick lines) and regular (thin lines) transit service, and between gaps in service that are based on the financially constrained network (i.e., gaps that the region currently has identified funding to complete, shown in green) and those that are based on the network vision (i.e., gaps that the region has not yet identified funding to complete, shown in purple). It overlays these gaps with Equity Focus Areas, which are shown in violet cross-hatching.

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<sup>30</sup> See the Needs Assessment memo [that was shared with TPAC as part of the July 13, 2022 meeting packet](#) (beginning p. 14) for further discussion of how and why Equity Focus Areas changed as they were updated.

<sup>31</sup> Policy 5: “Use engagement and other methods to collect and assess data to understand the transportation-related disparities, barriers, needs and priorities of communities of color, people with low income and other historically marginalized communities.”

<sup>32</sup> 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.”

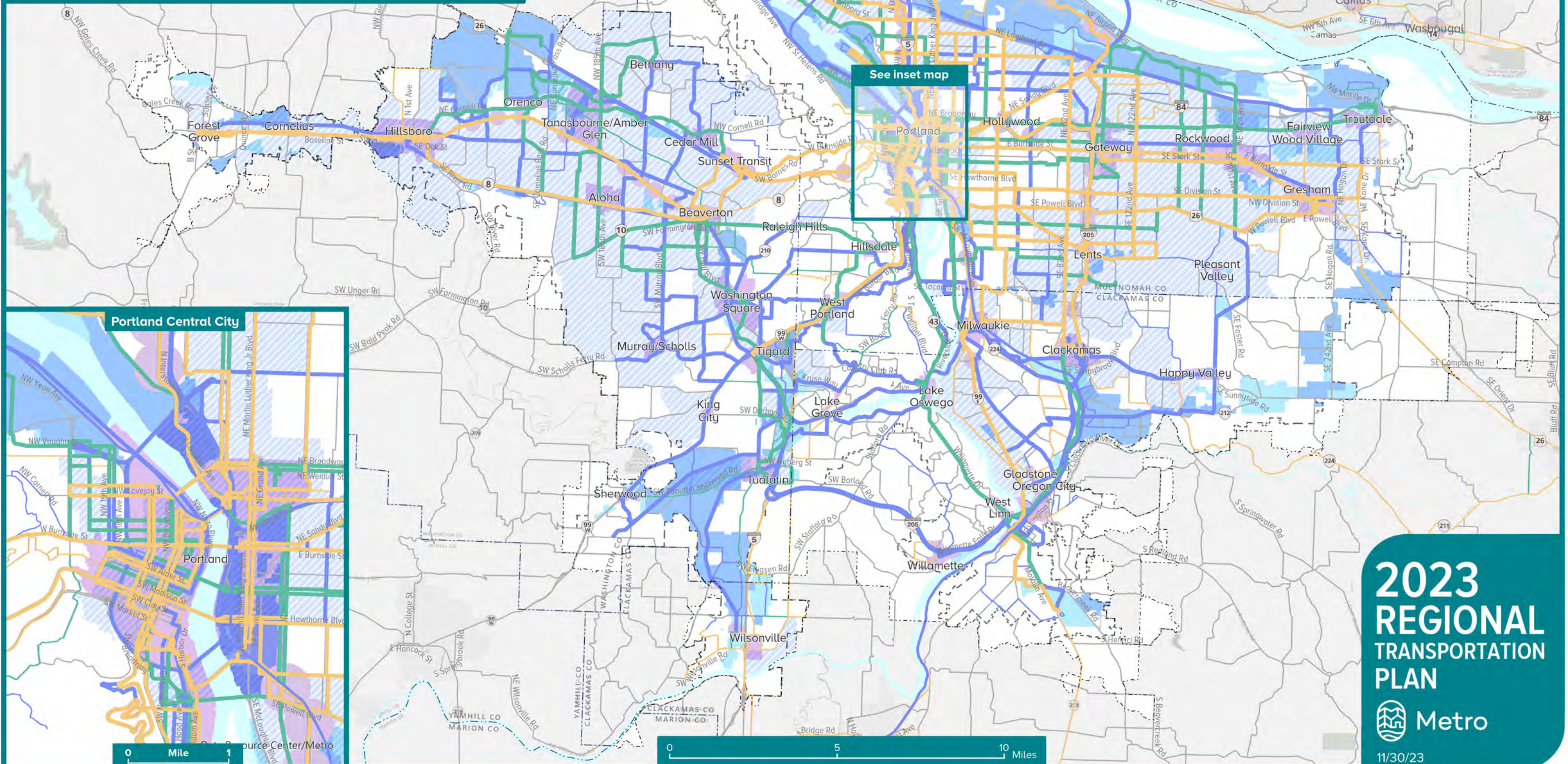
<sup>33</sup> <https://www.oregonmetro.gov/sites/default/files/2020/11/10/Historically-marginalized-communities-transportation-priorities-summary.pdf>

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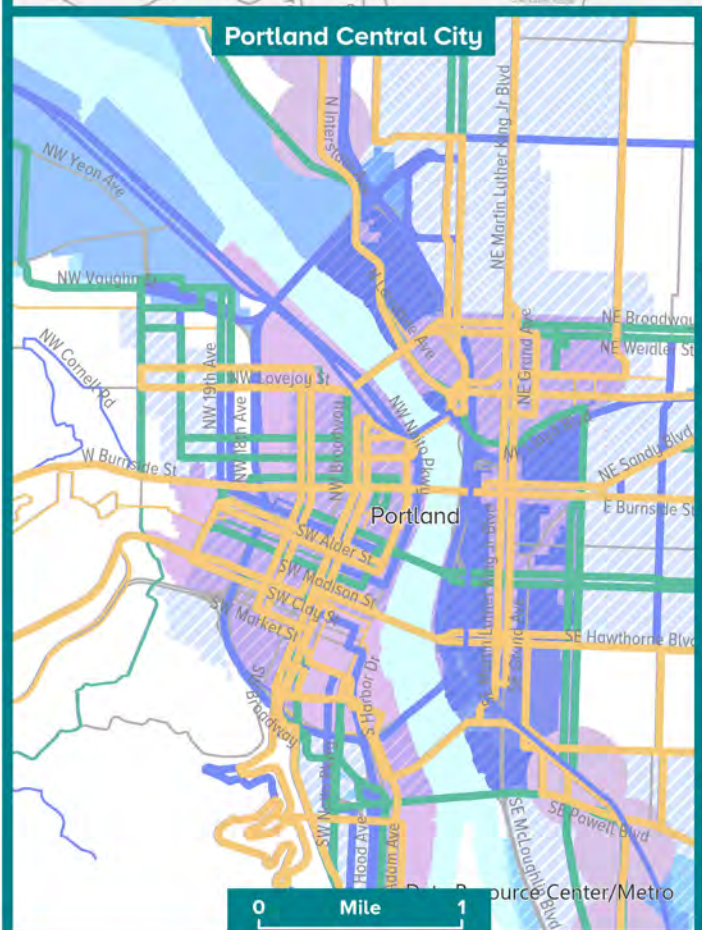


# Regional Transit Network Gaps

- Existing Regional Transit Network
  - Regular service
  - Frequent service
- Gap in Regional Transit Network (Financially-constrained)
  - Regular service
  - Frequent service
- Gap in Regional Transit Network (Vision)
  - Regular Service
  - Frequent service
- Equity focus area
- Station community
- Urban center
- Industrial area
- Employment area
- County boundary
- Urban growth boundary
- Metropolitan planning area



See inset map

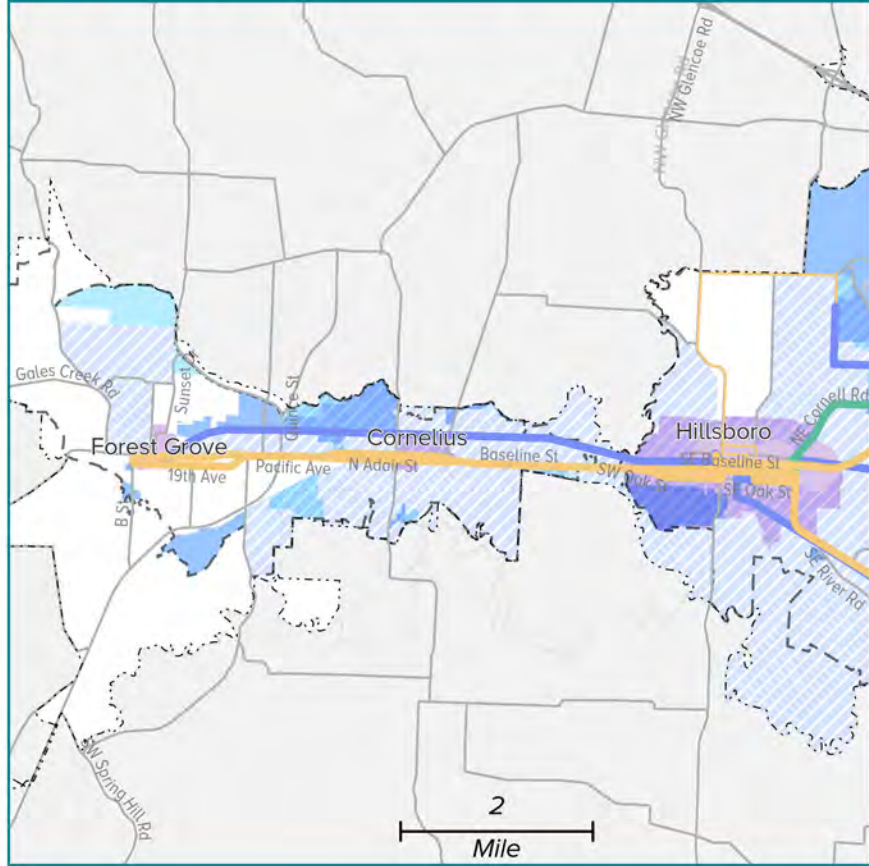


**2023**  
**REGIONAL**  
**TRANSPORTATION**  
**PLAN**

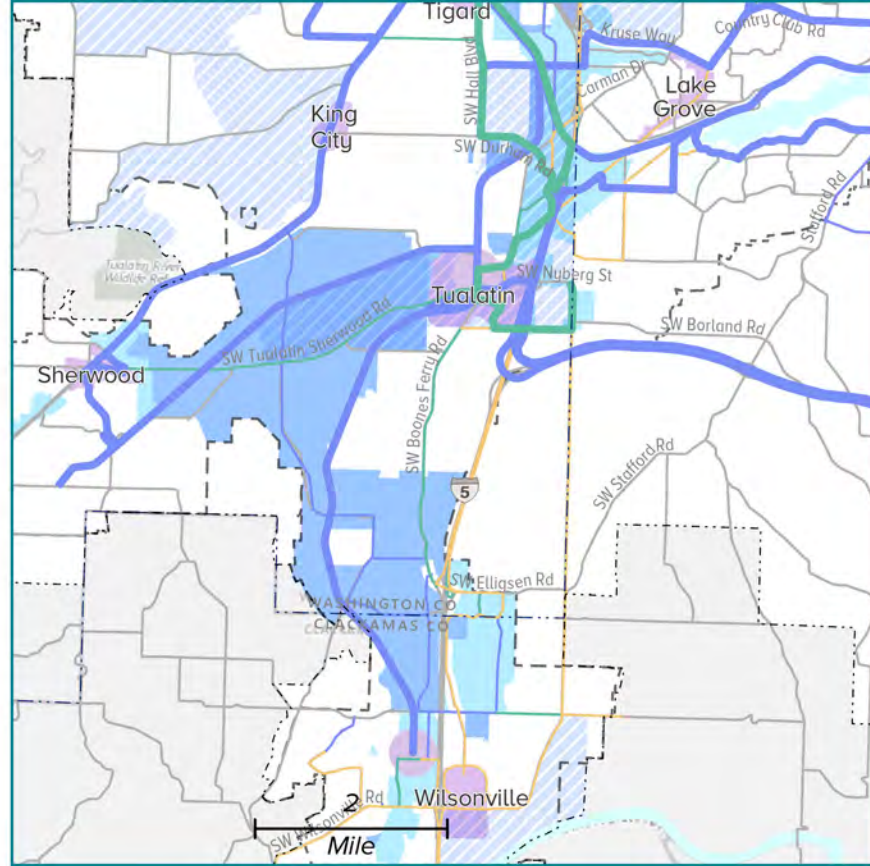
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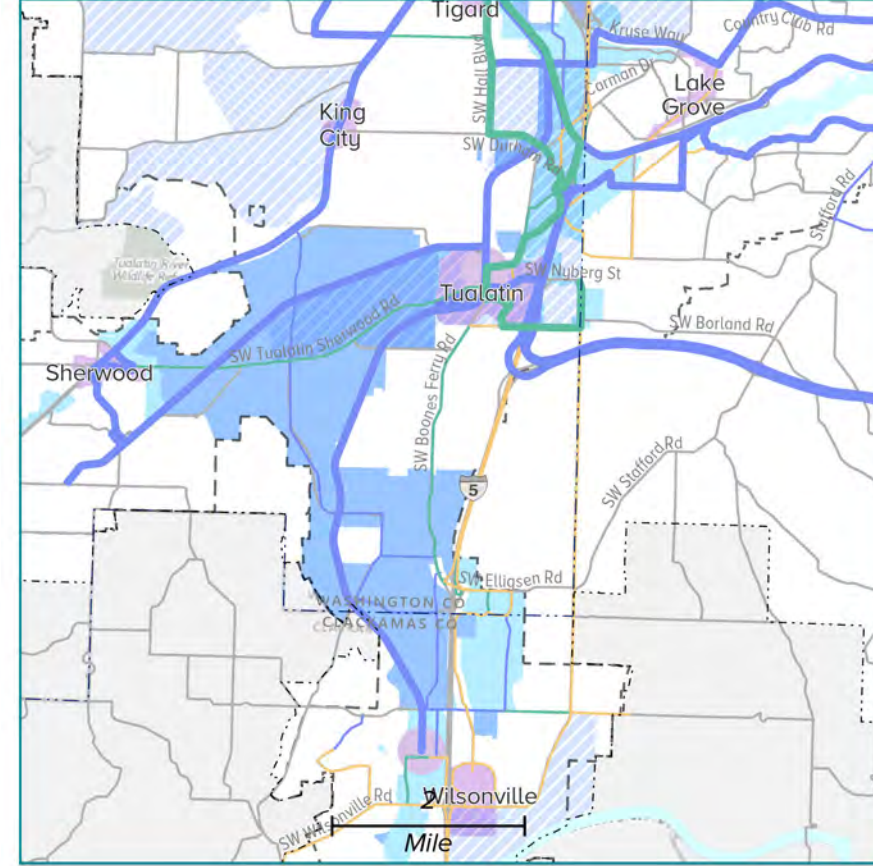
### 1. Forest Grove-Cornelius-Hillsboro area



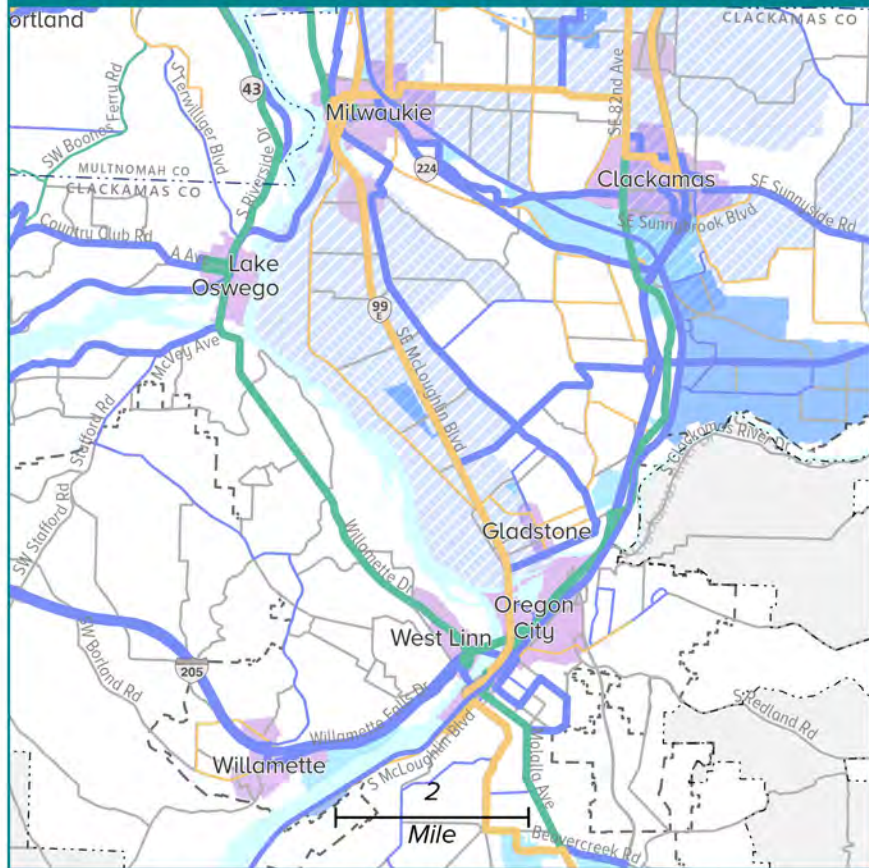
### 2. Hillsboro-Aloha-Beaverton-Tigard area



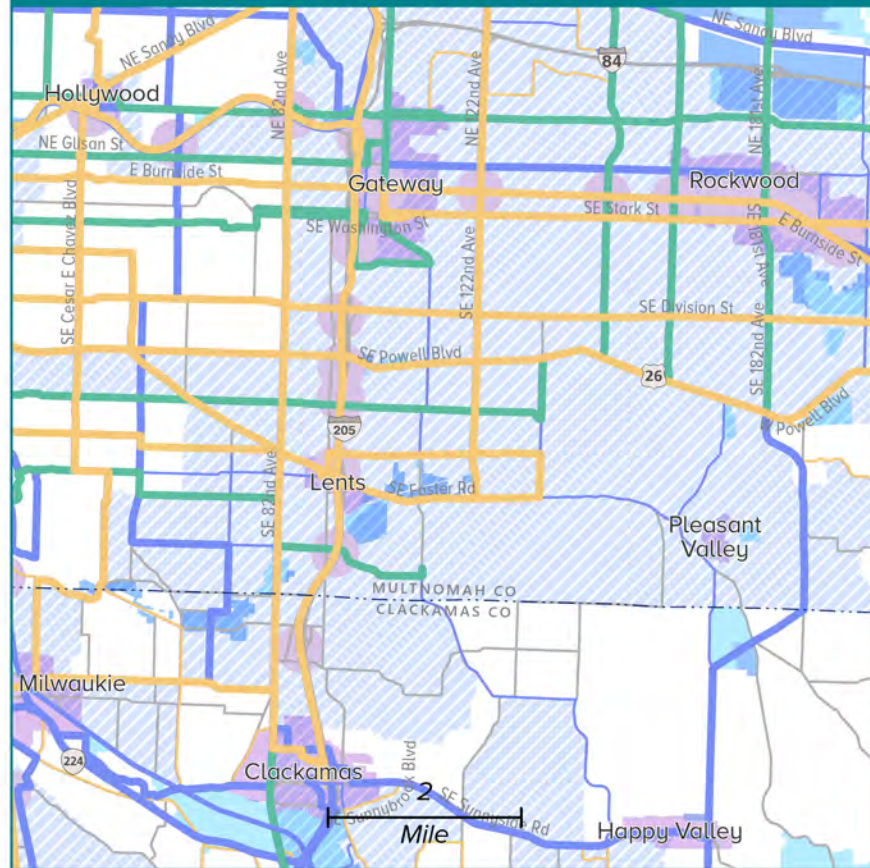
### 3. Sherwood-Tigard-Tualatin-Wilsonville area



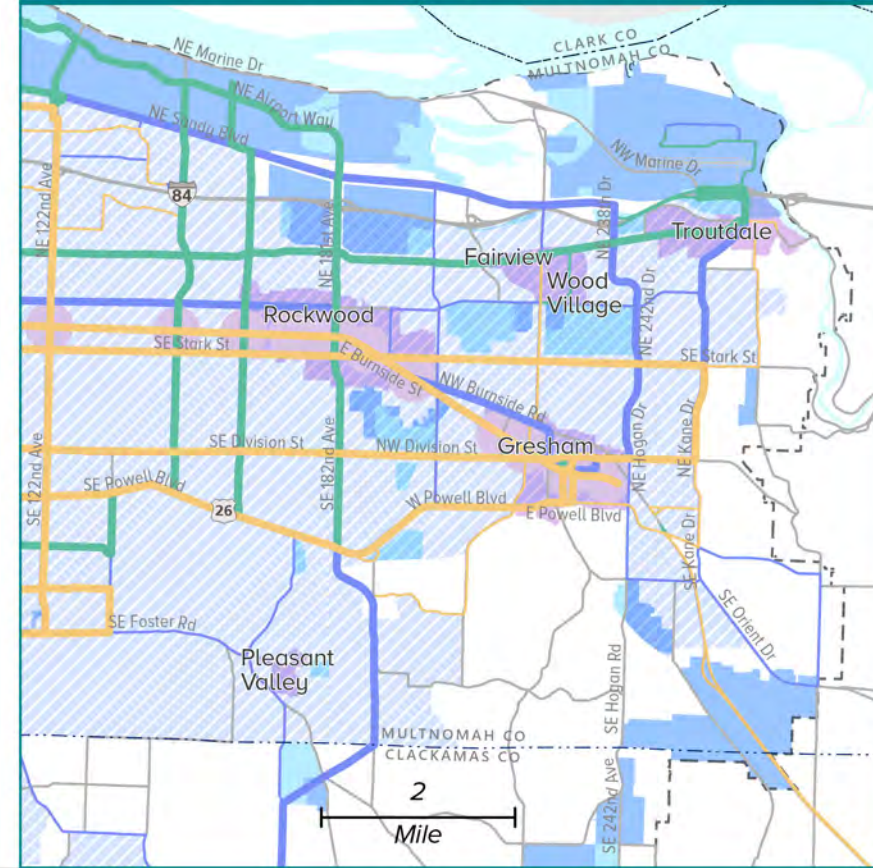
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### Legend

- Existing Regional Transit Network
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- Gap in Regional Transit Network (Financially-constrained)
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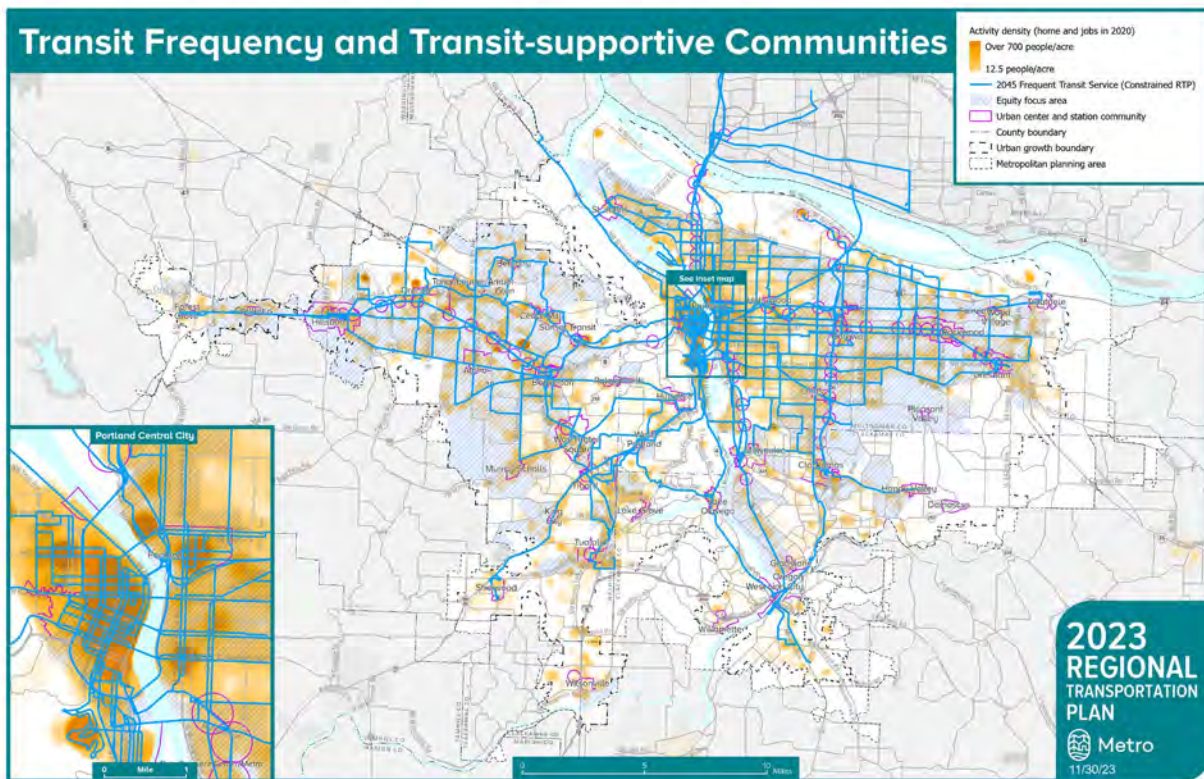
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People who live in equity focus areas have told transportation agencies that they need frequent transit service where they live—i.e., where the thick green and purple lines shown in the figure above overlap with the Equity Focus Areas. Transportation agencies have planned this frequent service, but have not yet delivered on those plans. Completing these transit investments—particularly those shown in green, which can be built with available funds—would address pressing equity needs while also advancing mobility and climate outcomes.

Figure 4.22 below takes a different view of the transit system. Instead of using planned transit lines as a basis for identifying needs, Figure 4.22 highlights communities that have the densities necessary to support frequent transit<sup>34</sup> (orange) and compares their location with 2020 frequent transit service (i.e., lines with peak headways of 15 minutes, shown in blue). It shows EFAs in light blue cross-hatching.

**Figure 4.22: Map of high-frequency transit (headways of less than 15 minutes) and transit-supportive communities (12.5 or more people and/or jobs per acre), 2020 (Metro travel model, 2018 RTP transit network and distributed growth forecast)**



<sup>34</sup> The High Capacity Transit and Regional Transit Strategies specify a threshold of 5 households or 15 jobs per acre for communities served by frequent transit. In order to map both jobs and housing at the same scale, Figure 4.22 combines jobs and housing into a single measure of activity density (jobs plus residents per acre) and uses a threshold of 12.5 jobs and/or residents per acre to identify communities that support frequent transit. The average household in the region includes 2.5 people, so 5 households per acre is equivalent to 12.5 residents per acre.

People living within EFAs have said that they need better transit connections between their communities and their destinations. If these connections were in place, the map above would likely show purple lines connecting most of the orange/red clusters of high density within the light blue EFAs. This is the case in much of the east side of the region—though there are notable gaps on several north/south corridors—but not as much in EFAs on the west side of the region. This is in part because the built environment in East Portland and Multnomah County has many transit-supportive characteristics, such as a well-connected grid of arterials and relatively high-density residential areas. There may be further opportunities in the long term to better configure the transit network to benefit current and prospective transit riders who live in EFAs.

In addition to identifying where there are needs and opportunities to provide more equitable transit service, the RTP also examines whether the transit system provides the convenient and useful connections that people living in EFAs have asked for. Measuring how many destinations a traveler can access within a given travel time via different modes has been established as a best practice for understanding and comparing how useful different modes are for different groups of people. This analysis can answer two questions about transit equity.

**Does the transit system provide equitable service to marginalized people?** If so, people living in Equity Focus Areas should be able to reach the same number of other jobs (or more) as people living in other communities.

**Is transit a competitive alternative to driving?** Both community feedback and research stress that people of color and people with low incomes are more likely to rely on transit. It follows that an equitable transportation system is one in which people who travel by transit are not faced with longer, less convenient trips than people who drive—in other words, that people should be able to reach the same number of jobs (or more) via transit as they should via automobile in the same travel time. This is a challenging goal to meet given how built-out the road network is, but meeting this goal would have far-reaching benefits—not just for equity, but mobility and climate.

Figure 4.23 compares access to jobs between modes (transit versus auto) and community types (EFAs vs. non-EFAs) for the RTP base year of 2020.<sup>35</sup> Jobs are not just commute destinations—grocery stores, medical offices, and schools are also places of employment, so jobs are a proxy for many different types of destinations that draw many different types of trips.<sup>36</sup> Metro tested many different measures of access to jobs by income and to community places such as grocery stores, libraries, schools, medical offices, and community services and has found the same patterns in access to these important destinations as for access to all destinations. Similarly, Metro tested results for both peak and off-peak travel and found that off-peak results showed the same trends as the results for rush hour, which are shown below.

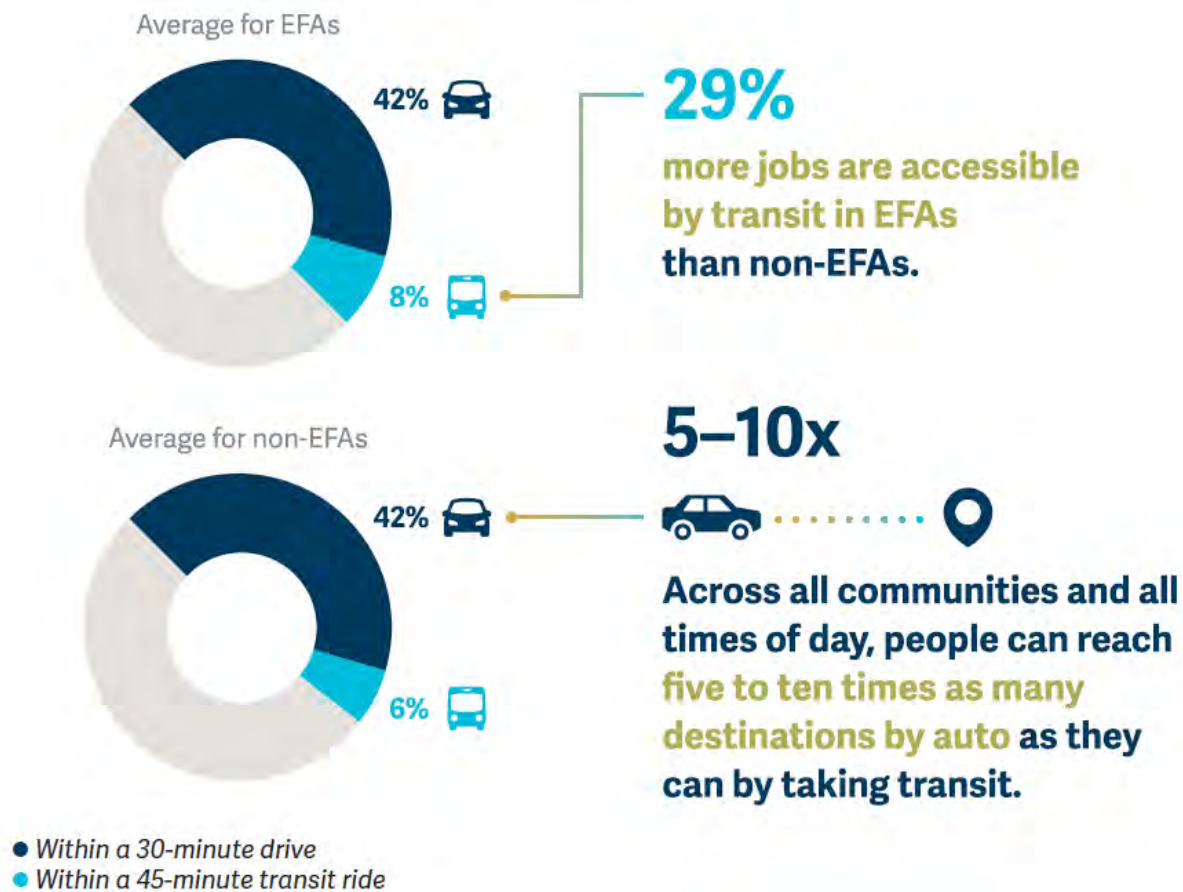
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<sup>35</sup> This analysis uses a 45-minute travel time to measure transit access and 30-minute travel times to measure automobile access, which accounts for the time needed for people to walk between their origins/destination and their car/transit stop and transfer between different transit routes, etc.

<sup>36</sup> <https://ssti.us/wp-content/uploads/sites/1303/2020/12/Measuring-Accessibility-Final.pdf>



**Figure 4.23: Percent of jobs accessible by driving and by transit by community type, 2020 (Metro travel model, 2018 RTP transit network, and land use data)**



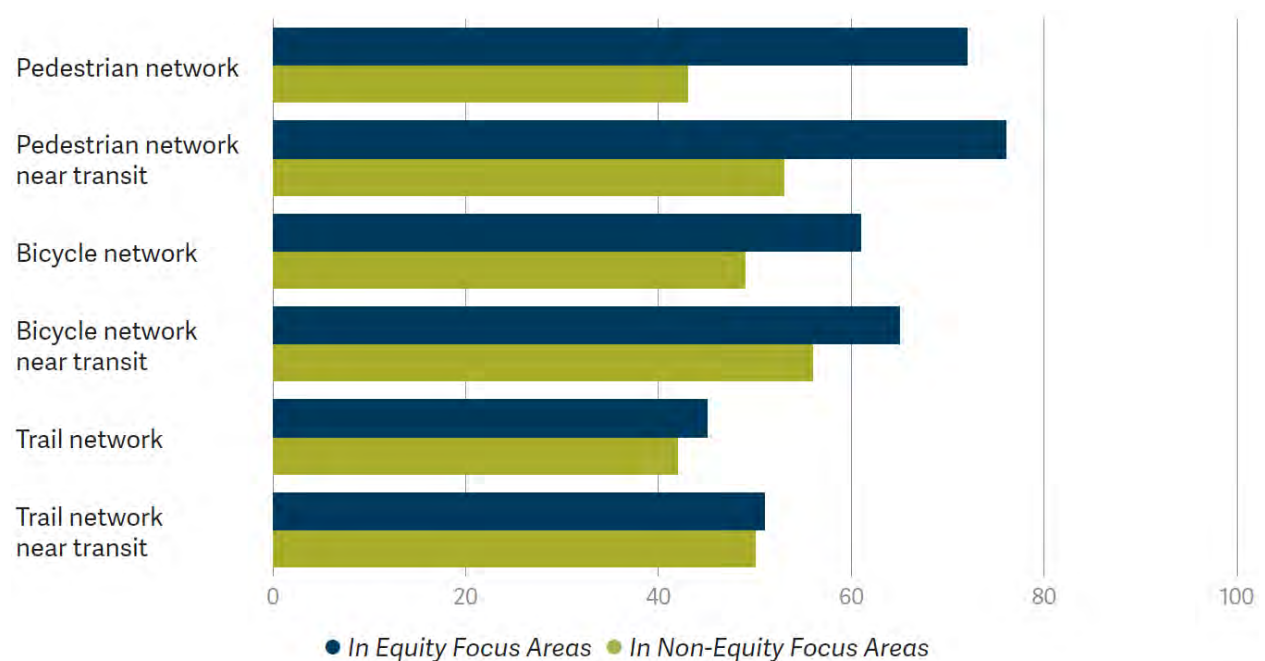
The results above show that people living in EFAs have significantly better access to destinations via transit (and to a lesser extent, via driving) than people living in other communities. This is likely because many communities of color and much of the region’s naturally occurring affordable housing stock are located in regional centers that have long been key points in the transit network, but it also reflects more recent efforts by transit agencies to focus on serving marginalized communities even as these communities relocate within the region.

Figure 4.23 also shows the extent to which driving offers better access than taking transit does. Across all communities and all times of day, people can reach five to ten times as many destinations by auto as they can by driving. Though the Portland region has an extensive transit system relative to many other Metro areas, significant parts of the region are not served by transit and (as shown in Figure 4.22 above) do not have the land uses necessary to support frequent transit. Extending and improving transit service can help improve transit access to destinations, and land use changes that create clusters of activity that support high-quality transit can also make a big difference.

## Safe conditions for walking and bicycling

Other than the need for better transit service for EFAs, the main need that people of color and people with low incomes have expressed in Metro’s outreach is the need for safer and more convenient walking and biking facilities, particularly near transit stations. Bicycle and pedestrian gaps are mapped in the following section on Mobility and Climate, and these maps show which gaps are located in EFAs. Figure 4.24 summarizes how complete the bicycle, pedestrian and transit networks are (including bicycle and pedestrian facilities near transit<sup>37</sup>) in EFAs versus in other areas.

**Figure 4.24: Pedestrian, bicycle and trail network completion for EFAs and non-EFAs (2018 RTP networks and current RLIS data)**



The region has made more progress completing the active transportation network, and also in providing bicycle and pedestrian connections to transit, in EFAs than in other communities. However, significant portions of the network still need to be completed for everyone in the region to benefit from high-quality walking and biking connections. The results above also reflect slow but steady progress in building out the region’s active transportation network. The pedestrian and bicycle networks, both region-wide and in EFAs, are 3% more complete than they were when Metro last conducted for 2015, and the trail network is 6% more complete.

<sup>37</sup> Research has shown that people are willing to travel further to access high-quality, frequent transit than they are normal bus service. The transit access analysis for the 2018 RTP used different travelsheds to examine access to different types of transit: ½ mile for light rail, 1/3 mile for streetcar, and ¼ mile for bus. This analysis uses these same travelsheds to identify bicycle and pedestrian facilities near transit.

In spite of this progress, crashes are still concentrated in Equity Focus areas, and are particularly likely to involve BIPOC people. Metro analyzed crash data from the Fatality Analysis Reporting System (FARS), which includes race and ethnicity for traffic fatalities,<sup>38</sup> to assess the impact of fatal crashes on different populations in Multnomah, Washington, and Clackamas counties. Normalizing by population, Black, American Indian and Alaska Native people experience roughly double the number of traffic fatalities that other groups experience. This finding is consistent with analysis conducted by ODOT in 2019.<sup>39</sup>

As Figure 4.25 shows, three quarters of serious pedestrian and bicycle crashes and 65% of all serious crashes occur in Equity Focus Areas (see the Equity section below for information on these areas). Addressing safety in these areas is critical to making the entire transportation system safer and more equitable.

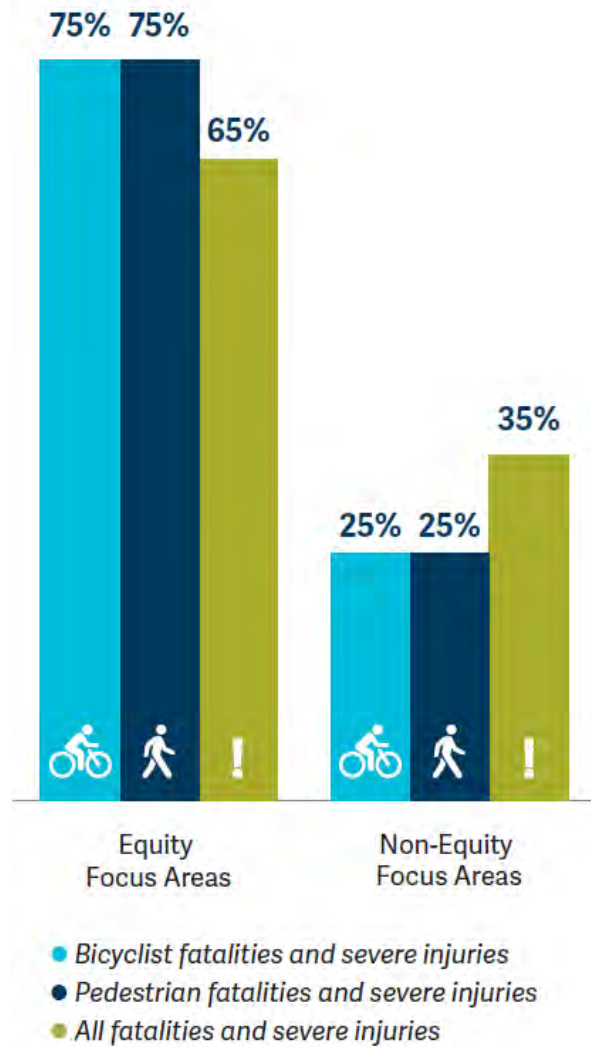
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<sup>38</sup> FARS is a nationwide census providing yearly data regarding fatal injuries suffered in motor vehicle traffic crashes. <https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars>

<sup>39</sup> Josh Roll, Nathan McNeil, Race and income disparities in pedestrian injuries: Factors influencing pedestrian safety inequity, Transportation Research Part D: Transport and Environment, Volume 107, 2022, 103294, ISSN 1361-9209, <https://www.sciencedirect.com/science/article/pii/S1361920922001225>. This study employs an ecological analysis to explore pedestrian safety disparities in Oregon, incorporating crash data, roadway and land use factors, and sociodemographic data. Lower median income and higher BIPOC population shares are found to be associated with more pedestrian injuries. These variables may be proxies for other traffic exposure and deficient built environment variables, which may reflect a lack of historic investment in the neighborhoods where these populations are concentrated.



**Figure 4.25: Percent of average annual traffic fatalities and severe injuries in Equity Focus Areas, by mode, 2016-2021 (ODOT crash data, analyzed by Metro staff)**



Though bicycle and pedestrian infrastructure is generally equitably distributed—in fact, the region has a slightly better track record of completing planned infrastructure in EFAs than in other communities—a higher percentage of pedestrian crashes are still occurring in EFAs. One explanation for this is that other factors besides the presence of trails, sidewalks and bicycle infrastructure helps reduce crashes for vulnerable users, but other factors, such as the design and posted speed of travel lanes, also influence the overall safety of streets.

## 4.4 ECONOMY

Transportation and the economy are deeply interrelated. The transportation system plays a critical role in connecting workers to jobs in allowing employers access to the talent that they need, and shifts in the economy often lead to changes in how people and goods travel through the region. The RTP aims to support the region’s economy by improving connections to jobs and also to respond to how transportation patterns are changing in the region.

This section examines how the region’s economy is growing and changing, how workers and goods move through the region, and how well the transportation system currently serves employment centers. Key findings include:

- Over the past decade, the Portland region’s economy has grown stronger relative to the rest of the U.S., and the region has experienced slightly lower-than-average unemployment.
- Trade, transportation and utilities; professional and business services; and education and health services continue to be the largest employment sectors in the region.
- The majority of the region’s jobs are located in the centers and employment / industrial areas identified by the 2040 Growth Concept.
- More than 45% of workers in Clackamas, Multnomah, and Washington counties work in a different county than where they live.
- The number of commuters who travel into the region from surrounding communities is growing, but the majority of commute trips in the region still begin and end within Clackamas, Multnomah, and Washington counties.
- The majority of the region’s freight still moves by truck, but high-value freight is more likely to use other modes.
- Anyone who is able to commute by auto enjoys reasonably good access to jobs, but transit does not provide nearly the same level of access as driving does. People can reach five to ten times as many jobs by auto as they can by transit.
- Active transportation networks are generally more complete within regional centers and near transit.

### 4.4.1 Jobs and growth

The 2018 RTP described a region that was growing rapidly into a major U.S. metropolitan area, with large numbers of people from other cities migrating to the greater Portland region. It described some of the challenges associated with that growth, including growing congestion, rising housing costs, and increased displacement of people of color and people with low incomes to neighborhoods that are harder to serve with transit and other transportation options. These forces still continue to shape the region, though there are signs that growth may be slowing.

Between 2015 (the base year for the 2018 RTP update) and 2020 (the base year for the 2023 RTP), the region grew significantly—by 135,000 people (an 8.4% increase), 57,000 households (8.9%)

and 90,000 jobs (10.1%).<sup>40</sup> This growth is projected to continue, though not necessarily at the same rapid rate as the region saw during the previous decade. Even prior to the pandemic, State economists and demographers predicted that population growth in Oregon and our region would be slower during the 2020s than it had been during the 2010s, and in 2022 the Census Bureau estimated that the State and region’s population declined for the first time in years.<sup>41</sup> Generally, slower population growth also means slower economic growth, and recent State analyses find that businesses in Oregon are having a harder-than-ever time filling vacant positions.

Figure 4.26 shows historical unemployment rates for the greater Portland region, which in this and the following charts include Clackamas, Clark, Columbia, Multnomah, Skamania, Washington, and Yamhill counties—the 7-county region that is commonly used in reporting on the region’s economy because it captures the full extent of potential commutes to and from our region’s job centers.

**Figure 4.26: Unemployment rate in the greater Portland region vs. the U.S., 2000-22 (Oregon Employment Department, 2022)**



This chart highlights three different phases in the region’s recent economic growth. Prior to 2011, (phase 1) the region generally experienced higher unemployment rates than the national average compared to the U.S. as a whole, particularly during recessions. Between 2011 and 2020 (phase 2) the region has consistently had lower unemployment rates than the rest of the country. In 2020

<sup>40</sup> [Metro 2045 Distributed Growth Forecast](#)

<sup>41</sup> <https://oregoneconomicanalysis.com/2022/12/29/oregon-population-growth-2022/>



the COVID-19 pandemic triggered an exceptional recession, both in the region and nationwide, which receded much more quickly than prior recessions (phase 3). Overall, the region’s economy has grown stronger relative to the rest of the U.S, and since 2011 the region has consistently had lower unemployment rates than the rest of the country. These recent low unemployment rates are particularly remarkable since they are happening at a time when regional participation in the labor force is increasing, which normally causes unemployment to rise because more people are actively looking for work, and people who are not looking for work are not counted as “unemployed.” Between 2011 and 2020, the labor force participation rate in the broader economic region grew or remained constant for every age group of workers, whereas in the U.S. as a whole it fell for many age groups.<sup>42</sup> Figure 4.26 also highlights the exceptional nature of the recent recession triggered by the COVID-19 pandemic, which receded much more quickly than prior recessions. During the prior two recessions in 2002-04 and 2009-14 both the regional and national unemployment rates remained above 6% for several years, whereas they only remained at such high rates for a single year during the most recent 2020 recession.

Figure 4.27 shows the industries in which people hold jobs within the same 7-county region discussed above.

**Figure 4.27: Employment by industry in the greater Portland region (Oregon Employment Department, 2019)**



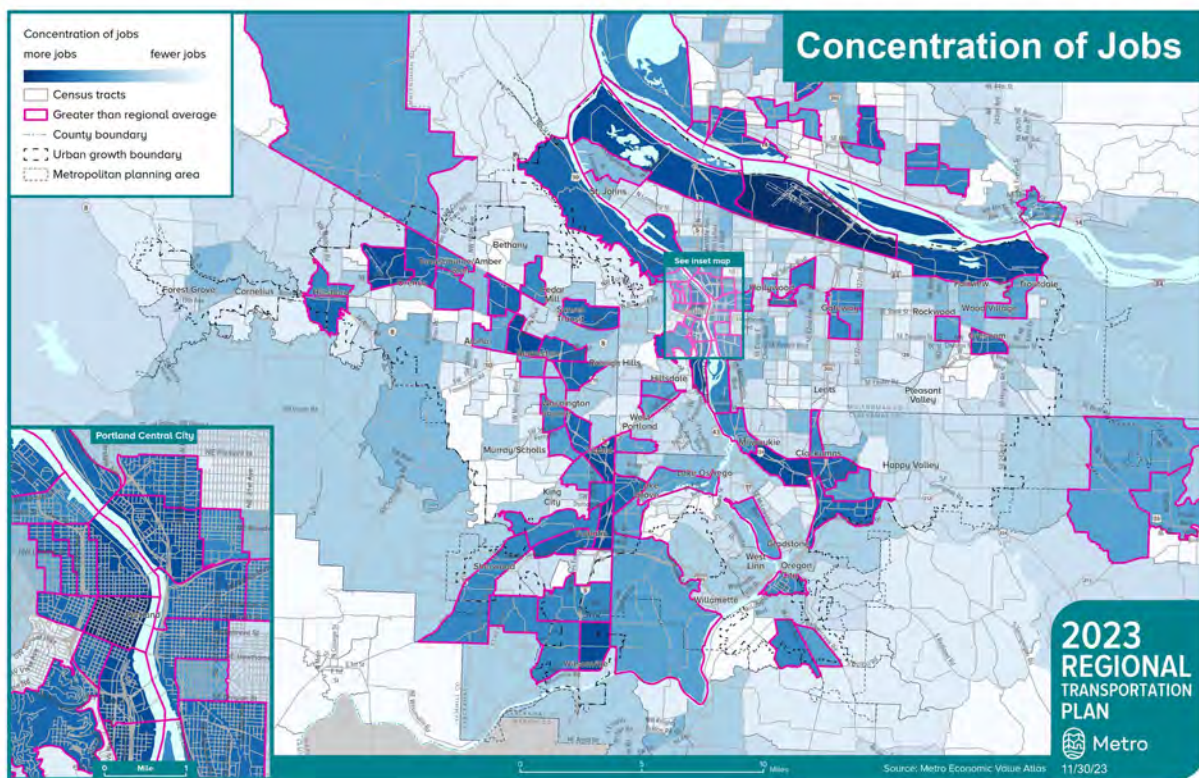
<sup>42</sup> The Columbia-Willamette Workforce Collaborative, State of Workforce Labor Report, 2023. <https://www.worksystems.org/news-events/news/columbia-willamette-workforce-collaborative-publishes-latest-state-workforce-report>

According to this data, which is from 2019, the most recent non-pandemic data was available, Transportation, Professional Services, and Education and Health are the largest employment sectors in the region, collectively accounting for half of the jobs. Those sectors also dominated the region’s economy according to the 2015 data that was included in the 2018 RTP. Collectively those major employment sectors—along with Information, which is a fast-growing sector in the current economy—have accounted for most of the region’s recent economic growth. The pandemic led to a 7% overall decrease in regional employment in 2020, but all of the sectors shown above have recovered from their losses except the leisure and hospitality sector, which suffered nationwide losses as travel and in-person events ceased and continues to recover slowly due to low levels of tourism.

#### 4.4.2 Where jobs are located

Figure 4.28 shows where jobs are currently located in the Portland region. Census tracts with more jobs are shaded in darker blue on the map, and tracts with above average numbers of jobs are outlined in fuchsia.

**Figure 4.28: Number of jobs by Census Tract, 2021 (Economic Value Atlas: Esri/DataAxle)**

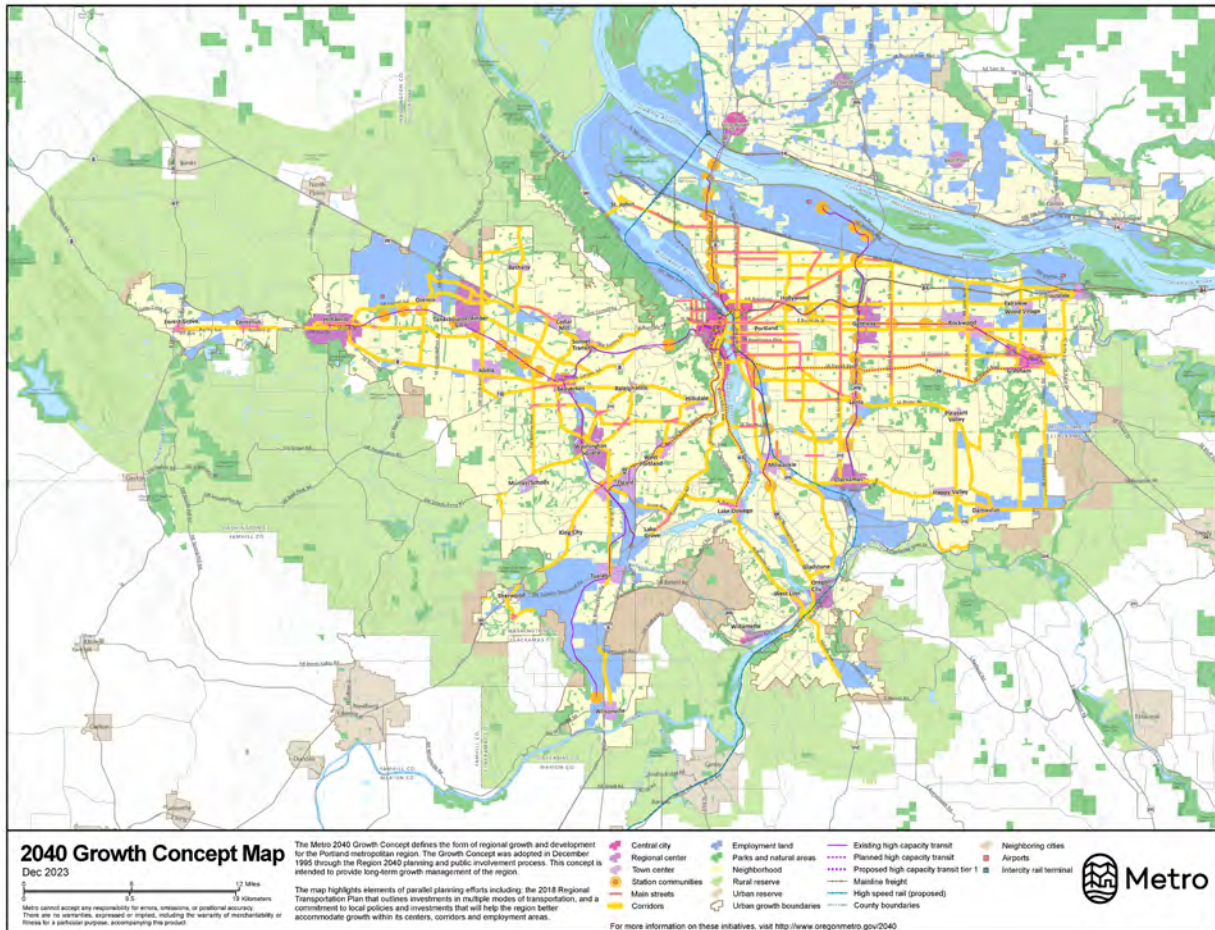


Jobs are distributed throughout the region, but there are higher-than-average concentrations of jobs in the centers of larger cities in the region, including Portland, Beaverton, Gresham, Hillsboro, and Tigard; and in major employment or industrial areas such as the Columbia Corridor, the 224 Corridor, Tualatin-Sherwood, and North Hillsboro.



The 2040 Growth Concept, shown in Figure 4.29 below, designates where and how the region is planned to grow over the next several decades. It includes a network of regional and town centers (shown in pink) and employment lands (shown in blue). These centers and employment lands include the areas that are currently rich in jobs shown in Figure 4.28 above, as well as areas where the region is planning to develop space for jobs in the future.

**Figure 4.29: 2040 Growth Concept Map**



The 2040 Growth Concept helps to identify the many different job and activity centers in the region that need to be included in this web of connections. At the same time, local pedestrian, bike and transit connections are necessary in and around these centers to give people safe, affordable and healthy options for shorter trips to shops, services, and other non-work destinations.

#### 4.4.3 How workers move through the region

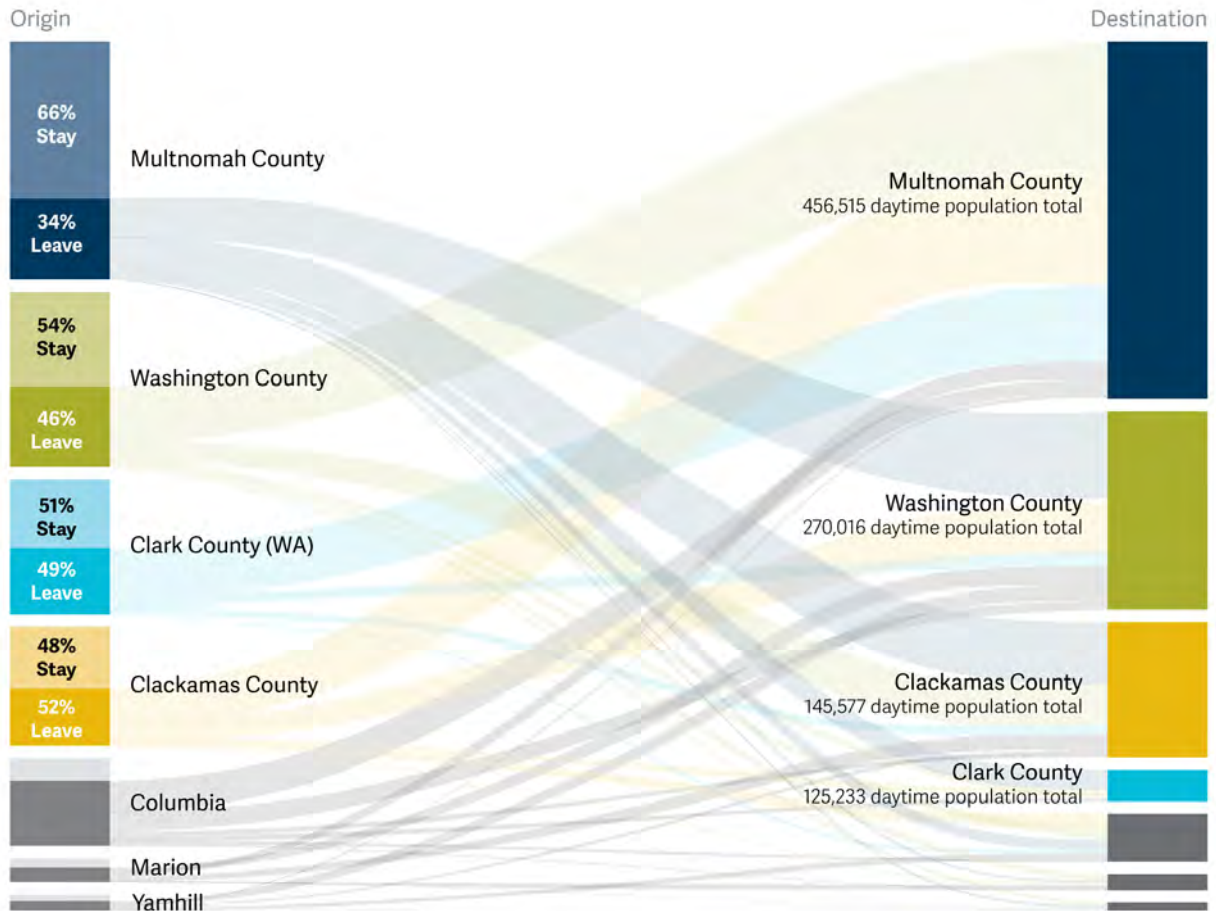
Between 2015 (the base year for the 2018 RTP update) and 2020 (the base year for the 2023 RTP update), the region grew significantly—by 135,000 people (an 8.4% increase), 57,000 households (8.9%) and 90,000 jobs (10.1%).<sup>43</sup> This growth is projected to continue, though not necessarily at

<sup>43</sup> Metro Regional Travel Model.



the same rapid rate as the region saw during the previous decade. As greater Portland continues to grow into a major metropolitan area, with increasing housing prices and a more specialized economy, commute patterns are becoming more complex. Figure 4.30 shows how workers commute within and between counties in and around the region. It includes data for counties that are outside the region that have significant amounts of workers commuting to or from the Metro region.

**Figure 4.30: Where workers live and commute in the greater Portland region and surrounding counties, 2019 (Census LEHD Origin-Destination Employment Statistics)**



This figure highlights how commute patterns in the region are increasingly complex and long-distance. More than 45% of workers in Clackamas, Multnomah and Washington counties work in a different county than where they live. Travel patterns like those shown above are typical of major metropolitan areas with large populations, clusters of specialized jobs, and rising housing prices that limit many people from living close to jobs. Most of the longer-distance commute trips highlighted in Figure 4.30 are made by car; frequent and high-capacity transit routes are needed to provide affordable, congestion-free commute alternatives as the region grows.

Though commute patterns are growing more complex and the share of long-distance commutes is increasing, the majority of commute trips pass through the heart of the region—which means that

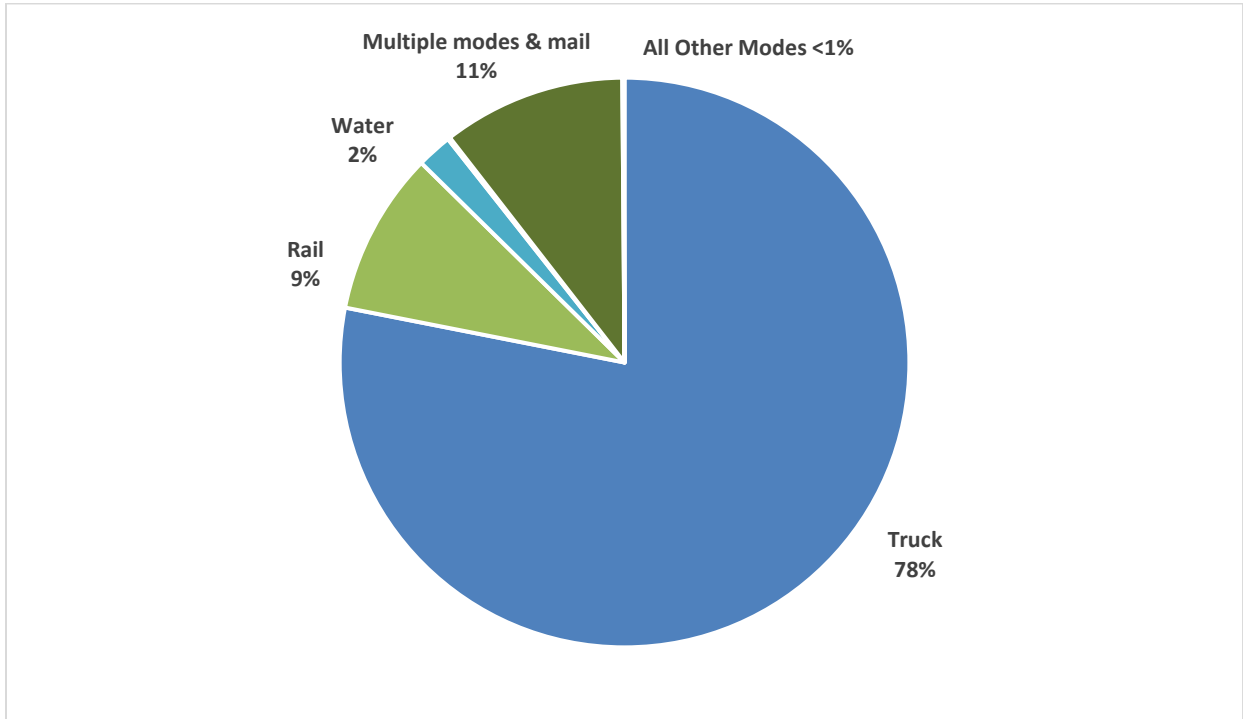
investing in the transportation system in the central areas of the region continues to be critical to supporting the region’s economic growth. More than 70% of the commutes within the 7-county economic region discussed above begin and end within Clackamas, Multnomah and Washington counties. Multnomah County is particularly central to the region’s economy—it is the only county that experiences significant population gains during the working day. Washington County has roughly the same amount of workers commuting into the county and workers commuting out of the county, and Clackamas County loses more workers than it gains during the day. These numbers help to contextualize some of the findings elsewhere in this report that show Multnomah County having more crashes, more congestion, and more transit service than other counties; these issues are due in part to the fact that Multnomah County has more people commuting to, from, and through it. This is not to dismiss the growth in long-distance commutes over the past decade; the number of workers traveling into the region from counties such as Columbia and Marion increased significantly between 2015, when Metro last reviewed this data, and 2019. However, even with this growth there are roughly 36,000 of these long-distance commutes happening every day, compared to the 800,000 daily commutes within the region’s core.

#### **4.4.4 How goods move through the region**

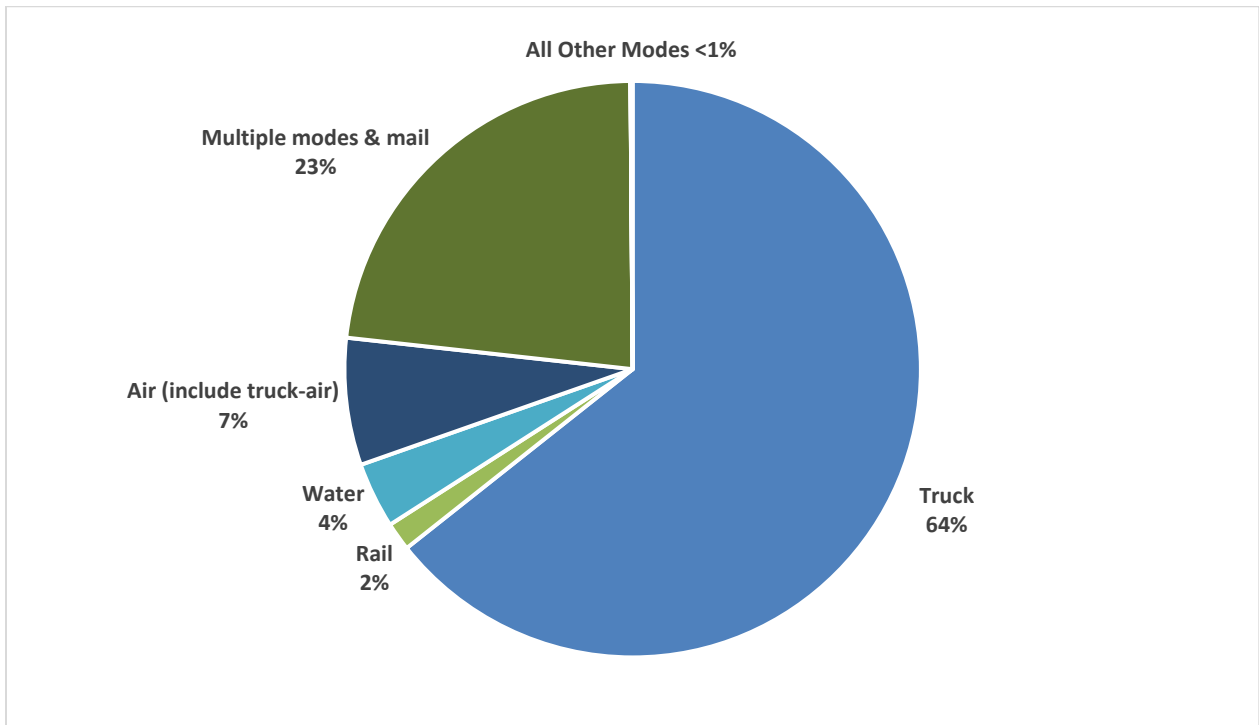
Keeping freight moving is a critical part of regional mobility. Most of the products we buy come from someplace else, and many of the goods we produce in Oregon move on to markets in other states and countries. The global economy is expanding rapidly, and our region’s ability to move products to far-flung markets depends on an efficient transportation system. With its location on Interstate 5, the West Coast artery of the Interstate Highway System, the greater Portland region is ideally situated to move freight by truck, and on an average weekday freight accounts for roughly 12% of the vehicle trips in the region. But with Portland International Airport, two Class 1 railroads (mainline railroads Union Pacific and Burlington Northern/Santa Fe), the southern terminus of the 400-mile Olympic Pipeline, and a location at the confluence of two major rivers with ocean access and several marine terminals, the region’s freight transportation system is a multimodal network.

Figure 4.31 and Figure 4.32 summarize the value and weight of the goods that move through the region by mode. High-value goods make up an increasing share of the freight that moves through the region, and they sometimes take different routes and modes than other goods in order to arrive at their destinations safely and on time. Distinguishing between value and weight helps to identify how goods of different value are moving through the transportation system.

**Figure 4.31: Weight of outbound freight by mode in the Greater Portland Region, 2017  
(Freight Analysis Framework data)**



**Figure 4.32: Value of outbound freight by mode in the Greater Portland Region, 2017  
(Freight Analysis Framework data)**





The majority of the region's freight, whether by value or weight, is moved by truck. High value freight is less likely to move by truck and rail, and more likely to use multiple modes, mail, water, and air. As Oregon's economy shifts from bulk products like farm exports and timber to lighter products like semiconductors, electronics and specialized machinery, improving freight connectivity to the airport and other intermodal facilities will help keep goods moving through the region.

#### 4.4.5 Connecting the region's employment centers

The RTP goals envision a region where employment centers are accessible through a variety of multimodal connections. This means that the 2040 centers and employment/industrial lands shown above in Figure 4.29 should be well-connected by vehicle and transit because commutes are often the longest trip people take in a day, and these are the modes best suited for long trips. It also means that these centers need to include solid bicycle and pedestrian infrastructure and a mix of land uses so that people can get meals or run other errands without needing to drive.

Table 4.6 below examines how accessible jobs are by driving and transit, comparing access to jobs via transit and automobile during peak hours and other times of the day. This table is also included above in the Mobility section, which provides more details on the methodology and how access to destinations is related to land use patterns and the transportation system.

**Table 4.6: Percent of jobs accessible by driving and by transit, by community type and time of day, 2020 (Metro travel model and land use data)**

	Percent of jobs accessible within...	
	... a 30-minute drive	...a 45-minute transit trip
During rush hour	41%	7%
Outside of rush hour	46%	6%

Anyone who is able to commute by auto has reasonably good access to jobs—the average driver can reach roughly half of the region's jobs outside of rush hour. But transit does not provide nearly the same level of access as driving does; people can access five to ten times as many jobs by auto as they can by driving. Adding high-frequency transit service that connects the neighborhoods where workers live to employment centers is critical to meeting the RTP's goal of providing multimodal connections to work.

Table 4.7 below compares how complete the bike/ped network is<sup>44</sup> in key 2040 geographies – centers, station communities, mixed-use communities, and employment/industrial lands—versus in the region as a whole. Meeting the economy goal in the RTP means prioritizing active transportation investments in these centers.

<sup>44</sup> Metro distinguishes between on-street bicycle and pedestrian gaps in facilities like bike lanes and sidewalks and off-street bike/ped gaps in facilities like trails. On-street facilities are generally needed to provide good active transportation connections in centers, near transit, and along arterials, whereas off-street facilities provide longer-distance connections between these areas. Table 4.7 focuses on the on-street bike/ped network.

**Table 4.7: Bike/ped system completeness by location within the region (2018 RTP networks, RLIS data, and 2022 partner agency data)**

<b>Network</b>	<b>Total planned miles</b>	<b>Number of miles completed</b>	<b>Percent of miles completed</b>
<b>Region-wide</b>			
Pedestrian network	1,040	597	57%
Bicycle network	1,149	626	55%
Trail network	560	245	44%
Motor vehicle network	1,171	1,146	98%
<b>Within 2040 centers</b>			
Pedestrian network	181	141	78%
Bicycle network	168	112	66%
<b>Within station communities outside above centers</b>			
Pedestrian network	108	72	67%
Bicycle network	123	69	56%
<b>Within mixed-use zoning outside above centers &amp; station communities</b>			
Pedestrian network	136	106	78%
Bicycle network	114	75	66%
<b>Within employment and industrial areas outside above centers, station communities, and mixed-use zoning</b>			
Pedestrian network	147	60	41%
Bicycle network	133	73	55%

Consistent with the 2040 Growth Concept, active transportation networks are generally more complete within regional centers and near transit. However, several important gaps remain in these areas, which can be seen in the “gap maps” in the Mobility section.

## 4.5 CLIMATE

Climate change is the defining global challenge of the 21st century. And as the recent increase in climate-induced wildfires and extreme weather events has demonstrated, it is likely to have significant impacts on the Portland region. In 2009, the Oregon Legislature set goals to reduce greenhouse gas (GHG) emissions 10% below 1990 levels by 2020 and at least 75% below 1990 levels by 2050.<sup>45</sup> More recently, Executive Order 20-04 set new emissions reduction goals that call for the State of Oregon to reduce its GHG emissions at least 45% below 1990 emissions levels by 2035 and at least 80% below 1990 levels by 2050.<sup>46</sup> These updated goals are consistent with the reductions that climate scientists now believe are necessary to avoid catastrophic climate change impacts.

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. The State is responsible for allocating state and federal funds to reduce GHG emissions by making vehicles and fuels cleaner; it assigns regions targets that are designed to make up the gap between those State-led reductions and State goals. 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% reduction in per capita greenhouse gas emissions by the year 2035 (the target for the Climate Smart Strategy adopted in 2014)<sup>47</sup>
- A 25% reduction by 2040 (the target for the 2018 RTP)
- A 30% reduction by 2045 (the target for the 2023 RTP)
- A 35% reduction by 2050 (the target for the 2028 RTP)
- Targets for the years 2041-2049 steadily increase from 26 to 34% in order to maintain progress toward the 2050 target.<sup>48</sup>

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 therefore only certain reduction strategies count toward Metro's targets:

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<sup>45</sup> Oregon Department of Environmental Quality, Oregon Greenhouse Gas Emissions, <https://www.oregon.gov/deq/eq/programs/Pages/GHG-Oregon-Emissions.aspx>

<sup>46</sup> [https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_20-04.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf)

<sup>47</sup> The Climate Smart Strategy adopted in 2014 was forecasted to achieve a 29 percent reduction by 2035 if fully implemented.

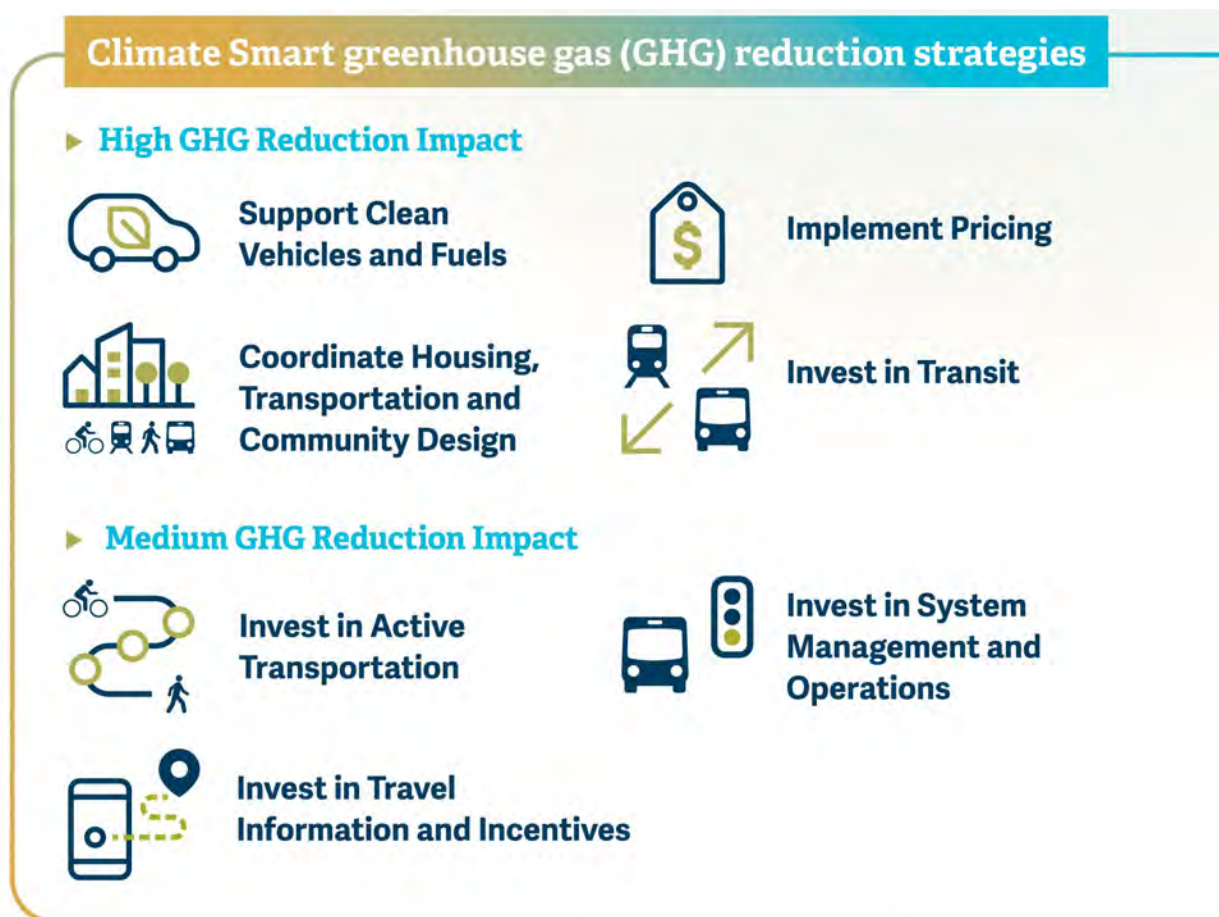
<sup>48</sup> Oregon Administrative Rule 660-044-0020, <https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3093>  
[https://www.oregon.gov/lcd/LAR/Documents/2022-01\\_Div44.pdf](https://www.oregon.gov/lcd/LAR/Documents/2022-01_Div44.pdf)



- **Strategies that reduce emissions from light vehicles**, including passenger vehicles (cars, pickup trucks and SUVs) and commercial trucks with a vehicle weight rating of 10,000 pounds or less.
- **Strategies that impact household travel**, whether physically traveled by the members of the household or by deliveries and miscellaneous commercial travel to their home.<sup>4</sup>
- **Strategies that benefit the climate by reducing vehicle miles traveled.** The State estimates the impact of State-level vehicle- and fuel-based reductions and then sets regional greenhouse gas targets to fill the remaining gap needed to meet Oregon’s emissions goals. It would be double-counting if regions also took credit for vehicle- and fuel-based reductions, which would lead agencies to overestimate progress toward Oregon’s climate goals. The State has clarified that **the targets shown above are equivalent to VMT reduction targets.**

The Climate Smart Strategy,<sup>49</sup> adopted in 2014, is the region’s blueprint for reducing emissions. It identifies a toolkit of high- and medium-impact GHG reduction strategies, summarized in Figure 4.33 below, that the region’s cities, counties and transportation agencies continue to rely on today.

**Figure 4.33: Climate Smart greenhouse gas reduction strategies**



<sup>49</sup> <https://www.oregonmetro.gov/climate-smart-strategy>

#### 4.5.1 The 2023 RTP GHG and VMT gap

Though the region’s basic toolkit for fighting climate change has remained consistent since 2010, the State regularly updates the region’s GHG and VMT targets and requires each RTP update to include a revised climate analysis that demonstrates the region’s progress toward these new targets that accounts for state clean vehicle and fuel strategies and that updates the level of implementation of different local and regional strategies to reflect the policies and investments in the RTP. If this analysis finds that the RTP is not sufficient to meet regional targets, JPACT and Metro Council can consider changes to the RTP and other corrective actions to further reduce VMT and GHG emissions to meet regional targets.

Prior to updating the 2023 RTP projects and programs, Metro estimated the gap between the region’s existing emissions under the 2018 RTP and its updated GHG reduction targets.<sup>50</sup> The size and nature of the gap help to understand and anticipate the extent to which the RTP may need to be updated to meet its climate targets, and what the needed changes might look like. Metro used VisionEval, which is the tool the State used to set the regional climate targets in the RTP and is designed to allow users to evaluate and compare multiple different GHG reduction scenarios, to assess two scenarios:

The **target scenario**, which represents the Portland region’s GHG/VMT reduction target. The region’s emissions targets are based on a percentage reduction in 2005-level GHG emissions that is needed to be on track to meet statewide goals for 2050; the Target scenario applies these reductions to daily VMT per capita from 2005 to estimate target levels of daily VMT per capita for different milestone years.

The **STS+RTP18 scenario**, which represents forecasted GHG/VMT reductions due to implementation of adopted State and local/regional plans. State-level reductions are based on the adopted Statewide Transportation Strategy (STS),<sup>51</sup> which outlines the strategies that the State will take to reduce transportation-sector GHG emissions on variables such as the share of zero-emission vehicles, the carbon intensity of fuels, the balance of cars and trucks in the passenger fleet, vehicle turnover rates, and the cost of travel (accounting for the cost of various types of energy as well as State-led pricing programs, such as pay-as-you-drive insurance, mileage based taxes (e.g. vehicle miles traveled fees), social cost recovery fee pricing (e.g., carbon tax), and congestion pricing). The State-adopted targets were set at a level that assumed that some combination of these forms of pricing would be implemented in Oregon by 2050. Metro must use the fleet- and technology-related assumptions in the RTP climate analysis as defined in the State’s target rule methodology. Metro is allowed to rely on the other State-led actions in the STS

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<sup>50</sup> Metro coordinated closely with the Oregon Department of Transportation (ODOT) and the Department of Land Conservation and Development (DLCD) on the climate modeling and State-defined technical assumptions used in the analysis, consistent with OAR 660-044-0030 and the State’s target rule methodology as described in the Scenario Planning Guidelines Technical Appendix 1.1 published by ODOT and DLCD in August 2017.

<sup>51</sup> <https://www.oregon.gov/odot/Planning/Pages/STS.aspx>

(including State-led pricing strategies) <sup>52</sup> in the RTP climate analysis. The RTP climate analysis included the State-led pricing assumptions because these strategies were assumed by the State when it set the GHG/VMT reduction targets for the region in 2011 and 2017.

The initial forecast of future GHG emissions below reflects the assumptions from the STS discussed above as well as the local and regional GHG reduction strategies adopted in the 2018 RTP, which included significant investments in transit, active transportation, travel demand and system management, and other strategies. In 2020, Metro staff made minor adjustments to some of the VisionEval inputs that represent the 2018 RTP in order to capture progress in implementing these strategies.<sup>53</sup>

Table 4.8 and Figure 4.34 show GHG reductions under the scenario above compared to the updated RTP climate targets as well as the **RTP23 gap**, which is the remaining reduction in GHG/VMT that the 2023 RTP needs to achieve in order to meet regional climate targets. The **RTP23 gap** is calculated as the difference between the results of the Target Scenario and those of the STS+RTP18 Scenario. These results are shown in both absolute daily VMT per capita and in the same percentage reductions relative to the 2005 baseline that the State uses when establishing climate targets for the region. Throughout the development of the RTP, the estimated RTP23 gap served as a basis for discussions about how best to update policies, projects and programs to achieve the regional climate target for 2045.

**Table 4.8: Estimated absolute and percentage reductions in daily VMT per capita by scenario**

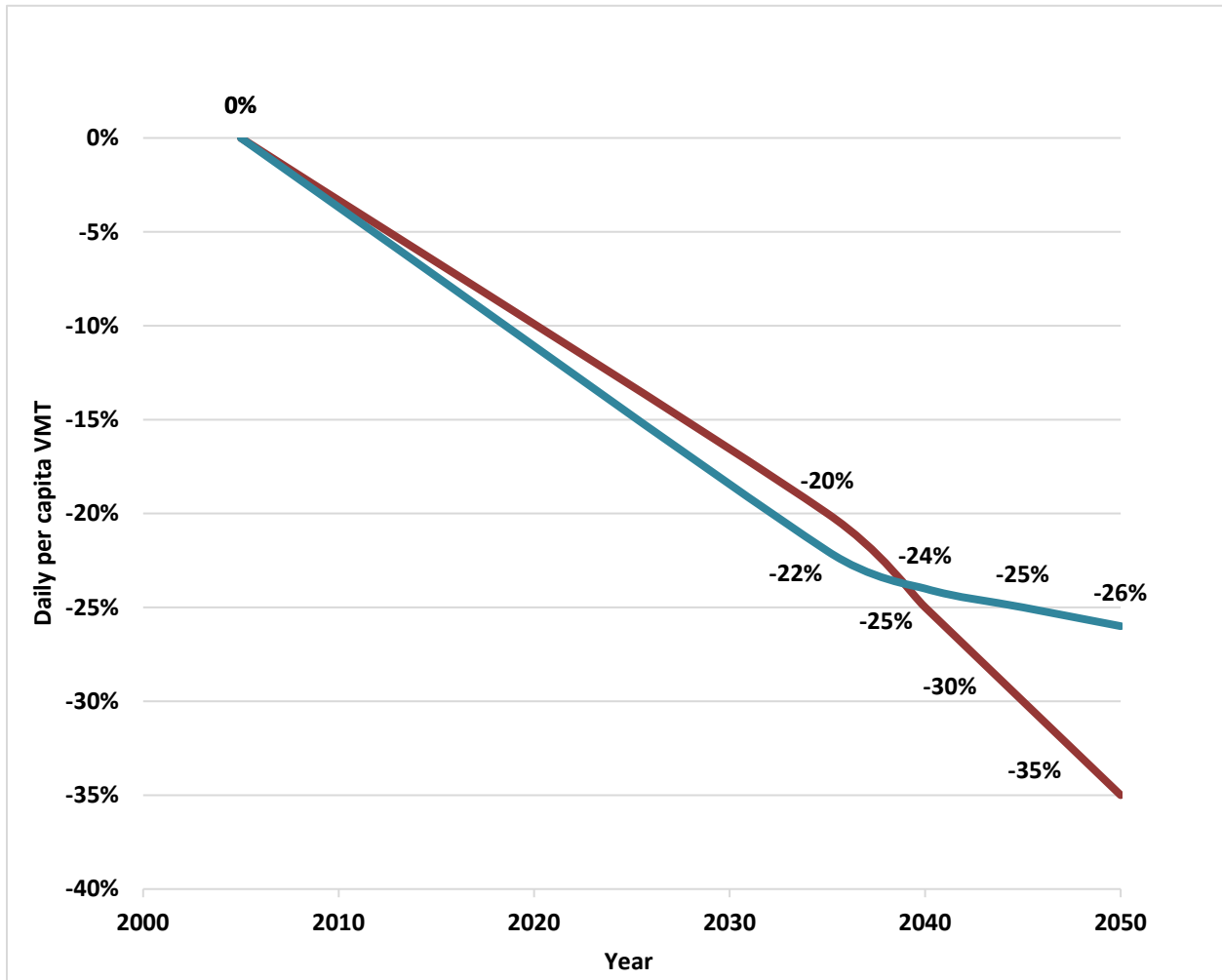
Year	Target (absolute)	Target (% reduction)	STS + RTP18 (absolute)	STS + RTP18 (% reduction)	Estimated RTP23 gap (absolute)	Estimated RTP23 gap (% reduction)
2005	19.4	0%	19.4	0%	0	0%
2035	15.5	-20%	15.0	-22%	-0.4	2%
2040	14.5	-25%	14.6	-24%	0.2	-1%
2045	13.5	-30%	14.5	-25%	1.0	-5%
2050	12.5	-35%	14.3	-26%	1.8	-9%

<sup>52</sup> Pricing assumptions included in the STS include throughway tolls, per-mile fees on driving, and new taxes and fees on vehicles. See Chapter 7 and Appendix J for a more detailed discussion of these assumptions.

<sup>53</sup> The 2020 adjustments focused on adjusting assumptions regarding participation in traveler information and incentive programs based on updated evaluation data from Metro’s Regional Travel Options program demonstrating that participation in these programs is often more limited than anticipated. The 2018 RTP assumed that 30 percent of workers and 45 percent of households receive regular travel options programming; Metro revised these assumptions downward to 5 percent and 0.5 percent, respectively to reflect more recent data from Metro’s Regional Travel Options Program. Other assumptions from the 2018 RTP climate analysis can be found in Appendix J of the 2018 RTP: [https://www.oregonmetro.gov/sites/default/files/2019/04/02/RTP-Appendix\\_J\\_Climate\\_Smart\\_Strategy\\_Monitoring181206.pdf](https://www.oregonmetro.gov/sites/default/files/2019/04/02/RTP-Appendix_J_Climate_Smart_Strategy_Monitoring181206.pdf).



**Figure 4.34: Estimated percentage reductions in daily VMT per capita, Target vs. STS+RTP18 Scenario**



These results for the STS+RTP18 Scenario confirm that the 2018 RTP was largely on track to meet its GHG reduction targets for 2035 and 2040. However, the results also highlight a growing gap between the region’s climate targets and 2018 RTP investments and policies for the years 2040-50. This is somewhat expected because the State set targets out to 2050 that will require additional GHG reductions, whereas the GHG strategies adopted in the 2018 RTP are assumed to remain unchanged after 2040 in this initial analysis. Nonetheless, the way that the results of the two scenarios diverge after 2040 suggests that the 2023 RTP will need to reflect additional action at the state, regional, and/or local level to achieve its 2050 targets. This analysis estimates that the region needs to reduce 2050 daily VMT per capita by 1.8 miles below currently forecasted levels to meet the region’s targets. This is equivalent to reducing VMT/GHG emissions by roughly one-third more than what the 2018 RTP was expected to achieve.

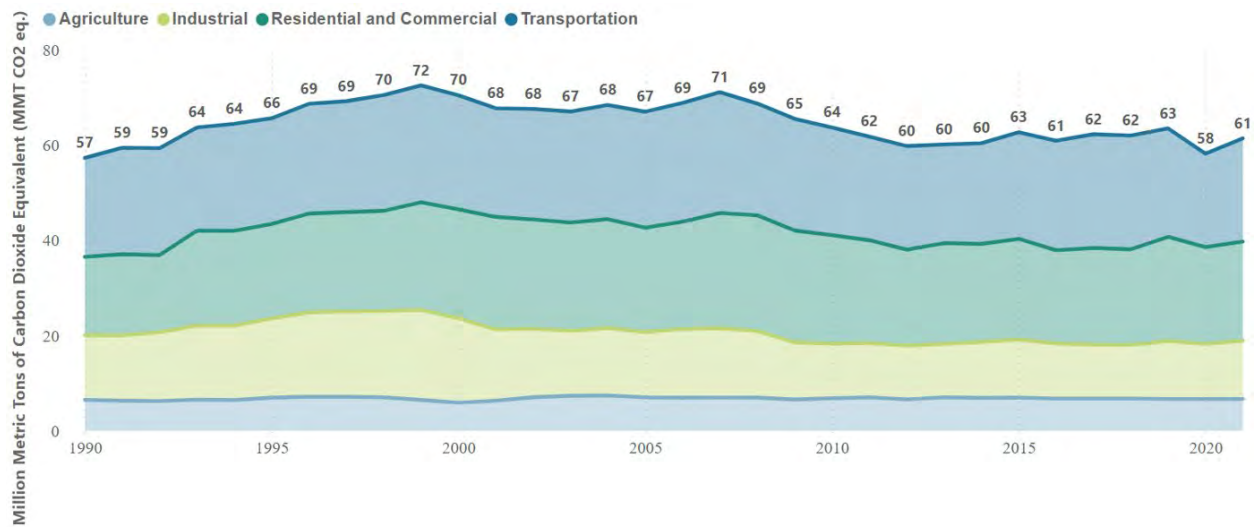
Coordinated implementation of multiple GHG reduction strategies at the local and regional levels can help to achieve the necessary reductions, particularly when supported by State-led policies and actions in the STS. The findings from this analysis provided a foundation for updating the RTP

policies and investments in Chapter 6. Chapter 7 and Appendix J report on the 2023 RTP progress toward meeting regional climate target for 2045. Metro will also prepare a separate monitoring report for DLCD in Spring 2024 as required by [OAR 660-012-0900](#).

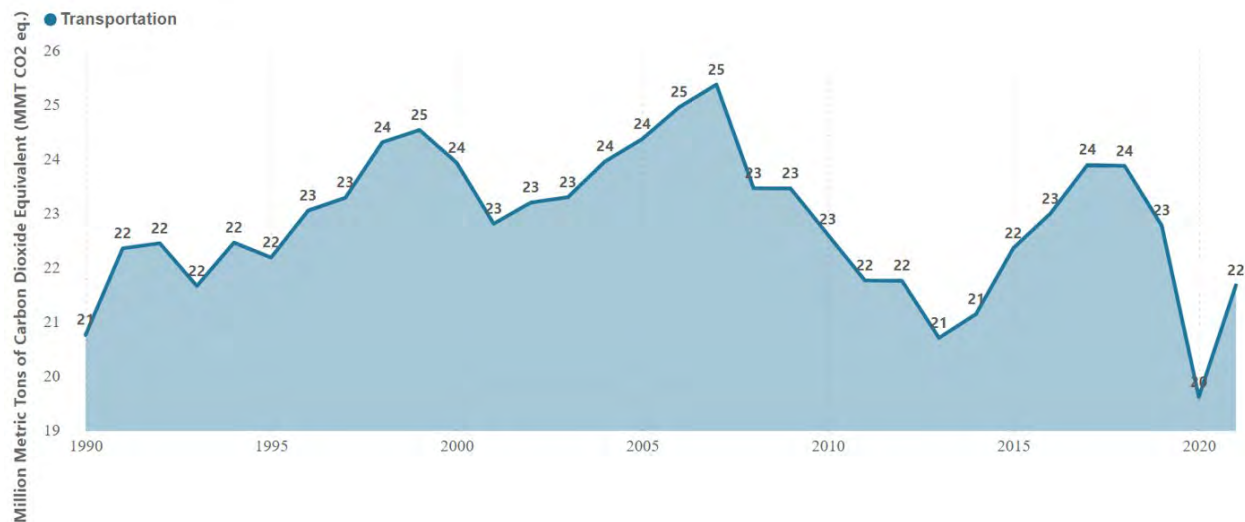
#### 4.5.2 Recent trends in GHG emissions and VMT per capita

As shown in Figure 4.34 above, both the RTP and the regional targets that are set by the State anticipate that transportation-sector GHG emissions will decrease significantly in the coming decades. This is contrary to recent trends. As shown in Figure 4.35 and Figure 4.36, both overall and transportation-sector GHG emissions in Oregon have declined slightly since their peak in 2007-08, but have remained largely flat over the past decade.

**Figure 4.35: Total Oregon GHG emissions, 1990-2021 (Oregon Department of Environmental Quality, Oregon Greenhouse Gas Sector-Based Inventory Data)**



**Figure 4.36: Total Oregon GHG transportation-sector emissions, 1990-2021 (Oregon Department of Environmental Quality, Oregon Greenhouse Gas Sector-Based Inventory Data)**



The reason that projected trends are different from recent ones is that the former account for the many recent state-level GHG reduction policies, programs and initiatives discussed in the previous section. These are all strategies that have either been recently initiated or that the state and region plan to initiate soon, and that will have long-term, cumulative GHG reductions—including sweeping actions to promote clean vehicles, among them a requirement that auto vendors offer only zero-emission vehicles for sale in Oregon by the year 2035. These expected reductions are clearly visible in the GHG projections above, but not in recent data from before these strategies were initiated.

The difference between current and projected trends highlights the challenge involved in meeting the RTP’s climate targets, as well as the importance of monitoring state and regional progress in implementing climate strategies so that future RTP updates can maintain progress toward targets even if current strategies are not producing the intended GHG reductions. The Oregon Transportation Emissions website monitors the state’s progress implementing the Statewide Transportation Strategy, including “Emissions per Vehicle mile” on the Progress page, and further actions by category.<sup>54</sup> Appendix J to the RTP monitors the region’s progress implementing the Climate Smart Strategy.

A slightly different picture emerges when comparing recent trends and projections for vehicle miles traveled (VMT) per capita. VMT per capita measures how much the average person in the Portland region drives each day, and is the main indicator used to track progress toward regional climate targets because local and regional transportation agencies in Oregon generally lead on reducing GHG emissions by helping people drive less, whereas state agencies generally lead on making vehicles and fuels cleaner. Many transportation agencies in the region use VMT per capita

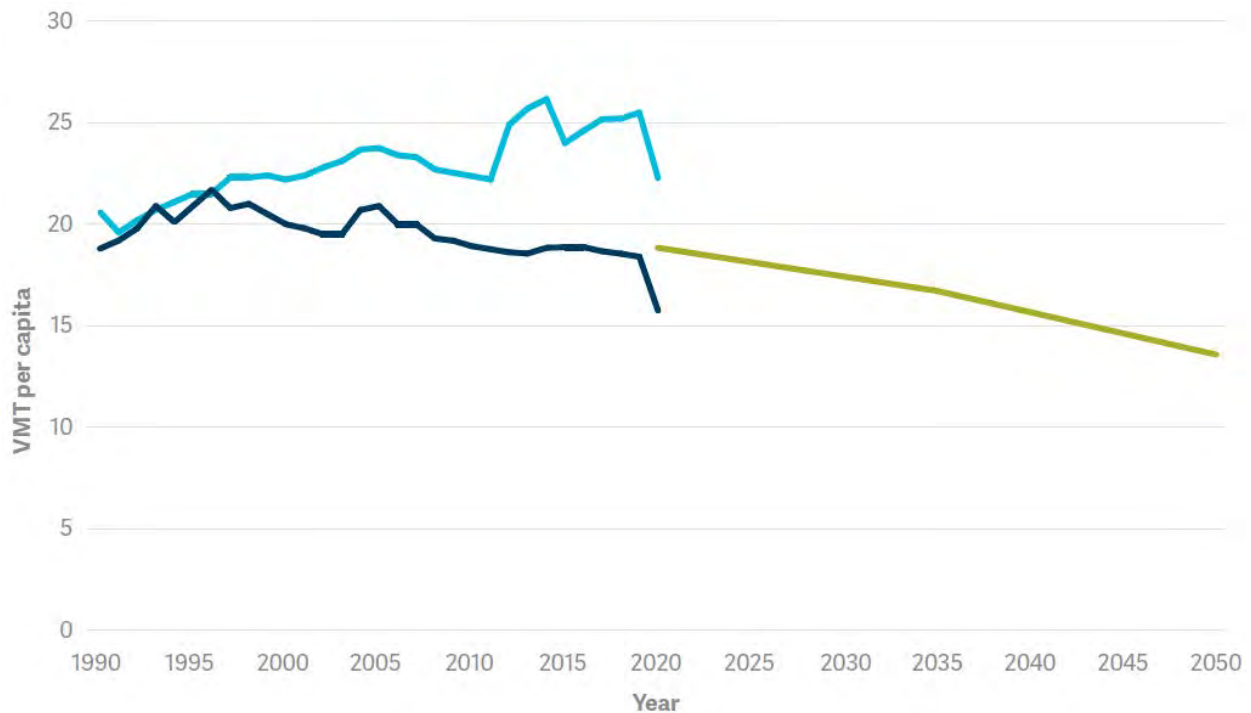
<sup>54</sup> <https://www.oregontransportationemissions.com/progress>



to measure progress toward creating vibrant communities and providing multimodal travel options. Understanding current and historical VMT per capita can help identify additional opportunities to reduce emissions and close any gap remaining between forecasted emissions under the 2023 RTP and the region’s climate target for 2045.

Figure 4.37 below shows historical trends in VMT per capita between 1990 and 2020 for both the U.S. and the greater Portland region and compares them to RTP climate targets for the years 2020 through 2050. The data in this chart comes from two different sources - historical VMT per capita comes from observed data, whereas targets are based on projections - and it is not appropriate to compare these two different sources in detail, but showing them side-by-side illustrates how the VMT per capita reductions called for in regional targets compare to the region's track record of reducing VMT per capita.

**Figure 4.37: Daily VMT per capita for the Greater Portland region (dark blue) and the U.S (light blue), 1990-2020 (Oregon and Washington Highway Performance Monitoring System offices) and regional climate targets (green)**



Per capita VMT in the greater Portland region has been significantly lower than the national average since 1997. There has been a general downward trend, with a few exceptions during economic booms, over the past 25 years. However, between 2010 and early 2020<sup>55</sup> there was

<sup>55</sup> Figure 4.37 also shows a steep decline in both national and regional VMT per capita in 2020. This reflects the onset of the COVID-19 pandemic, which led many people to limit their travel as stay-at-home orders were carried out and many schools and workplaces closed. Metro’s Emerging Transportation Trends study (<https://www.oregonmetro.gov/public-projects/2023-regional-transportation-plan/research>) estimated that the

little or no decline in VMT per capita. The region's past successes with integrating transportation and land use planning to implement the 2040 Growth Concept appear to have had a lasting impact on people's travel choices and how far and how much people choose to drive, and even during periods of growth they may have helped to keep VMT per capita from increasing. Compared to the GHG emissions trends discussed above, recent VMT per capita trends are better aligned with the region's targets, suggesting that the region may be better positioned to reduce VMT than to reduce GHG emissions. But in order to continue to reduce VMT—especially in an era when high housing costs make it challenging for many people to live in neighborhoods with good access to travel options—the region will likely need to take new approaches, such as congestion pricing, in combination with doubling down on high-impact strategies such as expanding frequent transit, creating affordable housing in regional and town centers served by transit, and managing or pricing parking.

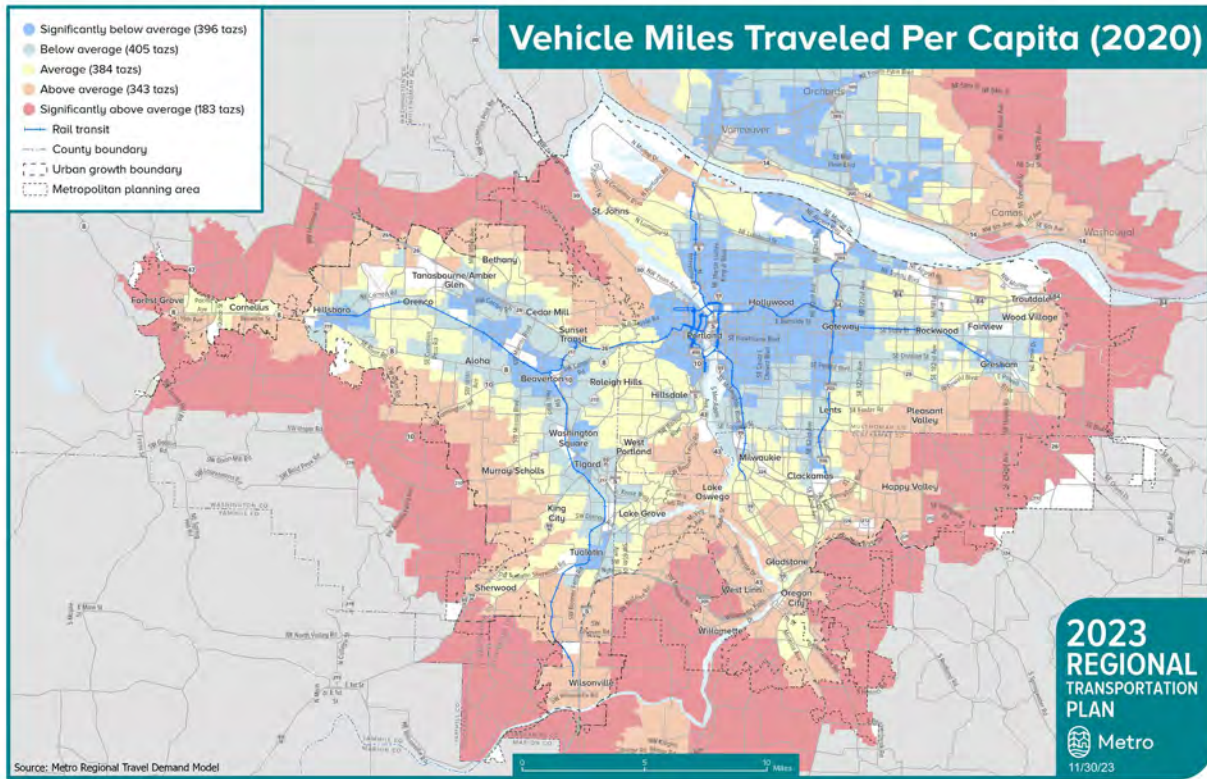
These results help to provide some context for understanding the estimated VMT reduction gap between the 2018 RTP and regional climate targets discussed in the previous section. The estimated gap of 1.8 miles per person per day is roughly the same amount that regional VMT declined between 1997 and 2002 or 2007 and 2013, which are two of the periods when VMT declined the most during the past 30 years. This suggests that closing such a gap is feasible, even during a period of economic growth such as 1997-2002 (all things being equal, VMT tends to increase as the economy grows), but it requires a deliberate and coordinated effort.

Figure 4.38 shows how estimated household-based VMT per capita from Metro's travel model varies across the region. Though these are estimates, they highlight relative differences in VMT per capita based on the mix and density of nearby land uses and availability of transportation options.

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persistence of teleworking and other pandemic-era behaviors could reduce 2050 VMT per capita by three to eight percent, all other things being equal.

**Figure 4.38: Home-based VMT per capita by Metro transportation analysis zone, 2020 (Metro regional travel model)**



VMT per capita is lower in regional and town centers, along frequent transit lines, and in many of the region’s older neighborhoods, downtowns and main streets. This is consistent with research finding that VMT per capita tends to be lower in compact communities with a mix of destinations and good access to transit and other options.<sup>56</sup> It demonstrates the impact of sound land use planning and diverse travel options on VMT per capita, and the critical role that local and regional implementation of the 2040 Growth Concept plays in meeting the region’s climate goals.

<sup>56</sup> <https://nap.nationalacademies.org/catalog/12747/driving-and-the-built-environment-the-effects-of-compact-development>



## 4.6 CONCLUSION

This section summarizes key findings from this chapter, by RTP goal area:

### Mobility

- Travel declined during the COVID pandemic. Between October 2019 and October 2021, daily throughway trips on a sample of regional mobility corridors decreased by 5%, daily arterial trips decreased by 14%, and daily transit ridership decreased by 41%.
- Overall, the planned motor vehicle network is much more complete than the other modal networks.
- Active transportation networks are mostly complete near transit. However, there are plenty of small gaps that hinder people’s ability to walk and bike to transit stations and other important destinations. There are larger bicycle and pedestrian gaps between urban centers and at the edges of the region, many of which are on the trail system.
- During rush hour, the average traveler can reach 43% of jobs in the region by driving, and 7% by transit. Metro and partner agencies are working to increase ridership by better connecting activity centers—potentially including many developing suburban centers—with frequent transit.

### Safety

- The region is not on track to meet its target of reducing fatal and serious injury crashes to zero by 2035. By every safety measure that the RTP tracks, the region’s streets are getting less safe, and the RTP is not meeting the interim 2020 targets that it established to maintain progress toward the 2035 Vision Zero goal.
- From 2016 through 2020, 2,814 people were killed or experienced a life-changing severe injury from a traffic crash in the greater Portland region, an average of 563 people per year.
- Traffic fatalities in the Portland region have been increasing for users of all modes, except for people bicycling. Severe injury crashes are also increasing, though not as dramatically as fatal crashes.
- Pedestrians experience a disproportionately high number of traffic deaths.
- Fatal and severe crashes are concentrated at a small number of corridors and intersections, which the RTP refers to as High Injury Corridors and High Injury Intersections.
- Safety is an equity issue. Two-thirds of all serious crashes in RTP Equity Focus Areas where people of color, people with low incomes, and people who speak limited English are concentrated, and Black, American Indian and Alaska Native people experience a disproportionate number of traffic deaths.
- Speed, alcohol, and/or drugs continue to be the most common contributing factors in severe and fatal crashes in the region.

## **Equity**

- There is much work still to be done to reverse the impacts of inequitable transportation decisions from years past.
- The Portland region continues to grow more racially and ethnically diverse.
- The region is aging. The share of people 65 and older is growing while all other age groups are declining. However, people under 44 will continue to be in the majority.
- The COVID-19 impact had particularly severe and long-lasting impacts on people of color and workers with low incomes.
- Regional transportation agencies can advance equity by investing in transit service and safe biking and walking infrastructure in Equity Focus Areas (EFAs), which are communities with concentrations of people of color, people with low incomes, and people with limited English proficiency.
- The region has made significant progress in improving transit service and bike/ped infrastructure within in EFAs, but not enough to address deep-seated inequities. Transit still offers much less access to destinations than driving does, and serious crashes are still concentrated in EFAs.
- Safety is an equity issue. Two-thirds of all serious crashes in regional Equity Focus Areas where people of color, people with low incomes, and people who speak limited English are concentrated, and Black, American Indian and Alaska Native people experience a disproportionate number of traffic deaths.

## **Economy**

- Over the past decade, the Portland region's economy has grown stronger relative to the rest of the U.S., and the region has experienced slightly lower-than-average unemployment.
- Trade, transportation and utilities; professional and business services; and education and health services continue to be the largest employment sectors in the region.
- The majority of the region's jobs are located in the centers and employment / industrial areas identified by the 2040 Growth Concept.
- More than 45% of workers in Clackamas, Multnomah and Washington counties work in a different county than where they live.
- The number of commuters who travel into the region from surrounding communities is growing, but the majority of commute trips in the region still begin and end within Clackamas, Multnomah, and Washington counties.
- The majority of the region's freight still moves by truck, but high-value freight is more likely to use other modes.
- Anyone who is able to commute by auto has reasonably good access to jobs, but transit does not provide nearly the same level of access as driving does. People can access five to ten times as many jobs by auto as they can by transit.

- Active transportation networks are generally more complete within regional centers and near transit.

## **Climate**

- The RTP aims to achieve ambitious greenhouse gas reduction targets set by the State, which call for a 30% reduction in emissions from passenger vehicles below 2005 levels by the year 2045 and a 35% reduction by 2050. These targets focus on reducing emissions by reducing vehicle miles traveled.
- The Climate Smart Strategy is the region’s blueprint for reducing GHG emissions. It identifies several high- and medium-impact strategies, including implementing pricing, investing in transit and active transportation, and coordinating land use and transportation decisions.
- The 2018 RTP was largely on track to meet its GHG reduction targets for 2035 and 2040. However, it appears additional actions and investments are needed to achieve the GHG reduction targets for 2045 and 2050. This means that the 2023 RTP may need to consider additional longer-term actions and investments to reduce GHG emissions.
- Over the past decade, Oregon’s transportation-sector GHG emissions have been flat, and VMT per capita has declined slightly. This is expected given that the many ambitious state, regional and local GHG reduction strategies that have now been adopted were not in effect until recently. But it also highlights the potential challenge of meeting the region’s climate targets for 2045 in this RTP.
- VMT per capita is lower in regional and town centers, along frequent transit lines, and in many of the region’s older neighborhoods, downtowns and main streets. This demonstrates the impact of sound land use planning and diverse travel options on VMT per capita, and the critical role that local and regional implementation of the 2040 Growth Concept plays in meeting the region’s climate goals.



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2023 Regional Transportation Plan



# 2023 Regional Transportation Plan

## Chapter 5

# Our transportation funding outlook

November 30, 2023

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## 5.1 INTRODUCTION

*The 2023 Regional Transportation Plan shows that more investment and funding are needed to build, operate, and maintain the regional transportation system for all modes of travel.*

Since the 1950s, transportation investments have prioritized private vehicles over other modes, shaping the way we experience spaces and places from suburban downtowns and business districts, various neighborhoods and even downtown Portland. For the greater Portland region, RTPs developed by Metro in partnership with local, regional, state, and federal agencies since the 1980s and 1990s have taken strides towards remedying this imbalance, meeting the needs of our roadway infrastructure to address safety and congestion, while also investing in safe and accessible options for pedestrians, bicyclists, transit riders, and other users of the region's transportation system and modernizing the existing system to be resilient and in a good state of repair. Figure 5.1 illustrates some of the key legislative milestones that have led to the state of the transportation system today.

### *Defining terms*

#### **Transportation System**

*The various transportation modes and facilities (aviation, bicycle, pedestrian, street, transit, rail etc.) taken altogether into consideration as one intertwined system.*

Yet the geopolitical and socioeconomic context of the region (and indeed, much of the world) has radically changed since the RTP was last updated in 2018. Even prior to the COVID-19 pandemic, transportation systems were grappling with the emergence of dockless electric scooters, while contending with trends towards zero-emissions vehicles, an aging population, and addressing the climate crisis. The global pandemic in 2020 led to a drastic change in travel patterns, where telecommuting became widespread and transit ridership plummeted to historic lows. Steep inflation propagated by international conflicts further compounded the public health crisis and its lingering effects. Between the spotlight on essential workers, record-breaking petrol prices, increasing serious traffic crashes and ongoing inflation, the post-pandemic world has brought equity to the forefront of transportation discourse, where cost-of-living, and access to transportation are critical policy issues of the day along with building a safe, reliable, and resilient transportation system.

As described in Chapter 4, the region faces many challenges:

- Rising costs and aging infrastructure
- Changing mobility needs
- Climate crisis and air quality
- Travel reliability and congestion
- Fatal and life-changing crashes
- Social inequity and disparities
- Earthquake vulnerability, security, and emergency management

- Gaps in transit, biking, and walking connections
- Housing and transportation affordability and displacement
- Technological change

Much work has been done since 2018 to address the growing housing and transportation needs of the region. Funding that resulted from HB 2017 Keep Oregon Moving has provided a significant investment in transportation. In 2020, the Oregon Legislature passed a bill to end exclusive single-family zoning in cities with populations greater than 10,000, legalizing duplexes and triplexes in low density zones to meet housing demand. This was seen as a significant step towards rectifying a long history of racial discrimination in urban planning, when land use and zoning were used to redline and discriminate against people of color in Oregon. Passed in 2021, funding from the federal Bipartisan Infrastructure Law is already preserving, maintaining, and fortifying critical transportation infrastructure in the greater Portland region – with more funding opportunities anticipated in the future.

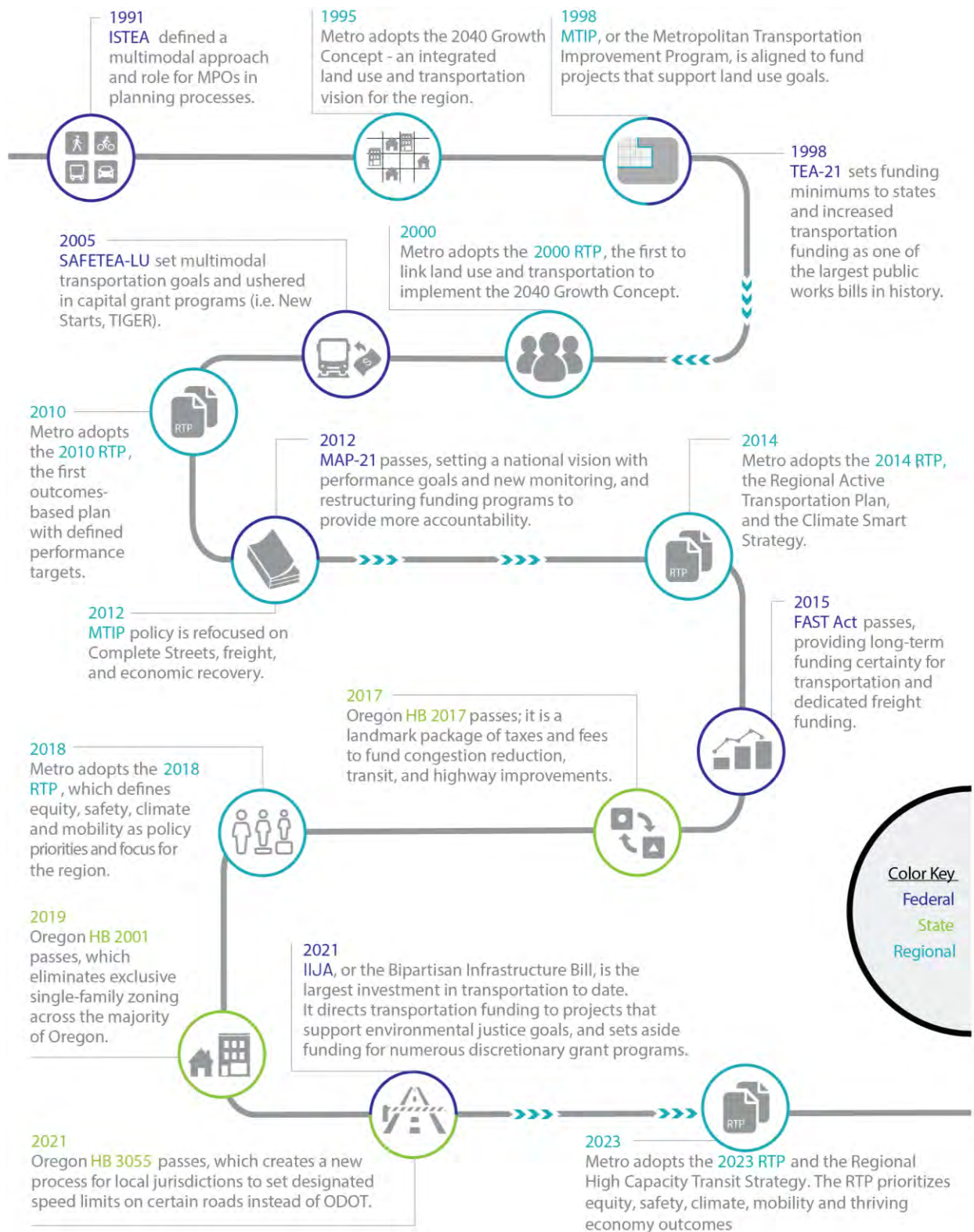
However, building a safe, reliable and sustainable transportation system requires steady, long-term investment. The region does not have the resources to invest at the levels needed to address the challenges facing our region and achieve our shared vision and goals for the transportation system.

At the same time, innovation in transportation technologies have opened new opportunities to close the funding gap. An emerging source of transportation revenue may be in tolling and other pricing strategies.

- In 2021, Metro completed the [Regional Congestion Pricing Study \(RCPS\)](#). The RCPS conducted in-depth analysis to test four pricing strategies including congestion pricing, cordon pricing, parking pricing and mileage-based fees. The results of this study showed promise for vehicle pricing strategies and will be an important factor influencing the region’s funding outlook and making the most of past investments in the transportation system.
- In October 2021, the [City of Portland’s Pricing Options for Equitable Mobility \(POEM\) Task Force](#) explored pricing options on parking, cordon pricing, and highway tolling.
- The [Equity and Mobility Advisory Committee \(EMAC\)](#) advises the Oregon Department of Transportation (ODOT) and the Oregon Transportation Commission (OTC) on development of an easy-to-use, accessible and equitable tolling program in the greater Portland region.

Each of these efforts recognized the need to ensure unintended impacts on people with low-incomes, land use and the transportation system are identified and addressed in design and implementation.

**Figure 5.1: Timeline of legislative milestones for the greater Portland transportation system**





The 2025 legislative session is expected to provide an opportunity for legislative consideration of alternative revenue sources and the future of tolling in the greater Portland region. Implementation of future tolling is also subject to completion of the federal environmental review processes and further consideration and decisions of the Oregon Legislature, Governor Kotek and the Oregon Transportation Commission.

### 5.1.1 Addressing our most urgent needs through investment

The transportation funding landscape is changing, and building a safe, reliable, and sustainable transportation system requires steady, long-term investment. However, the region does not have the resources to invest at the levels needed to address the challenges facing our region and achieve our shared vision and goals for our transportation system.

For example, much of the critical transportation infrastructure in the region has exceeded its designed life, is unlikely to withstand a major earthquake, and is in critical need of modernization or replacement. Yet, rebuilding large-scale transportation infrastructure is only one part of a resilient transportation system.

We also need to complete gaps in our region’s transit, walking, and biking networks to expand safe and affordable travel options, yet active transportation currently lacks a dedicated funding source at all levels of government. The transit system relies heavily on payroll taxes to fund its operations, yet the region’s demand for frequent and reliable transit service exceeds the capacity of local payroll tax and passenger revenues to support it. Long-term, reliable funding for operations and maintenance is also a critical missing link. Resurfacing roads, filling potholes, repairing transit tracks, and maintaining operational signal systems is critical to ensuring safe, dependable, and accessible transportation. The local, state, and federal gas taxes and existing revenue streams for this work are insufficient, making it difficult to maintain a state of good repair and affecting the long-term resilience of the transportation system.

This chapter presents the funding outlook for investing in the programs and projects needed to address these most pressing demands on our transportation system over the next two decades. The following sections present those revenues that can be reasonably expected, the anticipated costs associated with maintaining our transportation system,



*The Joint Policy Advisory Committee on Transportation (JPACT) and Metro Council jointly developed these goals for the 2023 RTP.*

and the capital projects and programs that can reasonably be funded within these financial constraints.

Given the current funding challenges, prioritizing where and how to invest is central to developing a feasible plan for achieving the goals in the RTP and other desired outcomes for the region. As the region looks to balance transportation spending over the next two decades, a robust evaluation of revenue collection and allocation strategies will also be critical to future success.

### 5.1.2 Chapter organization

In accordance with federal law, this chapter documents the cooperative process used to develop the revenue forecast for the 2023 RTP and demonstrates that the RTP is financially constrained as defined by 23 CFR 450.324(f)(11) for the time period of the plan. The 2023 RTP revenue forecast accounts for new local, regional, state and federal revenues for the period from FY 2024 to FY 2045. The revenue forecast also includes funding that has been previously dedicated to specific projects through local, regional, state or federal legislative action prior to 2024 (called pre-2024 revenues). These are pre-2024 revenues for projects that must be included in the financially constrained project list until the projects are deemed substantially complete and cannot be spent on other projects. Projects identified in Appendix A are “reasonably likely to be funded” for planning purposes, as defined by [OAR 660-012-0040](#) (Transportation Financing Program). It provides an overview of the long-range financial plan and forecast that includes system-level estimates of both revenue sources and costs. Details of the long-range forecasts, including key forecast assumptions, can be found in Appendix H.

#### *Defining terms*

##### **Financially Constrained**

*When a transportation plan includes sufficient information to show that proposed investments can be implemented using reasonably available revenue sources.*

This chapter is organized into the following sections:

- 5.1. Introduction:** This section describes the current outlook for transportation funding in the region and summarizes the rationale for further investment.
- 5.2. Funding the Transportation System:** This section offers an overview of how transportation in the region is funded, from revenue collection to distribution to various funding programs and to expenditure on programs and projects. The equity implications of our existing funding structures will also be highlighted.
- 5.3. Revenue Forecast and Assumptions:** This section summarizes forecasted revenue to support implementation of the RTP, including revenues anticipated to be available to adequately operate and maintain the transportation system as well

revenue anticipated to be available to fund priority transportation programs and projects. It also describes the forecast methods and the process by which forecasted revenues were identified by Metro, the Oregon Department of Transportation (ODOT), Tri-County Metropolitan Transportation District of Oregon (TriMet), the South Metro Area Regional Transit (SMART), the Port of Portland, the Confederated Tribes of Grand Ronde and the 24 cities and three counties located within the metropolitan planning area boundary.

- 5.4. Transportation System Costs:** This section summarizes system-level transportation costs of priority programs and projects included in the RTP.
- 5.5. Demonstration of Financial Constraint:** This section compares the forecasted revenue expected to be available for transportation investment in the region (Section 5.3) and compares it to the cost of adequately maintaining and operating the transportation system (Section 5.4) and to the cost of new transportation projects included in the plan (see financially constrained list of projects contained in Appendix A). This section will demonstrate that these costs do not exceed forecasted revenues.
- 5.6. Moving Forward Together to Fund the Transportation System:** This section calls attention to our future transportation needs and issues a call to action for more funding to secure a future with equitable and accessible transportation for all. The RTP stands aligned with this vision and sets the region on a trajectory for funding a safe, equitable, multimodal and resilient transportation system.



## 5.2 FUNDING THE TRANSPORTATION SYSTEM

*Transportation revenues are collected from a variety of sources, which are distributed through complex processes before being available to transportation agencies in the greater Portland region.*

At its core, the financial structure behind our transportation system follows a four-part process:

1. Collection of revenues
2. Identification of and distribution of revenues to funding programs
3. Funding programs selection of projects to receive funds
4. Spending of revenues

The collection of transportation revenues occurs across multiple levels of government and from a wide range of sources. Revenues then flow through a variety of programs, redistributions, and formulae before being invested in the greater Portland region's local, regional and state transportation networks. Figure 5.2 illustrates the transportation funding sources and expenditures for the RTP, as revenues flow from collection to direction for expenditure.

Together, the region is working to secure adequate funding to advance transportation projects that support communities and businesses, create a safe, resilient and equitable transportation system that efficiently moves people and goods, improve mobility options and increase access to convenient, reliable, affordable, low-carbon transportation. The region is committed to a Safe Systems Approach to achieve

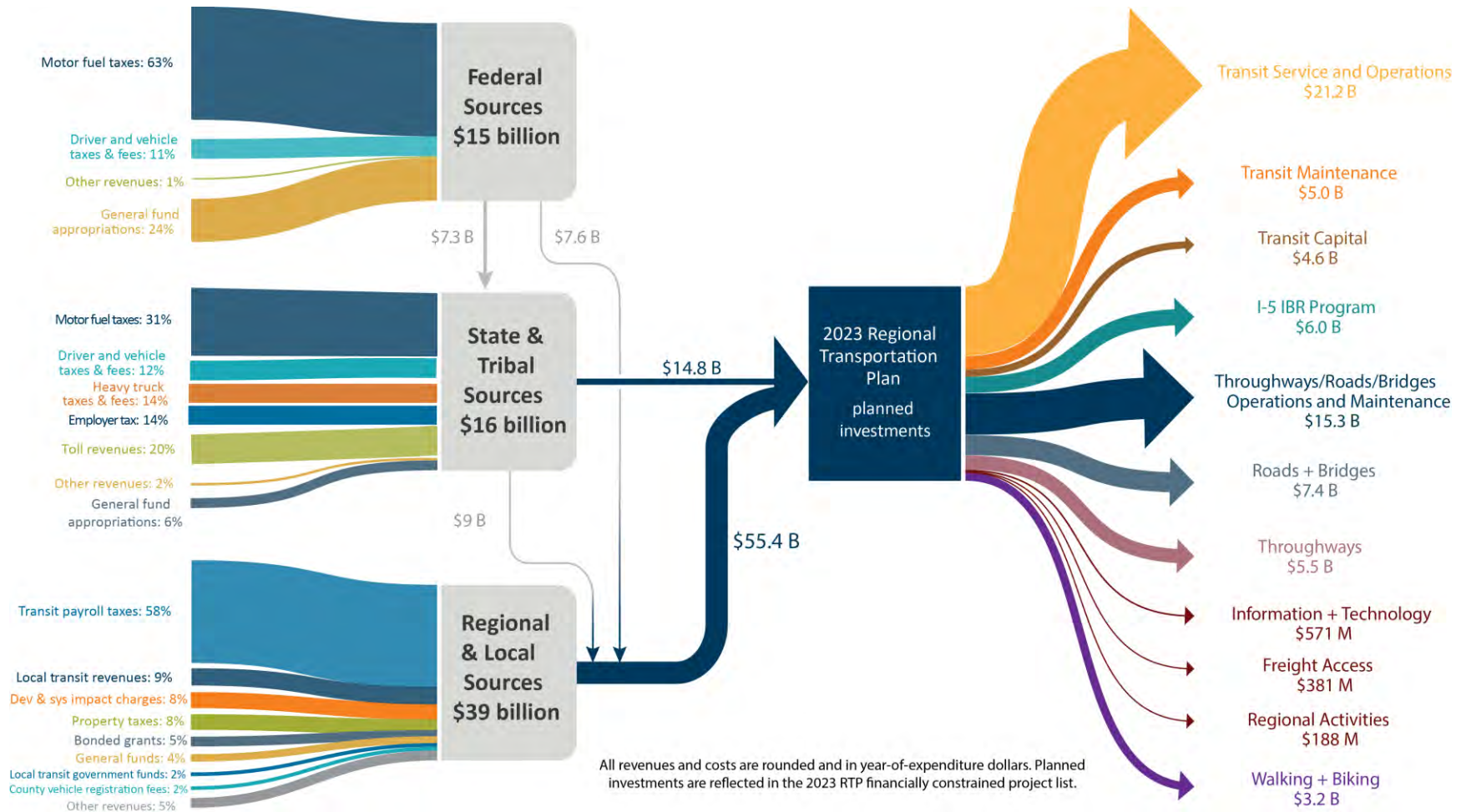
Vision Zero by 2035 and will leverage the revenue sources and investments identified in this RTP to advance the elimination of serious and fatal injuries from traffic crashes.

### *Defining terms*

#### **Safe Systems Approach**

*A data-driven, strategic approach to roadway safety that recognizes the underlying infrastructural and educational causes of traffic collisions. It is based on the principle that human error is inevitable, but fatalities and serious injuries should not be.*

**Figure 5.2: Flow of transportation revenues into the greater Portland region**



Sources: FTA and FHWA transportation revenue sources (2022), ODOT revenue forecast for 2023 RTP, ODOT legislatively adopted budget (2022), locally reported revenue sources, revenue sources reported by Confederated Tribes of Grand Ronde, transit providers and other transportation agencies, and 2023 RTP Constrained Project List (11/30/23)

The left side of Figure 5.2 shows the different types of funding sources that comprise local, state, and federal revenues for transportation. For example, the gray box denoting “Federal Sources \$15 billion” describes the total revenues that are collected at the federal level (such as federal income taxes and gas taxes) for federal fiscal year 2024 that were available to the region. These funds are not typically directly allocated by the federal government, but instead are disbursed to state and local governments who then prioritize the projects for funding in state and local plans and the RTP.

- The gray arrows illustrate transfer of funds between federal, state, and local levels, also known as intergovernmental transfers, or suballocations.
- Shown with blue arrows, transfers are combined with local and regional own-source revenues to fund the programmed projects in the 2023 RTP.

Transfers from the federal and state levels are often packaged as funding allocation programs, with competitive grant application processes that local jurisdictions apply through to receive this funding. Agencies that allocate federal, state and regional funding to transportation projects and programs (ODOT, TriMet, SMART, and Metro) utilize these plans when allocating federal and state funding through their various funding allocation programs. Section 5.3 of this chapter will expand upon the various funding allocation programs and how they support the RTP.

Some revenues must be spent in certain ways, as described in Table 5.1.

**Table 5.1: Limitations and constraints on revenue sources**

Source	Category	Allocation and constraints description
<i>Federal</i>		
Fuels tax	Roadways, transit, bike, and pedestrian	Federal revenue sources fund the Highway Trust Fund (HTF). The HTF is made up of the Mass Transit Account and the Highway Account. The Mass Transit Account receives 15.5% of the revenue generated by the gasoline tax and 11.7% of the revenue generated by the tax on diesel fuel. The remainder of the fuel tax is dedicated to the Highway Account. The Mass Transit Account funds transit projects while the Highway Account funds roadway, bike, and pedestrian projects. Federal funding from the HTF flows through state DOTs and to local agencies and is allocated using formula funds. <sup>1</sup>
Heavy trucks and trailers sales tax		
Heavy vehicles annual use tax		
Individual income taxes, corporate income taxes (General Fund transfer)		

<sup>1</sup> <https://www.fhwa.dot.gov/fastact/factsheets/htffs.cfm> U.S. Department of Transportation Federal Highway Administration. (2017). “Fixing America’s Surface Transportation Act or “FAST Act.””



Source	Category	Allocation and constraints description
<i>State</i>		
Motor fuels tax	Roadways, bike, and pedestrian within the right-of-way	These revenue sources fund the State Highway Fund. The State Highway Fund is restricted to funding construction, operation, and maintenance of roads, including bike and pedestrian projects in the right-of-way. <sup>2</sup> In 1971, ORS 366.514 dedicated at least 1% of highway funds to bicycle and pedestrian projects. <sup>3</sup>
Weight mile tax		
Driver and vehicle fees		
Transportation license and fees		
Cigarette tax	Transit	A portion of the cigarette tax is dedicated to transit services for seniors and disabled people. <sup>4</sup>
Bike tax	Bike	Revenue from the bicycle excise tax goes into Multimodal Statewide Investments Management Fund. It used to fund a bike and pedestrian program within Connect Oregon. <sup>5</sup>
Privilege tax	Outside of right-of-way – aviation, rail, and marine	Funds are allocated to the Connect Oregon Fund and fund rebates for electric vehicles. The Connect Oregon Fund is restricted to projects outside the highway right-of-way. Historically these projects included active transportation but most recently funds are dedicated to aviation, rail, and marine projects. Any project that is eligible for funding from the State Highway Fund is not eligible for funding from Connect Oregon. <sup>6</sup>
Lottery revenues		
Payroll transit tax	Transit except light rail	The tax is deposited into the Statewide Transportation Improvement Fund and is limited to investments and improvements in public transportation services, except for those involving light rail. <sup>7</sup>
Income tax (general fund transfer)	Variable	As the state legislatively directs. In the past it has been used for capital projects such as light rail.
<i>Local</i>		
Mass-Transit (TriMet) tax	Transit	The tax funds mass transportation in the TriMet district. <sup>8</sup>
Transit fares (passenger revenues)	Transit	Fares fund the transit system. They make up 7% of TriMet's FY2023 budget. <sup>9</sup>

<sup>2</sup> [Oregon Department of Transportation. \(2022\). "Transportation Funding in Oregon."](#)

<sup>3</sup> [Interpretation of ORS 366.514](#)

<sup>4</sup> [Oregon Department of Transportation. \(2022\). "Transportation Funding in Oregon."](#)

<sup>5</sup> [Oregon Department of Transportation. \(2022\). "Connect Oregon."](#)

<sup>6</sup> [Oregon Department of Transportation. \(2022\). "Connect Oregon."](#)

<sup>7</sup> [Oregon Department of Revenue. \(2022\). "Statewide transit tax."](#)

<sup>8</sup> [TriMet. \(2021\). "Form OR-TM Instructions."](#)

<sup>9</sup> [TriMet. \(2022\). "Adopted 2022-2023 Budget](#)

Source	Category	Allocation and constraints description
Gas tax	Roadways, bike, and pedestrian within the right-of-way	Under state law, motor vehicle revenue is restricted to funding construction, operation, and maintenance of roads, including bike and pedestrian projects in the right-of-way.
Vehicle registration fee		
Transportation system development charges	Capital projects that increase or improve capacity	Fees are dedicated to recoup the cost of additional infrastructure projects required to serve new developments. <sup>10</sup> In Oregon, state law requires that revenue only be spent on capital projects. <sup>11</sup> Local municipalities may have additional requirements on use of revenue, such as specifically serving the impacted area and related parameters.
Street utility fees	Street repair and maintenance	Funds are spent locally on street maintenance.
Utility fees based on estimated number of trips	Street repair and maintenance, Bike and Pedestrian Accessibility, ADA Transition	Revenue funds projects outlined in Milwaukie's Street Surface Maintenance Program, Bicycle and Pedestrian Accessibility Program, and the federal ADA Transition Plan. Funding transit, ADA improvements, and active transportation has a positive equity component.
Franchise fees	Flexible	Franchise fees feed directly into the General Fund to support a portion of a city's transportation budget.
PGE privilege tax	Street repair and maintenance	Funds are spent locally on street maintenance.
Parking fees/fines	Flexible, discretionary revenue	Parking fee revenue is general discretionary transportation revenue at PBOT. <sup>12</sup>
Urban renewal	Flexible but must be spent within TIF districts	Taxes are paid by all homeowners in a jurisdiction and revenue is spent on local transportation projects within specified districts. Tax Increment Financing (TIF) districts can be used to fund improvements in historically underserved communities, including transportation projects. <sup>13 14</sup>
Property taxes	Flexible, must be on major roads.	For example, taxes are paid by local homeowners in Washington County and revenue is spent on local transportation projects through the Major Streets Transportation Improvement Program (MSTIP). MSTIP funding improves the transportation system for bicyclists, pedestrians, drivers, and transit passengers. Projects must

<sup>10</sup> [Oregon Metro. \(2007\). "System Development Charges."](#)

<sup>11</sup> [Oregon Legislature. \(2021\). "Chapter 223 – Local Improvements and Works Generally."](#)

<sup>12</sup> [Portland Bureau of Transportation. \(2019\). "PBOT Financial Overview."](#)

<sup>13</sup> [Prosper Portland. \(2021\). "Your property tax bill and urban renewal."](#)

<sup>14</sup> [Clackamas County Development Agency. \(2011\). "Urban Renewal in Clackamas County."](#)

Source	Category	Allocation and constraints description
		improve safety, improve traffic flow or congestion, be on a major road, address needs for all travelers. <sup>15</sup>
TNC fee	Flexible, funds programs	This fee has been used to fund programs that help remove barriers to mobility. Program examples include Wheelchair-Accessible Vehicle program, Safe Ride Home Program, safety inspections, and Transportation Wallet Initiative. <sup>16 17</sup>
Local improvement district (LID)	Flexible, must be spent in the LID	A Local Improvement District (LID) is a mechanism for neighboring property owners to share the cost of improvements to infrastructure, where property owners agree to tax themselves (typically at least 51% of the property owners must be in favor). For transportation, it is often used to pave unimproved streets or build sidewalks.
Heavy truck fee	Street repair, maintenance, and safety	In Portland, the fee is allocated for 56% Street Repair/Maintenance and 44% Traffic Safety. Projects for both safety and maintenance should focus on streets important to freight movement. <sup>18</sup>

Section 5.4 of this chapter will further describe transportation system costs and the role that funding programs play in supporting our transportation system.

Finally, the right side of the Figure 5.2 shows the categories of projects that are proposed for funding in the 2023 RTP. The approximate costs associated with each spending category are elaborated upon in Section 5.4 of this chapter. The total expenditure anticipated for all the categories listed on the right of this diagram are reasonably expected to be fully funded by the revenues going into the 2023 RTP. The demonstration of financially constrained expenditures is captured in Section 5.5 of this chapter.

### 5.2.1 Breaking down revenues by source and government level

The following figures summarize revenue sources by the government level that originally collects the revenue before any distributions or allocations are made to other entities. Figure 5.3 breaks down the sources of revenue assumed in the 2023 RTP financial plan by the level of government responsible for collecting the revenues.

<sup>15</sup> [Washington County, Oregon. "Major Streets Transportation Improvement Program \(MSTIP\)."](#)

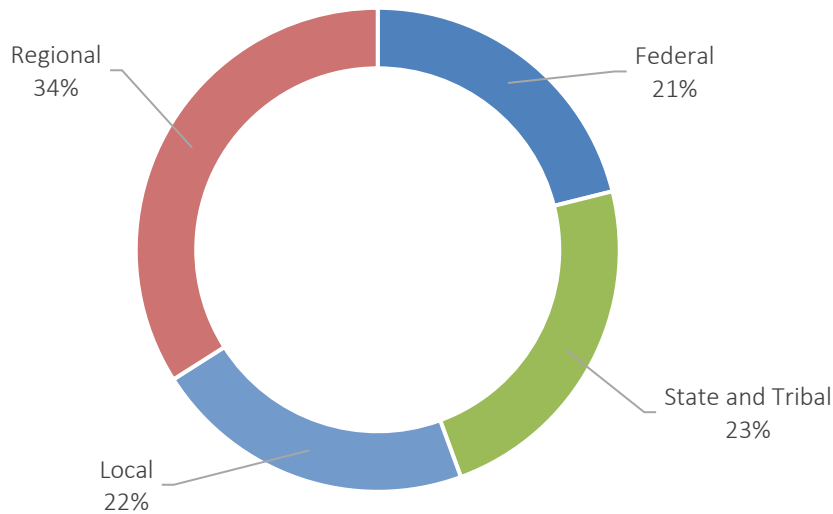
<sup>16</sup> [City of Portland, Oregon. "Private For-Hire Transportation & Regulations."](#)

<sup>17</sup> [Schafer, Hannah. \(2019\). "PBOT News Release: PBOT, Portland Police Bureau encourage Portlanders to take a Safe Ride Home on St. Patrick's Day." Portland Bureau of Transportation.](#)

<sup>18</sup> [Portland Bureau of Transportation. "Heavy Vehicle Use Tax \(HVUT\) Background and Projects."](#)



**Figure 5.3: Transportation revenues sources for the 2023 RTP by government level**



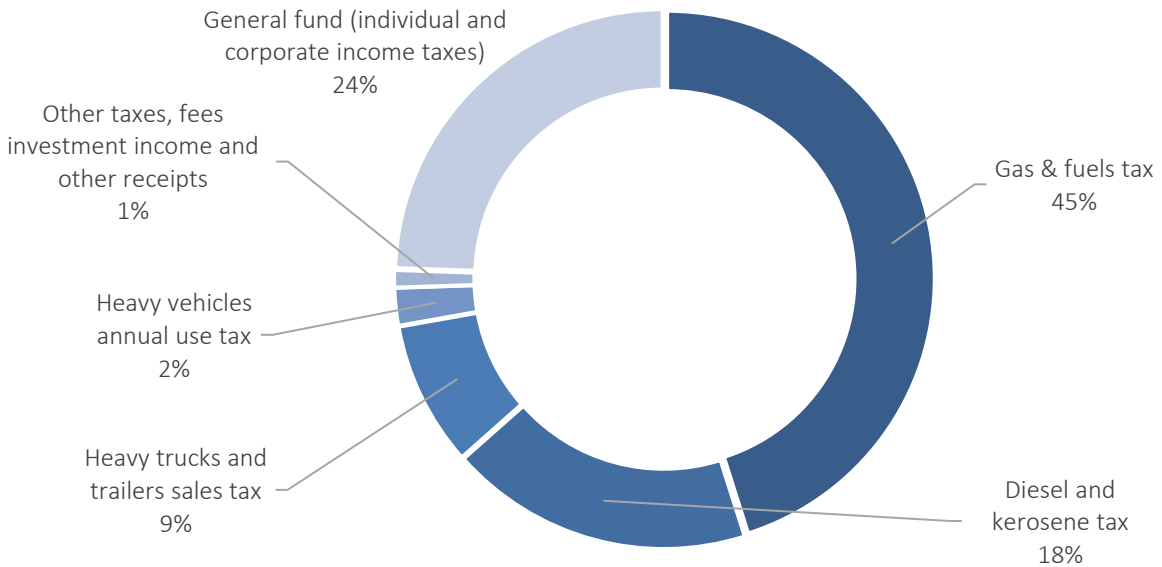
*Percentages have been rounded.*

As Figure 5.3 shows, 21 percent of the revenues in the RTP financial plan are collected at the federal level. These funds are primarily comprised of:

- Funds disbursed by the Federal Highway Administration (FHWA) Highway Trust Fund (HTF) for roadway capital and maintenance efforts.
- Funds disbursed by the Federal Transit Administration (FTA) for transit capital and maintenance efforts.
- Funds disbursed through ODOT for capital projects and improvements.
- Funds disbursed through ODOT for roadway maintenance and operations.

The Federal Highway Trust Fund (HTF) is funded primarily by the federal gas tax, a key revenue source that has seen decreasing returns in recent years. Between changing travel behaviors, inflation, and the rising demand for infrastructure, the HTF has increasingly relied on general revenue transfers to cover its deficit. A portion of this revenue goes to states specifically to maintain federal roadways—Interstates and U.S. Highways—and the remainder is further distributed to various states and localities for their local transportation needs, through formula and grant funding programs. Figure 5.4 below provides a breakdown of the revenue sources that make up the Federal Highway Trust Fund.

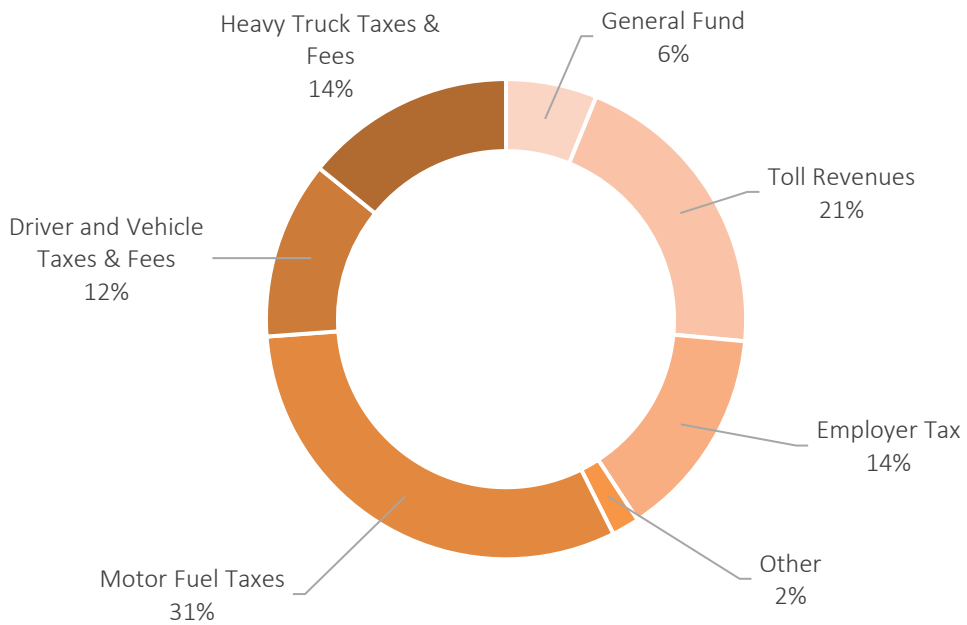
**Figure 5.4: Federal transportation revenue sources in the 2023 RTP**



*Percentages have been rounded.*

Figure 5.5 shows the breakdown of revenue sources collected at the state level.

**Figure 5.5: State transportation revenue sources in the 2023 RTP**



*Percentages have been rounded.*

State funds comprise 23 percent of the RTP financial plan. These revenues fund transit, throughway, road-related capital and maintenance projects. Approximately 21 percent of state transportation revenue is generated from toll revenues, most notably I-205 toll revenues, Interstate Bridge Replacement (IBR) toll revenues, and Regional Mobility Pricing Project (RMPP) toll revenues. Non-tolling revenue sources are part of ODOT Region 1 revenues that will fund the 2023 RTP. Tribal revenues are included in the composition of state transportation revenues shown in Figure 5.5, representing just under 0.1 percent of transportation revenues.

Regional transit sources represent about half of transportation revenues in the RTP, more than any other source. Figure 5.6 shows the composition of regional transit revenues, which are generated by TriMet and SMART. Most of these revenues (76 percent) come from TriMet via payroll taxes, while 12 percent is generated by operating revenues from TriMet transit service and 6 percent is generated from bonded grants.

**Figure 5.6: Regional transportation revenue sources in the 2023 RTP**



*Percentages have been rounded.*



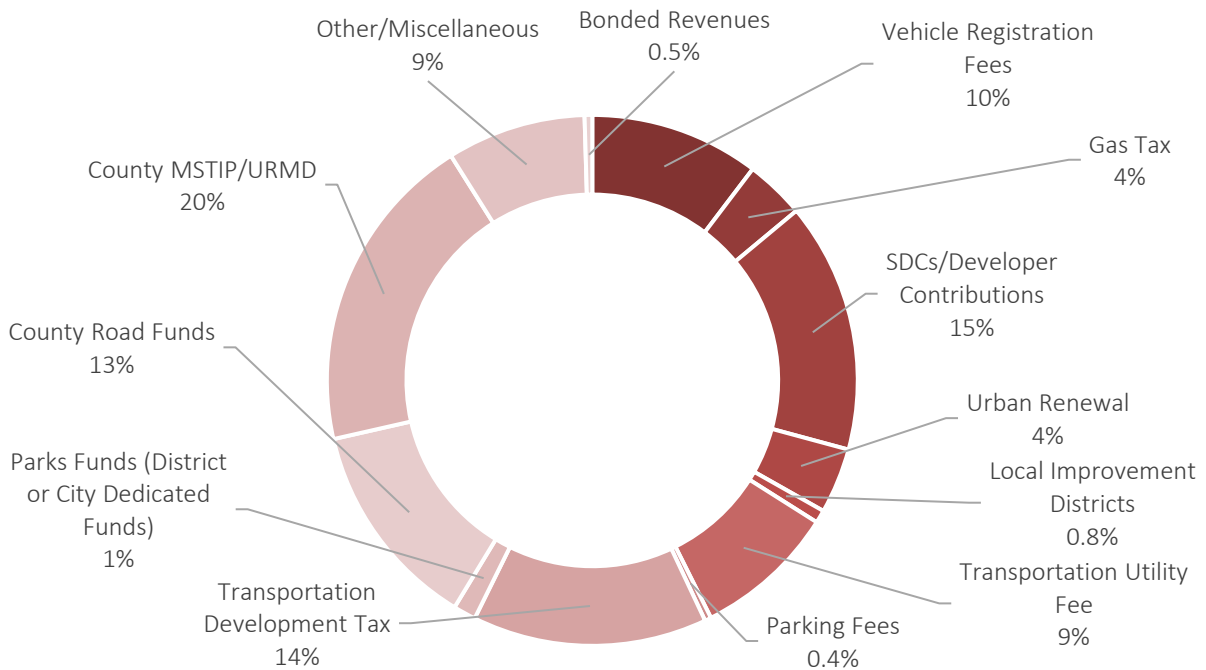
Figure 5.7 illustrates local own-source revenues, which account for 18 percent of transportation revenues in the RTP. Most local transportation revenue sources are property taxes and development and system impact fees, which combined account for 66 percent of local revenues. Other sources of revenue include parking fees and fines, local gas taxes, vehicle registration fees, bonds, and other fees and dedicated sources as well as general fund contributions. Each local jurisdiction generates different proportions of revenue from different sources.

*Defining terms*

**System Development / Impact Fees and Charges**

*One-time fees levied on new property and developments to cover the cost of new public infrastructure needed to service it.*

**Figure 5.7: Local transportation revenue sources in the 2023 RTP**



*Percentages have been rounded.*

## 5.2.2 Implications for equity

The diverse range of revenue sources collected highlights how transportation funding touches all of us, how everyone contributes in some way. However, not all revenue sources are equal, and certain populations pay greater shares of the cost than others. Moreover, our current transportation system does not always put people first, and future investments and projects must not further compromise the well-being of people traveling in the region whether as pedestrians, cyclists, drivers, or shared mobility users.

### Defining terms

#### Transportation Equity

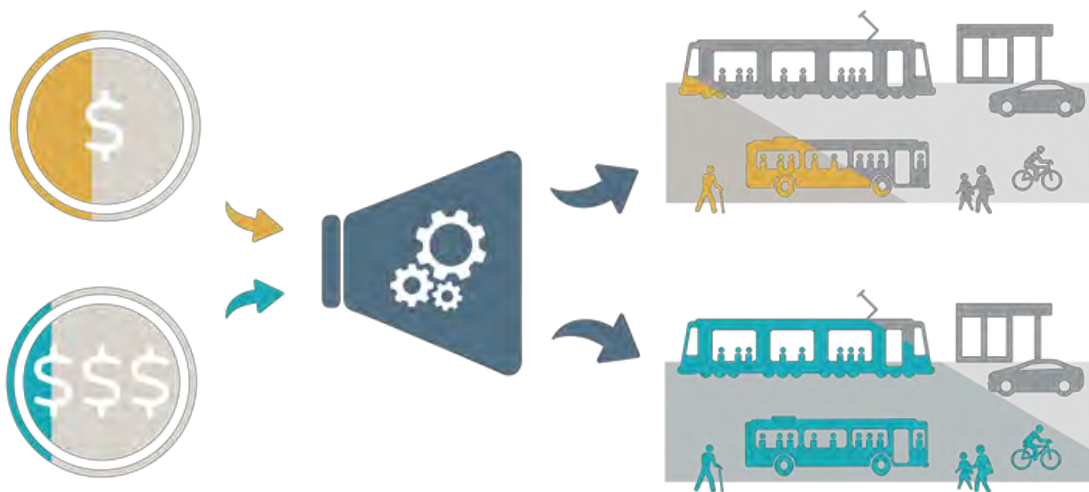
A commitment to actions that will eliminate barriers and disparities relating to transportation. It is the provision of thoughtful, inclusive support to reverse the impacts of historical planning decisions.

As such, Metro commissioned a study into the equity of our existing transportation system and funding structures. Published in 2022, the [Equitable Transportation Funding Report](#) presents a literature review of 30 existing revenue sources and illuminates how people with low-incomes and people of color often carry a disproportionate burden in funding the transportation system.<sup>19</sup>

**Figure 5.8: Transportation cost burden and benefits for different incomes**

People with **lower incomes** spend more of their income on transportation costs than people with **higher incomes**...

...but lower-income communities are **less likely** to benefit from spending on transportation projects.



Source: Metro Equitable Transportation Funding Report (2022)

<sup>19</sup> [Oregon Metro, Equitable Transportation Funding Research Report, 2022.](#)

For example, except for regional transportation revenues, the largest funding source at every level of government pertains to motor vehicle-related levies such as gas taxes and vehicle registration fees. However, fuel-efficient vehicles, electric vehicles, and telecommuting are increasingly popular alternatives for people with the financial means to access them, depreciating the efficacy of motor fuel revenues as a long-term transportation revenue source. Low-income households are less likely to have access to any of the aforementioned alternatives. Motor fuel taxes are a form of excise tax; a sales tax targeted on specific products determined by quantity purchased rather than a consumer's ability to pay.

In the case of transportation, which is relatively inelastic, access to mobility options is often needed regardless of one's income (e.g., for school, work, errands etc.). This means that low-income individuals and households inevitably spend a bigger proportion of their income on transportation. If funding for the transportation system continues to rely so heavily on motor fuel taxes to fund investments, lower-income populations will increasingly bear the burden of financing the bulk of our regional transportation system.

The example of motor fuel taxes is only one of many revenue sources that demand consideration as the region works together to achieve a more equitable, accessible, safe, and clean transportation future. Careful thought into how we collect transportation revenues, and how we ultimately spend them, has the potential to level the playing field for all members of our communities.



## 5.3 REVENUE FORECAST AND ASSUMPTIONS

*Understanding transportation funding starts with knowing where and how revenues are collected to make equitable spending decisions.*

The RTP revenue forecast reflects extensive consultation and coordination with local governments, the Port of Portland, the Oregon Department of Transportation (ODOT), TriMet, SMART and the Confederated Tribes of Grand Ronde (CTRG). Metro convened two workshops with local agency staff and provided review and support to County Coordinating Committee staff and the City of Portland to describe and forecast local agency revenues through the planning period. There were also individual meetings with ODOT, TriMet, SMART, Port of Portland and CTGR staff to support forecasts of revenues generated by those agencies and tribe and federal and state funds passed through to them. The forecast includes revenues raised at the federal, state, regional, and local levels for transportation projects and programs included or accounted for in the 2023 RTP.

Federal and state revenues were identified through a statewide funding working group convened by ODOT that included transit providers and MPOs. In addition, Metro worked with ODOT to estimate a range of potential tolling revenues that are reasonably expected to be available to fund ODOT capital projects (e.g., I-5 Interstate Bridge Replacement (IBR) Program, I-205/Abernethy Bridge and Phase 2 Widening and Toll Project, and the Regional Mobility Pricing Project on I-5 and I-205).

Forecasted local revenues are coordinated with and updated from local Transportation System Plans (TSPs) and capital improvement programs in consultation with local agencies. Some of these revenues are already committed to individual projects, in which case those projects are included in the RTP financially constrained project list.

### 5.3.1 Funding programs

The transportation revenue sources presented in the previous section (Section 5.2) go through an elaborate system of intergovernmental redistributions and suballocations before being directed for spending. This is particularly true for revenues collected at the federal and state levels, and the process is typically conducted through funding programs such as grants, funds, and funding formulae. Each level of government has the authority to budget, assign, and distribute revenues they collect to various funding programs.

There are many funding programs available to the greater Portland region; many programs are funded by specifically identified revenue sources. For example, ODOT collects revenues from the Statewide Transit Payroll Tax specifically to fund the Statewide Transportation Improvement Fund (STIF) program, which municipal and regional agencies can then submit applications for grants from.

Table 5.2, Table 5.3 and Table 5.4, respectively, each describe federal, state, and regional funding programs included in the RTP.

**Table 5.2: Federal funding programs**

Federal Funding Program	Description
Congestion Mitigation Air Quality (CMAQ) Improvement Funds	Allocated to ODOT, which portions out an annual apportionment to Metro. These funds are used for the Metropolitan Transportation Improvement Program (MTIP). CMAQ funds must be used on programs that reduce congestion and improve air quality to meet national standards for ozone, carbon monoxide, or particulate matter. Forecasts for these funds are included as part of the Statewide forecast.
Surface Transportation Block Grant Program (STBGP) <i>(includes Transportation Alternatives (TA) set-aside)</i>	STBGP funds may be used to maintain or improve the performance of any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. The STBGP supplants programs from prior authorizations, including FAST Act Transportation Alternatives and the Surface Transportation Program of MAP-21. ODOT administers this funding to Portland Metro, and to the rural portions of Clackamas, Multnomah, and Washington counties.
Highway Safety Improvement Program (HSIP)	The HSIP program is intended to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.
National Highway Freight Program	The National Highway Freight Program promotes projects that improve the efficiency of freight on the national highway freight network. These funds can also be used to fund supporting infrastructure.
National Highway Performance Program (NHPP)	The NHPP supports the construction of new facilities and improvement of existing facilities on the National Highway system to support projects that meet the goals of Oregon’s highway performance plan. NHPP funds, as of the IIJA, can also be used to provide resiliency against sea-level rise, extreme climate events, and natural disasters.
Metropolitan Planning Program	These funds support regional planning efforts in metropolitan areas. As the area MPO, Metro is the primary user of these funds, and uses it mostly for the regional unified work plan.
Carbon Reduction Program	Carbon reduction funds are used for projects that reduce transportation CO <sub>2</sub> emissions.
State Planning and Research Program	Every State DOT must develop a State Transportation Research program. Research may identify actions to improve the regional roadway system, benefitting travelers in the Metro region.
Bridge Program	Regionally, several bridges qualify for the bridge investment program. The Interstate Bridge Replacement Program has been awarded funds for the project, and Multnomah County hopes to secure funds for the Earthquake Ready Burnside Bridge replacement.

<b>Federal Funding Program</b>	<b>Description</b>
National Electric Vehicle Infrastructure (NEVI)	NEVI funds allow states to strategically deploy electric vehicle charging stations, per the IIJA. In the Metro region, I-5 is already compliant with national alternative fuel network provisions. I-205 is in the immediate statewide infrastructure plan.
Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT)	The IIJA sees the creation of a new program to increase the resilience of the Nation’s infrastructure. PROTECT funds can be used to fund planning activities, resilience improvements, community resilience, evacuation route improvements, and at-risk coastal infrastructure.
Miscellaneous Grants	Based on historical rates of winning grants from prior authorizations and if programming continues under the current Infrastructure, Investment, and Jobs Act (IIJA), this RTP assumes some level of money under miscellaneous grant programs. Examples include competitive funds under the Congestion Relief, Resilient Operations (PROTECT program), electric infrastructure, or Reconnecting Communities grant and discretionary funds.
Reduction of Truck Emissions at Port Facilities	In the greater Portland region, the public operator of seaport and airport infrastructure, as well as the public manager of port-supporting rail infrastructure, is the Port of Portland. While funds for the National Highway Freight Program can be used on any Federal-aid highway, this funding is specific to Port facilities.
Railway-Highway Crossings Program	This program funds improvements to safety at public railway-highway grade crossings, including protective devices and grade separation. These are usually coordinated between Class I railroads, the Port of Portland, Metro, and the affected local agency.
Maritime Administration (MARAD) Port Infrastructure Development Program (PIDP)	The PIDP is discretionary funding that can be used to improve port and related infrastructure to ensure that the nation’s ports can meet the nation’s freight transportation needs and can meet anticipated growth in freight volumes.
FTA Section 5303 Metropolitan and non-Metropolitan Statewide Planning Formula Funds	Like the FHWA’s Metropolitan and non-Metropolitan planning grants, these funds are allocated to ODOT, which portions out the funds statewide. Metro uses these funds for transit and regional planning purposes.
FTA Section 5307 Urbanized Area Formula Grant	Provides funding to public transit systems in Urbanized Areas (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances. As the transit agencies in the Metro region, SMART and TriMet are the users of these funds.
FTA Section 5337 State of Good Repair Grants	The State of Good Repair Grants Program (49 U.S.C. 5337) provides capital assistance for maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and bus systems to help transit agencies maintain assets in a state of good repair. Additionally, SGR grants are eligible for developing and implementing Transit Asset Management plans.



<b>Federal Funding Program</b>	<b>Description</b>
FTA Section 5339 Grants for Buses and Bus Facilities Formula Program	Provides funding to states and transit agencies through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. In addition to the formula allocation, this program includes two discretionary components: The Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.
FTA Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities	This program (49 U.S.C. 5310) provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs
Other funding	Certain projects are funded through discretionary funds, such as the FTA 5309 New Starts/Small Starts grants, or STBG Flex funds allowed under Section 5310. These funds are forecast based on historical levels.

**Table 5.3: State funding program categories**

<b>State Funding Program Category</b>	<b>Description</b>
Fix-It	ODOT allocates funding to various asset management activities for its facilities through its Fix-It allocation program. The Fix-It program includes several sub-categories such as the Bridge program, Pavement Preservation, and Operations. Revenues for the Fix-It programs include both federal and state sources.
ADA	Provides funding for the update of Americans with Disabilities Act compliance updates of curb ramps and signal push buttons.
Safety	Funding to projects that are focused on reducing fatal and serious injury crashes on Oregon’s roads.
Public and Active Transportation	Funding to be allocated to bicycle, pedestrian, public transportation and transportation options projects and programs. Includes allocations by the Great Streets program, Carbon Reduction program funds, Safe Routes to Schools program, Bicycle and Pedestrian program, and others.
Other Functions	Funding to be allocated to workforce development, planning and data collection and administrative programs using federal resources
Local Programs	ODOT allocates funds to local projects through processes such as the Immediate Opportunity Fund, Local Bridge, and Transportation Growth Management program.
Statewide Transportation Improvement Fund	The statewide transportation improvement fund (and recently incorporated Special Transportation Fund) provide state funding to local area transit service provides to support operations and small capital projects.

**Table 5.4: Regional funding programs and allocations**

<b>Regional Funding Program</b>	<b>Description</b>
Regional Flexible Fund Allocation	The Regional Flexible Fund Allocation (RFFA) process is the allocation of federal urban STBG (including TA set-aside) and CMAQ funding by Metro.
Carbon Reduction Program	Metro allocates the urban apportioned Carbon Reduction Program funding for the metropolitan planning area for projects that reduce transportation CO <sub>2</sub> emissions.
Regional Trails Bond funding	Metro Parks allocates funding for regionally significant trails projects in the region in coordination with the RFFA funding process.

Local agencies, including transit agencies, that raise their own revenues and receive pass through revenues from state or federal agencies allocate those revenues to projects and activities through their capital improvement program and annual budget processes.

### **5.3.2 Forecast methods and assumptions**

The Federal Highway Administration (FHWA) requires that the RTP use “reasonably available” funds to forecast that regional transportation improvements are prudent and reasonably financed. Reasonably available funds are forecast to the best knowledge of staff and may not be indicative of actual funding levels in a future year. Values reflect current trends and are used to forecast “likely” project timelines for the region, not, for example, commitment that a project will be built in 20 years’ time. Reasonably available revenue estimates are therefore not like budget estimates and are likely to reflect a higher value than local budget documents.

Federal regulations direct the revenue forecast to be developed cooperatively by the MPO with agencies involved in the regional planning process. This cooperative process began at the state level, led by ODOT. ODOT led development of the statewide long-range revenue forecast with the participation of the Oregon MPOs. This process documented agreed upon forecast methodologies and the federal and state transportation revenues to be expected for the state to inform the long-range planning efforts led by the MPOs. The forecast was the starting point for defining federal and state revenues expected within the greater Portland region during the planning period of FY 2024 through FY 2045. Metro staff worked with both ODOT central financial services unit and Region 1 staff to forecast how much of the statewide revenues available to ODOT would be forecast as available for ODOT projects and activities within the Metro metropolitan planning area boundary.

Metro coordinated with all cities, counties, and local parks districts that generate and expend transportation revenues to update local revenue worksheets from the previous plan. Growth rates were generally left to each local agency to determine; jurisdictions usually opted to extrapolate from historic rates of growth. Jurisdictions were allowed to

change the growth rate if future conditions were expected to change, input negative growth rates, or to terminate a revenue source if for some reason it was to sunset. Every effort has been made to separate fund sources out by type. However, some jurisdictions have more complex fund sources and agreements, and complete breakdowns by source for every agency were not compiled in time for this document. These tables were used to compile countywide summaries for each jurisdiction.

Transit agencies provided Metro similar workbooks as the local agencies. However, transit agencies receive their federal dollars primarily from the FTA instead of the FHWA. The Port of Portland also provided updated revenue information from their sources that is reflected in the forecast.

In addition, Metro consulted and coordinated with the Confederated Tribes of Grand Ronde (CTGR) to document federal pass through funding and tribal transportation revenues for inclusion in the RTP revenue forecast. Notably, this is the first time tribal revenues have been included in the RTP forecast.

Finally, all cities, counties, transportation agencies and CTGR were asked to identify funding that had been previously dedicated to specific projects through local, regional, state or federal legislative action prior to 2024 (called pre-2024 revenues). These are projects that must be included in the financially constrained project list until the projects are deemed substantially complete. This funding is reflected in the RTP financially constrained revenue forecast in this chapter and corresponding projects are reflected the RTP financially constrained project list in Appendix A.

### **5.3.3 Total forecasted revenues**

The forecasted transportation revenues are determined from the collaborative efforts of cities, counties, transit providers, states, and the federal government. A constrained revenue forecast for capital projects that meets federal requirements for demonstrating reasonable availability of expected future funding is summarized in Table 5.5. Table 5.6 summarizes the revenue forecast for preservation and maintenance activities.



**Table 5.5: RTP constrained revenue forecast for capital projects, 2023 to 2045 (YOES)**

<b>RTP constrained revenue forecast summary for 2023 to 2045 (YOES) – capital projects</b>		
	<b>Fund category</b>	<b>Millions of YOES</b>
Clackamas County and Cities	Local revenues and State pass through	\$1,190.70
	Federal, state and regional discretionary funding	\$340.65
	<b>Total</b>	<b>\$1,531.35</b>
Multnomah County and Cities, including city of Portland	Local revenues and state pass through	\$2,112.02
	Federal, state and regional discretionary funding	\$1,672.29
	<b>Total</b>	<b>\$3,784.31</b>
Washington County and Cities	Local revenues and State pass through	\$4,749.74
	Federal, state and regional discretionary funding	\$660.25
	<b>Total</b>	<b>\$5,409.99</b>
ODOT	Federal	\$2,985.20
	State <sup>20</sup>	\$1,777.30
	Tolls	\$1,100.00
	<b>Total</b>	<b>\$5,862.50</b>
I-5 Interstate Bridge Replacement Program <sup>21</sup>	Federal	\$2,501.00
	State	\$2,197.00
	Tolls	\$1,302.00
	<b>Total<sup>22</sup></b>	<b>\$6,000.00</b>
Confederated Tribes of Grand Ronde (CTGR)	Federal and tribal	\$6.76
SMART	Federal, state discretionary funding	\$51.45
TriMet	Federal, State and local	\$4,443.00
Port of Portland	Federal, State and local	\$127.86
Metro	Federal	\$386.42
<b>Sub-total revenues available for capital projects FFY 2024-2045</b>		<b>\$27,603.64</b>
<i>Additional Federal, state, and local dedicated funding available pre-FY 2024 not accounted for above (as reported by transportation agencies and CTGR)</i>		<i>\$526.81</i>
<b>Total revenues available for capital projects in the 2023 RTP</b>		<b>\$28,130.45</b>

*Costs have been rounded.*

<sup>20</sup> This total includes \$242 million in state revenues dedicated and available to the I-205 Toll Project, I-205/Abernethy Bridge, I-205 widening and Toll Project and the I-5 Rose Quarter Project before FY 2024.

<sup>21</sup> The I-5 IBR Replacement Program project is in an early stage of design. These estimates may be adjusted higher or lower depending on the outcome of NEPA and updated design.

<sup>22</sup> This total includes \$1 million in federal revenues and \$198 million state revenues that were dedicated and available to the IBR Program before FFY 2024.

Forecasted revenues shown in Table 5.5 includes \$28.13 billion for capital projects in the 2023 RTP, of which nearly \$970 million is dedicated to and available for specific capital projects before FY 2024. Dedicated funding is local, regional, state, or federal revenues that are dedicated to the project as result of local, regional, state, and/or federal legislative action. Projects or project phases that have dedicated funding must be included in the financially constrained project list, and the dedicated funds are not available for other projects.

**Table 5.6: RTP constrained revenue forecast for operations, maintenance and preservation, 2023 to 2045 (YOE\$)**

<b>RTP constrained revenue forecast summary for 2023 to 2045 (YOE\$) - operations, maintenance and preservation</b>		
	<b>Fund category</b>	<b>Millions of YOE \$</b>
Clackamas County and Cities	Local revenues and State pass through	\$1,952.49
Multnomah County and Cities, including city of Portland	Local revenues and state pass through	\$8,689.92
Washington County and Cities	Local revenues and state pass through	\$2,658.89
ODOT	Federal <sup>23</sup>	\$1,823.8
	Tolls	\$914.2
	Total	\$2,738.00
SMART	State	\$48.58
	Local	\$205.34
	Total	\$253.92
TriMet	Federal	\$3,369.28
	State	\$1,476.79
	Local <sup>24</sup>	\$21,115.45
	Total	\$25,961.52
<b>Total revenues available for operations, maintenance and preservation projects in the 2023 RTP</b>		<b>\$42,254.74</b>

*Costs have been rounded.*

More detailed information about the forecasting assumptions, sources of funding and process used to develop the financially constrained revenue forecast can be found in Appendix H.

<sup>23</sup> For simplicity, assumed federal funds used for these activities. Actual spending is likely to be a blend of federal and state revenue sources.

<sup>24</sup> This total includes \$44,345,000 in pre-2024 revenues dedicated to transit operations and maintenance.

## 5.4 TRANSPORTATION SYSTEM COSTS

*Our transportation needs are wide-ranging and extensive.*

This section summarizes the costs of the RTP Constrained list of projects and programs; this is the list of priority investments that the region can reasonably assume it can complete based on funding assumptions described in this chapter. The revenue forecast in the previous section provides an estimate of how much funding can be reasonably expected to be available during the life of this plan (2023-2045).

### 5.4.1 Types of transportation costs and investment categories

People living, working, and travelling in the greater Portland region want safe, affordable and reliable transportation—no matter where they live, where they go each day or how they get there. The RTP includes more than \$69 billion in planned transportation investments for all parts of the system accordingly as described below and shown in Figure 5.9.

The **I-5 Interstate Bridge Replacement (IBR)** Program is the only megaproject in the region. The project will replace the existing 100-year old bridge connecting Oregon and Washington State with a multimodal, seismically resilient river crossing that includes high capacity transit, auxiliary lanes, protected bikeways and tolling.

#### *Defining terms*

##### **Megaproject**

*Multimodal projects that have a total cost of over \$2 billion.*

**Road and bridge investments** include adequately maintaining the integrity and usability of the region’s many roadways and bridges, while improving their safety and resilience to earthquakes and other hazards. Roadway and bridge improvements often include complete streets designs, ADA-accessible curb ramps and other streetscape retrofits can benefit all modes of travel.

**Throughways** include the region’s interstate freeways and major state highways. Throughway projects in the RTP add or reconfigure travel lanes, including auxiliary lanes, and improve nearby surface streets, access ramps, active transportation connections and transit facilities, and project specific tolling in the I-5 and I-205 corridors.

**Transit capital and maintenance and operations investments** include maintaining and operating existing levels of service, as well as the planning, design, and construction of new transit infrastructure and services. This includes increased bus service coverage, speed and frequency, new MAX, streetcar, high capacity transit extensions and Better Bus investments that improve speed and reliability. Other examples include providing bus



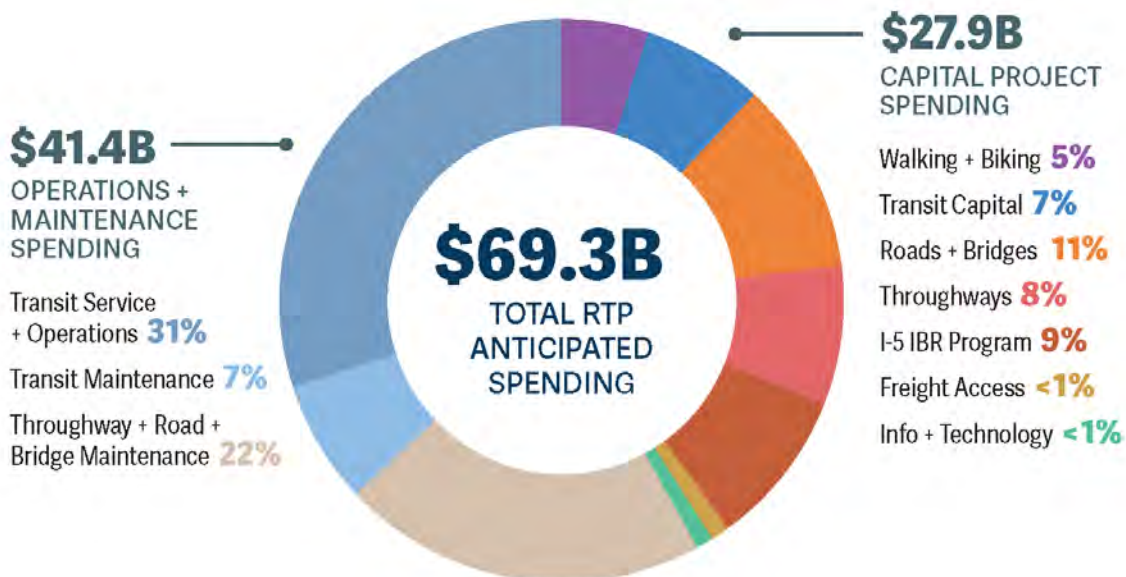
shelters and benches, passenger boarding areas, and lighting at bus stops, transit stations, new bus garages and maintenance facilities, and new and replacement transit vehicles.

**Walking and bicycling** investments fill important gaps in sidewalks, bikeways, and trails, improve crossings of major streets, install lighting and ADA-accessible curb ramps and other design features to make walking, rolling, and bicycling safe for all ages and abilities. The greater Portland region is known for its proximity to nature, and these investments will preserve and improve access to trails and parks and provide important connections to 2040 centers, transit, schools and other daily destinations.

**Freight access** projects improve access and mobility for national and international rail, air, and marine freight to reach destinations within the region’s industrial areas, as well as to the regional throughway system. This includes road and railroad crossing upgrades, port and marine and air terminal improvements and rail yard and rail track upgrades.

**Information and technology** investments improve the efficiency of the existing system and the way travel demand and transportation systems are managed. This includes providing programs and incentives to encourage walking, biking, use of transit, telecommuting and shared trips and using technology, such as transit priority at intersections and traffic signal coordination, to smooth traffic flow. Other examples include mobility wallets and Safe Routes to School programming.

**Figure 5.9: 2023 RTP total anticipated spending by investment category (YOE\$)**



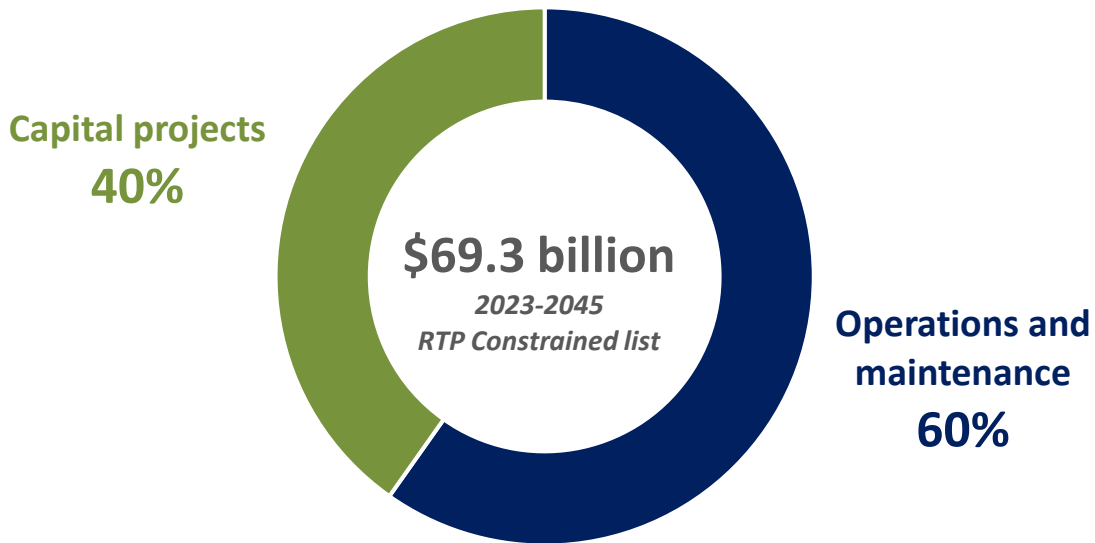
Source: 2023 RTP Constrained Project List (11/30/23). Costs and percentages have been rounded.

### 5.4.2 Adequately maintaining the transportation system

The RTP is a crucial tool to help maintain the existing transportation system; it recognizes the importance of prioritizing maintaining the system we have before building new infrastructure. Adequately operating and maintaining the transportation system means that today’s transportation system remains in a state of good repair.<sup>25</sup> Operations, maintenance and preservation (OMP) of the transportation system is the largest investment type in the RTP. The ongoing operations, upkeep, and maintenance of public transit, roadways, bridges, and throughways will total \$10.5 billion, or 55 percent of total transportation spending between 2023 and 2030. The share of spending on maintenance and operations is expected to increase to be 62 percent of total spending between 2031 and 2045 as the transportation system ages and grows. Figure 5.10 shows the estimated investments towards OMP as a proportion of total anticipated spending in the 2023 RTP.

*Defining terms*  
**State of Good Repair**  
*A capital asset in a condition sufficient to operate at a full level of performance.*

**Figure 5.10: Total anticipated capital and O&M investment spending, FY 2024 to FY 2045 (YOES)**



Source: 2023 RTP Constrained Project List (11/30/23). Costs and percentages have been rounded.

<sup>25</sup> [As defined in 49 CFR §625.5 “State of Good Repair \(SGR\)”.](#)

The greater Portland region has many operations and maintenance investment priorities across different modes and types of infrastructure. They include:

- Preserving and updating aging roads, bridges, and throughways, including on-street active transportation facilities, to a state of good repair, including pavement resurfacing, street cleaning, preventative maintenance, replacement of culverts, and joint repair and seismic retrofits for bridges.
- Preventative maintenance of transit fleets and facilities, as well as replacement of aging vehicles and infrastructure to maintain a state of good repair.
- Ongoing operation of existing and new transit services such as bus, rail, shuttles, and transit vehicle purchases for new service and the supporting facilities and technologies to operate them (automatic vehicle locators, fare payment systems, dispatch).
- Providing for the security of transportation infrastructure (crowd control, security, surveillance).
- Enhancing corridors and routes for emergency services.

The next section presents the full breakdown of RTP constrained costs by each investment category and investment time period. The investment scenarios developed for this RTP are as follows:

**Near Term Constrained Project list: 2023 – 2030**

- The *near-term constrained list* includes projects that the region can reasonably expect to build between 2023 and 2030 with the funds that are likely to be available during this time period. The highest priority projects in the region typically end up in this scenario.

**Long Term Constrained Project List: 2031 – 2045**

- The *long-term constrained list* includes projects that the region can reasonably expect to build with the funds that are likely to be available during this time period. This scenario covers twice as many years as the near-term constrained scenario, and its budget is also roughly double the size.

**Total Constrained Project List: 2023 – 2045**

The *total constrained list* includes both the near- and long-term constrained project lists, and therefore all investments that the region can reasonably expect to fund between 2023 and 2045. Being included on the constrained project list is a key step for these projects to qualify for potential state and federal funding.



Table 5.7 provides a quick reference for comparing the relative cost of the near-term constrained list and long-term constrained list. The total costs shown are based on the funding assumptions described in Sections 5.3 and 5.4 of this chapter.

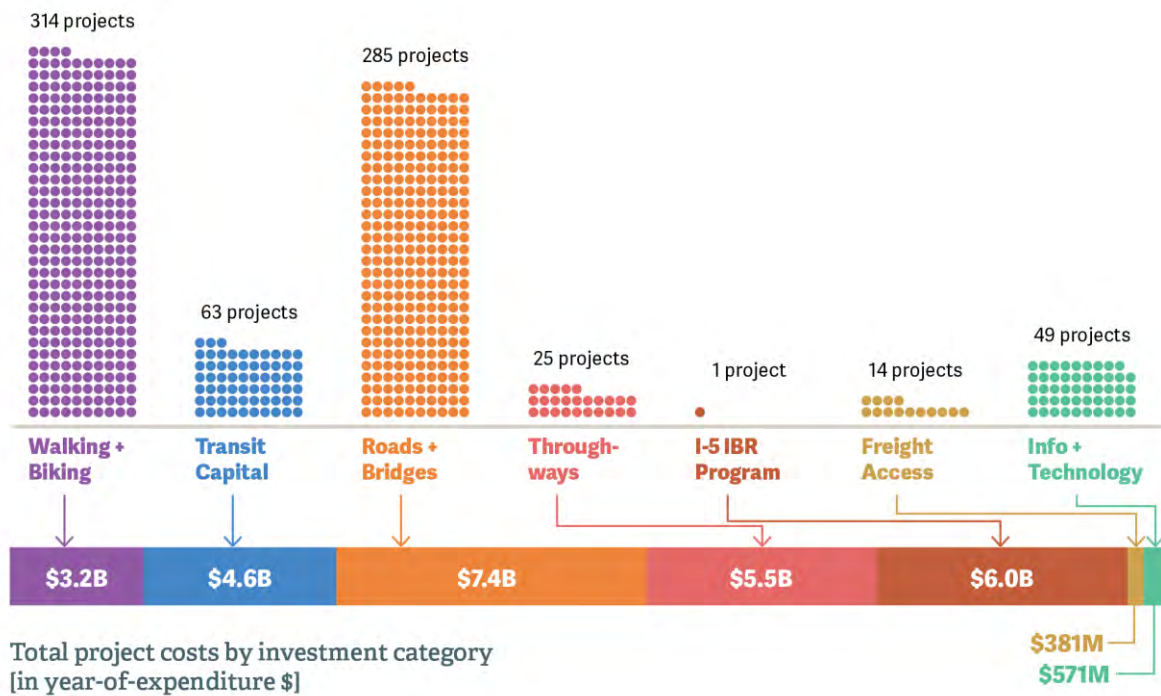
**Table 5.7: Estimated costs for RTP Constrained Project List in YOES, 2023-2045**

	RTP Constrained Project List Costs		
	Near Term 2023-2030	Long Term 2031-2045	Total 2023-2045
<b>RTP Capital Projects and Programs (YOES)</b>			
I-5 Interstate Bridge Replacement (IBR)	-	6,000,000,000	6,000,000,000
Transit Capital Investments	1,575,610,000	3,071,980,000	4,647,590,000
Throughways (incl. tolling)	2,577,711,000	2,919,300,000	5,497,011,000
Roads and Bridges	3,047,874,000	4,364,946,000	7,412,820,000
Freight Access	73,606,000	307,256,000	380,862,000
Active Transportation (walking + biking)	1,054,823,000	2,120,410,000	3,175,233,000
Information and Technology	179,750,000	391,570,000	571,320,000
Other Regional Activities	65,960,000	122,070,000	188,030,000
<b>Total estimated RTP Capital Costs (YOES)</b>	<b>8.57 billion</b>	<b>19.30 billion</b>	<b>27.87 billion</b>
<b>RTP Operations and Maintenance (O&amp;M) (YOES)</b>			
Transit Service and Operations	5,323,387,000	15,885,546,000	21,208,933,000
Transit Maintenance	1,255,980,000	3,698,200,000	4,954,180,000
Throughways, Roads, Bridges O&M	3,919,427,000	11,365,262,000	15,284,689,000
<b>Total estimated RTP O&amp;M Costs (YOES)</b>	<b>10.50 billion</b>	<b>30.95 billion</b>	<b>41.45 billion</b>
<b>Total estimated RTP Costs (YOES)</b>	<b>19.07 billion</b>	<b>50.25 billion</b>	<b>69.3 billion</b>

*Source: 2023 RTP Constrained Project List (11/30/23). Costs are in year-of-expenditure dollars and total estimated costs have been rounded.*

Figure 5.11 show RTP capital investments broken down by investment category. Roads, bridges, and walking and biking connections comprise the majority of projects in the RTP Constrained project list, though the cost of projects vary greatly, as shown in Figure 5.12.

**Figure 5.11: Cost and number of RTP constrained capital projects by investment area (YOE\$)**



Source: 2023 RTP Constrained Project List (11/30/23)

**Figure 5.12: Number and type of RTP constrained capital projects by project cost (YOE\$)**



Source: 2023 RTP Constrained Project List (11/30/23)

## 5.5 DEMONSTRATION OF FINANCIAL CONSTRAINT

*Planned transportation spending is demonstrably balanced against reasonably anticipated funding for the region.*

Metro worked with ODOT and other partners to finalize the picture of federal, state, regional and local funding that flows into the region. As illustrated in Figure 5.2, transportation revenues are a mix of federal, state, regional, and local revenues. The sum of these funds creates the revenue forecast for the 2023 RTP, which is the anticipated sum of funding forecasted to be available for operations and maintenance and funding forecasted to be available for capital projects. This informed the creation of the RTP constrained project list in Appendix A. The RTP constrained project list was constrained to the revenues forecast to be available and documented in this chapter and Appendix H.

The RTP is required under federal law to demonstrate that the projects and programs included in the plan to address transportation system needs do not cost more than reasonably expected revenues forecasted to be available to fund them. This chapter includes a federally constrained financial plan that demonstrates the projects and programs in the RTP can be implemented using committed, available, or reasonably expected to be available revenue sources, while the existing transportation system is being adequately operated and maintained.<sup>26</sup>

The following tables demonstrate fiscal constraint of the RTP project and program costs compared to the forecasted revenues available to pay for them. To demonstrate financial constraint, Table 5.8 compares the reasonably expected revenues to the estimated costs of the capital projects included in the plan (see financially constrained list of projects contained in Appendix A) and the costs of operating and maintaining the transportation system in the region.

**Table 5.8: Demonstration of financial constraint of the 2023 RTP, 2023-2045 (YOES)**

Category	Constrained revenues	Constrained costs
Capital projects	\$28,130,454,000	\$27,872,866,000
Operations and maintenance	\$42,254,743,000	\$41,447,802,000
<b>Total</b>	<b>\$70,385,197,000</b>	<b>\$69,320,668,000</b>

*The estimates are in year-of-expenditure dollars and rounded to the nearest \$1,000. Includes pre-2024 revenues.*

<sup>26</sup> [As defined in 23 CFR §450.104 "Financially constrained or Fiscal constraint".](#)



The revenue forecast demonstrates that \$28.13 billion of revenue is expected to be available for capital projects during the time period of the plan. This compares to \$27.87 billion in costs for capital projects.

Additionally, more than \$42.25 billion of revenue is expected to be available for operations and maintenance of the transportation system during the time period of the plan. This compares to an estimate of \$41.45 billion in project costs to adequately operate and maintain the region’s transportation system during that same time period.

Table 5.9 and Table 5.10 break down these total revenues and costs to road-related and transit-related revenues and costs.

**Table 5.9: Road-related revenue forecast compared to total costs, 2023 - 2045 (YOE\$)**

<b>Category</b>	<b>Constrained revenues</b>	<b>Constrained costs</b>
Capital projects	\$23,277,904,000	\$23,225,276,000
Operations and maintenance	\$16,039,300,000	\$15,284,689,000
<b>Total</b>	<b>\$39,317,204,000</b>	<b>\$38,509,965,000</b>

*The estimates are in year-of-expenditure dollars and rounded to the nearest \$1,000. Includes pre-2024 revenues.*

**Table 5.10: Transit-related revenue forecast compared to total costs, 2023 - 2045 (YOE\$)**

<b>Category</b>	<b>Constrained revenues</b>	<b>Constrained costs</b>
Capital projects	\$4,852,550,000	\$4,647,590,000
Operations and maintenance	\$26,215,443,000	\$26,163,113,000
<b>Total</b>	<b>\$31,067,993,000</b>	<b>\$30,810,703,000</b>

*The estimates are in year-of-expenditure dollars and rounded to the nearest \$1,000. Includes pre-2024 revenues.*

The total revenues available for both transit capital and transit operations and maintenance exceed expected costs for the planning period. More detailed information about the forecasting assumptions, sources of funding accounted for in the forecast and the process used to develop the financially constrained revenue forecast can be found in Appendix H. Financially constrained planned investments in the regional transportation system are summarized in more detail in Chapter 6.

## 5.6 MOVING FORWARD TOGETHER TO FUND THE TRANSPORTATION SYSTEM

*More needs to be done to secure adequate and sustainable funding to build a safe, equitable and accessible transportation system for all.*

The RTP helps make the case for more investment and funding to build, operate and maintain the regional transportation system we need now and in the future. As the previous section demonstrates, resources for the greater Portland region remain limited in completing the system needed to support the area’s growing economy, labor force and communities.



Source: JPACT and Metro Council RTP Workshop 1 (June 30, 2022)

The above illustration lays out the region’s desired outcomes from investment in the transportation system across the five RTP goal areas: equity, climate + resilience, safety, mobility, and economy.

Although there are some exceptions, many of the projects identified in the RTP are unfunded. Diminished resources mean reduced ability to improve, enhance and expand infrastructure for a safe, reliable, healthy, and equitable system. More funding will be needed to address the region’s transportation challenges and build a 21st century transportation system as envisioned in community and regional plans. This is important

in that the greater Portland region cannot continue to fund transportation in the ways that it has collected and allocated revenues in years past.

As shown in the Metro [Equitable Transportation Funding Research Report](#) (2022), transportation funding practices today disproportionately burdens and harms Black, Indigenous, and people of color (BIPOC) communities, low-income households, and people with disabilities. Transportation funding can lead to different outcomes for different communities; therefore, it is critical for regional partners to examine the varying impacts and implications of existing and future funding strategies prior to implementation.

The systems currently in place to raise revenues for transportation have been built over many decades. The *Equitable Funding Research Report* (2022) identified opportunities to restructure revenue collection for existing, emerging, and new sources to be more equitable. It also highlighted the need for new sources of revenues to fund the greater Portland region's growing needs and priorities, and to ensure spending decisions around these revenues are equitable.

Transportation funding for streets and highways has long been primarily a state and federal obligation, financed largely through gas taxes and other user fees such as a vehicle registration fee. The purchasing power of federal and state gas tax revenues is declining as individuals drive less and fuel efficiency increases. The effectiveness of this revenue source is further eroded because the gas tax is not indexed to inflation. These monies are largely dedicated to streets and highways – primarily maintenance and preservation – and, to a limited extent, building more roads. We need to complete gaps in our region's transit, walking and biking networks to help expand affordable travel options, yet active transportation currently lacks a dedicated funding source. The transit system has relied heavily on payroll taxes for operations and competitive federal funding for high capacity transit. But the region's demand for frequent and reliable transit service exceeds the capacity of local payroll tax and passenger revenues to support it.

As we make the best use of our existing resources and work collectively to acquire new resources, the region needs to work together to ensure that new resources and investments build upon our previous ones in an equitable manner. Accordingly, partners across the region should strive to align resources and leverage investments when possible to achieve the vision and goals set out in this RTP. Chapter 8 (Section 8.2.3.1) lays out important next steps for JPACT and the Metro Council to support ongoing efforts to secure adequate funding and accelerate priority regional transportation investments identified in Chapter 6. The 2025 legislative session is expected to provide an opportunity for legislative consideration of alternative revenue sources and the future of tolling in the greater Portland region.



2023 Regional Transportation Plan



# 2023 Regional Transportation Plan

## Chapter 6

### **Regional programs and projects to achieve our vision**

November 30, 2023

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## 6.1 INTRODUCTION

The programs and projects described in this chapter support the RTP vision and goals for transportation in the region and will help achieve the six desired outcomes endorsed by the Metro Policy Advisory Committee (MPAC) and approved by the Metro Council in 2008:

- Vibrant communities
- Economic prosperity
- Safe and reliable transportation
- Leadership on climate change
- Clean air and water
- Equity

Projects and programs come from adopted local, regional or state planning efforts that provided opportunities for public input. The vision and goals identified in Chapter 2 served as the foundation for updating and evaluating the plan’s project priorities.



**RTP Vision**

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

### 6.1.1 Addressing our most urgent needs through our investments

We know the transportation funding landscape is changing, and building a safe, reliable and sustainable transportation system requires directed and thoughtful, long-term investment. Within the current revenue forecast in Chapter 5, the region does not have the resources to invest at the levels needed to address all the challenges the region faces. Prioritizing where and how to invest limited transportation funding is a key part of developing and implementing this plan.

Prioritization starts with understanding the challenges we need to address. Regional trends and challenges were identified through the RTP update engagement process. The RTP investment strategy was developed to address these challenges and achieve the investment priorities discussed in the next section. See Chapter 4 for more information on each of the challenges listed below.

- Aging infrastructure
- Congestion and reliability
- Climate change and air quality
- Fatal and life-changing crashes



- Earthquake vulnerability, security and emergency management
- Gaps in transit, biking and walking connections
- Social inequity and disparities
- Housing and transportation affordability and displacement
- Technological change

### 6.1.2 Chapter organization

This chapter describes how the region plans to invest in the transportation system across all modes, with expected funding, to provide a safe, reliable, healthy and affordable transportation system with travel options.

**6.1 Introduction:** This section introduces the chapter, including challenges the region is facing that the project lists address.

**6.2 What Are the Region’s Investment Priorities?** This section describes the investment priorities identified through the update of the RTP. The projects were submitted by jurisdictional partners, transportation agencies and a federally-recognized tribe to address the identified transportation needs and communities priorities, with a focus on adequately maintaining the existing transportation system, implementing the 2040 Growth Concept and advancing the RTP goals, particularly near-term regional priorities for improving safety, advancing equity, and reducing climate pollution.

**6.3 RTP Constrained List of Projects and Programs:** This section describes the RTP constrained project list. This list reflects the priority projects and programs identified by jurisdictions and transportation agencies that fit within the constrained budget of federal, state and local funds the greater Portland region can reasonably expect through 2045, as described in Chapter 5. These projects are referred to as the constrained list or constrained project list throughout this chapter. The projects are further prioritized in terms of timing - near-term priorities (2023-2030) and long-term priorities (2031-2045).

**6.4 RTP Strategic List of Projects and Programs:** This section identifies the cost of the Strategic list of capital projects and programs. The Strategic projects are additional projects the region would pursue in the 2031-2045 time period to address the region’s transportation needs, but for which funding has not been identified. For analysis purposes, these projects are assumed to be completed in the long-term time period (2031-2045) if new funding become available. Costs for road and transit maintenance and operations investments needed to support the additional capital investments are not fully accounted for in the strategic project list costs.

## 6.2 WHAT ARE THE REGION'S INVESTMENT PRIORITIES?

The RTP is a key tool for implementing the 2040 Growth Concept and Climate Smart Strategy and helps advance the greater Portland region's shared climate, safety, equity, economy and mobility goals.

During the update of the RTP, regional investment priorities were identified to address the challenges listed in the previous section and fit within the financially constrained revenue forecast identified in Chapter 5. These regional transportation investment priorities are described below and guided the development and refinement of the 2023 RTP investment strategy. In particular, the projects and programs in the RTP investment strategy focused on advancing near-term regional priorities for improving safety, advancing equity, and reducing climate pollution.

Technological change, housing and transportation affordability and displacement, changing demographics and an aging population, and social inequities and disparities are major societal trends and shifts which impact and are impacted by investments in the regional transportation system.

Policies, projects and programs in the RTP seek to address these regional trends and challenges in ways that help achieve the region's six desired outcomes, RTP goals and make progress on near-term regional priorities for improving safety, advancing equity, and reducing climate pollution.

### 6.2.1 Implementing the 2040 Growth Concept

Implementing the 2040 Growth Concept is one of the main roles of the RTP. The RTP recognizes the importance of prioritizing transportation investments in the 2040 growth areas to support the region's economic vitality and commercial activity. These are the areas where the greatest growth is planned for and where the most trips will likely be occurring:

- Portland central city, regional centers and town centers
- Station communities
- Main streets and corridors

#### *Defining terms*

##### **Financially Constrained**

*When a transportation plan includes sufficient information to show that proposed investments can be implemented using reasonably available revenue sources.*



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

- Industrial and employment areas
- Urban growth boundary expansion areas

Transportation investments also play an important role in placemaking, which helps achieve the 2040 Growth Concept vision for a strong economy, a healthy environment and communities that serve the needs of all. Refer to Chapter 3 for more information on the 2040 Growth Concept.

### 6.2.2 Maintaining the existing transportation system

The RTP is an important tool to help maintain a state of good repair for the existing transportation system. The RTP recognizes the importance of system maintenance before building new infrastructure. Maintenance of the transportation system is the largest transportation cost and continues to grow. Maintaining and updating aging infrastructure, retrofitting to address earthquake vulnerability and be resilient to other hazards and extreme weather events, and providing for security and routes for efficient emergency services are growing concerns across the region.



### 6.2.3 Enhancing mobility options

The RTP is a key tool for enhancing the mobility options for all users across the region. Strategic investments ensure that people and businesses can reach the jobs, goods, services and opportunities they need by well-connected, low-carbon travel options that are safe, affordable, convenient, reliable, efficient, accessible, and welcoming.

### 6.2.4 Building a safe system

The RTP aims to support the Regional Transportation Safety Strategy and achieve the region’s Vision Zero target to eliminate traffic deaths and life changing injuries by 2035. The RTP prioritizes transportation investments that will move the region as quickly as possible towards Vision Zero, especially in communities of color and other marginalized communities that experience disparate impacts from traffic crashes.

### 6.2.5 Ensuring an equitable transportation system

The RTP prioritizes transportation investments that will move the region as quickly as possible towards Vision Zero, and enhance the amount of reliable, safe, and affordable transportation options for the communities who need it most. Data continues to show



that our current transportation unequally distributes disparities on Black, Indigenous and people of color and people with low incomes.

### **6.2.6 Supporting a thriving economy**

The RTP aims to ensure that people who live and work in the region have safe, reliable, and affordable transportation options to meet their daily needs. The RTP also aims to ensure that the region's centers, ports, industrial areas, and employment areas are accessible through a variety of modes so that communities and businesses can thrive and prosper economically.

### **6.2.7 Investing in climate action and system resilience**

The RTP is a key tool for implementing the region's adopted Climate Smart Strategy and achieving the region's state-mandated greenhouse gas emissions reduction targets for cars and small trucks and related per capita vehicle miles traveled. The RTP aims to make investments that ensure that people, communities and ecosystems are protected, healthier and more resilient and carbon emissions and other pollution are substantially reduced as more people travel by transit, walking and bicycling and people travel shorter distances to get where they need to go. The RTP prioritizes transportation investments that help reduce greenhouse gas emissions from cars and small trucks while making our transportation system safe, reliable, healthy and affordable.

**Figure 6.1: 2023 RTP Projects and Programs**



## 6.3 RTP PROJECTS AND PROGRAMS

Since the last update of the RTP in 2018, of the 1,123 projects listed in the RTP, 170 have been built or will be completed by 2024 – a total of nearly \$3 billion invested in the regional transportation system. These projects are shown in Figure 6.2.

The projects, described in this chapter, and provided in Appendices A and B, are priority projects from local, regional or state planning efforts that provided opportunities for public input. The Financially Constrained projects fit within the plan’s budget (described in Chapter 5) and are prioritized into a near-term (2023-2030) and a long-term (2031-2045) investment time frame. These projects are eligible for federal and some state funding. The Strategic projects described at the end of the chapter are additional projects to pursue in the 2031-2045 time period if additional funding becomes available.

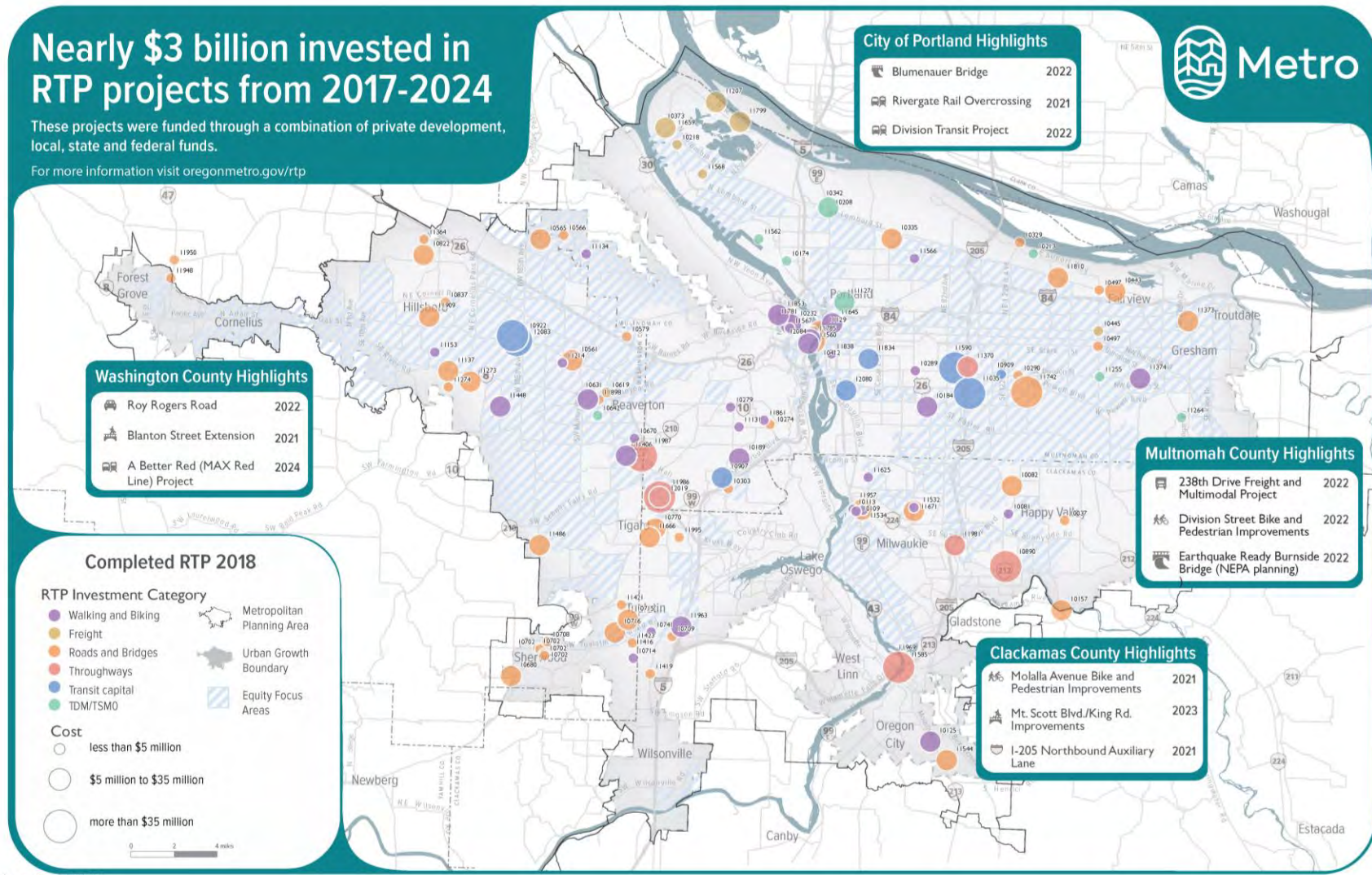
### 6.3.1 Developing the project lists

The update to the plan brings together the input of thousands of people who live, work and travel across the greater Portland region. Members of the public from across the region shared their transportation needs and priorities through a series of online surveys, forums, and events hosted by community-based organizations and Metro. Engagement activities centered historically underrepresented communities, including people of color, youth, and people who do not speak English or speak limited English. This input shaped the updated vision, goals and policies identified in Chapter 2 and Chapter 3 to serve as the foundation for updating and evaluating the plan’s project priorities. The needs and priorities are described in Chapter 4 and were also informed by community and partner input received during the update.

Metro staff also worked in cooperation with staff from cities, counties and transportation agencies to develop a forecast of revenues raised at the federal, state, regional and local levels for transportation projects and programs to be included or accounted for in the 2023 RTP. Described in Chapter 5, the revenue forecast provides an estimate of how much funding can be reasonably expected to be available during the life of the plan (for the period from FY 2024 to FY 2045) both for capital projects and for maintaining and operating the existing transportation system. Under federal and state requirements, the revenue forecast serves as a budget for the RTP financially constrained project list. This means the total cost of the RTP financially constrained project list must not exceed the revenues forecasted to be available through 2045.



**Figure 6.2: RTP Projects Completed, 2017-2024**



## Call for Projects

The RTP brings city, county, regional and state priority transportation projects together to create a coordinated regional transportation priority list for the period from 2023 to 2045. It is a key step for these projects to qualify for potential state and federal funding. In January 2023, Metro issued a call for projects and coordinated with local, regional and state partners to begin updating the region’s transportation investment priorities into three separate project lists – the 2030 Project List, the 2045 Project List and the 2045 Strategic Project List, shown in Table 6.1. Together, the 2030 and 2045 project lists comprise the “financially constrained” projects, which refers to all the projects that can be built by 2045 within the constraints of expected funding availability.

**Table 6.1: 2023 RTP Project Lists**

<b>Near-term 2030 Constrained List</b> 2023-2030	The 2030 Constrained Project List identifies the highest priority projects and programs that fit within a constrained budget of federal, state and local funds the greater Portland region can reasonably expect to fund in the near-term (2023-2030).
<b>Long-term 2045 Constrained List</b> 2031-2045	The 2045 Constrained Project List includes projects and programs that fit within a constrained budget of federal, state and local funds the greater Portland region can reasonably expect to fund in the long-term (2031-2045).
<b>Long-term 2045 Strategic List</b> 2031-2045	The 2045 Strategic Project List includes additional priority investments (not constrained to the budget based on anticipated funding) that could be built with additional resources. These projects are not anticipated to be completed unless new, as of yet to be identified funding becomes available. For analysis purposes, these projects are assumed to be implemented in the 2031 to 2045 time period.

Partners were asked to consider the RTP policy framework in Chapters 2 and 3 and update their respective project lists to fit within the financially constrained revenue forecast in Chapter 5. All projects were required to have come from local, regional or state plans or studies adopted through a public process that provided opportunities for public input.

Clackamas, Multnomah and Washington counties and the cities within each county recommended priority projects for their jurisdictions at county coordinating committees. The Oregon Department of Transportation (ODOT), the Port of Portland, TriMet, SMART and other agencies worked with county coordinating committees and the City of Portland to recommend priority projects. The City of Portland recommended projects after reviewing priorities with its community advisory committees. Metro also consulted individually with the Confederated Tribes of Grand Ronde. The consultation process resulted in the Tribe nominating a complete streets project to the constrained project list.

## **Project list analysis and initial public review**

These projects were submitted to Metro by jurisdictional partners in February 2023 for technical evaluation and public review in Spring 2023. Following the first round of technical analysis, Metro engaged the public, regional policymakers and agencies responsible for developing the project lists in review and discussion of technical evaluation described in Chapter 7 and requested public feedback on the draft list of projects.

Metro staff were intentional in developing and creating engagement strategies and tactics to reach and elevate the voices of communities that have been excluded and marginalized from transportation decisions and who have been disproportionately impacted and burdened by those decisions. In addition to engaging with local agency and jurisdictional partners, community partnerships were also built and nourished, aiming to strengthen public trust and be more inclusive of underrepresented communities, including communities of color, youth, older adults, people with disabilities, people with low incomes and people with limited English proficiency. As part of the process, Metro also partnered with seven community organizations, including:

- Centro Cultural
- Community Cycling Center
- OPAL
- Next Up
- Street Trust
- Unite Oregon
- Verde

Engagement included surveys that reached thousands of people across the region, community leaders' forums, business forums, tabling at community events in Clackamas, Multnomah and Washington Counties and in-language focus groups, among other activities. The people of the greater Portland region want safe, affordable and reliable transportation – no matter where they live, where they go each day or how they get there.



Common themes heard during the Spring 2023 engagement<sup>1</sup> and throughout the RTP update process included:

- Safety is the top concern.
- Climate action and resilience are important.
- Investing in transit service is a priority.
- Investment in safe and accessible places to walk and roll.
- Maintenance is a top community priority.
- Invest in communities.

### Project list refinement

Considering analysis findings described in Chapter 7 and subsequent public and partner input, Metro staff identified opportunities for agencies to refine their respective draft list of projects to better meet safety, equity and climate goals in the near-term. Table 6.2 summarizes the opportunities identified by Metro staff to accelerate projects that improve safety, reduce climate emissions – particularly in equity focus areas and on the regional high injury corridors identified in Chapter 3.

**Table 6.2: Opportunities for jurisdictional partners to further advance RTP goals in the near-term**

<b>1</b>	Update descriptions to specify project features that will advance RTP goals, particularly the safety, climate and equity goals.
<b>2</b>	Re-prioritize or shift project timing to accelerate projects to the near-term list that: <ul style="list-style-type: none"> <li>• invest in safety on and around transit</li> <li>• ensure all projects in high injury corridors address safety to reduce the likelihood and severity of crashes for all travelers</li> <li>• complete regional network gaps, particularly biking, walking and transit networks</li> <li>• fill gaps for biking and walking in high injury corridors or that provide connections to transit, schools, jobs and 2040 centers</li> <li>• invest in Equity Focus Areas</li> </ul>
<b>3</b>	Accelerate transit service expansion. Increase transit service as much as possible, focusing new and enhanced transit service to connect transit to underserved communities to jobs and community places, in major travel corridors and in areas with more jobs and housing.
<b>4</b>	Specify locations of bundled safety and active transportation projects on urban arterials so they can be evaluated against regional goals. This includes projects that fill gaps for biking and walking in high injury corridors or that provide connections to transit, schools, jobs and 2040 centers.

<sup>1</sup>Summary reports of all engagement activities are available at: <https://www.oregonmetro.gov/rtp>.

In Spring 2023, Metro staff presented these opportunities for consideration by cities, counties and transportation agencies. Several project list updates were submitted in May 2023 for inclusion in the public review draft plan. Additional refinements were identified by partners and regional advisory committees as part of finalizing the plan for adoption by JPACT and the Metro Council in Fall 2023 after further consideration of public feedback in Spring 2023 and during the final public comment period in Fall 2023.

See Appendix D for more information about the engagement and consultation process that informed development and refinement of the project lists adopted in the RTP. See Appendix Z for more information about the project list changes approved by JPACT and the Metro Council as part of the final RTP adoption.

### **6.3.2 RTP Constrained projects and programs**

This section describes the RTP financially constrained list of projects and programs – the list of priority investments that the region can reasonably assume can be implemented with the revenues forecasted to be available during the plan period. Chapter 5 provides information about the revenue forecast for this RTP.

Figure 6.3 shows the general location of capital projects on the RTP constrained list of projects. The RTP Constrained project list can be found in Appendix A.

To access an interactive online map of the projects, visit [www.oregonmetro.gov/rtp](http://www.oregonmetro.gov/rtp) or click on the QR code in Figure 6.3 with a mobile device or pointer.

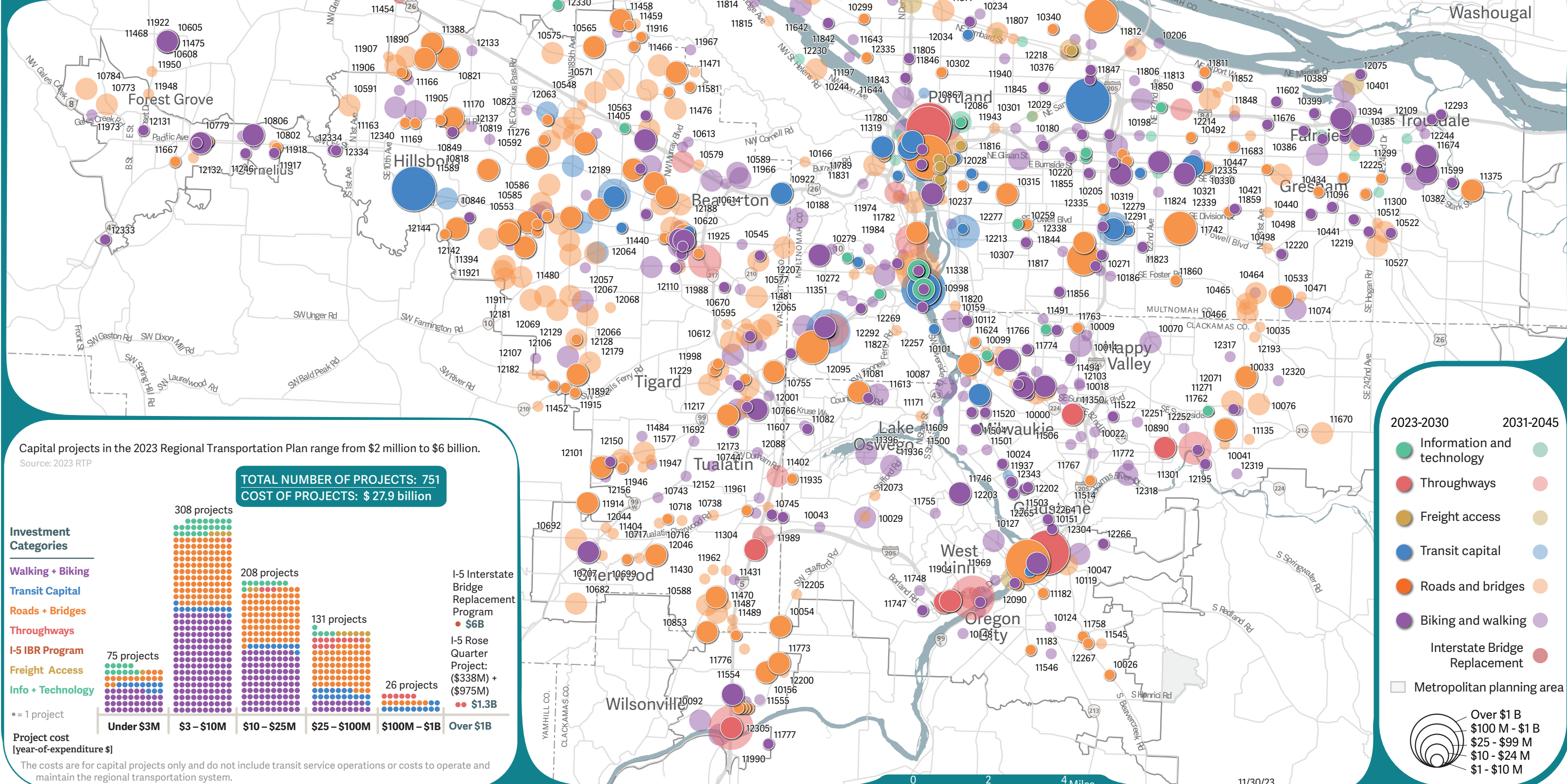
# Figure 6.3: Map of RTP Financially Constrained Projects, 2023-2045

## 2023 Regional Transportation Plan

### Financially constrained projects, 2023-2045

Recommended by transportation agencies, the financially constrained projects are the highest priority projects given limited transportation funding and qualify for regional, state and federal funding. This list of projects includes projects with dedicated funding and projects that can be implemented with the funds the region currently expects to have available through 2045.

These projects have been prioritized and classified into two investment time frames: 2023-2030 and 2031-2045 and are shown on this map with their unique RTP ID number. To access an interactive online map 'click' on the QR code with a mobile device or pointer.



Capital projects in the 2023 Regional Transportation Plan range from \$2 million to \$6 billion.  
Source: 2023 RTP

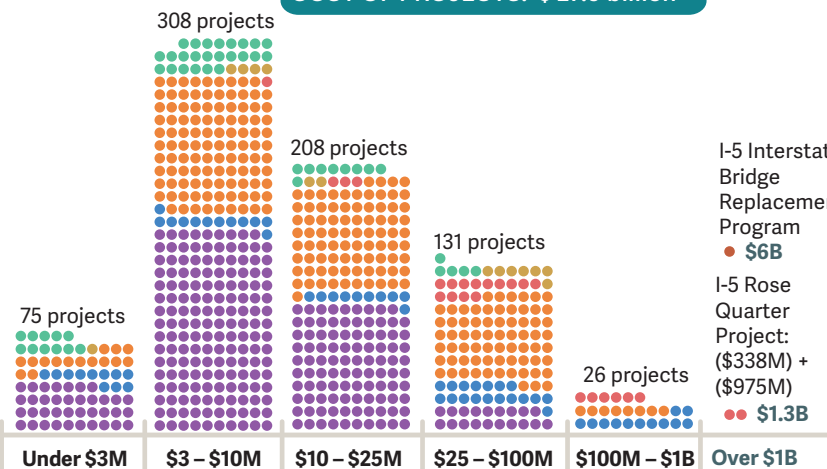
**TOTAL NUMBER OF PROJECTS: 751**  
**COST OF PROJECTS: \$ 27.9 billion**

#### Investment Categories

- Walking + Biking
- Transit Capital
- Roads + Bridges
- Throughways
- I-5 IBR Program
- Freight Access
- Info + Technology

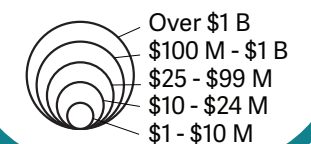
• = 1 project

Project cost [year-of-expenditure \$]



- I-5 Interstate Bridge Replacement Program • \$6B
- I-5 Rose Quarter Project: (\$338M) + (\$975M) • \$1.3B

- 2023-2030
- 2031-2045
- Information and technology
- Throughways
- Freight access
- Transit capital
- Roads and bridges
- Biking and walking
- Interstate Bridge Replacement
- Metropolitan planning area



The costs are for capital projects only and do not include transit service operations or costs to operate and maintain the regional transportation system.



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Table 6.3 shows the breakdown of RTP projects in the constrained list by investment category and provides a quick reference for comparing the relative cost of the near-term and long-term financially constrained project lists. The total constrained list cost shown in Table 6.3 includes both the near-term and long-term RTP constrained list project costs.

**Table 6.3: Estimated costs for Constrained RTP Project List**

	RTP Constrained Project List Costs		
	Near Term 2023-2030	Long Term 2031-2045	Total 2023-2045
<b>RTP Capital Projects and Programs (YOES)</b>			
I-5 Interstate Bridge Replacement (IBR) Program	--	6.0 billion	6.0 billion
Transit capital	1.58 billion	3.07 billion	4.65 billion
Throughways capital (includes tolling)	2.58 billion	2.92 billion	5.50 billion
Roads and bridges capital	3.05 billion	4.37 billion	7.41 billion
Freight access	74 million	307 million	381 million
Walking and biking	1.05 billion	2.12 billion	3.18 billion
Information and technology	180 million	392million	571 million
Other Regional Activities	66 million	122 million	188 million
<b>Total estimated RTP Capital Costs (YOES)</b>	<b>8.57 billion</b>	<b>19.30 billion</b>	<b>27.87 billion</b>
<b>RTP Operations and Maintenance (O&amp;M) (YOES)</b>			
Transit service and operations	5.32 billion	15.89 billion	21.21 billion
Transit maintenance	1.26 billion	3.70 billion	4.95 billion
Roads and throughways operations and maintenance	3.92 billion	11.37 billion	15.28 billion
<b>Total estimated RTP O&amp;M Costs (YOES)</b>	<b>10.50 billion</b>	<b>30.95 billion</b>	<b>41.45 billion</b>
<b>Total estimated RTP Costs (YOES)</b>	<b>19.07 billion</b>	<b>50.25 billion</b>	<b>69.3 billion</b>

Source: 2023 RTP Constrained Project List (11/30/23). Costs are in year-of-expenditure dollars and total estimated costs have been rounded.

**Why the constrained project list matters**

To be eligible for federal or state transportation funding, a project must be included on the RTP Constrained project list. Projects in the plan must also be part of the planned regional transportation system defined in Chapter 3.

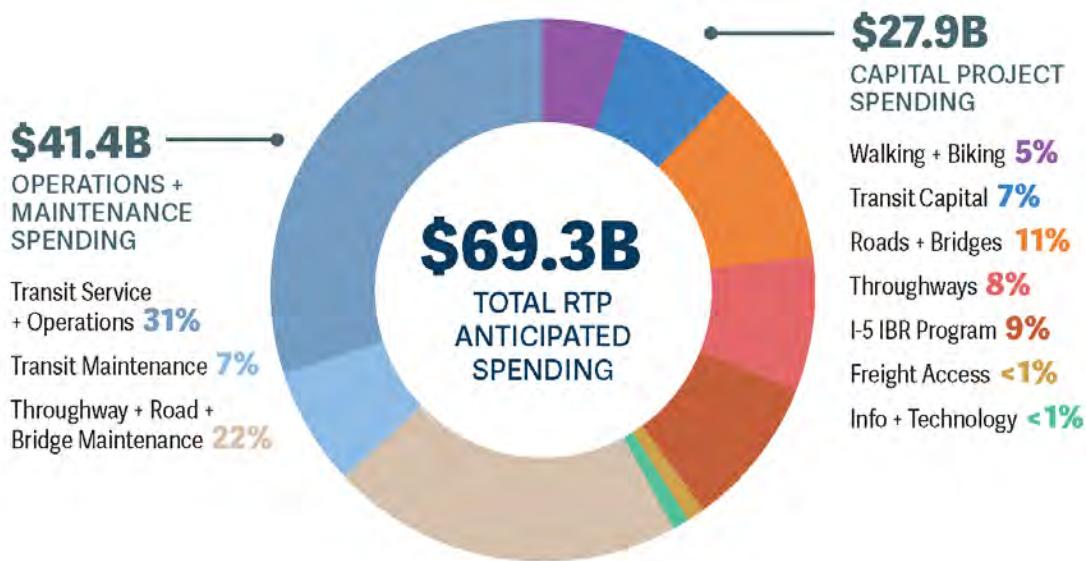
Federal and state regulations require long-range transportation plans, like the RTP, to be financially constrained. The RTP demonstrates fiscal constraint by including sufficient financial information to confirm that projects in the plan can be implemented using committed or available revenue sources, with reasonable assurance that the federally supported transportation system is being adequately operated and maintained.

The region’s operations and maintenance commitments are significant and consume most federal, state, and local revenues forecasted to be available to the greater Portland region

through 2045 – an estimated \$41.4 billion. The RTP Constrained list of capital projects represents another \$27.9 billion in capital investment in the region’s transportation system. A well-maintained, complete and efficient transportation system must meet multiple needs and offer options for people, goods and services to get around.

Figure 6.4 shows the total estimated cost of the RTP Constrained list of capital projects and estimated cost to adequately operate and maintain the transportation system by investment category for the plan period.

**Figure 6.4: Total estimated investment by 2045 (YOE\$)**



Source: 2023 RTP Financially Constrained Project List (November 30, 2023). Costs are in year-of-expenditure dollars and have been rounded.

Notes for Figure 6.4

1. Year of Expenditure \$ represent current year costs inflated to a projected cost for the year of expenditure.
2. Totals and percentages may not add up due to rounding.
3. Road and bridge projects include street reconstructions, new street connections and widening, and throughway overcrossings with designs that support walking and biking to provide mobility and access for all modes of travel.
4. Freight access projects improve access and mobility for national and international rail, air and marine freight to reach destinations within the region’s industrial areas and to the regional throughway system.
5. The I-5 Interstate Bridge Replacement (IBR) Program is reported separately due to the overall cost and mix of investments that would be constructed as part of the project. The project would replace I-5/Columbia River bridges, add auxiliary lanes and improve interchanges on I-5, extend light rail transit from Expo Center to Vancouver, WA, add walking and biking facilities and implement variable rate tolling.



Road and bridge projects often include “complete street” reconstructions, arterial street connectivity and widening, and highway overcrossings with designs that complete gaps in walking and biking connections to provide mobility and access for all modes of travel. A significant number of the projects include constructing curb ramps that meet the American with Disabilities Act (ADA) standards.

Some projects are also focused on improving access and mobility for national and international rail, air and marine freight to reach destinations within the region’s industrial areas and to the regional throughway system. These projects are categorized as freight access investments. Strategic throughway capacity was added to maintain statewide mobility and access to industrial areas and intermodal facilities.

Transit capital projects include high-capacity transit extensions and implementing regional, corridor or spot-specific projects to improve speed and reliability of bus and streetcar service. Walking and biking projects fill important gaps in sidewalks, bikeways and trails to make biking and walking safe, convenient and accessible for all ages and abilities. These projects often include constructing curb ramps and marked street crossings that meet ADA standards. Technology continues to play a critical role in transportation system improvements. More projects are focused entirely around implementing new technology or maximizing existing technology to improve system efficiency in the region’s major travel corridors.

The figures that follow show the breakdown of capital projects by cost and number for each investment category, for the region, for the City of Portland, for each of the three counties and cities within each county, transportation agencies and the Confederated Tribes of Grand Ronde. A series of maps that show the location of all RTP financially constrained capital projects is also provided for the City of Portland and each county.

## Greater Portland region

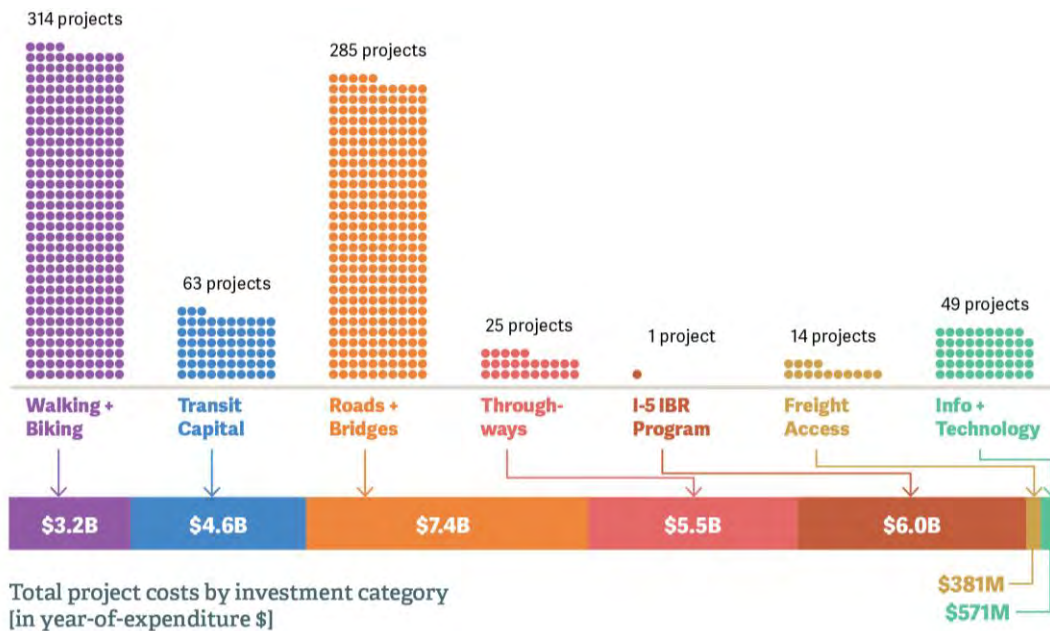
Figure 6.5 and Figure 6.6 show RTP investments broken down by investment category. Roads, bridges, and walking and biking connections comprise most projects in the Constrained RTP project list, though the cost of projects vary greatly.

**Figure 6.5: Greater Portland region: Cost range of RTP constrained list projects by investment category, 2023-2045**



Costs are in year of expenditure dollars and have been rounded. Road and transit operations and maintenance costs are not included in the information presented here.


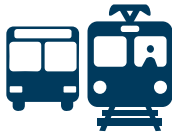
**Figure 6.6: Greater Portland region: Cost and number of RTP constrained list projects by investment category, 2023-2045**




Costs are in year of expenditure dollars and have been rounded to the nearest hundred million. Road and transit operations and maintenance costs are not included in the information presented here.

Table 6.4 identifies the major throughway and transit projects in the RTP with their corresponding unique RTP ID number in italics.

**Table 6.4: Summary of major planned throughway and transit investments**

	2030 Constrained	2045 Constrained <i>(2030 Constrained, plus)</i>	2045 Strategic <i>(2045 Constrained, plus)</i>
<p><b>Throughway</b></p> 	<ul style="list-style-type: none"> <li>• I-5 IBR, pre-construction tolling (<i>10866</i>)</li> <li>• I-5/Rose Quarter Improvement Project (<i>10867, 11176</i>)</li> <li>• I-205/Abernethy Bridge (<i>11969, under construction</i>)</li> <li>• I-205 Toll Project (<i>12099, 12326</i>)</li> <li>• I-5 and I-205: Regional Mobility Pricing Project (<i>12304</i>)</li> <li>• OR 212/224 Sunrise Project Ph. 2 (PE, RW) (<i>10890</i>)</li> <li>• OR 224 WB widening (<i>11350</i>)</li> <li>• I-5 Boone Bridge and Seismic Improvement Project (PE, RW) (<i>12305</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• I-5/Interstate Bridge Replacement Program (<i>10866</i>)</li> <li>• I-205 widening and Tualatin River Bridge Toll Project (<i>11586, 11904</i>)</li> <li>• OR 212/224 Sunrise Project Ph. 2 (CON) (<i>11301</i>)</li> <li>• I-5 Boone Bridge and Seismic Improvement Project (CON) (<i>11990</i>)</li> <li>• I-5 NB braided ramps (<i>11989</i>)</li> <li>• I-5 NB auxiliary lane extension Ph. 2 (<i>11402</i>)</li> <li>• I-5 SB truck climbing lane (<i>11984</i>)</li> <li>• OR 217 SB braided ramps (<i>11988</i>)</li> <li>• US 26/185th Avenue on-ramp widening (<i>12148</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Sunrise Project Ph. 3 (<i>12020</i>)</li> <li>• I-5 NB auxiliary lane extension Ph. 3 (<i>11583</i>)</li> <li>• I-5/OR 217 Interchange Ph. 2 (<i>11302</i>)</li> <li>• OR 217 capacity improvements (<i>11582</i>)</li> <li>• OR 217 NB auxiliary lane extension (<i>11976</i>)</li> <li>• US 26 widening (<i>11393</i>)</li> </ul>
<p><b>High Capacity Transit</b></p> 	<ul style="list-style-type: none"> <li>• MAX Red Line Improvements (<i>10922, under construction</i>)</li> <li>• Southwest Corridor (PD) (<i>12322, 12301</i>)</li> <li>• 82nd Avenue Transit Project (<i>12029</i>)</li> <li>• Tualatin Valley Highway Transit Project <i>11589</i>)</li> <li>• Montgomery Park Streetcar (<i>11319</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• I-5/Interstate Bridge Replacement Program (<i>10866</i>)</li> <li>• Southwest Corridor (PD, PE, RW) (<i>12292, 12300</i>)</li> <li>• Steel Bridge Transit Bottleneck (PD) and Interim Capital Improvements (<i>12050</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Southwest Corridor (CON) (<i>11587</i>)</li> <li>• Steel Bridge Transit Bottleneck (CON) (<i>10921</i>)</li> <li>• Beaverton-Hillsdale Highway Corridor HCT (<i>12290</i>)</li> <li>• Burnside/Stark Corridor HCT (<i>12286</i>)</li> <li>• Lombard/Cesar Chavez Corridor HCT (<i>12288</i>)</li> <li>• Martin Luther King Jr. Corridor HCT (<i>12287</i>)</li> <li>• SW 185th Corridor HCT (<i>12289</i>)</li> <li>• Sunset Highway Corridor HCT (<i>11912</i>)</li> <li>• Forest Grove HCT (<i>10771</i>)</li> <li>• AmberGlen/N. Hillsboro Streetcar (<i>11278, 11573</i>)</li> <li>• Johns Landing Streetcar (<i>11639</i>)</li> </ul>



	2030 Constrained	2045 Constrained (2030 Constrained, plus)	2045 Strategic (2045 Constrained, plus)
			<ul style="list-style-type: none"> <li>WES expansion to Salem (11751)</li> </ul>
<p><b>Better Bus</b></p> 	<ul style="list-style-type: none"> <li>East Burnside/SE Stark Enhanced Transit Project (12030)</li> <li>Lombard/Cesar Chavez Enhanced Transit Project (12034)</li> <li>NE MLK Jr Blvd Enhanced Transit Project (12027)</li> <li>NE Sandy Blvd Enhanced Transit Project (12028)</li> <li>SE Belmont Enhanced Transit Project (12033)</li> <li>SE Hawthorne/Foster Ave Enhanced Transit Project (11834)</li> <li>Portland Central City Portals Enhanced Transit (11761)</li> <li>SE Powell Blvd Enhanced Transit Project (12035)</li> <li>SW Beaverton-Hillsdale Hwy Enhanced Transit Project (12032)</li> <li>122nd Avenue Corridor Transit Improvements (11868)</li> <li>Additional transit supportive projects region-wide (including 10779 and 11440)</li> </ul>	<ul style="list-style-type: none"> <li>Cornell/Barnes/ Line 48 Enhanced Transit Project (12063)</li> <li>185th and Farmington/Line 52 Enhanced Transit Project (12064)</li> <li>Inner North Portland (Vancouver/Williams/ Mississippi/Albina) Enhanced Transit Project (11833)</li> <li>ETC/Rose Lanes Transit Improvement Fund (12232)</li> <li>Additional transit supportive projects region-wide (including 11441, 10805 and 10846)</li> </ul>	<ul style="list-style-type: none"> <li>99W Enhanced Transit Project (12176)</li> <li>Additional transit supportive projects region-wide</li> </ul>

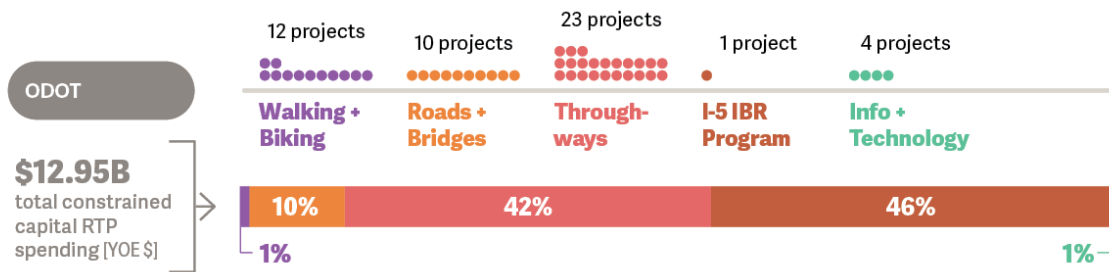
Note: Projects shown in *blue text* have completed NEPA work (or NEPA work is underway). RTP IDs are shown in italics. See Appendix W for a summary of current major project development activities in the region.

## ODOT Capital Projects

Figure 6.7 shows the cost of RTP capital investments submitted by ODOT broken down by investment category. While ODOT's constrained list includes mostly roadway projects, these are often multi-modal in nature and incorporate active transportation features that are part of a complete multi-modal roadway system. In addition, over \$1.2 billion of ODOT's investments are in non-capacity safety and operations projects, many of which will provide active transportation improvements in priority locations: the 24-27 STIP includes \$165 million in ADA ramps and another \$24 million in active transportation specific projects within Region 1, plus additional active transportation investments on many other projects. Much of ODOT's \$12.61 billion constrained project list is comprised of the I-5 IBR Program, which includes an approximately \$2 billion investment in light rail

high-capacity transit element, express bus, and bike and pedestrian access improvements. See Section 6.3.14 for more information on region-wide road operations, maintenance and preservation cost. See Section 6.3.14 for more information on region-wide road operations, maintenance and preservation costs.

**Figure 6.7: ODOT: Cost and number of RTP constrained list capital projects by investment category, 2023-2045**

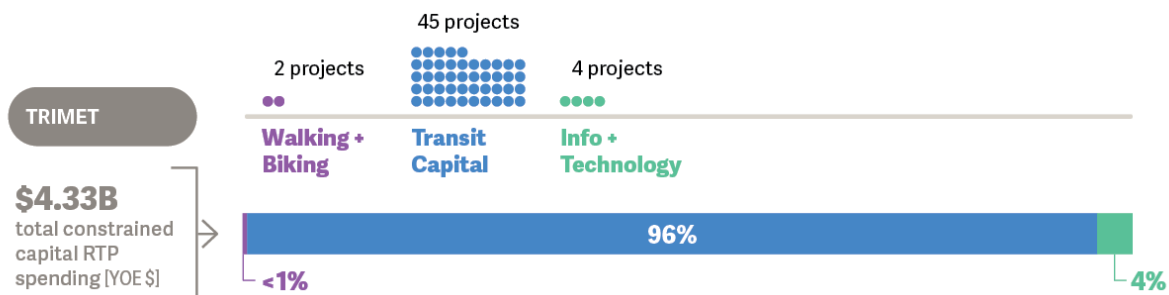


Source: 2023 RTP Financially Constrained Project List (November 30, 2023). Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by ODOT. Operations and maintenance costs are not included. Funding for the IBR program includes \$1 billion from the State of Oregon with the balance from multiple other sources. Approximately \$2 billion of the IBR program cost is allocated to transit, bicycle, and pedestrian improvement.

### TriMet Capital Projects

Figure 6.8 shows the cost of RTP transit capital investments submitted by TriMet broken down by investment category. TriMet transit capital projects comprise the majority of transit capital project costs in the RTP constrained project list. See Section 6.3.13 for more information on region-wide transit operations and maintenance costs, which represents the majority of TriMet’s expenditures in the RTP.

**Figure 6.8: TriMet: Cost and number of RTP constrained list capital projects by investment category, 2023-2045**

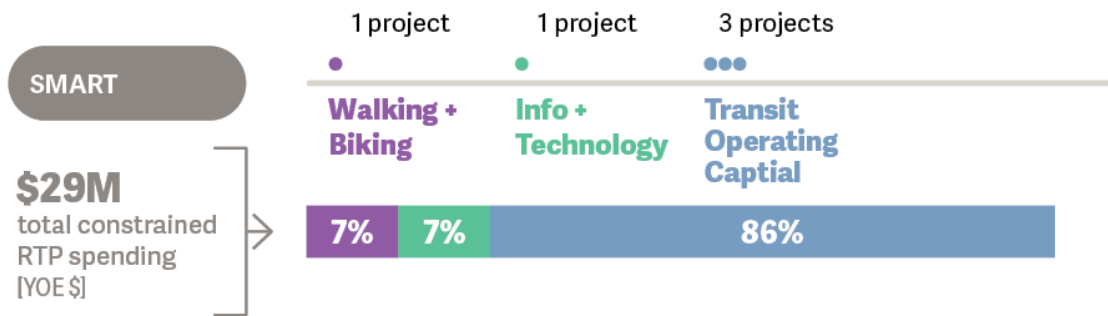


Source: 2023 RTP Financially Constrained Project List (November 30, 2023). Costs are in year-of-expenditure dollars and have been rounded. Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by TriMet. Transit capital projects submitted by cities and counties and transit operations and maintenance costs are not included.

## SMART Capital Projects

Figure 6.9 shows the cost of RTP investments submitted by SMART broken down by investment category. SMART transit service and operations comprise the majority of SMART’s projects in the RTP constrained project list. See Section 6.3.13 for more information on region-wide transit operations and maintenance costs.

**Figure 6.9: SMART: Cost and number of RTP constrained list capital projects by investment category, 2023-2045**

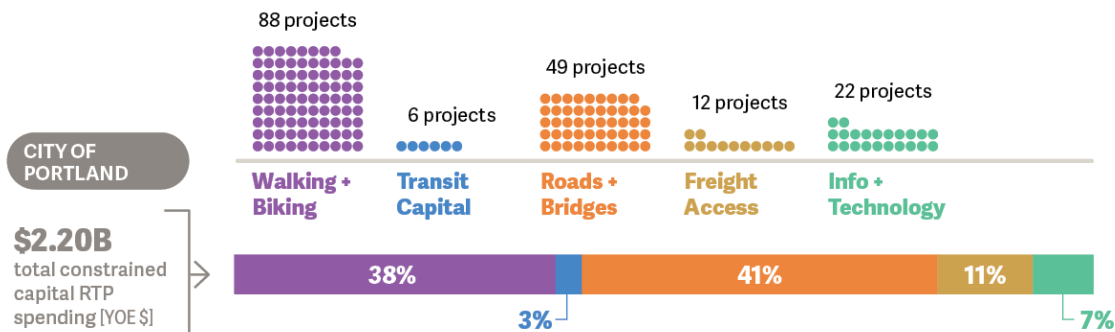


Source: 2023 RTP Financially Constrained Project List (November 30, 2023). Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by SMART. Transit operations and maintenance costs are not included.

## City of Portland and Port of Portland Capital Projects

Figure 6.10 shows the cost and number of RTP investments submitted by the City of Portland and Port of Portland broken down by investment category. Roads, bridges, and walking and biking connections comprise the majority of projects in the Constrained RTP project list.

**Figure 6.10: City of Portland and Port of Portland: Cost of RTP constrained list capital projects by investment category, 2023-2045**



Source: 2023 RTP Financially Constrained Project List (November 30, 2023). Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by the City of Portland and the Port of Portland. Capital projects submitted by ODOT, TriMet and SMART as well as road and transit operations and maintenance costs are not included.

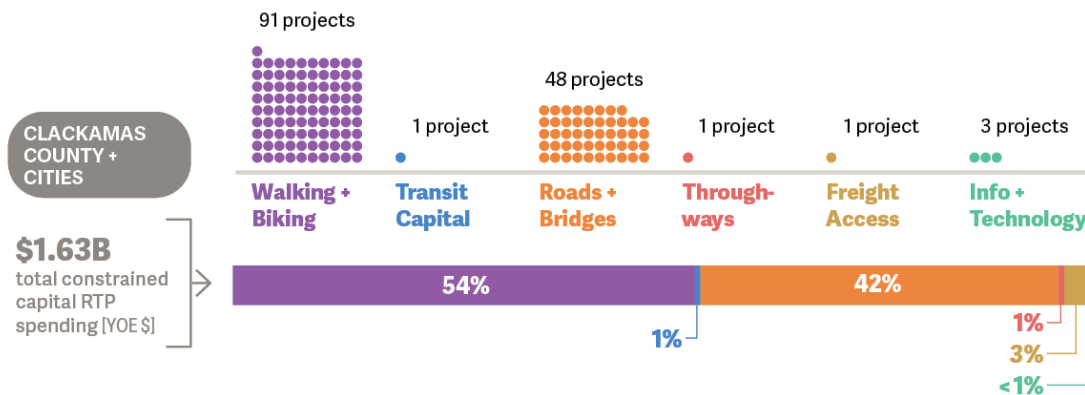


Figure 6.14 shows all capital projects that fall within Multnomah County, including the City of Portland, with their unique RTP ID number. The map includes projects submitted by other jurisdictions and agencies. To access an interactive online map of the projects, visit [www.oregonmetro.gov/rtp](http://www.oregonmetro.gov/rtp) or click on the QR code with a mobile device or pointer.

### Urban Clackamas County and Cities of Clackamas County Capital Projects

Figure 6.11 shows the cost and number of RTP investments submitted by Clackamas County and its cities broken down by investment category. Roads, bridges, and walking and biking connections comprise the majority of projects in the Constrained RTP project list.

**Figure 6.11: Clackamas County and Cities: Cost of RTP constrained list capital projects by investment category, 2023-2045**

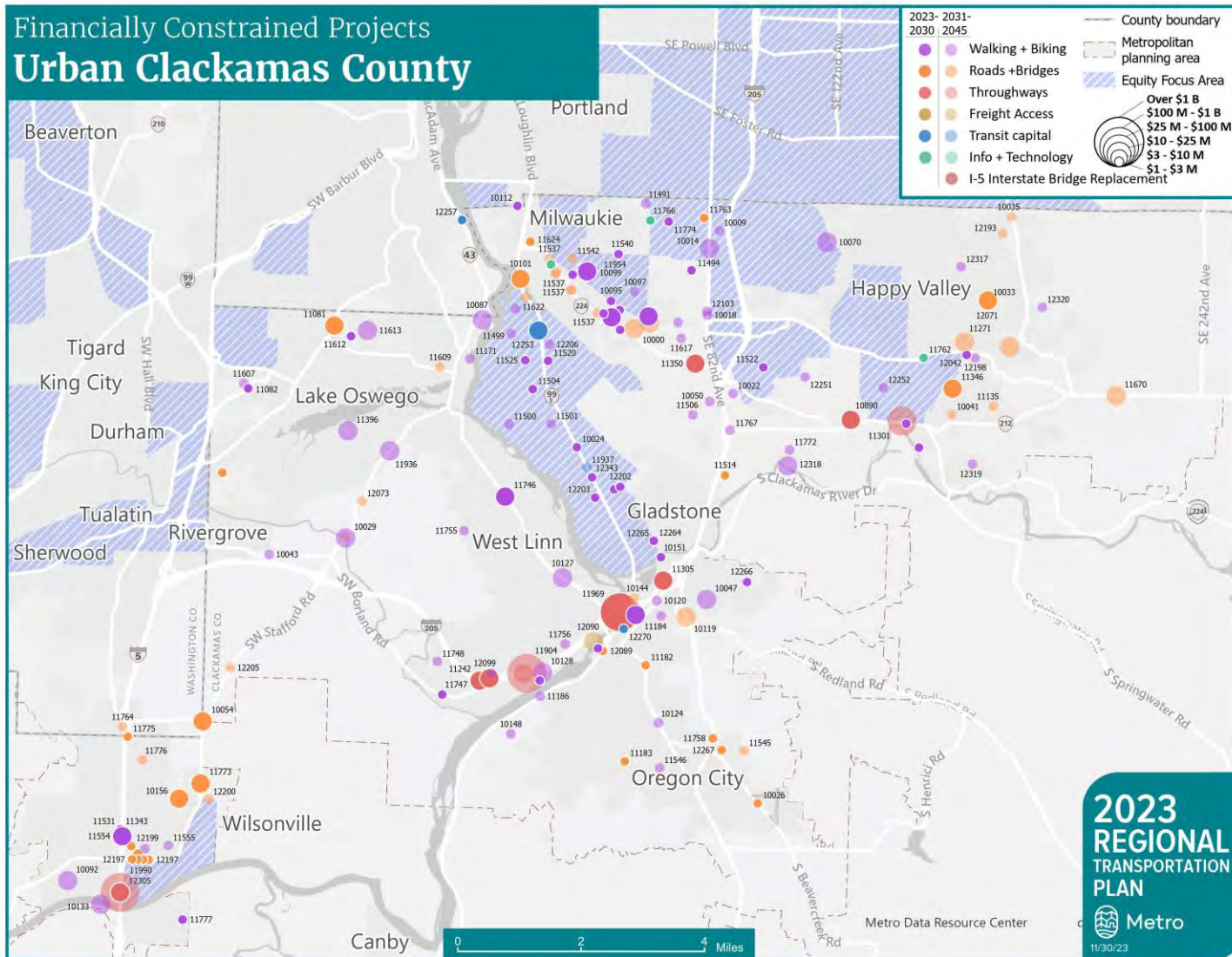


*Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by Clackamas County and cities in Clackamas County. Capital projects submitted by ODOT, TriMet and SMART as well as road and transit operations and maintenance costs are not included.*

Figure 6.12 shows the general location of all RTP constrained projects located in Clackamas County with their unique RTP ID number. The map includes all capital projects submitted, including projects submitted by other jurisdictions and agencies.

To access an interactive online map of the projects, visit [www.oregonmetro.gov/rtp](http://www.oregonmetro.gov/rtp) or click on the QR code with a mobile device or pointer.

Figure 6.12: Map of RTP Constrained List Capital Projects in Urban Clackamas County, 2023-2045

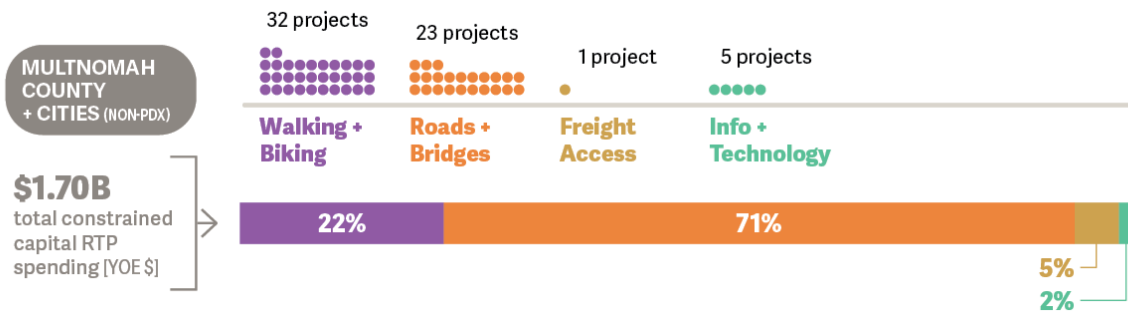


To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

## Multnomah County and Cities in East Multnomah County Capital Projects

Figure 6.13 shows the cost and number of RTP investments submitted by Multnomah County and cities within Multnomah County (except Portland) broken down by investment category. Roads and bridges projects comprise a majority of costs due in large part to the capital costs associated with County’s six Willamette River bridges.

**Figure 6.13: East Multnomah County and Cities: Cost of RTP constrained list capital projects by investment category, 2023-2045**



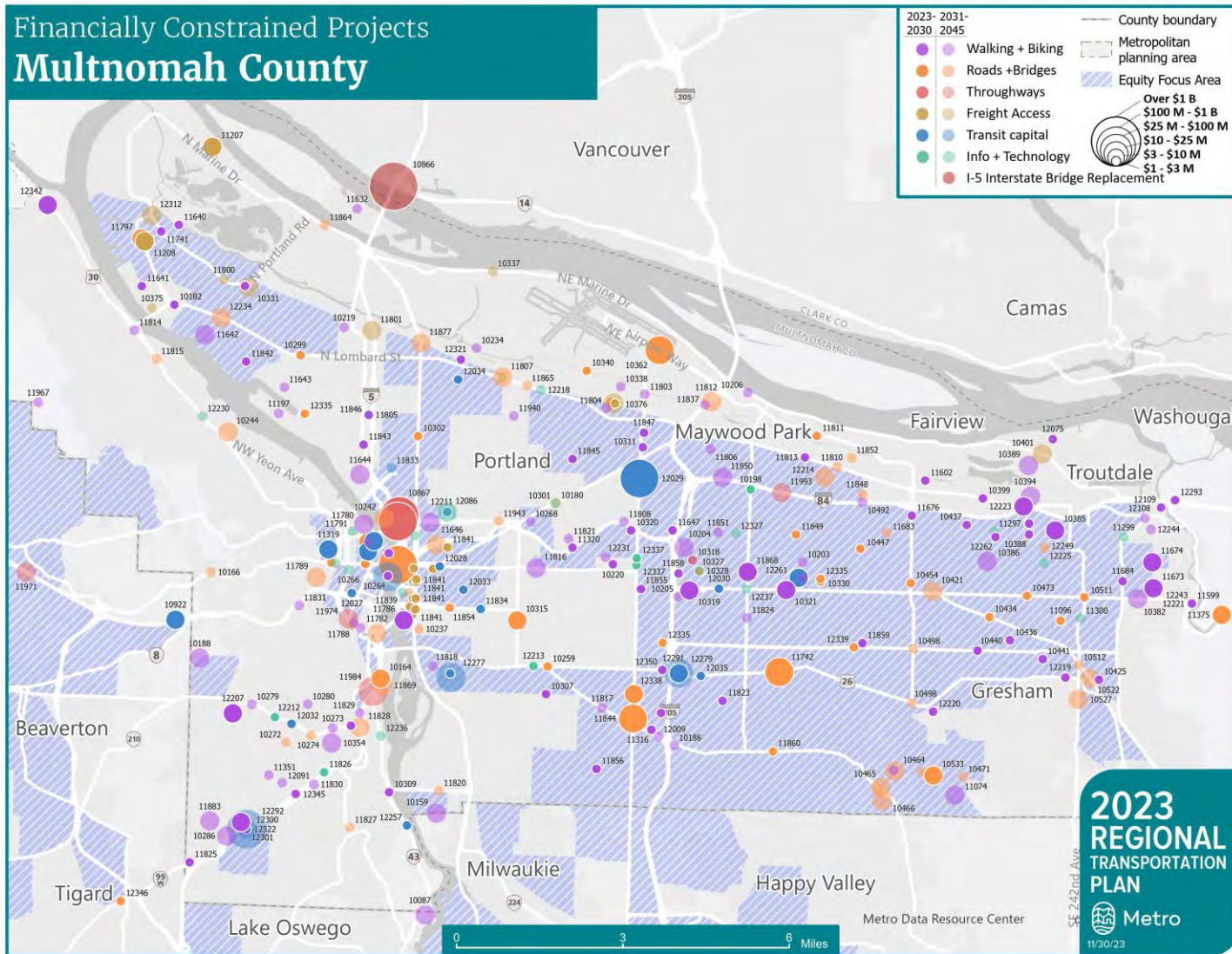
Source: 2023 RTP Financially Constrained Project List (November 30, 2023). Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by Multnomah County and cities in Multnomah County (except for the city of Portland). Capital projects submitted by ODOT, TriMet and SMART as well as road and transit operations and maintenance costs are not included.

Figure 6.14 shows the general location of RTP constrained list projects located in Multnomah County, including the City of Portland, with their unique RTP ID number. The map includes all capital projects submitted, including projects submitted by other jurisdictions and agencies.

To access an interactive online map of the projects, visit [www.oregonmetro.gov/rtp](http://www.oregonmetro.gov/rtp) or click on the QR code with a mobile device or pointer.



Figure 6.14: Map of RTP constrained list capital projects in Multnomah County, 2023-2045

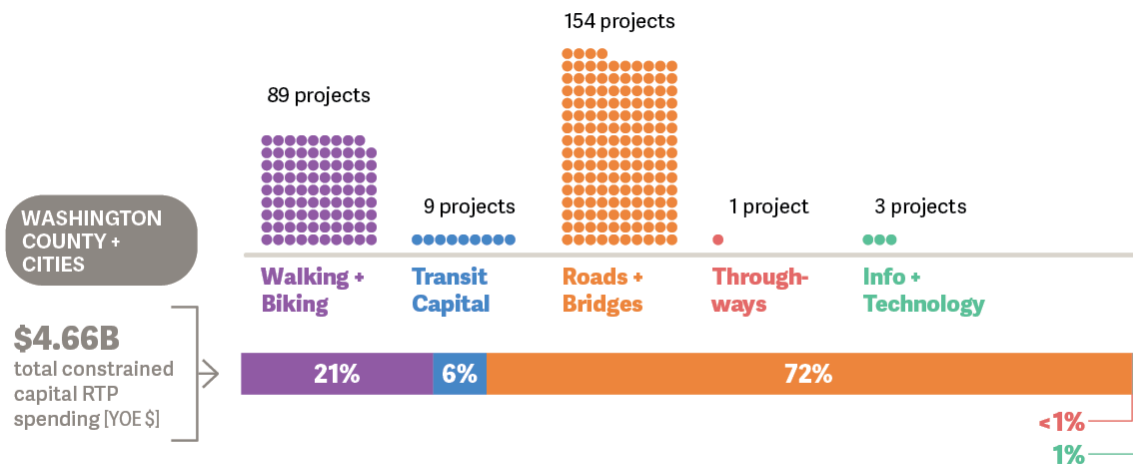


To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

## Urban Washington County and Cities in Washington County Capital Projects

Figure 6.15 shows the cost and number of RTP investments submitted by Washington County and its cities broken down by investment category. Roads, bridges comprise the majority of projects in the RTP constrained project list, followed by walking and biking connections.

**Figure 6.15: Urban Washington County and Cities: Cost of RTP constrained list capital projects by investment category, 2023-2045**



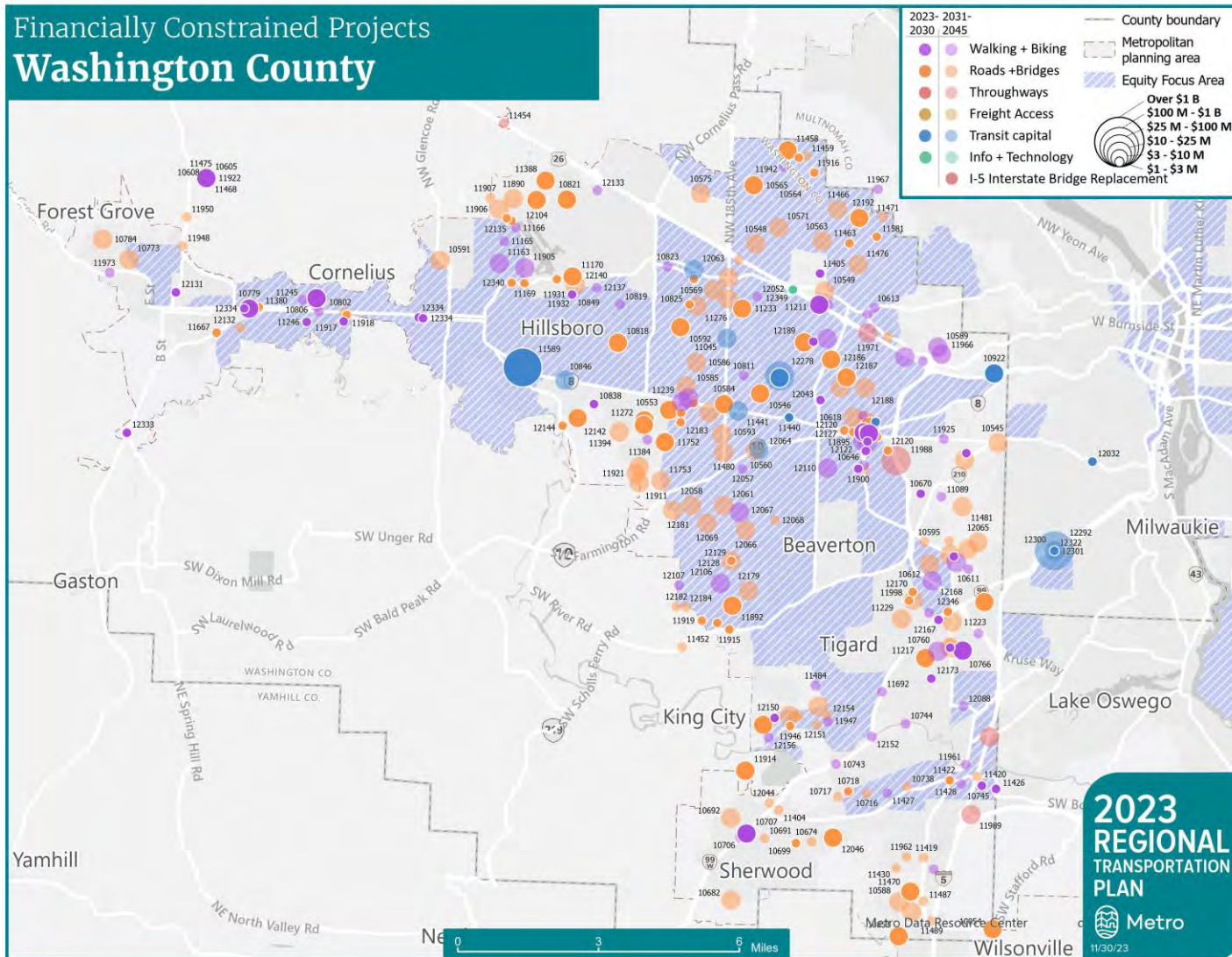
Source: 2023 RTP Financially Constrained Project List (November 30, 2023). Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by Washington County and cities in Washington County. Capital projects submitted by ODOT, TriMet and SMART as well as road and transit operations and maintenance costs are not included.

Figure 6.16 shows the general location of all RTP constrained list projects located in Washington County with their unique RTP ID number. The map includes all capital projects submitted, including projects submitted by other jurisdictions and agencies.

To access an interactive online map of the projects, visit [www.oregonmetro.gov/rtp](http://www.oregonmetro.gov/rtp) or click on the QR code with a mobile device or pointer.



Figure 6.16: Map of RTP constrained list projects in Urban Washington County, 2023-2045



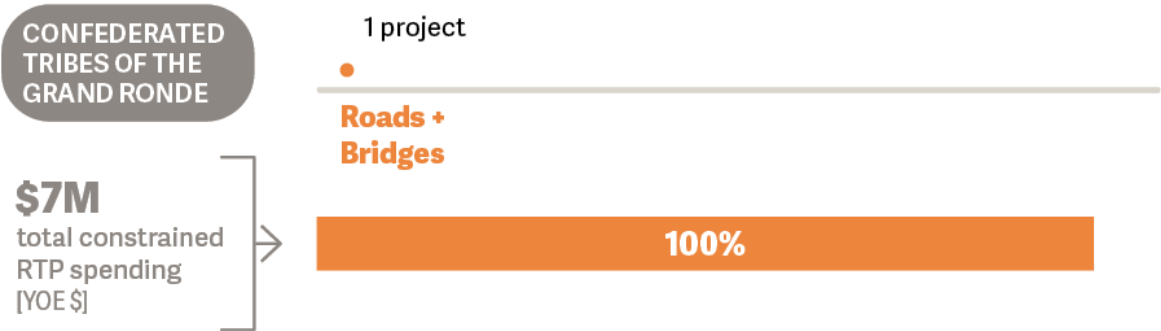
To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.



### Confederated Tribes of Grand Ronde Capital Project

Figure 6.17 shows the category and cost of the project submitted by the Confederated Tribes of Grand Ronde – the tumwata village complete streets project in the downtown Oregon City area. This project aims to construct new roadways with sidewalks and bikeways to serve the planned tumwata village. This project is the first project nominated by a tribe for inclusion in the RTP.

**Figure 6.17: Confederated Tribes of Grand Ronde Capital Project**



### 6.3.3 Transit capital projects and planned service

Transit investments make up nearly 40 percent of the total cost of the RTP constrained project list. As shown in Table 6.5, transit capital projects in the constrained project list include several enhanced transit corridors and high capacity transit projects. See Table 6.4 for a listing of major transit capital projects in the RTP.

**Table 6.5: Summary of RTP constrained list transit capital projects and planned service**

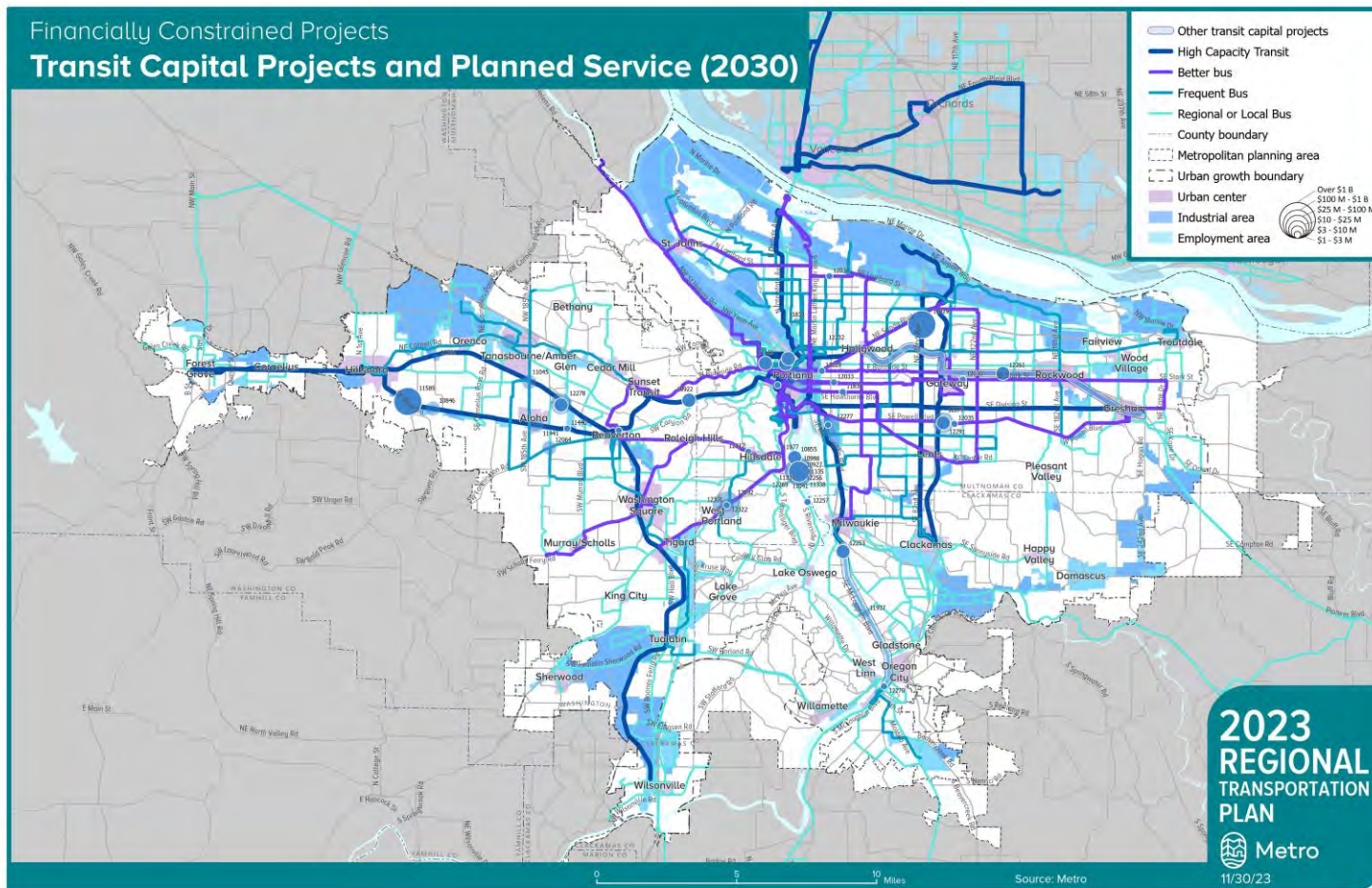
Transit Capital Projects	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Number of transit capital projects	37	26
Number of transit capital projects on a high injury corridor	17	10
Daily revenue hours (TriMet, SMART, and shuttles operating in Clackamas, Multnomah and Washington counties only; excludes C-TRAN)	8,000	9,100
Service Expansion	18% increase from 2020	34% increase from 2020

<b>Transit Capital Projects</b>	<b>Near-term Constrained List (2023-2030)</b>	<b>Long-term Constrained List (2031-2045)</b>
New High Capacity Transit Connections	4 HCT projects, including MAX Red Line Improvements (under construction), 82nd Avenue Transit Project, Tualatin Valley Highway Transit Project and Montgomery Park streetcar extension and additional station improvements supporting operating reliability	3 additional HCT projects (from 2030 Constrained): Interstate Bridge Replacement Program HCT, Southwest Corridor, and project development and interim capital improvements for the Steel Bridge Transit Bottleneck project, plus additional station improvements supporting operating reliability
Other service enhancements	8 Better Bus projects and, additional transit supportive projects region-wide, new and improved facilities to support service expansion and electrification	4 additional Better Bus projects (from 2030 Constrained) and an ETC/Rose Lanes Transit Improvement Fund, plus additional transit supportive projects region-wide, new and improved facilities to support service expansion and electrification
Public and private shuttles	More local jurisdictions operate shuttles and some major employers and/or community-based organizations work with transportation service providers to operate shuttles	More local jurisdictions operate shuttles and some major employers and/or community-based organizations work with transportation service providers to operate shuttles
Stations and station access	More enhancements at and near transit stops and stations, including sidewalk, bicycle, crossing, and ADA improvements	More enhancements at and near transit stops and stations, including sidewalk, bicycle crossing, and ADA improvements
Safety	More enhancements to safety and security for transit users	More enhancements to safety and security for transit users
Fares	Reduced fares provided to youth, older adults, people with disabilities and low-income families	Reduced fares provided to youth, older adults, people with disabilities and low-income families
<i>Estimated capital cost in YOE dollars</i>	<b>\$1.58 billion</b>	<b>\$3.07 billion</b>

Figure 6.18 shows the general location of RTP constrained list transit capital projects with their unique RTP ID number and planned service by the year 2030.

Figure 6.19 shows the general location of RTP constrained list transit capital projects with their unique RTP ID number and planned service by the year 2045.

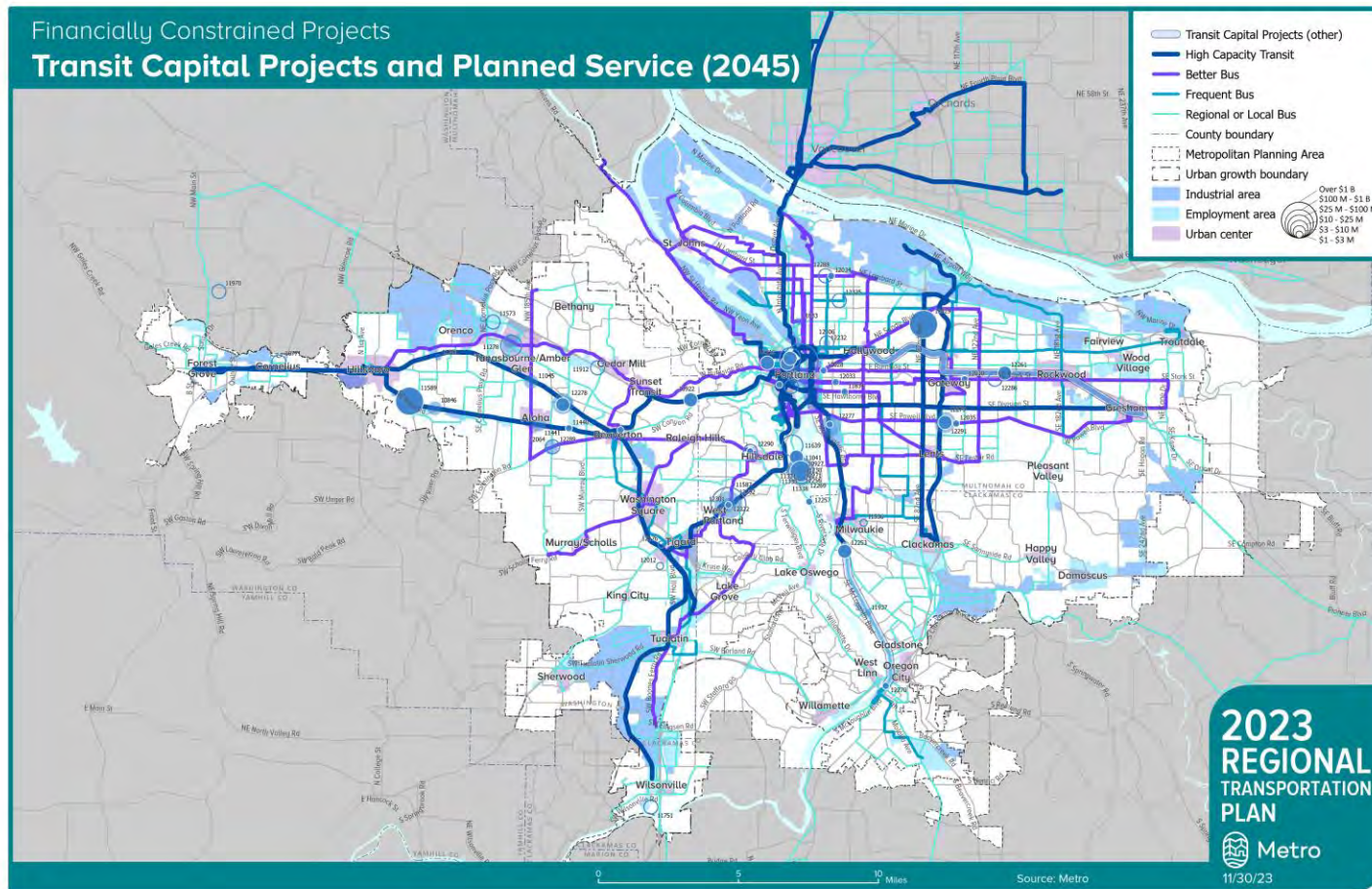
Figure 6.18: Greater Portland region: Map of RTP constrained list transit capital projects and planned service, 2030



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.



Figure 6.19: Greater Portland region: Map of RTP constrained list transit capital projects and planned service, 2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

Note: The 2045 Transit Capital Project Map includes all the transit capital that is assumed in 2030 plus additional capital investments added through 2045.

### 6.3.4 Interstate Bridge Replacement Program and Throughway projects

Maintenance and efficient operation of the existing throughway system is critical. Keeping throughways in good repair and using information and technology to manage travel demand and traffic flow help improve safety and boost efficiency of the existing system. With limited funding, more effort is being made to maximize system operations prior to building new capacity in the region. Building a connected roadway network will also preserve the throughway system for longer-distance, freight and transit trips.

Adding lane miles to relieve congestion is an expensive approach and will not solve congestion on its own. However, targeted widening of roads and throughways, along with connectivity and system and demand management strategies, can help connect goods to market and support travel across the region. Strategic throughway capacity seeks to maintain regional mobility and improve access to industrial areas and intermodal facilities where goods move from one transportation mode to another.

Throughway projects comprise about 3 percent of the total number of capital projects in the Constrained RTP list of projects, and about 20 percent of capital spending in the constrained plan. The I-5 Interstate Bridge Replacement Project is the single largest project in the plan and represents nearly 22 percent of capital spending in the plan. The I-5 IBR Program includes throughway auxiliary lanes and interchange elements and an approximately \$2 billion investment in light rail high-capacity transit element, express bus, and freight, bike and pedestrian access improvements. Table 6.6 lists some of the major throughway capital projects in the 2030 and 2045 constrained lists.

**Table 6.6: Summary of RTP constrained list throughway projects, including the Interstate Bridge Replacement Program**

Throughway Projects and Interstate Bridge Replacement Program	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Number of throughway projects*	8	13
Number of throughway projects with safety benefit*	2	3
Number of throughway projects on high injury corridor*	4	5
Throughway capacity (including new auxiliary lanes), change from 2020 base network	5 new lane miles	31 new lane miles
Throughway Tolling Programs	I-5 Interstate Bridge Replacement pre-construction tolling, I-205 Toll Project on Abernethy Bridge, Regional Mobility Pricing Project	I-5 Interstate Bridge Replacement Program

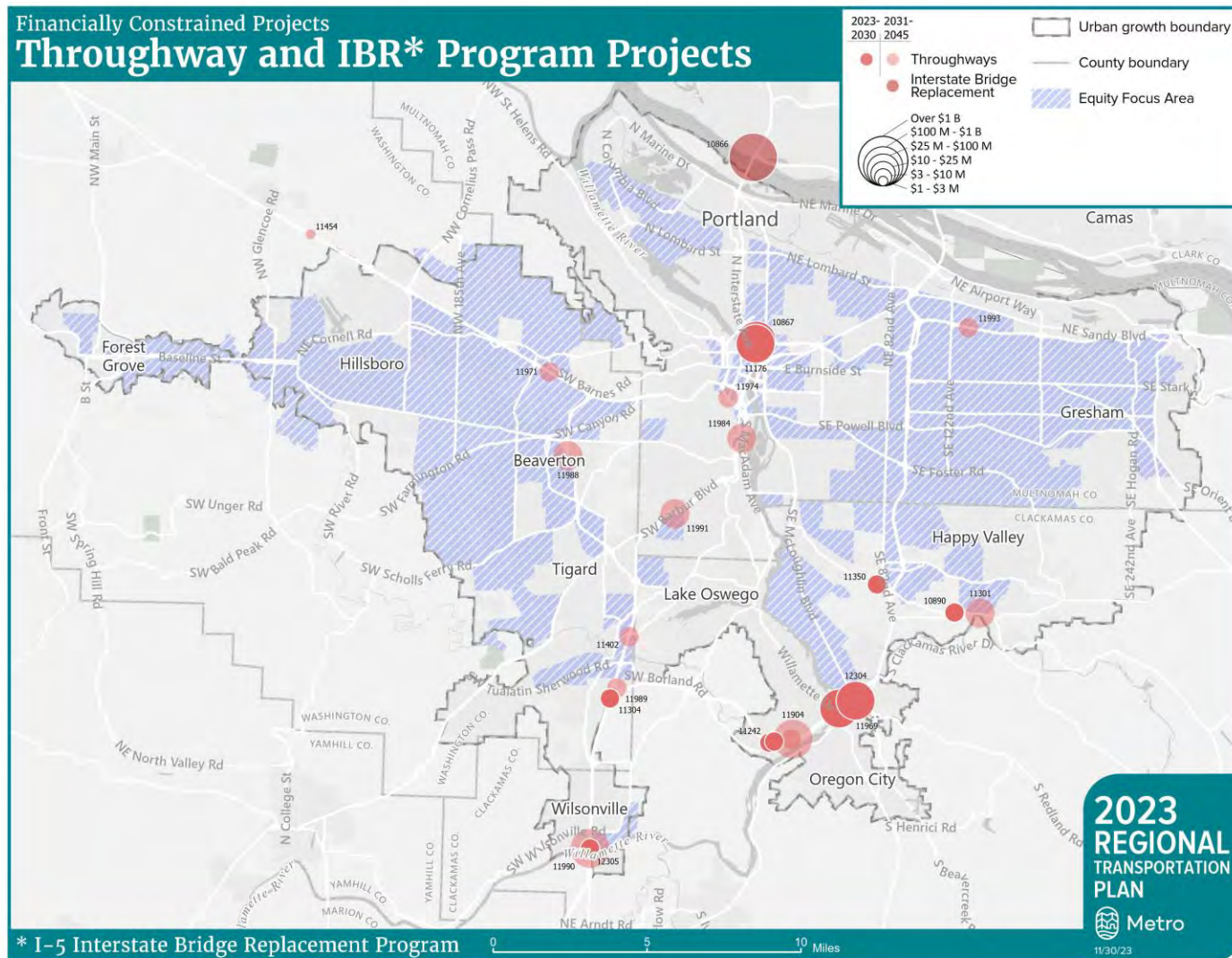
<b>Throughway Projects and Interstate Bridge Replacement Program</b>	<b>Near-term Constrained List (2023-2030)</b>	<b>Long-term Constrained List (2031-2045)</b>
New throughway capacity, (including new auxiliary lanes)	I-5/Rose Quarter, I-205/Abernethy Bridge, OR 224	I-5 Interstate Bridge Replacement Program, I-205 widening and Tualatin River Bridge Toll Project, OR 212/224 Sunrise Project Phase 2, I-5 Boone Bridge and seismic improvement project, auxiliary lanes and braided ramps on I-5 northbound and southbound and on OR 217
<b>Throughway Projects</b> <i>Estimated capital cost in YOE dollars</i>	<b>\$2.58 billion</b>	<b>\$2.92 billion</b>
<b>Interstate Bridge Replacement Program</b> <i>Estimated capital cost in YOE dollars</i>	-	<b>\$6.0 billion</b>
<b>Total</b> <i>Estimated capital cost in YOE dollars</i>	<b>\$2.58 billion</b>	<b>\$8.92 billion</b>

\*Note: Includes I-5 Interstate Bridge Replacement Program.

See Appendix A and Appendix M for more information about these projects. Figure 6.20 shows the general location of RTP constrained list throughway projects.

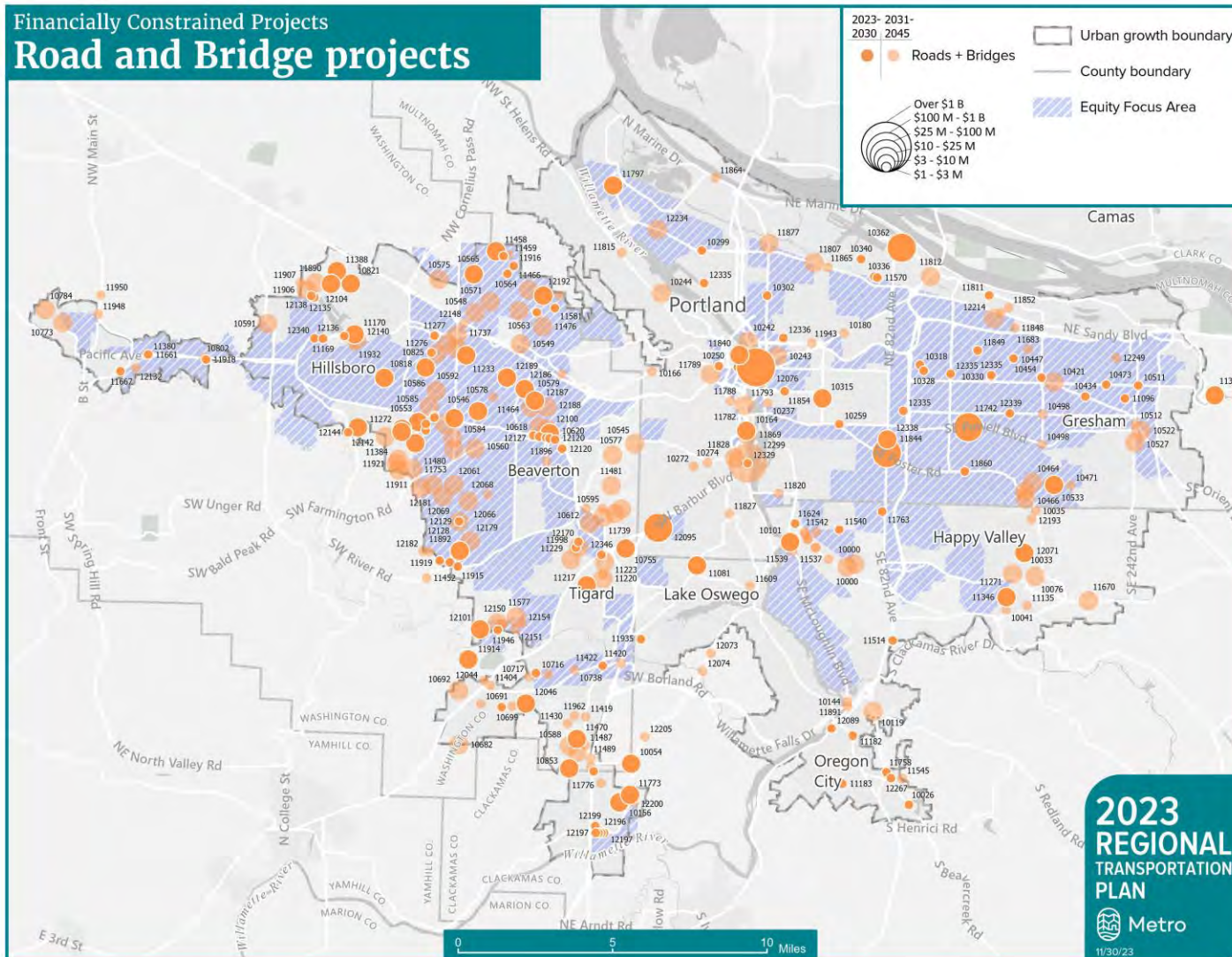


**Figure 6.20: Greater Portland region: Map of RTP constrained list throughway projects and the I-5 Interstate Bridge Replacement Program, 2023-2045**



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

Figure 6.21: Greater Portland region: Map of RTP constrained list road and bridge projects, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.



### 6.3.5 Roads and bridges projects

Nearly 45 percent of all trips in the region made by car are less than three miles, and 15 percent are less than one mile, based on the 2011 Oregon Household Activity Survey. When road networks lack multiple routes serving the same destinations, short trips must use major travel corridors designed for freight and regional traffic, adding to congestion.

There are three key ways to make roads and bridges safe, reliable and connected for people walking, driving, biking and taking transit:

1. **Maintenance and efficient operation of the existing road system.** Keeping the road system in good repair and using information and technology to manage travel demand and traffic flow help improve safety and boost efficiency of the existing system. With limited funding, more effort is being made to maximize system operations prior to building new capacity in the region. Seismic retrofit projects, shown in Figure 6.21, are critical to reduce vulnerability of the transportation system to earthquakes.
2. **Street connectivity and complete streets.** Building a well-connected network of complete streets including new local and major street connections shortens trips, improves overall network efficiency, improves access to community and regional destinations, and helps preserve the capacity and function of highways in the region for freight and longer trips. These connections include designs that support walking and biking, including ADA-compliant curb ramps and marked crossings, and, in some areas, provide critical freight access between industrial areas, intermodal facilities and the interstate highway system.
3. **Network expansion.** Adding lane miles to relieve congestion is an expensive approach and will not address growing congestion on its own. However, targeted widening of roads and throughways, along with connectivity and system and demand management strategies, can help connect goods to market and support travel in growing areas and across the region.

As shown in Table 6.7, road and bridges projects comprise about 38 percent of the total number of capital projects in the RTP constrained list of projects, and about 27 percent of the total constrained list capital spending. The road and bridge capital projects shown in Figure 6.21 include arterial street expansions, “complete street” reconstructions that are complemented by new arterial connections, seismic retrofits and highway overcrossings to provide mobility and access for all modes of travel.

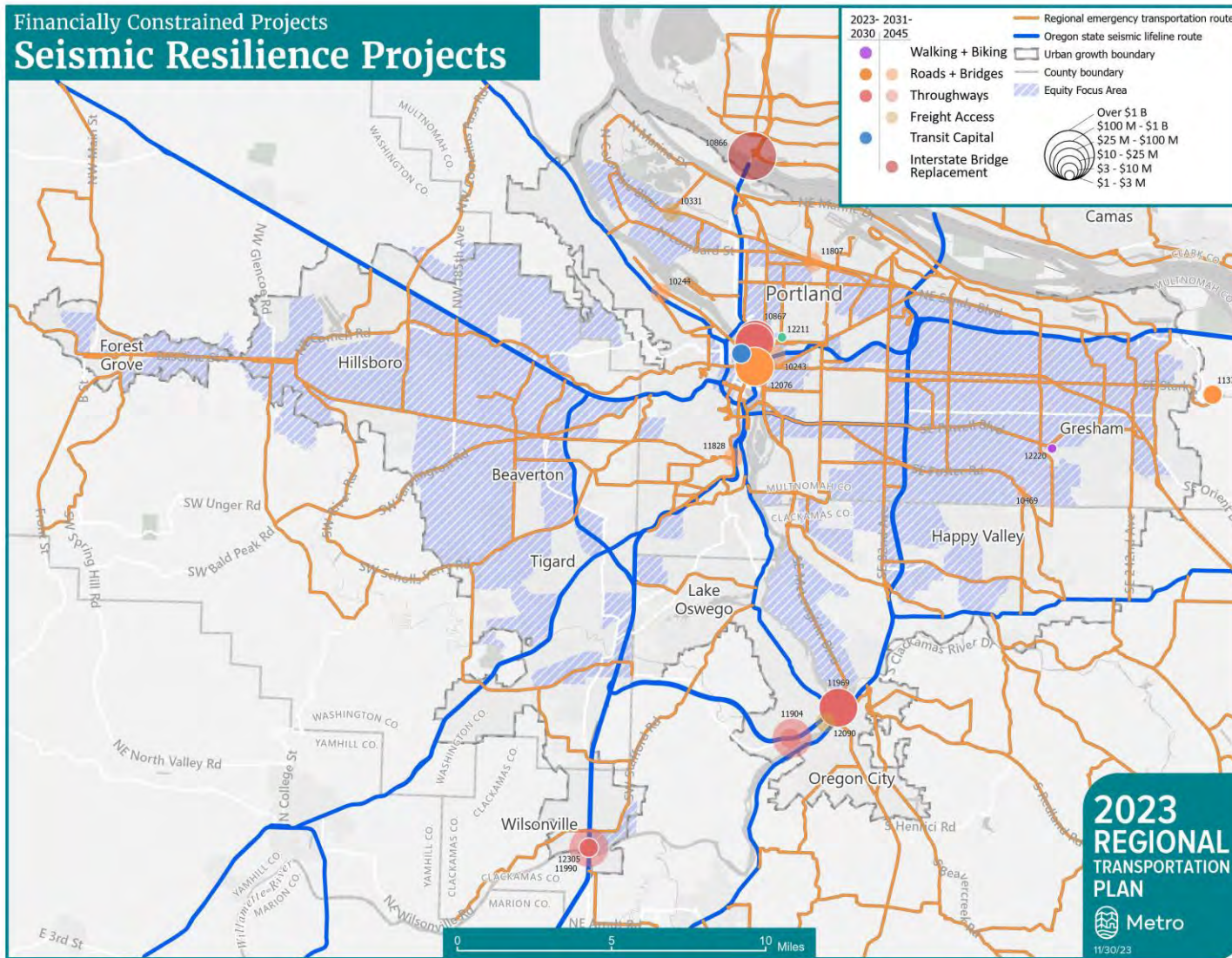


**Table 6.7: Summary of RTP constrained list roads and bridges projects**

Roads and bridges capital projects	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Number of roads and bridges capital projects	125	160
Number of roads and bridges projects with a safety benefit	68	81
Number of roads and bridges projects on a high injury corridor	59	67
Number of roads and bridges projects that increase arterial roadway capacity	82	112
Examples of bridge and new major arterial capacity projects	Earthquake Ready Burnside Bridge (Phases 2 and 3), 82nd Avenue Corridor Improvements, Outer Powell Multimodal Project, 82nd Avenue/Airport Way grade separation, Basalt Creek Parkway, 172nd Avenue (Phase 2)	Farmington Road Multimodal Improvements, Century Boulevard Improvements, Sunnyside Road Extension, seismic retrofitting of bridges throughout region
<i>Estimated capital cost in YOE dollars</i>	<b>\$3.05 billion</b>	<b>\$4.36 billion</b>

Shown in Figure 6.22 several projects in the RTP are planned to improve the region's readiness for major natural disasters, including earthquake-ready bridges across the Willamette River (Abernethy Bridge and Earthquake Ready Burnside Bridge) and the Columbia River (I-5 Interstate Bridge Replacement Program), and improvements along Regional Emergency Transportation Routes and Statewide Seismic Lifeline Routes. These investments will help ensure that essential infrastructure will be here to serve us for generations. Future work is needed to identify and address the vulnerability of critical transportation infrastructure to other hazards, including extreme heat, flooding, and landslides.

Figure 6.22: Greater Portland region: Map of RTP constrained list seismic resilience projects, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

### 6.3.6 Freight access projects

The greater Portland region is the trade and transportation gateway for Oregon and provides market access for many southwest Washington businesses. Our prosperity is directly tied to the investments we make in our transportation system, including the region’s freight infrastructure. These investments make consumer goods readily available to us; provide air, ship, rail and road systems that help our businesses efficiently reach global and domestic marketplaces; and create family-wage jobs across the region.

Freight access projects in the RTP constrained project list are focused on:

- **Freight reliability and safety.** Facilitate the safe, reliable and efficient movement of goods by better utilizing existing road and freight rail infrastructure and capacity, separating freight traffic from other modes to increase safety and minimize conflicts, and strategically investing in the regional freight network to eliminate road and rail bottlenecks that create serious freight congestion.
- **Freight network connectivity.** Provide shippers with the ability to transfer freight seamlessly between different modes of transportation, as well as efficient access to local freight clusters and delivery points and regional, domestic and global markets.
- **Intermodal freight facilities and connectors.** Invest in intermodal facilities and freight intermodal connectors (e.g., reload facilities, marine ports, rail yards, freight access roads, etc.) that reduce highway demand for freight.
- **Smart technology.** Make use of intelligent transportation systems and emerging technologies to improve traffic flow along goods movement corridors.

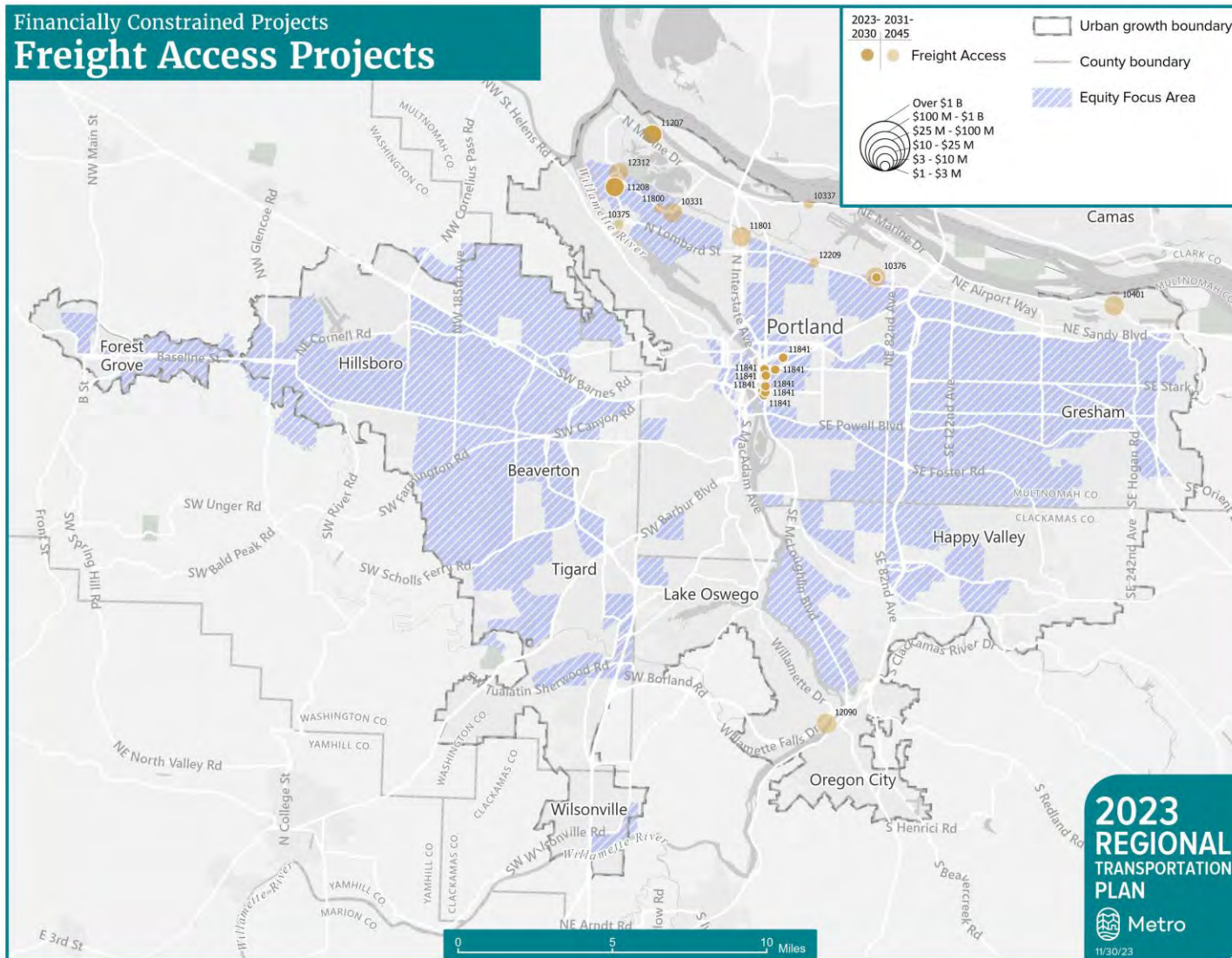
As shown in Table 6.8 freight access projects comprise less than 2 percent of the total number of capital projects in the RTP constrained list of projects.

**Table 6.8: Summary of RTP constrained list freight access projects**

Freight access capital projects	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Number of freight access projects	4	10
Number of freight access projects with a safety benefit	0	5
Number of freight access projects on a high injury corridor	2	4
New major freight access capacity projects	Airport Way and 82nd Avenue grade separation, Rivergate Blvd. overcrossing, T6 modernization, Marine Drive Improvement Phase 2	Cully Blvd. Grade separation, Columbia Blvd Rail Bridge, Going/Greeley Interchange
<i>Estimated capital cost in YOE dollars</i>	<b>\$74 million</b>	<b>\$307 million</b>



Figure 6.23: Greater Portland region: Map of RTP constrained list freight access projects, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

In addition to the RTP freight access projects identified in Figure 6.23, the I-5 IBR Program shown in Figure 6.20 and described in Section 6.3.4 includes improvements for freight safety, mobility and reliability in the program area. The I-5 IBR Program freight access related investments include providing standard shoulder widths on the interstate, adequate ramp lengths to access and exit the interstate, and a new configuration at the Marine Drive interchange, which provides critical access to and from the Port of Portland.

### 6.3.7 Active transportation projects

Active transportation investments have become a growing focus around the region. Active transportation is considered non-motorized forms of transportation including walking and biking. Making it safe and convenient to walk, ride a bicycle and get to public transit benefits people and the environment in multiple ways. Active transportation is good for business, household pocketbooks, clean air and water, public health and safe streets.

Approximately 45 percent of all trips made by car in the region are less than three miles and 15 percent are less than one mile, according to the 2011 Oregon Household Activity Survey. With complete walking and biking routes supported by education and incentives, many of the short trips made by car today could be replaced by walking and biking.

RTP active transportation projects focus on four key ways to make biking and walking safe and convenient for people of all ages and abilities in our region:

1. **Fill the gaps.** Completing missing sidewalks, pedestrian crossings, bikeways and multi-use paths creates complete streets and better connectivity; improves access to transit; removes barriers; adds routes across highways, railroads and waterways; makes high injury locations safer; and shortens trip distances and travel time.
2. **Design for safety.** Designing bikeways and walking routes with greater separation and buffers from traffic increases safety and reduces the risk of traffic deaths. Making it safer for people walking and biking makes travel safer for all modes.
3. **Meet the demand.** Upgrading high demand bikeways and walking routes and prioritizing active travel in high demand areas provides reliable travel options in congested corridors, reduces the need to drive and increases livability.
4. **Safe Routes to School.** Providing programs and safe walking and biking routes to schools is proven to reduce driving trips and create healthy options for kids.

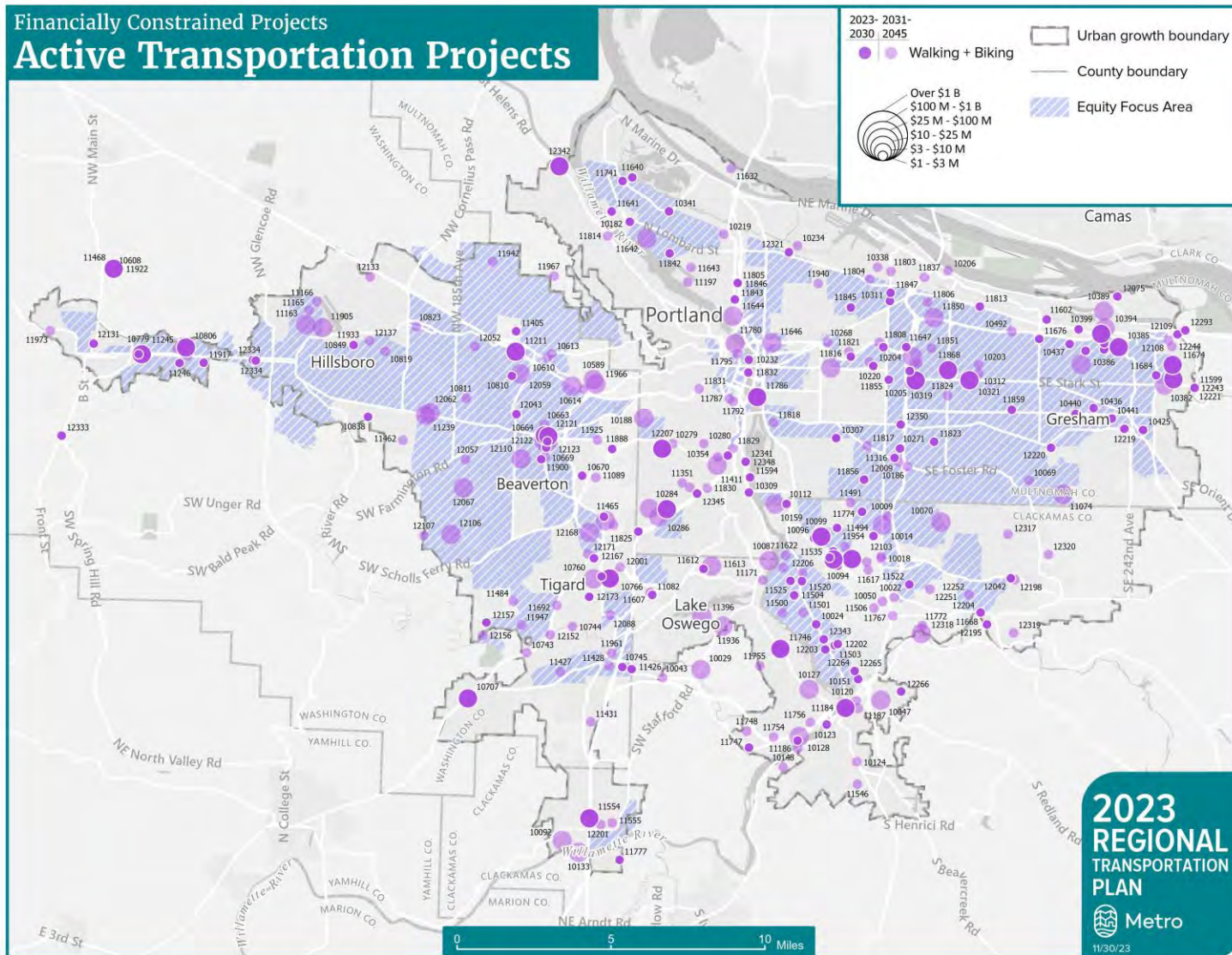
Shown in Figure 6.24 and described in Table 6.9, active transportation investments comprise about 42 percent of the total number of capital projects in the RTP constrained project list, and about 11 percent of the total constrained list capital spending.

**Table 6.9: Summary of RTP constrained list active transportation projects**

Active transportation capital projects	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Number of active transportation projects	137	177
Number of active transportation projects with a safety benefit	126	156
Number of active transportation projects on a high injury corridor	57	64
Active transportation miles added along planned regional networks by sidewalk, bikeway and trail projects*	57 sidewalk miles added 66 bikeway miles added 26 trail miles added	74 sidewalk miles added 66 bikeway miles added 56 trail miles added
Examples of active transportation projects	Aloha-Reedville pedestrian Improvements, Cross-Levee Trail, Council Creek Regional Trail, Division-Midway Connected Centers project, Westside Trail US 26 bridge crossing, Milwaukie Monroe Street Neighborhood Greenway	Lake Oswego to Portland Trail, Reedway bike/pedestrian overcrossing, Washington County pedestrian arterial crossings, East-Buttes Loop Trail
<i>Estimated capital cost</i> in YOE dollars	<b>\$1.05 billion</b>	<b>\$2.12 billion</b>

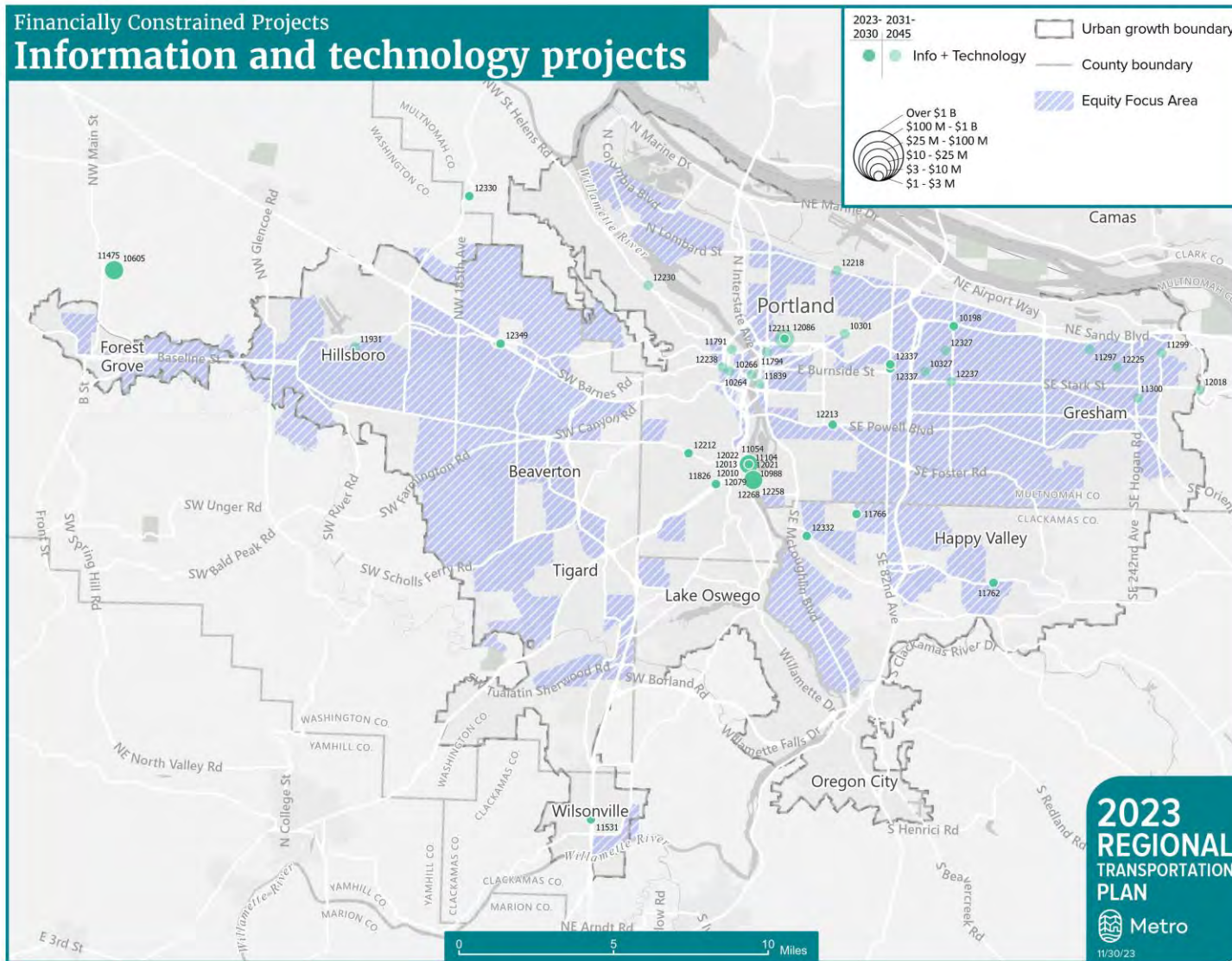


Figure 6.24: Greater Portland region: Map of RTP constrained list active transportation projects, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

Figure 6.25: Greater Portland region: Map of RTP constrained list information and technology projects, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.



### 6.3.8 Transportation system management and operations projects

Using technology to actively manage the greater Portland region’s transportation system means using intelligent transportation systems and services to reduce vehicle idling associated with delay and help improve the speed and reliability of transit, freight and other motor vehicle travel. Nearly half of all congestion is caused by incidents and other factors that can be addressed using these strategies.

Local, regional and state agencies work together to implement transportation system technologies. Agreements between agencies guide sharing of data and technology, operating procedures for managing traffic, and the ongoing maintenance and enhancement of technology, data collection and monitoring systems. RTP transportation system management and operations projects are focused on:

- **Arterial corridor management.** Advanced technology at each intersection actively manages traffic flow. This includes coordinated or adaptive signal timing; advanced signal operations such as cameras, flashing yellow arrows, bike signals and pedestrian countdown signals; and communication to a local traffic operations center and the centralized traffic signal system.
- **Freeway corridor management.** Advanced technology manages access to the freeways, detects traffic levels and weather conditions, provides information with message signs and variable speed limit signs, and deploys incident response patrols that quickly clear breakdowns, crashes and debris. These tools connect to a regional traffic operations center.
- **Traveler information.** Variable message and speed limit signs and 511 internet and phone services provide travelers with up-to-date information regarding traffic and weather conditions, incidents, travel times, alternate routes, construction and special events.

**Table 6.10: Summary of RTP constrained list transportation system management and operations (TSMO) projects**

Technology/TSMO Projects and Programs	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Transportation System Management and Operations Projects	14	22
Provide for real-time and forecasted traveler information	Information on current travel conditions and alerts are available to the public and third party developers	Current travel conditions data is used by operators to forecast changing travel conditions
Multimodal integrated corridor management	Agencies integrate operations strategies in a few of the region’s major travel corridors	Agencies integrate operations strategies in more of the region’s major travel corridors



Technology/TSMO Projects and Programs	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Advanced traffic signal operations	Traffic signals are interconnected in some industrial areas and major travel corridors	Traffic signals are interconnected in some industrial areas and major travel corridors
Transit signal priority	Some frequent bus routes	Most frequent bus routes
Freeway ramp meters	All urban interchanges	All urban interchanges
Freeway variable speed signs	Some high incident locations	Most freeways
Incident response vehicles	Incident response vehicles monitor some high incident locations	Incident response vehicles monitor all area freeways
<i>Estimated capital cost in YOE dollars</i>	<b>\$78 million</b>	<b>\$197 million</b>

### 6.3.9 Transportation demand management projects

Public awareness, education and travel options support tools are cost-effective ways to improve the efficiency of the existing transportation system through increased use of travel options such as walking, biking, carsharing, carpooling and taking transit. Local, regional and state agencies work together with businesses and non-profit organizations to implement programs in coordination with other capital investments. Metro coordinates partners’ efforts, sets strategic direction, evaluates outcomes and manages grant funding. RTP Transportation demand management (TDM) projects are focused on:

- **Regional coordination and local policy, program, and project development:** Metro’s Regional Travel Options Program leads regionally significant TDM efforts, including policy development, public outreach and education, provision of direct services and resources, partner collaboration, research, and evaluation. These efforts aim to increase resources and capacity at the local level for policy, program, and project development.
- **Commuter programs:** Employer-based commuter outreach efforts include financial incentives, such as transit pass programs and offering cash instead of parking subsidies; facilities and services, such as carpooling programs, bicycle parking, emergency rides home and work-place competitions; and flexible scheduling such as working from home or compressed work weeks.
- **Safe Routes to School Program:** School districts, local jurisdictions and other regional and state partners provide programming that supports vehicle trip reduction for K-12 school-based trips. Metro provides grant funding, technical support and regional coordination for these programs.
- **Community programs:** Outreach and engagement programs that meet community travel options needs outside of the trip to school or work, which can include health, recreation, food access, and more. These programs are designed in collaboration

directly with community members across the region. Metro supports these efforts through a variety of grant programs.

As shown in Table 6.11, Transportation demand management (TDM) projects comprise less than 2 percent of the total number of capital projects in the RTP constrained project list.

**Table 6.11: Summary of RTP constrained list transportation demand management projects**

Information/TDM Projects and Programs	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
TDM projects	6	7
Individualized marketing participation	No forecast data is available; Current program reaches about 3% of households	No forecast data is available
Commuter program participation	No forecast data is available; Oregon Employee Commute Options Rule requires work sites with more than 100 employees to have workplace programs	No forecast data is available
Public awareness marketing campaign	Existing ongoing and short-term campaigns increase awareness of <i>Get There Oregon</i>	Additional resources promote new travel tools, regional efforts and safety education
Provisions of travel options support tools	2020 program funding levels allow for completion of several new wayfinding signage and bike rack projects	Additional resources allow for public-private partnerships to create new online, print and on-street travel tools
<i>Estimated capital cost in YOE dollars</i>	<b>\$102 million</b>	<b>\$195 million</b>

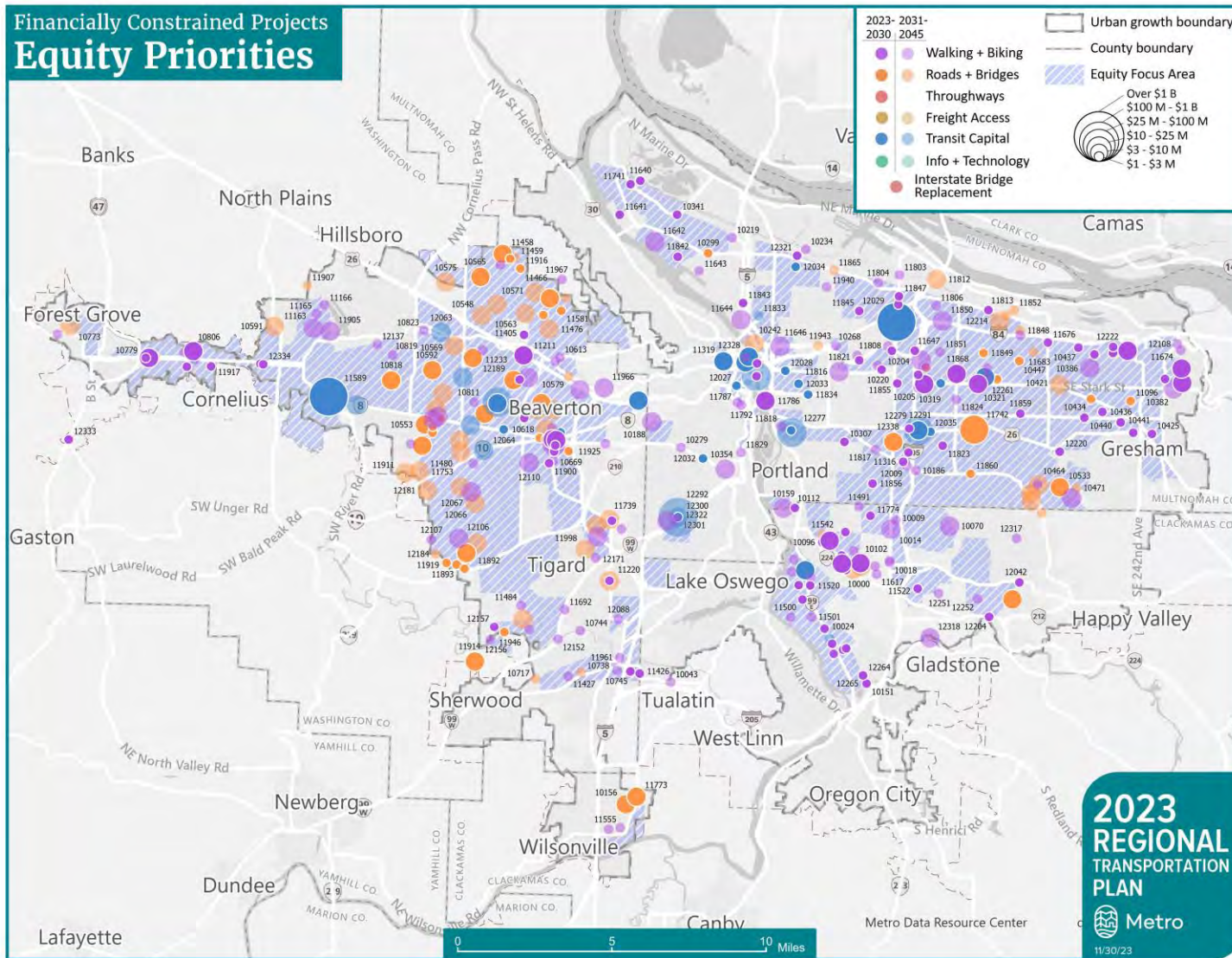
### 6.3.10 Other projects and programs to leverage capital investments

The RTP constrained project list includes regional planning activities and corridor investment area refinement and planning activities (\$188 million).

### 6.3.11 Transportation equity projects

The RTP reflects a regional commitment to plan and invest in the region’s transportation system to reduce transportation-related disparities and barriers faced by communities of color and other marginalized communities, regardless of race, language proficiency, income, age or ability, while maintaining affordability and preventing displacement is necessary. Of the capital projects evaluated in the RTP constrained project list, 474 capital projects are within an Equity Focus Area (63%). Shown in Figure 6.26, 337 capital projects are located in an EFA and complete a gap in the bicycle, pedestrian or transit network. (45%).

Figure 6.26: Greater Portland region: Map of RTP constrained project list equity priorities, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.



Shown in Figure 6.26, the RTP constrained project list includes the combined investment of transit capital projects and active transportation projects in equity focus areas reaches nearly \$1.7 billion by 2030 with another nearly \$3.3 billion of additional investment planned by 2045. These types of investments are projects that marginalized and underserved people have identified as a priority through regional community engagement.

**6.3.12 Safety projects and safety benefit projects**

Eliminating traffic related deaths and life-changing injuries and increasing transportation safety is a priority of the RTP. To address safety and reduce serious crashes, the RTP project list identifies projects that provide an overall safety benefit, as well as projects that have the primary purpose of reducing fatal and severe injury crashes, or minor/non-injury crashes at a documented high injury or high-risk location. Projects that have a safety benefit and that are located on or intersect a Regional High-Injury Corridor or Intersection are shown in Figure 6.27.

Safety projects and safety benefit projects are targeted towards the Regional High Injury Corridors and Intersections and in equity focus areas. As shown in Table 6.12, of the 751 capital projects on the RTP constrained list:

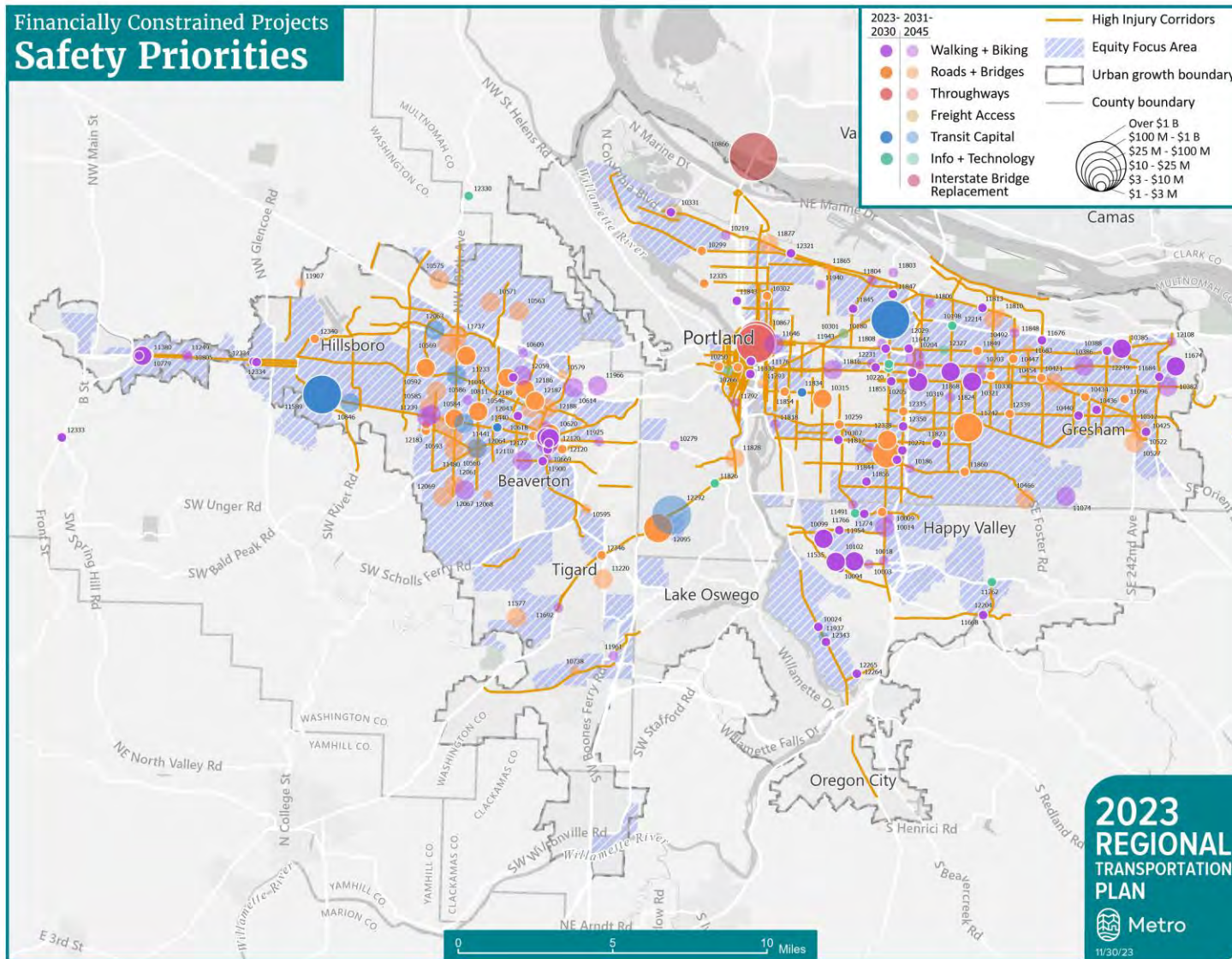
- **Safety Projects.** Across the short-term and long-term constrained project lists, 478 projects are identified as safety or safety benefit projects. Those projects identify reducing fatal and severe injury crashes or reducing minor/non-injury crashes as the primary purpose of the project. Nearly 50 percent of these safety benefit projects are located on a high injury corridor or intersection.
- **Programs that impact safety.** In addition to capital projects, the regional Safe Routes to School, Transit Oriented Development and Transportation System Management and Operations programs provide safety benefits.

**Table 6.12: Summary of RTP constrained list safety benefit projects**

Safety benefit Projects and Programs	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)
Projects that help reduce serious traffic crashes or address other safety issues	214	264
Number of <b>safety benefit projects</b> on a High Injury Corridor*	114	125
Number of <b>safety benefit projects</b> in Equity Focus Areas*	114	125
<i>Estimated capital cost</i> in YOE dollars	<b>\$3.4 billion</b>	<b>\$9.3 billion</b>

\*Does not include projects that are programmatic or are not geographically specific.

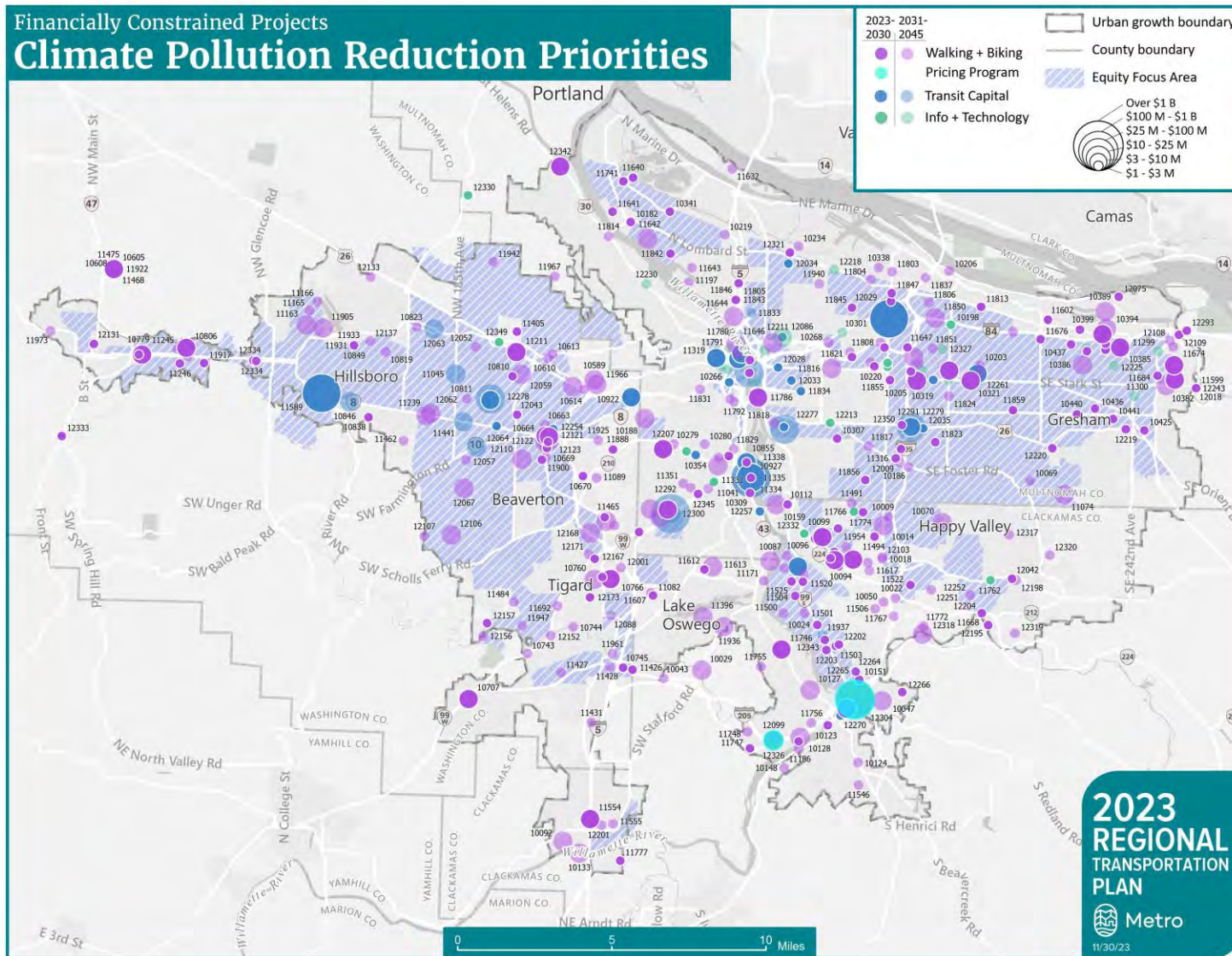
Figure 6.27: Greater Portland region: Map of RTP constrained project list safety priorities, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.



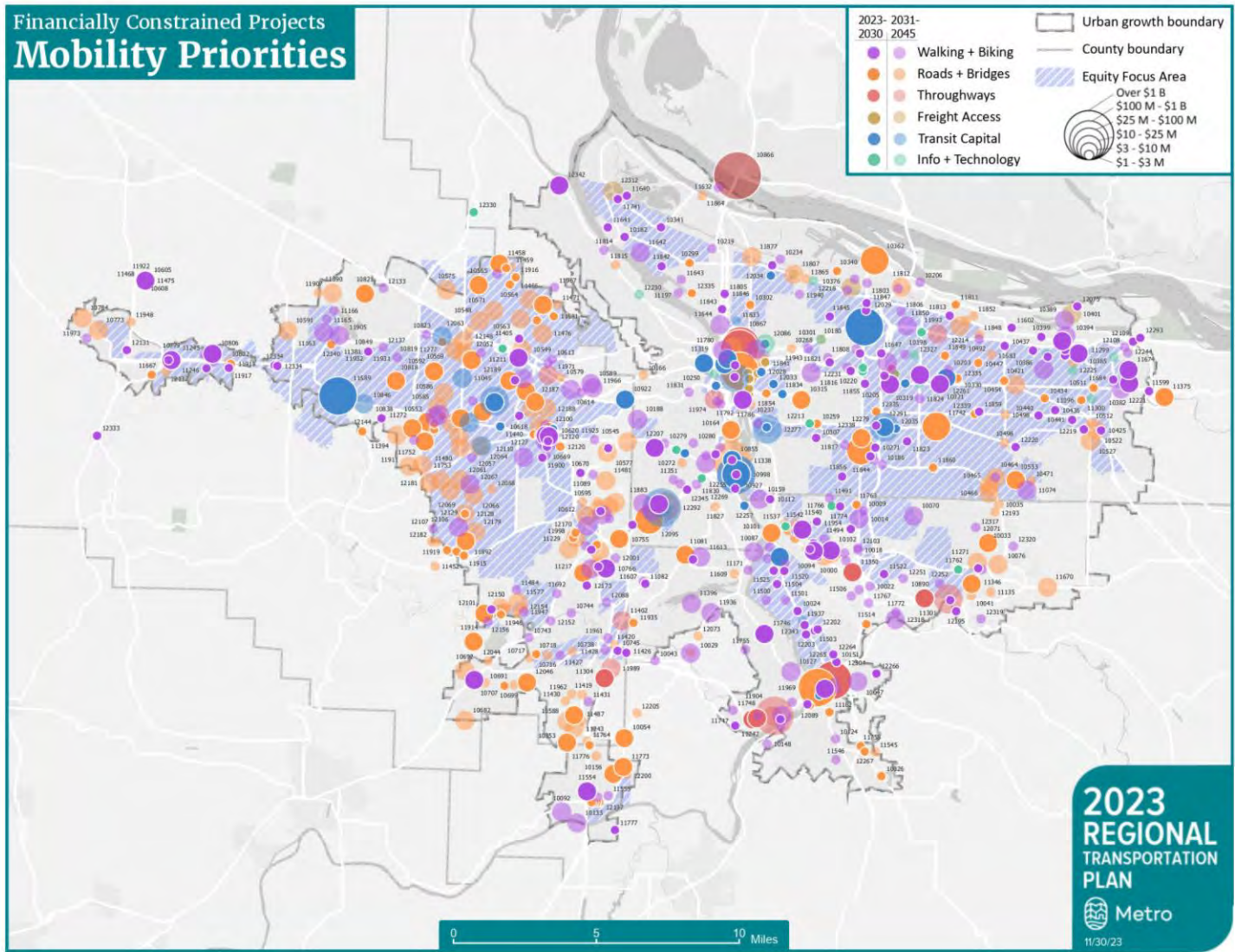
Figure 6.28: Greater Portland region: Map of RTP constrained project list climate pollution reduction priorities, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

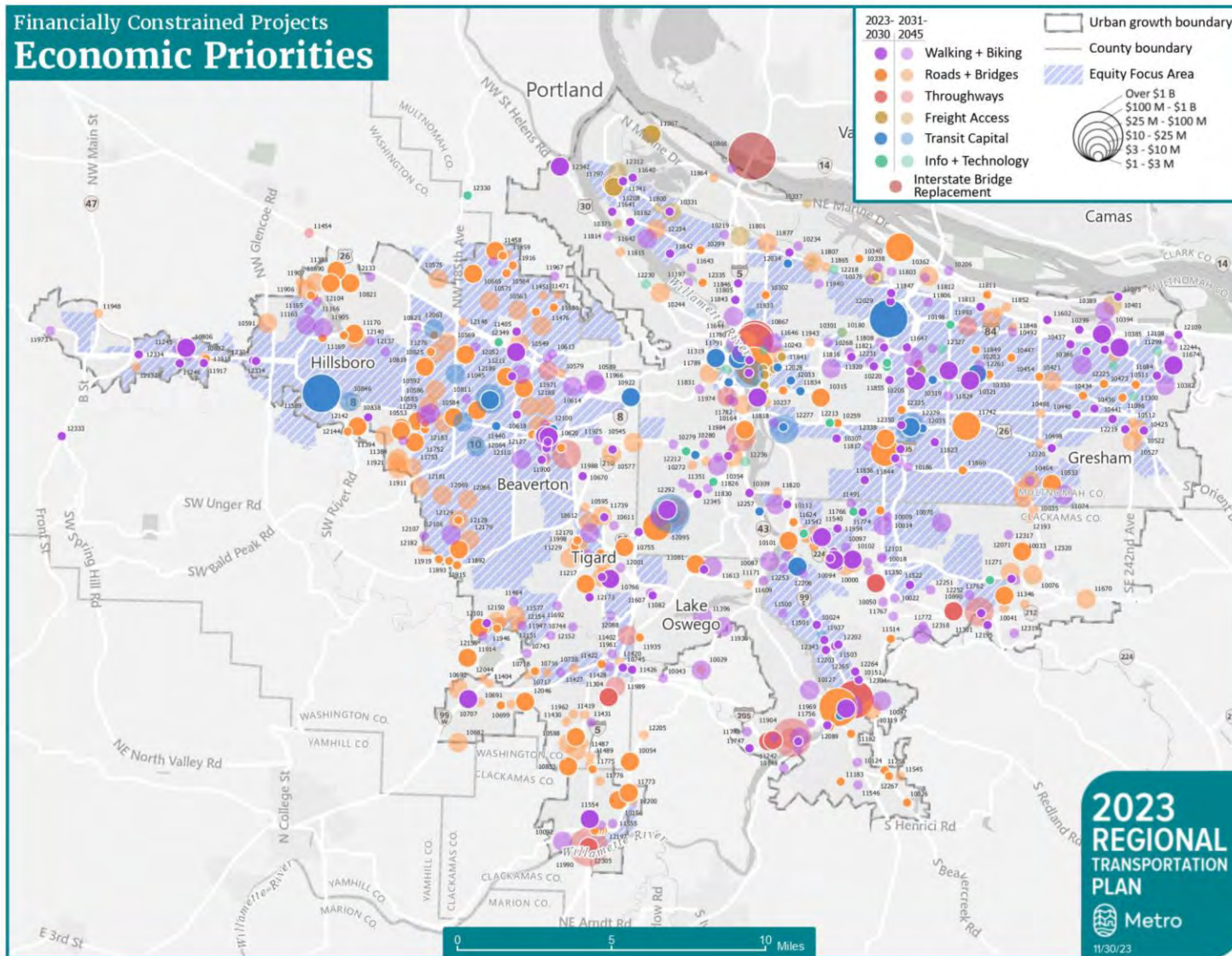


Figure 6.29: Greater Portland region: Map of RTP constrained project list mobility priorities, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.

Figure 6.30: Greater Portland region: Map of RTP constrained project list economic development priorities, 2023-2045



To access an interactive online map of the RTP projects, visit [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp) or click on the QR code above.



### 6.3.13 Climate pollution reduction priorities

The RTP reflects a regional commitment to meet state mandated greenhouse gas emissions reduction targets that ensure the region helps Oregon reach ambitious goals to cut transportation emissions. The capital projects identified in Figure 6.27 implement high- or medium-impact climate pollution reduction strategies adopted in the region’s Climate Smart Strategy, including improving transit and active transportation connections to destinations and investing in transportation system management and operations (TSMO) and transportation demand management (TDM) programs described earlier. The 2023 RTP is first to include roadway pricing, a state-led action identified in the Oregon Statewide Transportation Strategy for reducing greenhouse gas emissions. The pricing projects in the RTP aim to manage demand, reduce greenhouse gas emissions and help finance new transportation projects.



Source: Climate Smart Strategy Phase 1 Findings Report (2012)

### 6.3.14 Mobility priorities

The RTP aims to provide people and businesses with affordable, convenient, sustainable, and safe connections to destinations. This includes completing gaps in regional walking, biking, transit, motor vehicle and TSMO networks and project designs that include TSMO elements or ADA- pedestrian-, bicycle-, or transit-supportive design elements. Projects that complete regional network gaps described earlier and include priority multimodal design elements are shown in Figure 6.29.

### 6.3.15 Economic development priorities

The RTP supports the economy by connecting workers to jobs, connecting employers to the talent that they need and moving goods around the region. Projects that are located in areas planned for future growth, including the region’s 2040 centers, station communities, industrial areas, employment areas and urban growth boundary expansion areas and that have higher than average job activity are shown in Figure 6.30.



### 6.3.16 Transit operations and maintenance costs

**Table 6.13: Summary of RTP constrained list transit operations and maintenance projects**

<b>Transit operations and maintenance</b>	<b>Near-term Constrained List (2023-2030)</b>	<b>Long-term Constrained List (2031-2045)</b>
Examples of operating services	SMART Service to Clackamas Town Center and Oregon City	New bus service Columbia to Clackamas
Examples of maintenance and operations projects	Preventative maintenance and rehabilitation for fleet vehicles, equipment and facilities, bus replacements and other services to keep system in good repair and support bus and rail growth.	Preventative maintenance and rehabilitation for fleet vehicles, equipment and facilities, bus replacements and other services to keep system in good repair and support bus and rail growth.
<i>Estimated cost</i> in YOE dollars	<b>\$6.58 billion</b>	<b>\$19.59 billion</b>

*Note: See Appendix A for the list of programmatic buckets in the RTP constrained project list.*

See Figure 6.18 and Figure 6.19 to view maps of near-term and long-term planned transit service.

### 6.3.17 Throughway, roads and bridges operations and maintenance costs

**Table 6.14: Summary of RTP constrained list throughway, roads and bridges operations and maintenance projects**

<b>Throughway, roads and bridges maintenance</b>	<b>Near-term Constrained List (2023-2030)</b>	<b>Long-term Constrained List (2031-2045)</b>
Level of maintenance	Some maintenance backlogs grow	Adequately meet maintenance and preservation needs
Types of maintenance projects	Bridge and road pavement resurfacing, preventative maintenance, preservation and rehabilitation that do not add motor vehicle capacity	Bridge and road pavement resurfacing, preventative maintenance, preservation and rehabilitation that do not add motor vehicle capacity
<i>Estimated cost</i> in YOE dollars	<b>\$3.92 billion</b>	<b>\$11.37 billion</b>

*Note: See Appendix A for the list of programmatic buckets in the RTP constrained project list.*

## 6.4 STRATEGIC PROJECT LIST

The RTP Strategic Project List costs shown in Table 6.15 provide additional context about magnitude of the region’s transportation needs. The RTP Strategic project list reflects additional policy-driven needs and project priorities that exceed the region’s projected funding – reflecting more than \$22 billion in additional investment capital projects and programs.

**Table 6.15: Estimated costs for RTP Constrained and Strategic Project Lists (in YOES)**

RTP Capital Costs	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)	Long-term Strategic List (2031-2045)
I-5 Interstate Bridge Replacement Program	--	\$6 billion	--
Transit capital	\$1.58 billion	\$3.07 billion	\$11.76 billion
Throughways (includes tolling)	\$2.58 billion	\$2.92 billion	\$2.32 billion
Roads and bridges	\$3.05 billion	\$4.36 billion	\$4.13 billion
Freight access	\$74 million	\$307 million	\$155 million
Walking + Biking	\$1.05 billion	\$2.12 billion	\$3.16 billion
Information and Technology	\$180 million	\$392 million	\$132 million
<b>Total estimated cost in YOE dollars</b>	<b>\$8.57 billion</b>	<b>\$19.30 billion</b>	<b>\$22.03 billion</b>
RTP Operations and Maintenance Costs	Near-term Constrained List (2023-2030)	Long-term Constrained List (2031-2045)	Long-term Strategic List (2031-2045)
Transit operations and maintenance	\$6.58 billion	\$19.58 billion	not available
Roads and throughways operations and maintenance	\$3.92 billion	\$11.37 billion	not available
<b>Total estimated cost in YOE dollars</b>	<b>\$19.07 billion</b>	<b>\$50.25 billion</b>	not available

*Costs have been rounded and are in year-of-expenditure dollars. Estimated operations and maintenance costs for the strategic project list could not be fully accounted for.*

Capital projects and programs identified in the RTP Strategic list are not described in this chapter because funding has not yet been identified. Information about the costs to adequately operate and maintain the transportation system that would result from implementation of the strategic projects and programs was also not available.

As noted previously, the RTP constrained list of projects can be found in Appendix A. The RTP Strategic list of projects can be found in Appendix B. An interactive online map of all projects can be viewed at [www.oregonmetro.gov/rtp](http://www.oregonmetro.gov/rtp) or by clicking on the QR code in with a mobile device or pointer.

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## 2023 Regional Transportation Plan



# 2023 Regional Transportation Plan

## Chapter 7

### **Measuring Outcomes**

November 30, 2023

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## 7.0 INTRODUCTION

### Purpose

This chapter presents the results of the RTP system analysis conducted on the draft financially constrained project list in Chapter 6. The analysis assesses the RTP's impact on the five RTP goal areas: mobility, safety, equity, climate and economy. The RTP uses several different performance measures to capture the region's progress in each of these goal areas and compares the results to targets described in Chapter 2. The targets that are established through the state and federal rules that govern the RTP or that are included in policies adopted by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council. The system analysis uses Metro's travel model and other analytical tools. The analysis accounts not only for the projects and policies in the RTP, but also for factors such as projected population and job growth. Unless noted otherwise, all analyses in this chapter are for the Metropolitan Planning Area.

### Chapter organization

This chapter consists of five sections, each of which summarizes the RTP's performance with respect to the five RTP goals: mobility, safety, equity, economy, and climate. These sections all follow the same structure. Each begins with a table that summarizes the results for performance measures related to the goal in question. For each measure, the tables include a sentence describing the measure followed by rows with numbers showing the associated target and data on results and targets for the years 2020, 2030, and 2045. The tables use **blue text to indicate where the RTP meets targets**, **orange text to indicate where it doesn't**, and **purple text to indicate mixed results**. The text below the tables **highlights key findings in bold**, provides additional context to help interpret results, and discusses any performance measures or analyses that are still pending.

Metro sometimes cannot estimate results for certain years, and targets sometimes do not apply to all years for which the tables below show data. Blank cells in a table mean that a result or target is not available for a particular year for the measure in question.

The system analysis results are described alongside key takeaways from the high-level project list assessment completed as part of the evaluation process. The high-level project list assessment takes a simple, yes-or-no approach to reviewing whether individual projects in the draft RTP project list have certain features that support RTP goals and considers the share of the RTP spending devoted to different types of projects. The high-level project list assessment and system analysis in combination with public feedback received will inform policymakers and regional technical and policy advisory committees as they work together to finalize the draft RTP and projects lists for adoption in Fall 2023.



## 7.1 OUR GROWING REGION

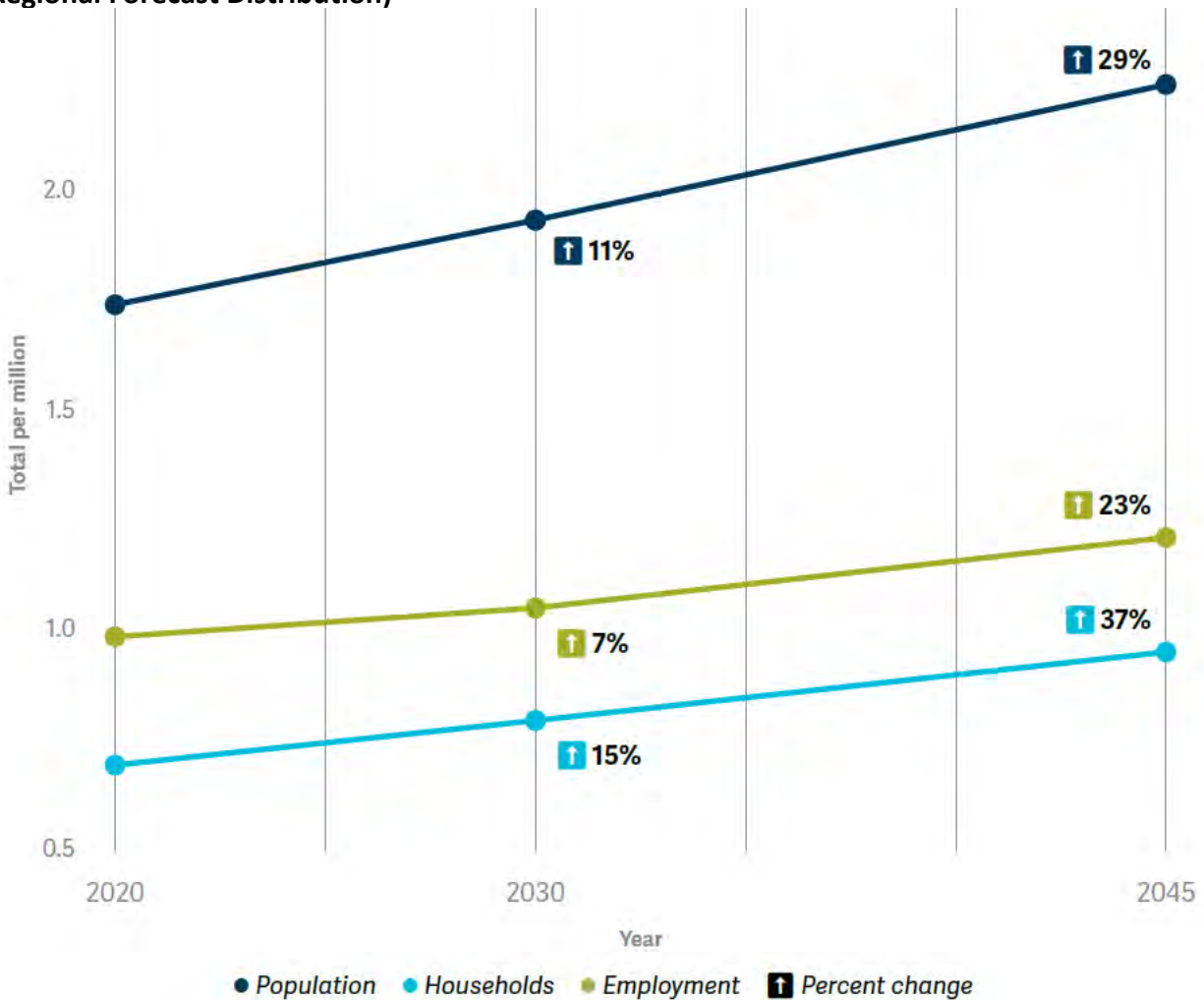
The system analysis focuses on how the RTP advances the region toward meeting its transportation goals. That said, other factors like regional population and employment growth and the historical development of the region’s transportation system, also influence progress toward these goals. Table 7.1 summarizes how the region and its travel network are growing and changing.

**Table 7.1: Forecasted changes in regional growth and the travel network, 2020-2045**

	2020	2030	2045
<i>Population and employment</i>			
Total population	1,740,943	1,933,475	2,242,128
% change in population vs. 2020		11%	29%
Total households	693,123	794,613	950,634
% change in households vs. 2020		15%	37%
Total employment	985,260	1,050,958	1,210,997
% change in employment vs. 2020		7%	23%
<i>Travel network</i>			
Total road miles	3,725	3,758	3,793
% change in road miles vs. 2020		1%	2%
Total arterial miles	3,493	3,530	3,559
% change in arterial miles vs. 2020		1%	2%
Total lane miles	5,461	5,596	5,753
% change in lane miles vs. 2020		2%	5%
Total throughway lane miles	627	633	663
% change in throughway lane miles vs. 2020		1%	6%
Total transit network miles	1,240	1,275	1,294
% change in transit network miles vs. 2020		3%	4%
Total regional pedestrian network miles	597	655	728
% change in regional pedestrian network miles vs. 2020		10%	22%
Total regional bicycle network miles	626	692	758
% change in regional bicycle network miles vs. 2020		11%	21%
Total regional trail network miles	248	274	330
% change in regional trail network miles vs. 2020		10%	33%

Figure 7.1 visualizes forecasted population, household, and employment growth.

**Figure 7.1: Forecasted regional population, employment, and household growth (Metro Regional Forecast Distribution)**



his information—which comes from the regional growth distribution adopted by the Metro Council for the RTP and other local and regional planning efforts, and from the project information that agency partners submit to the RTP—forms part of the background assumptions that Metro uses to analyze the impact of the RTP on regional goals. It highlights how the region is growing and changing and provides additional context for interpreting some of the results described in this section.

**The region is forecasted to grow significantly between now and 2045.** During that time, more than one-half million people are expected to move to the region, growing its population by 29%, while employment grows by 23%. Though the COVID-19 pandemic slowed population and job growth in the Portland region and in many other major metro areas, this growth is expected to pick up again in the future. Population and employment growth has a strong influence on congestion, and therefore on related performance measures such as access to jobs and corridor travel times. The region’s goals are to improve access to jobs and reduce travel times on key

corridors regardless of how much growth occurs, but all other things being equal these goals are harder to achieve when the region is growing more rapidly. Comparing the change in these performance measures to overall population and employment growth can help to distinguish whether growth or other issues are the driving factors behind the changes shown in the system analysis.

**The motor vehicle network is much more extensive than other networks.** The system analysis focuses on measuring system completion for different networks and in different communities where RTP policies prioritize investment. This is an important way of understanding the RTP’s progress toward the region’s vision for the transportation network, but those visions always build on the existing network, which was developed over several decades during which transportation agencies primarily focused on moving vehicles. Table 7.1 summarizes the current extent of different networks and the planned growth of those networks under the RTP. It illustrates why so many of the goals described above focus on completing the transit and active transportation networks—as of 2020, all those networks are less than a third of the size of the region’s road network, and that is still the case in 2045 even with the RTP prioritizing transit and active transportation investments.



## 7.2 MOBILITY

**Table 7.2: Summary of draft system analysis results: mobility**

Measure	Base year value	Base year target	2030 result	2030 target	2045 result	2045 target
<i>The RTP aims to triple transit, bike, and pedestrian mode shares relative to the base year.</i>						
Transit mode share	4.0%		4.4%		5.3%	11.9%
Pedestrian mode share	7.4%		7.5%		7.7%	22.2%
Bicycle mode share	3.5%		3.5%		3.6%	10.4%
<i>The RTP prioritizes improving access to jobs via driving and transit relative to the base year.<sup>1</sup></i>						
% of regional jobs accessible by transit	7%		8%	7%	8%	7%
% of regional jobs accessible by driving	40%		41%	40%	36%	40%
<i>The RTP aims to provide the same level of access to jobs via transit (or greater) as via driving so that transit offers the same efficiency and convenience as driving.</i>						
% of regional jobs accessible by transit	7%		8%	41%	8%	36%
<i>The RTP aims to complete the transit, bicycle, trail and pedestrian networks by 2035, and to complete all networks by 2045.</i>						
% of the motor vehicle network that is complete	98%		99%		99%	100%
% of the transit network that is complete	70%		72%		73%	100%
% of the pedestrian network that is complete	57%		63%	100%	70%	100%
% of the bicycle network that is complete	54%		60%	100%	66%	100%
% of the trail network that is complete	44%		48%	100%	58%	100%
<i>The RTP prioritizes completing the bicycle and pedestrian system near transit (relative to the regional average) in order to provide safe and convenient access to stations and stops.<sup>2</sup></i>						
% of the pedestrian network near transit that is complete	63%		68%	63%	74%	70%
% of the bicycle network near transit that is complete	60%		66%	60%	71%	66%
<i>The RTP aims to have no more than four hours in a day when average travel speeds fall below 35 miles per hour on the region's controlled-access thoroughways (freeways) and below 20 miles per hour on other designated thoroughways (signalized highways) so that the region's thoroughways are reliable.</i>						
% of controlled-access thoroughway (freeway) miles that fall below 35 MPH for more than 4 hours per day	23%		16%	0%	23%	0%
% of other designated thoroughway (signalized highway) miles with traffic signals that fall below 20 MPH travel speeds for more than 4 hours per day	2%		0%	0%	1%	0%

<sup>1</sup> Access to jobs analysis involves measuring the average number of jobs that are accessible via 45 minutes via transit and 30 minutes via driving during peak travel hours across all of the travel analysis zones used in Metro's travel model. See the equity section below for more detail on the type of jobs and destinations that are captured in this analysis.

<sup>2</sup> As discussed above, the RTP aims to complete the entire regional bicycle and pedestrian systems by 2035. This is a more aspirational goal that requires significant additional resources for bicycle and pedestrian facilities. In the event that these additional resources are not available, the RTP aims at a minimum to prioritize bicycle and pedestrian facilities in the places where they produce the most benefits—including near transit. Comparing system completeness near transit to regional average system completeness holds the RTP accountable to this secondary target.

Measure	Base year value	Base year target	2030 result	2030 target	2045 result	2045 target
<i>The RTP aims to increase the share of households and jobs that are located within walking distance of frequent transit service<sup>3</sup> relative to the base year.</i>						
% of households located within walking distance of a frequent transit station	54%		56%	54%	54%	54%
% of jobs located within walking distance of a frequent transit station	64%		67%	64%	67%	64%
<i>The RTP seeks to improve mobility by filling gaps in the transportation network and by designing the transportation system for multimodal travel.</i>						
% of the capital RTP spending invested in projects that fill gaps in the transportation network			30%		26%	
% of the capital RTP spending invested in projects that include multimodal design elements			95%		92%	
% of the capital RTP spending invested in projects that fill gaps and include multimodal design elements			29%		26%	

Since the RTP is a transportation plan, it has many different performance measures related to mobility, including three new measures to support the regional mobility policy—system completeness, throughway reliability, and vehicle miles traveled (discussed in the climate section). For some of these measures the RTP meets performance targets, whereas for other measures it falls short.

### 7.2.1 Mode share

**The RTP increases transit use and multimodal travel, but does not meet the region’s targets to triple transit, walking and bicycling mode share.** Metro’s travel models forecast that the investments in the RTP help to increase the share of trips that people make using these modes, but only by small amounts. Transit mode share is forecast to grow by 1.3% between 2020 and 2045—a relative increase of over 30%—which is significant, but still far short of adopted targets. Walking and bicycling mode shares increase by much smaller amounts than transit mode shares.

### 7.2.2 Access to jobs

**The RTP generally improves access to jobs.** The percentage of the region’s jobs that are accessible by transit increases between 2020 and 2045. Access to jobs by driving also increases between 2020 and 2030, but then it declines between 2030 and 2045. Generally, the investments in the RTP help to keep both roads and transit vehicles moving more efficiently, which increases

<sup>3</sup> “Frequent transit service” refers to service with headways of 15 minutes or less. Metro uses different walking distances to analyze proximity to different types of transit service, consistent with research that shows people are willing to walk longer to reach higher-quality service. This analysis defines “walking distance” as one-quarter mile for bus, one-third -mile for streetcar, and one-half mile for rail.

access to jobs. Increasing congestion near some job centers appears to be contributing to declining motor vehicle access to jobs in the later years of the plan.

**Driving currently offers much better access to jobs than transit does, and the RTP does not change this even though it improves access to jobs via transit.** The RTP improves access to jobs via transit more than it does access to jobs via driving. However, driving currently offers access to five to ten times as many destinations as transit does depending on when you are traveling, where you want to go, and where within the region you are starting from, and the RTP does not change the fact that driving offers much better access than transit does. In order to give people the ability to choose from a variety of seamless and well-connected travel options and services that easily get them where they need to go, transit needs to offer the same level of access as driving does. Providing equal access via transit and driving is an aspirational goal for the greater Portland region—and almost any other U.S. city—due to a decades-long history of auto-oriented development, but closing the gap between transit and driving access has far-reaching benefits for the region.

### 7.2.3 System completeness

**None of the region’s transportation networks are complete, but the motor vehicle network is much closer than others.** A goal of the RTP mobility policy is to complete all active transportation networks by 2035, and to complete all planned infrastructure and service networks by 2045. None of these networks are completed under the updated RTP, but the motor vehicle network, which will be 99% complete in 2045 when other networks are only 58 to 73% complete, is much closer than the other networks. Completing all networks in the RTP is important to meeting goals, but the fact that the motor vehicle network is so much more complete than others contributes to the challenge of providing a variety of seamless and connected travel choices. Additional work is being completed by Metro staff to develop approaches for defining system completeness for transportation system management and operations (TSMO) network and transportation demand management programs.

**The region has historically prioritized completing pedestrian and bicycle facilities near transit, and the RTP upholds this priority.** The pedestrian and bicycle networks are currently 6% more complete near transit than in other locations in the region, and though the RTP makes slightly less progress completing these networks near transit than in general, they will still be more complete in 2045.

**The RTP generally improves access to frequent transit, if only slightly.** In order for the transit system to be useful, stops and stations have to be located near common origins and destinations, particularly for the frequent service that gets riders where they need to go efficiently. The RTP slightly increases the share of jobs that are near transit, and in the short term, the share of households that are located near transit as well. However, the share of households that are projected to be within walking distance of transit in 2045 is similar to the base year share. Though the RTP expands the transit system, this planned growth may not be keeping pace with new development, or land use plans may need to be updated to locate more housing near new service.



Almost all of the RTP projects include design elements that support travel by transit, foot or bike. However, less than a third of the RTP spending goes toward projects that close gaps in regional transportation networks.

### 7.2.4 Throughway reliability

The Regional Mobility Policy identifies future transportation needs on the region's throughways using travel speed as a proxy for reliability. It sets a minimum throughway performance threshold of no more than four hours per weekday with travel speeds below 35 miles per hour on controlled access throughways (which include the region's freeways—I-5, I-84, I-205, I-405, US 26 and OR 217) or 20 miles per hour on signalized throughways (e.g., OR 99E, US 30, OR 212). If average speeds fall below the relevant speed threshold for more than a total of four hours in a day, it indicates the system is failing at that location.

**The RTP meets these thresholds for most of the region's throughways and generally maintains current levels of reliability. However, roughly a quarter of the region's controlled-access throughways do not meet reliability thresholds.** Reliability is generally projected to improve between now and 2030 as the region invests in implementing pricing, system management, strategic projects to address bottlenecks, and multimodal investments such as high capacity transit and system management. Reliability then declines back to 2020 levels in 2045 due to continued population and employment growth. Though the RTP maintains or improves reliability on most throughways between the base year and 2045, there are some notable exceptions. Stretches of OR 217, US 26, I-84, and I-5 south of downtown Portland all show declining reliability, and there are also some marked improvements in reliability along I-5 north of downtown Portland due to RTP projects. Figure 7.2, Figure 7.3, and Figure 7.4 show how throughway reliability changes over time under the RTP and highlight locations that do not meet the throughway reliability thresholds.

**Figure 7.2: 2019 base year throughway travel speed reliability performance (Regional Integrated Transportation Information System data)**

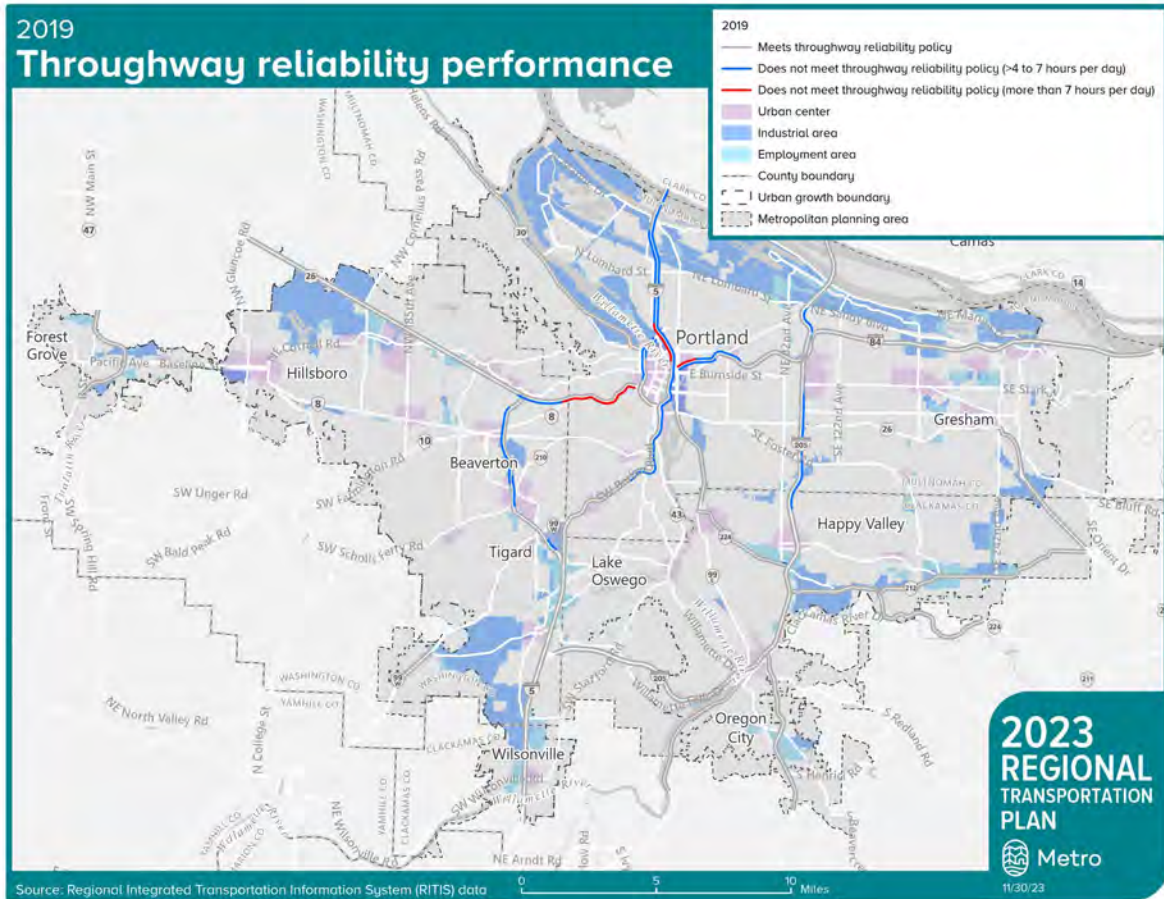


Figure 7.3: 2030 throughway travel speed reliability performance (Metro travel model)

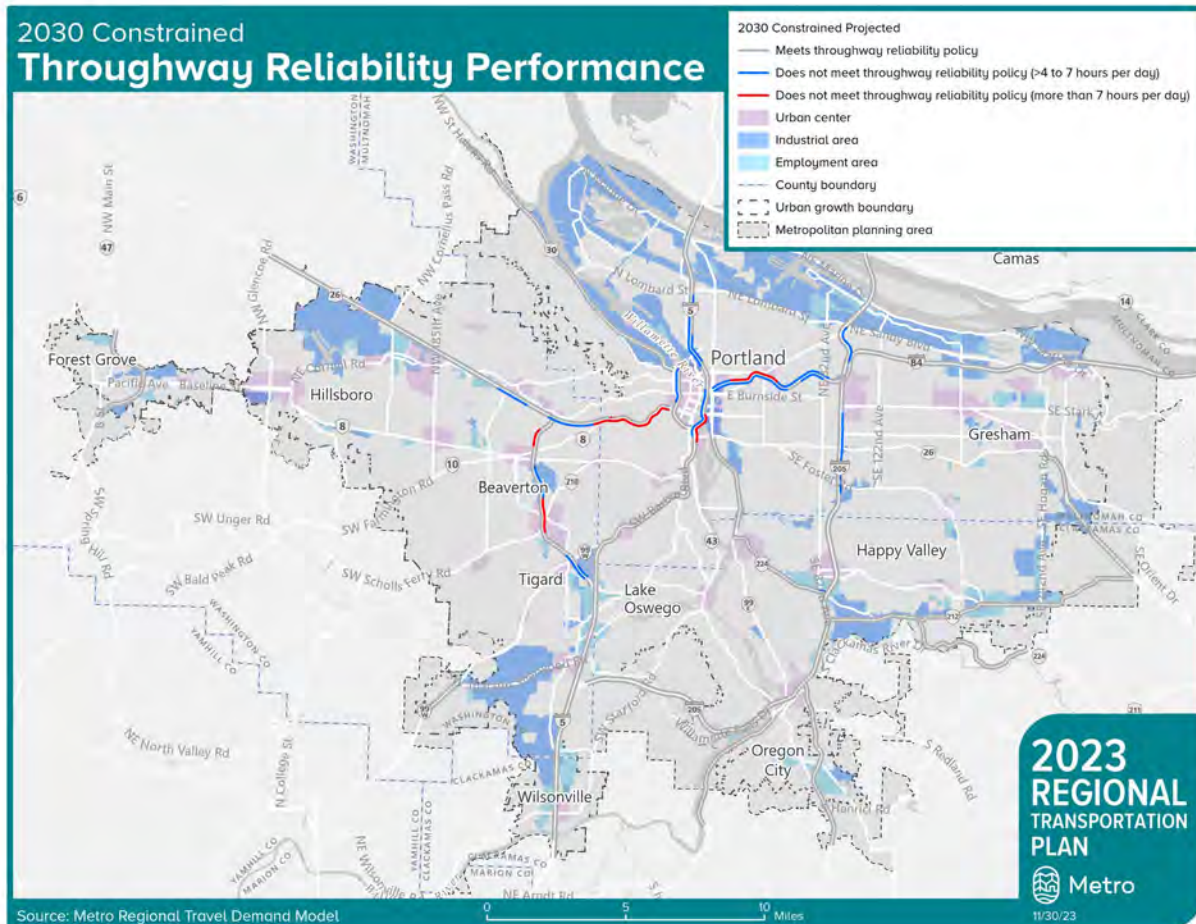
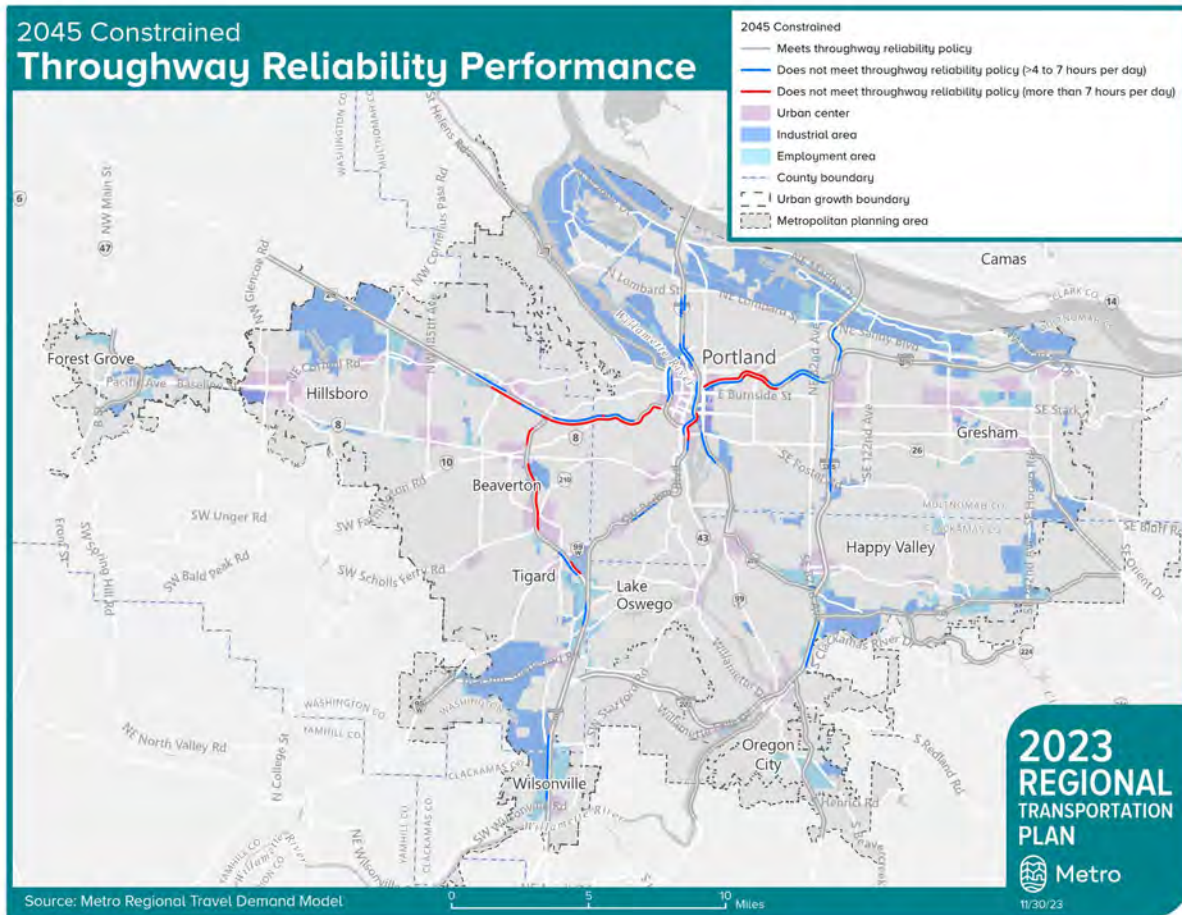




Figure 7.4: 2045 throughway travel speed reliability performance (Metro travel model)



The investments in the RTP help to preserve future throughway capacity for longer-distance movement of goods, services and people, and enhance access to the region’s industrial areas, ports and intermodal facilities. However, more evaluation of future pricing strategies is needed to better understand their effect on the region’s parallel arterials, low-income households, and land use patterns to ensure any unintended consequences are identified and addressed in design and implementation. Corridor-level evaluation is also needed upon completion of the 2023 RTP update to address deficiencies and specific investment needs identified in this analysis. See Appendix I for more details on the throughway reliability analysis and results for individual throughway segments.

### 7.2.5 Transit investments and performance

The RTP relies on a thriving, affordable and efficient transit system to achieve regional mobility, equity and climate goals. Currently, the transit system is facing significant challenges, including recovering from severe service and ridership declines due to the COVID-19 pandemic, ongoing challenges hiring drivers, concerns about riders’ and drivers’ safety, and inflationary increases in the cost of new infrastructure and service. The RTP makes significant investments in transit,

including \$4.6 billion in transit capital projects and \$21 billion for transit service and operations. These investments still deliver significant benefits for the region, even when accounting for the challenges that transit has faced recently.

Chapter 3 contains maps showing the planned transit system that will evolve over the course of the RTP as new planned projects and service are delivered. These projects include major near-term regional investments such as new high-capacity transit lines along Tualatin Valley Highway, 82nd Avenue, and the Montgomery Park streetcar line, Better Red, Division FX frequent bus service, and Better Bus improvements throughout the region that help buses move more quickly through traffic, all of which are anticipated to be built by 2030. The 2045 network includes light rail on the I-5 Interstate Bridge and along Southwest Corridor; concentrated Better Bus investments in key corridors including Lombard, Cesar Chavez and SW 185th; and additional high-capacity transit projects.

The RTP accounts for several recent changes to the transit system when evaluating the impact of these projects on regional goals:

**The pandemic changed riders' behavior, and transit agencies are adjusting service accordingly.** The region's transit system has historically been designed to connect workers to job centers, particularly during peak commuting hours, but commute trips fell dramatically during the pandemic, and given the persistence of working from home it seems likely that a lower share of workers will be using transit for their commutes going forward. TriMet's Forward Together service concept<sup>4</sup> increases service in equity focus areas and focuses more on providing good service throughout the day and less on providing frequent transit during peak hours compared to previous plans. These changes are included in the RTP transit network along with the projects listed above.

**The cost of building and operating transit has gone up.** Inflation has increased the cost of most of the investments included in the RTP, which means that the region's transportation dollars do not stretch as far. This is particularly true for transit because the RTP is required to account for not only the cost of building new transit facilities, but also the cost of operating new transit projects. This increases the cost of building out the regional transit network, and delays progress toward completing that network.

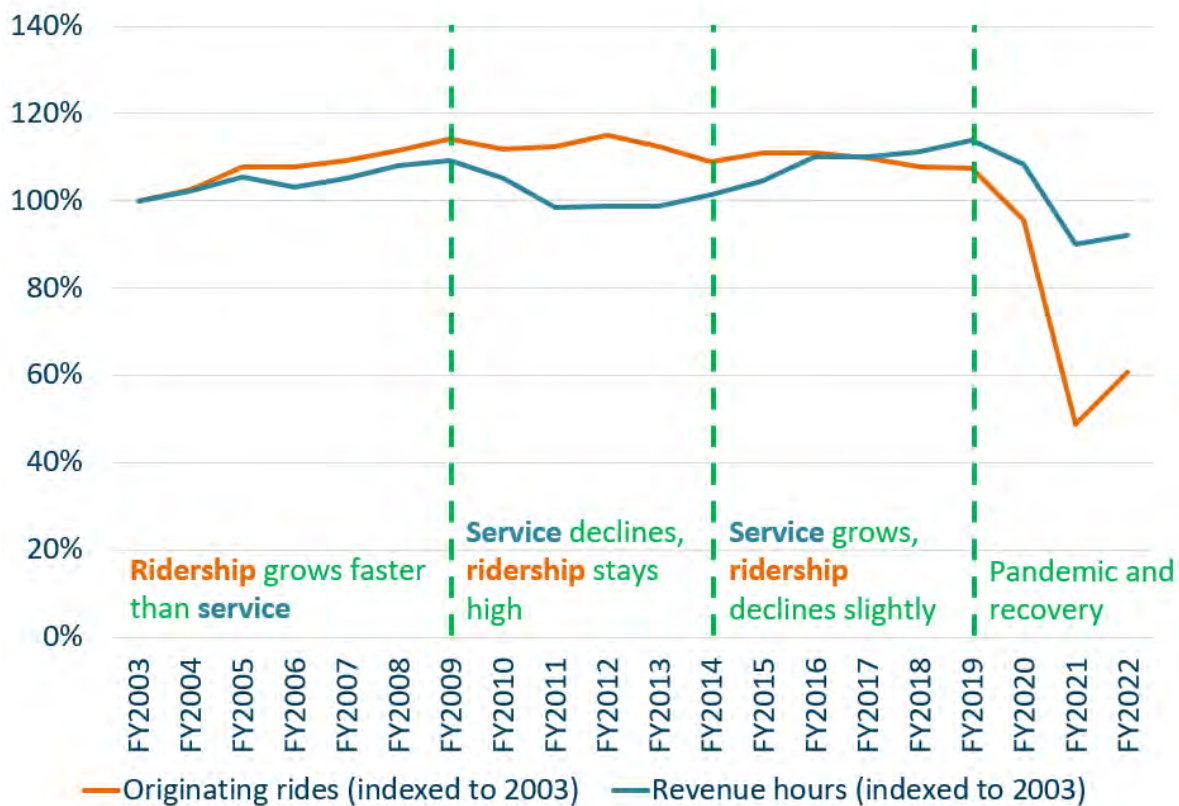
**Recent transit investments have been less effective at drawing new riders.** Figure 7.5 shows how TriMet service and ridership<sup>5</sup> has changed since 2003. Service and ridership are both indexed to 2003 levels, which means that the graph focuses on how those variables have changed over the past two decades.

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<sup>4</sup> <https://trimet.org/forward/>

<sup>5</sup> TriMet annual performance report, 2003-22, <https://trimet.org/about/performance.htm>. This data does not include all transit services in the region, but since TriMet serves over 90% of transit rides in the region its data typically reflects regional trends, and the way that TriMet reports this data makes it easy to use this data to track those trends over time.

**Figure 7.5: Transit service and ridership, indexed to 2003 levels, 2003-22 (source: TriMet ridership data)**



The past two decades of transit performance can be broken down into four phases:

- From 2003 to 2009, ridership grew faster than service (14% vs. 9%). New investments in transit were relatively effective at drawing new riders during this period.
- From 2010 to 2013, service declined, but ridership remained at high levels.
- From 2014 to 2019, service increased significantly while ridership declined slightly. This suggests that new transit service was not very effective at drawing new riders.<sup>6</sup>
- From 2020 to 2022, transit ridership and service both suffered severe declines and then recovered slowly.

<sup>6</sup> Transit agencies in cities across the U.S. observed similar trends during this period, during which total U.S. non-rail transit trips fell by almost 9% and rail trips fell by roughly 2%. (See Federal Transit Administration, National Transit Database: 2019 National Transit Summaries and Trends, <https://www.transit.dot.gov/ntd/2019-national-transit-summaries-and-trends-ntst>.) Analyses pointed to several potential explanations for this decline, including an increased preference among travelers for (and, as the economy strengthened, ability to afford) private vehicles, declining gas prices, competition from transportation network companies and other emerging modes, and declining housing affordability, which may have led many lower-income people who are more likely to rely on transit to move to communities where transit was not accessible. (See Transit Center, Who’s on Board 2019: How to Win Back America’s Transit Riders, <https://transitcenter.org/publication/whos-on-board-2019/>.)



During every RTP update, Metro calibrates its travel model that is used in the RTP system analysis to existing data to capture changing dynamics in how people travel. The 2023 RTP update uses a travel model that is calibrated to data from 2014-19, whereas the previous RTP update used data from 2013 and before. **This leads the 2023 RTP to make more modest assumptions about how many riders will use new transit service.**

In spite of the challenges discussed above, transit service, ridership and mode share still increase significantly under the 2023 RTP, as shown in Table 7.3.

**Table 7.3: 2023 RTP transit performance results**

Measure	2020	2030 Constrained	2045 Constrained
Total daily transit revenue hours	7,456	8,899	9,986
Increase in total daily revenue hours	0%	19%	34%
Total daily transit trips	248,763	309,732	430,280
Increase in total daily trips	0%	25%	73%
Transit mode share (all trips)	4.0%	4.4%	5.3%
Transit mode share (work)	7.0%	8.0%	9.4%
Transit mode share (non-work)	2.8%	3.1%	3.8%

**Transit mode share is forecast to increase from 4.0% to 5.3% over the lifetime of the RTP—a relative increase of over 30%.** This is short of the RTP’s ambitious target to increase transit, bike, walk and mode share by 200%, but it is nonetheless a significant increase. Even though some workers will replace transit commutes with working from home on some days, transit will likely continue to serve commutes because commutes tend to be long-distance trips for which transit is a particularly useful alternative to driving.

In spite of signs that new transit service has recently been less effective at attracting riders, the RTP still expects that growth in ridership will outpace growth in transit service. This is because **the RTP accounts for several other changes that support transit service, including population growth, land use changes that locate more people and jobs near transit, and new tolls and parking pricing** (see the Climate section for further discussion), which encourage some drivers to shift to using transit.

Much has changed about transit, but transit’s importance to the region has not changed, and neither has the evidence about what makes transit service effective at drawing riders. All other things being equal, transit services tend to draw more riders—which means that they also support progress toward the region’s mobility and climate goals—when they:

- Serve areas that are plentiful with housing and jobs.
- Serve areas where high concentrations of people of color and people with low incomes live and work, such as equity focus areas.
- Arrive frequently.
- Connect origins and destinations quickly.

These principles continue to guide transit planning efforts in the region, including the High-Capacity Transit Strategy that is included in the 2023 RTP update.

## 7.3 SAFETY

**Table 7.4: Summary of draft system analysis results: Safety**

Measure	Base year value	Base year target	2030 result	2030 target	2045 result	2045 target
<i>The RTP aims to eliminate transportation related fatalities and serious injuries for all users of the region's transportation system by 2035, and to maintain progress toward this goal in interim years.</i>						
Number of fatalities	93	52				
Fatalities per 100 million vehicle miles traveled	0.9	0.5				
Number of serious injuries	512	384				
Serious injuries per 100 million vehicle miles traveled	4.8	3.6				
Number of non-motorized fatalities and serious injuries	129	95				
<i>The RTP seeks to advance safety by funding projects that benefit safety in the most dangerous locations on the region's transportation network.</i>						
% of the capital RTP spending invested in projects identified as safety projects			67%		69%	
% of the capital RTP spending invested in projects located on high injury corridors or intersections			48%		55%	
% of the capital RTP spending invested in safety projects that are located on high injury corridors or intersections			50%		46%	

**The region is not on track to meet its target of reducing fatal and serious injury crashes to zero by 2035.** Table 7.4 shows baseline 2020 results for several different indicators that examine different types of crashes (fatal crashes, serious injuries, and non-motorized crashes involving vulnerable users) using different indicators (both rates and absolute values) and compares them to 2020 targets that represent a 16% reduction in crashes compared to 2014, when the region adopted these safety targets, and a 50% reduction by 2025, both of which are interim milestones on the path to meeting the 2035 target. By every **safety measure that the RTP tracks, the region's streets are getting less safe**, and the RTP is not meeting the interim targets that it established to maintain progress toward the 2035 Vision Zero goal.

The needs assessment in Chapter 4 and a Fall 2022 report on the needs of the region's urban arterials contain more information on where crashes are occurring in the region and who is affected by different types of crashes that helps to explain and contextualize the results above.<sup>7</sup> Key findings include:

- Pedestrians experience a disproportionately high number of traffic deaths.
- Traffic fatalities are decreasing among bicyclists.

<sup>7</sup> <https://www.oregonmetro.gov/sites/default/files/2022/11/29/2023-RTP-Needs-Assessment-fact-sheets.pdf> and <https://www.oregonmetro.gov/sites/default/files/2022/10/24/Safe%20and%20healthy%20urban%20arterials%20policy%20brief.pdf>



- A majority of serious crashes and bike/ped crashes occur in equity focus areas (see the Equity section for more information).
- Speed, alcohol, and/or drugs continue to be the most common contributing factors in severe and fatal crashes in the region.
- Serious crashes, and particularly fatal pedestrian crashes, are increasing both in the Greater Portland region and nationally. The growing popularity of SUVs and other heavier and larger models of passenger vehicles is contributing to these trends; by 2025, light-trucks, SUVs, vans and pickups are estimated to make up 78% of sales. Research indicates that crashes involving SUVs and similar weight vehicles are more likely to be serious and to injure or kill pedestrians and bicyclists.<sup>8</sup>

More than two thirds of capital funding in the RTP goes to projects that lead agencies identified as safety projects, and over half of the capital budget goes toward projects that are on the high-injury network, which includes the relatively small share of roads and intersections where most of the serious crashes in the region occur. However, a smaller share of the near-term (2023-30) RTP spending is devoted to these projects than of the total budget. See Chapter 3 for a map of the high injury network that is used in these safety analyses.

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<sup>8</sup> Tyndall, Justin. "Pedestrian Deaths and Large Vehicles." *Economics of Transportation*, Volumes 26–27, June–September 2021. <https://www.sciencedirect.com/science/article/abs/pii/S2212012221000241?via%3Dihub>, and Monfort, Samuel S.; Mueller, Becky C. "Pedestrian injuries from cars and SUVs: updated crash outcomes from the Vulnerable Road User Injury Prevention Alliance (VIPA)." *Traffic Injury Prevention (TIP)*, Insurance Institute for Highway Safety, May 2020. <https://www.iihs.org/topics/bibliography/ref/2203>.

## 7.4 EQUITY

**Table 7.5: Summary of draft system analysis results: equity**

Measure	Base year value	Base year target	2030 result	2030 target	2045 result	2045 target
<i>Safety is a critical issue in equity focus areas. The RTP aims to eliminate transportation related fatalities and serious injuries for all users of the region’s transportation system, particularly in equity focus areas, which experience higher rates of serious crashes.</i>						
Serious crashes in Equity Focus Areas (EFAs)	65%	35%				
Pedestrian- and bicyclist-involved crashes in Equity Focus Areas (EFAs)	75%	25%				
<i>The RTP prioritizes completing the bicycle and pedestrian system in equity focus areas (relative to other communities)<sup>9</sup> to provide safe streets for the most vulnerable travelers.</i>						
% of the pedestrian network that is complete within EFAs	70%		76%	51%	82%	59%
% of the pedestrian network near transit that is complete within EFAs	73%		79%	58%	83%	65%
% of the bicycle network that is complete within EFAs	61%		69%	53%	75%	59%
% of the bicycle network near transit that is complete within EFAs	64%		72%	60%	77%	65%
<i>The RTP prioritizes improving access to jobs within equity focus areas (relative to other communities).<sup>10</sup></i>						
% of regional jobs accessible by transit in equity focus areas	8%		9%	5%	10%	5%
% of regional jobs accessible by driving in equity focus areas	41%		42%	39%	39%	32%
<i>The RTP seeks to advance equity by funding projects that benefit equity in the communities that have the greatest needs.</i>						
% of the capital RTP spending invested in equity projects (transit or walk/bike investments)			70%		69%	
% of the capital RTP spending invested in projects located in equity focus areas			43%		39%	

<sup>9</sup> As discussed above in the Mobility section, the RTP aims to complete the entire regional bicycle and pedestrian systems by 2035. This is a more aspirational goal that requires significant additional resources for bicycle and pedestrian facilities. In the event that these additional resources are not available, the RTP aims at a minimum to prioritize bicycle and pedestrian facilities in the places where they produce the most benefits—including in EFAs. Comparing system completeness in EFAs to other communities holds the RTP accountable to this secondary target.

<sup>10</sup> The results shown here measure access to all jobs during peak hours. Community feedback has emphasized that marginalized people particularly prioritize access to community places such as schools, grocery stores and community services and access to jobs that they are qualified for, and that marginalized people are less likely to commute during peak hours and more likely to need to travel throughout the day. Metro staff analyzed access to jobs by wage level and access to community places, and also access during off-peak periods. All of these analyses show the same basic patterns as the results in Table 7.5—access to destinations via transit and auto is slightly better in equity focus areas than in other communities, and access to destinations via auto is much higher than access via transit—and this memorandum does not reproduce those results in order to conserve space. The final RTP will include complete results of the accessibility analysis.

Measure	Base year value	Base year target	2030 result	2030 target	2045 result	2045 target
% of the capital RTP spending invested in equity projects that are located in equity focus areas			28%		26%	

**The RTP achieves mixed results on equity—it invests equitably, but these investments do not undo longstanding transportation inequities in safety and access to jobs.** The region’s bicycle and pedestrian networks are currently more complete in many Equity Focus Areas (EFAs) where people of color, low-income people and people who speak limited English are concentrated, and the RTP continues to invest in completing those networks. However, recent data shows that these areas continue to experience three times the number of crashes that involve people walking and biking—who are particularly vulnerable to death and injury during crashes—and almost twice as many fatal and serious injury crashes as other parts of the region.

Similarly, **people living in some EFAs currently have significantly better access to jobs via transit and driving than people living in non-EFAs, and the RTP continues to improve access to jobs in these communities relative to others.** However, despite continued efforts to grow transit service during this and previous RTP cycles, **driving in general continues to offer much more efficient and convenient access to jobs than transit does.** Both research and community feedback emphasize that people of color and people with low incomes are more likely to rely on transit. This suggests that an equitable transportation system is one in which transit offers the same level of access to jobs as driving—and even with the investments in the RTP the region still falls short of providing equal access via driving and transit.

Over two thirds of RTP capital spending goes toward projects that invest in the transportation equity needs identified by people living in EFAs, and over one third goes toward projects in EFAs, with a slightly higher share of near-term funding than long-term funding devoted to these priorities. See Chapter 3 for a map of the equity focus areas that are used in these analyses.



## 7.5 ECONOMY

**Table 7.6: Summary of draft system analysis results: economy**

Measure	Base year value	Base year target	2030 result	2030 target	2045 result	2045 target
<i>The RTP aims to decrease driving and transit travel times along regional mobility corridors relative to the base year.</i>						
% change in average mid-day corridor <sup>11</sup> travel times vs. 2020: driving			1.0%	0%	3.9%	0%
% change in average evening peak corridor travel times vs. 2020: driving			1.8%	0%	3.7%	0%
% change in average off-peak corridor travel times vs. 2020: transit			-3.4%	0%	-3.8%	0%
% change in average evening peak corridor travel times vs. 2020: transit			-1.2%	0%	-1.6%	0%
<i>The RTP prioritizes completing the bicycle and pedestrian system in job and activity centers (relative to the regional average)<sup>12</sup> in order to provide safe and convenient options for short trips and connections to transit.</i>						
% of the pedestrian network that is complete within centers, station communities, and mixed-use areas	74%		77%	63%	80%	70%
% of the bicycle network that is complete within centers, station communities, and mixed-use areas	63%		69%	60%	74%	66%
% of the pedestrian network that is complete within employment and industrial areas	39%		46%	63%	53%	70%
% of the bicycle network that is complete within employment and industrial areas	55%		59%	60%	64%	66%
<i>The RTP supports the economy by prioritizing by filling gaps in the transportation network and by designing the transportation system for multimodal travel.</i>						
% of the capital RTP spending invested in projects located in planned job centers and growth areas			84%		81%	
% of the capital RTP spending invested in projects located in areas that currently have higher-than-average concentrations of jobs			78%		74%	

**The RTP achieves mixed results on reducing travel times between the region’s centers.** It reduces transit travel times along the corridors that connect the region’s centers, but driving times along these corridors increase, particularly in 2045, due to increased congestion. This

<sup>11</sup> Metro uses mobility corridors that link different regional centers for the purposes of travel analysis (<https://www.oregonmetro.gov/mobility-corridors-atlas>) and forecasts driving and transit times between key destinations along each corridor using its travel model. The averages presented for this metric are based on the longest-distance route along each corridor for which forecasted both driving and transit travel times are available, and, in the case of peak-hour results, the route corresponding with the direction of peak travel.

<sup>12</sup> As discussed above in the Mobility section, the RTP aims to complete the entire bike/ped system by 2035. This is a more aspirational goal that requires significant additional resources for bicycle and pedestrian facilities. In the event that these additional resources are not available, the RTP aims at a minimum to prioritize bicycle and pedestrian facilities in the places where they produce the most benefits—including in job and activity centers. Comparing system completeness in these centers to the regional average holds the RTP accountable to this secondary target.

means that workers who commute by transit enjoy better access to jobs and spend their days more productively, but drivers don't necessarily enjoy these same benefits. However, travel times increase at a much slower pace than the region's population and employment grows (under 4% by 2045, compared to 29% growth in population and 23% growth in jobs), which suggests that the RTP helps traffic move more efficiently along these corridors than it would otherwise given the pressure that new growth and new trips put on the transportation system.

**In order to help workers take advantage of the faster and more frequent transit connections that the RTP provides, the RTP must also complete the bicycle and pedestrian networks in the communities where jobs are located.** Doing so gives transit commuters safe and convenient connections from transit stations to their places of work. The bicycle and pedestrian network is already more complete than average in centers, station communities and other mixed-use areas where many of the region's office, service, and other jobs are located, and the RTP continues to prioritize investment in these areas. However, even with the investments planned in the RTP, the pedestrian and bicycle networks—particularly the former—are not nearly as complete in employment and industrial areas that are home to many of the region's manufacturing and transportation jobs as it is in the rest of the region. Many businesses in these areas need freight access and ample floor space for manufacturing or warehousing, which can pose challenges to creating convenient and safe walking and biking environments. New transit options, particularly smaller and more flexible service that can serve routes with many dispersed stops, are also needed to give people a car-free option that connects within walking or biking distance of their jobs. Completing the pedestrian network can also help transit riders safely and conveniently complete the last mile of their commutes once this service is in place.

**The RTP invests heavily in projects that are located both in planned job centers and in the places where jobs are currently concentrated, which reflects a continued emphasis on investing in transportation facilities that support current and planned growth.**

## 7.6 CLIMATE AND ENVIRONMENT

**Table 7.7: Summary of draft system analysis results: climate and environment**

Measure	Base year value	Base year target	2030 result	2030 target	2045 result	2045 target
<i>The RTP aims to reduce greenhouse gas emissions and vehicle miles traveled in order to meet regional climate targets set by the State, which are to reduce vehicle miles traveled per person by 35% by 2050, with a 30% reduction by 2045 and a 25% reduction by 2040, compared to 2005.</i>						
% reduction in household-based light-duty VMT per capita relative to 2005					34.8%	30%
% reduction in household-based light-duty GHG emissions per capita relative to 2005 <sup>13</sup>					87.7%	
<i>The RTP aims to reduce total greenhouse gas emissions in order to meet State goals.</i>						
Total GHG reductions (metric tons)	11,130		9,131	11,130	7,457	11,130
<i>The RTP aims to keep criteria pollutants from mobile sources below thresholds set by the federal government.</i>						
Total daily summer carbon monoxide emissions (lbs)	268,237		112,701	268,237	64,970	268,237
Total daily winter carbon monoxide emissions (lbs)	212,000		86,161	212,000	59,984	212,000
Total daily summer volatile organic compound emissions (lbs)	12,568		3,090	12,568	2,360	12,568
Total daily winter particulate matter 10 exhaust (lbs)	391		128	391	55	391
Total daily winter particulate matter 2.5 exhaust (lbs)	350		114	350	48	350
<i>The RTP aims to keep air toxics from mobile sources below current levels.</i>						
Daily diesel particulate matter emissions (pounds)	421		135	421	55	421
Daily acrolein emissions (pounds)	7		1	7	0	7
Daily benzene emissions (pounds)	319		55	319	35	319
Daily 1,3-butadiene emissions (pounds)	38		2	38	1	38
Daily formaldehyde emissions (pounds)	132		19	132	8	132
Daily arsenic emissions (grams)	67		71	67	64	67
Daily chromium 6 emissions (grams)	0		0	0	0	0
Daily naphthalene gas emissions (grams)	8		2	8	1	8
<i>The RTP seeks to advance climate and resilience by funding high-impact greenhouse gas reduction strategies and projects on key emergency routes.</i>						
% of the capital RTP budget invested in high- or moderate-impact Climate Smart Strategies <sup>14</sup>			39%		32%	
% of the capital RTP budget invested in projects located on Emergency Transportation / Seismic Lifeline routes			67%		66%	

<sup>13</sup> The RTP climate targets set by the State are framed in terms of VMT per capita reductions, and there is no corresponding regional target for GHG emissions per capita. However, Metro displays these results in order to provide complete documentation of the state-required climate analysis, and also to help illustrate the share of overall per capita GHG reductions that are due to VMT reductions as opposed to improvements in vehicle and fuel technology. See the discussion later in this section for more details.

<sup>14</sup> See Figure 4.33 in Chapter 4 for a description of high- and moderate-impact strategies.



**The RTP meets its targets to reduce criteria pollutant and air toxic emissions.** These emissions are known to cause health and respiratory issues for people and damage the environment, so meeting this goal also supports public health and the general health of the region's ecosystem. Progress toward this target is largely driven by the fact that the next generation of vehicles is expected to produce less pollution than the cars that are currently on the road. The region's success in reducing per capita VMT also helps to ensure that increases in driving don't counteract the benefits of cleaner vehicles.

**The RTP meets State-mandated regional climate targets by implementing the projects and programs in the constrained RTP project list in combination with State-led actions identified in the Oregon Statewide Transportation Strategy (STS),** which is Oregon's strategy to reduce transportation-sector GHG emissions. The STS includes State-led pricing actions, in addition to implementation of clean vehicle and fuel programs and regulations at the state and federal level. The fleet and technology actions cover variables such as the share of zero-emission vehicles, the carbon intensity of fuels, the balance of cars and trucks in the passenger fleet, and vehicle turnover. The State-led pricing-actions assumed in the STS assume that the State will implement extensive changes to how transportation revenues are collected in Oregon, both to replace the gas tax, which is not producing enough revenue to meet Oregon's transportation needs, and to reduce GHG emissions by managing demand for driving and encouraging the use of cleaner modes and vehicles. The following subsection provides more detail about how the transportation investments in the RTP work alongside the technology and pricing assumptions in the STS—particularly the latter—to meet the region's climate targets. Additional detail about of the climate analysis conducted for the RTP is provided in Appendix J to the RTP.

### **7.6.1 Pricing impacts the region's progress toward climate goals**

The RTP climate targets are designed to ensure that the region and state work together to meet Oregon's transportation-sector GHG reduction goals. The climate analysis must reflect both the transportation investments and policies in the RTP and the impact of state vehicle and fuel regulations as reflected in the Statewide Transportation Strategy (STS). The RTP climate analysis reveals that these actions have a significant impact on VMT and GHG emissions, and the mobility analysis shows how pricing helps to maintain reliable travel times on throughways. In fact, the results below suggest that **some form of pricing is likely necessary to meet the RTP's State-mandated climate targets.** The State has the authority to implement most forms of pricing, and is also the source of the STS pricing assumptions that are used in the RTP climate analysis. **More discussion and analysis of the role of State-led pricing actions in meeting the region's climate targets and mobility goals is recommended.**

The STS contemplates several additional revenue mechanisms, including a road user charge that levies per-mile fees on drivers and additional road pricing beyond what is currently included in the 2023 RTP. These changes are not reflected in the RTP because they are not yet adopted in State policies or regulations, but the climate analysis for the RTP is allowed to include them because these State-led pricing actions are identified in STS and were assumed when the State set the region’s climate targets.<sup>15</sup>

In order to illustrate the impact that the pricing and other assumptions included in the STS has on progress toward the region’s climate targets, Metro staff developed five scenarios that represent different assumptions regarding the implementation of the technology changes and pricing actions included in the STS:

- **RTP23 + STS:** Includes adopted 2023 RTP investments, transit service, and throughway pricing, as well as all additional pricing and revenue mechanisms included in the STS. These consist of a combination of fees and taxes that are modeled as per-mile fees. This is the scenario that is used in the RTP climate analysis and based on the adopted RTP.
- **RTP23 + adopted plans (AP):** Includes adopted 2023 RTP investments, transit service, and throughway pricing, as well as currently adopted plans and policies assumed in the STS. It includes a lower level of additional state-led throughway pricing than the RTP23+STS scenario, and excludes the pricing and revenue mechanisms described as “additional” under that scenario. This is one of several illustrative scenarios developed during the RTP process to help Metro and agency partners identify the final RTP23+STS scenario described above.
- **Target 1:** adopted 2023 RTP investments, transit service, and throughway pricing, as well as the amount of additional pricing and revenue mechanisms from the STS that are necessary to meet regional climate targets by using pricing to manage travel demand. This is one of several illustrative scenarios developed during the RTP process to help Metro and agency partners identify the final RTP23+STS scenario described above. RTP-related inputs for this scenario come from the public review draft RTP.

### Terms used in this section

This section uses the general term **transportation pricing** (or **pricing** for short) to refer to any effort to place additional charges on driving that help to cover the associated costs—including the costs of building, operating and maintaining roads and of managing or mitigating impacts like pollution or congestion. Pricing can be implemented in many different forms, including tolls, per-mile charges, and fees.

This section focuses on to two specific types of pricing that are included in RTP projects and policies:

**Tolling** involves charging drivers for the use of a road, bridge or other facility.

**Congestion pricing** involves increasing prices during peak hours in order to encourage people to use other modes, take different routes, or change when they travel.

<sup>15</sup> OAR 660-044-0030(4)(a): [https://secure.sos.state.or.us/oard/viewSingleRule.action;JSESSIONID\\_OARD=Pk5WeLsr40n1ZMdFGJr943D9KeHyA7LSgdLuG\\_bsnXZJvNrXnl8x!-286176765?ruleVrsnRsn=293065](https://secure.sos.state.or.us/oard/viewSingleRule.action;JSESSIONID_OARD=Pk5WeLsr40n1ZMdFGJr943D9KeHyA7LSgdLuG_bsnXZJvNrXnl8x!-286176765?ruleVrsnRsn=293065)

- Target 2:** Includes adopted 2023 RTP investments, transit service, and throughway pricing, as well as the amount of additional pricing and revenue mechanisms from the STS that are necessary to meet regional climate targets by using pricing to manage travel demand—assuming that all revenues from these new pricing mechanisms generated within the region are reinvested in increasing transit service.<sup>16</sup> To create this scenario, the consulting team supporting this analysis tested several different levels of pricing and corresponding increases in transit service until they identified the scenario that meets regional climate targets using the smallest amount of additional pricing. This is an illustrative scenario that did not consider the many nuances and policy constraints involved in using pricing revenues to fund transit service. It is one of several illustrative scenarios developed during the RTP process to help Metro and agency partners identify the final RTP23+STS scenario described above. RTP-related inputs for this scenario come from the public review draft RTP.
- RTP23 + STS + current fleet:** adopted 2023 RTP investments, transit service, and throughway pricing, as well as all additional pricing and revenue mechanisms included in the STS, but replaces two of the assumptions in the STS—the mix of light/heavy duty vehicles in the fleet and the amount of time that people hold on to their vehicles—with current values. Metro developed this illustrative scenario to address concerns raised by partner agencies that the values assumed for these inputs in the STS are not reflective of current trends.<sup>17</sup> RTP-related inputs for this scenario come from the public review draft RTP.

Table 7.8 describes the assumptions behind these five scenarios, and Figure 7.6 illustrates the VMT reductions that each scenario achieves. More details on these scenarios, and in particular on how pay-as-you-drive (PAYD) insurance is treated, can be found in Appendix J. The original Climate Smart Strategy was adopted in 2014 when pay-as-you-drive (PAYD) insurance was growing more popular and assumed 40% market-driven adoption of PAYD. Since then, insurers have scaled back their PAYD offerings and fewer consumers are using them, which makes it seem unlikely that the market will provide a path to 40% adoption. Metro assumed 40% adoption of PAYD for consistency with the original Climate Smart Strategy adopted in 2014 and with State requirements to report progress against the original Strategy inputs.

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<sup>16</sup> This scenario assumes that 50% of revenues from the STS pricing and revenue mechanisms for toward funding increases in transit service, and that investments in transit service would be consistent with the mix of transit modes (e.g., local bus, frequent bus, light rail) and transit service costs reflected in the 2023 RTP constrained investments. See the appendix for a technical discussion of the development of the Target 2 scenario.

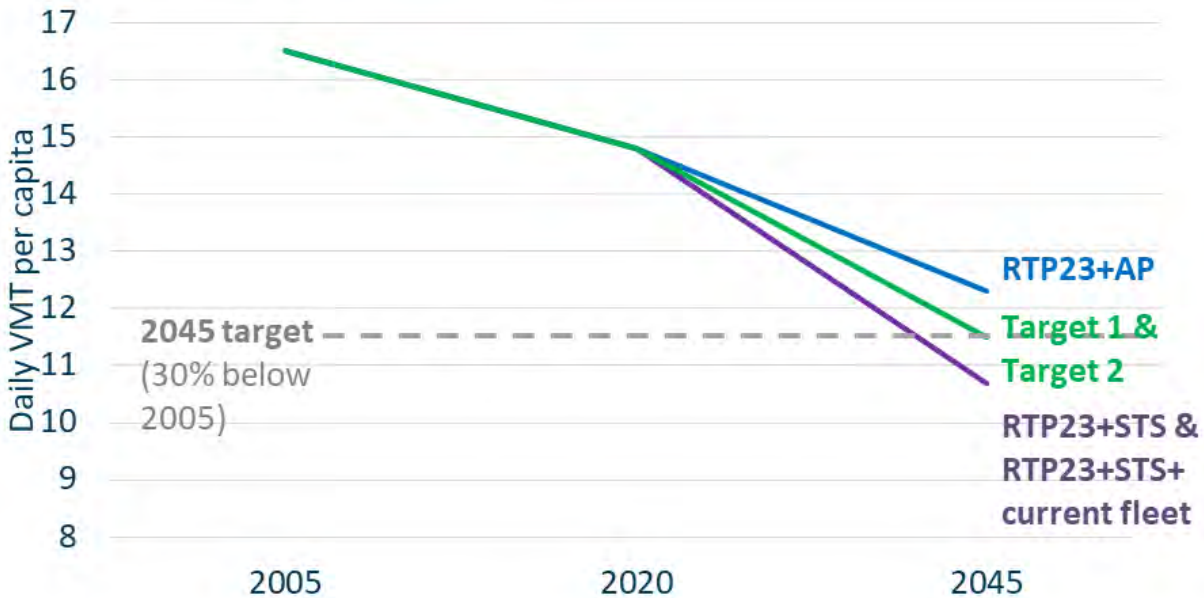
<sup>17</sup> The STS projects that people will replace their vehicles sooner and that most passenger vehicles will be cars instead of light trucks and sport utility vehicles when in fact people are generally hanging onto their vehicles for longer and light trucks and sport utility vehicles are dominating the passenger vehicle market. See Exhibit A in RTP Appendix J for more background information on this scenario.



**Table 7.8: Climate scenarios, assumptions and results**

	<b>RTP23 + STS</b>	<b>RTP23 + AP</b>	<b>Target 1 (pricing)</b>	<b>Target 2 (pricing + transit)</b>	<b>RTP23 + STS + Current Fleet</b>
<b>Scenario Description</b>	Official RTP climate scenario for the purposes of target analysis / state rule compliance	Illustrative bounding scenario showing the GHG impacts of “business as usual” defined by the State; assumptions about clean vehicles and pricing are based on adopted plans	Illustrative pathway to meeting climate targets by assuming the minimum level of State-led pricing needed to close the gap between RTP23 GHG reductions and targets	Illustrative pathway to meeting climate targets by assuming the minimum level of State-led pricing needed to close the gap between RTP23 GHG reductions and targets if revenues are used to expand transit service	Illustrative bounding scenario that explores the GHG impacts of using current values instead of STS values for vehicle age and mix
<b>Throughway pricing</b>	STS pricing on the entire throughway network, averaging \$0.17/mile	RTP pricing on portions of I-5 and I-205 averaging \$0.11/mile	\$0.11/mile on the entire throughway network	\$0.08/mile on the entire throughway network	STS pricing on the entire throughway network, averaging \$0.17/mile
<b>Other STS per-mile fees</b>	\$0.20/mile	None	\$0.12/mile	\$0.10/mile	\$0.20/mile
<b>Pay-as-you drive (PAYD) insurance</b>	State requires PAYD insurance with 40% participation	State leaves PAYD insurance to the market with 6% participation	State requires PAYD insurance with ~68% participation	State requires PAYD insurance with ~27% participation	State requires PAYD insurance with 100% participation
<b>Transit service</b>	RTP level of transit service	RTP level of transit service	RTP level of transit service	77% increase above RTP level of transit service	RTP level of transit service
<b>Clean fuels and vehicles</b>	STS assumptions	State AP (adopted plans) assumptions	STS assumptions	STS assumptions	STS assumptions except current fleet vehicle age (14.2 years) and mix (32% car / 68% SUV+light-duty truck)
<b>GHG/capita reductions (from 2005 levels)</b>	88%	68%	87%	87%	86%
<b>VMT/capita reductions (from 2005 levels)</b>	35%	25%	30%	30%	40%
<b>Meets targets?</b>	Yes (surpasses)	No	Yes (meets)	Yes (meets)	Yes (surpasses)

**Figure 7.6: Daily VMT per capita by scenario vs. regional climate target (source: Metro/RSG VisionEval analysis)**



These results demonstrate that **there are multiple paths to meeting regional climate targets through a combination of increased pricing and other climate strategies** including demand management, system management, and increased investment in alternatives to driving. The two target scenarios shown above represent two pathways to meeting the region’s targets—one that does so entirely by using additional pricing to cover the gap between RTP emissions and regional targets and one that covers this gap through a combination of pricing and reinvestment in transit—but there are likely other pathways to meeting (or exceeding) regional targets that involve either different mixes of pricing and reinvestment of pricing revenues in the high- and moderate-impact GHG reduction strategies identified in the region’s Climate Smart Strategy. **Any new pricing program has the potential to produce new revenues that can be reinvested in GHG reduction strategies.**

This reinvestment is critical, because the results above show that **the region can meet its climate targets while also advancing mobility and equity goals if revenues from new pricing programs are reinvested in other GHG reduction strategies.** Relying on pricing alone to reduce VMT and GHG emissions from driving, as tested in the Target 1 scenario, would require charges of 9 cents per mile on throughways and 6 cents per mile on roads throughout the region to meet regional climate targets. If revenues from new pricing are invested in transit, which also reduces VMT and GHG emissions, the region could meet its targets at while charging drivers roughly 25% less than under Target 1. Lower levels of pricing and higher levels of transit service would both minimize additional costs for drivers and provide affordable alternatives to priced vehicle trips.

## 7.6.2 Pricing projects in the 2023 RTP and their impacts

Three different projects in the 2023 RTP implement pricing in the form of tolls on the region's throughways: the Regional Mobility Pricing Project (RMPP), which levies tolls along most of Interstates 5 and 205 within the region; and the Interstate Bridge Replacement Program and I-205 Tolling projects, which include tolls on I-5 and I-205 within their respective project areas. Though further analysis of pricing and its impact on regional climate and mobility goals is recommended, the pricing currently included in the RTP has significant benefits for the climate and throughway reliability results discussed above. Figure 7.7 shows the planned extent of tolling under the 2023 RTP.



Figure 7.7: Throughways that are tolled under the 2023 RTP (Source: ODOT)



Tolls for these three RTP projects are intended to both manage travel demand and raise transportation revenues. The exact tolling extents and rates of these projects have already evolved significantly as the projects have developed, and they will continue to evolve as the projects progress through their respective federal planning processes. The evolutionary nature of this work means that **the tolling that is represented in the RTP is unlikely to match the final tolling that is implemented in the region.**

The version of the three tolling projects currently included in the 2023 RTP update are based on what was considered to be the best approximation of those projects' current plans as of April 1st, 2023. Collectively, these projects envision charging higher prices in the highest demand hours of the day (peak periods), and in the most congested portions of I-5 and I-205 (as well as in the extents of the I-5 Bridge Replacement and I-205 Tolling Projects) and lower prices in lower demand hours of the day (off-peak periods) and in less congested areas. Two of these projects also include significant changes to the motor vehicle and transit networks, which combine with tolling

to influence travel behavior. Table 7.9 summarizes the elements of each of the three tolling projects that are captured in RTP update.

**Table 7.9: Key elements of the three 2023 RTP projects that include tolling**

Project	Elements captured in the RTP
I-5 Interstate Bridge Replacement Program	<p>Included in 2030 Constrained, 2045 Constrained, and Strategic scenarios:</p> <ul style="list-style-type: none"> <li>• Variable rate tolls for drivers crossing the river ranging from \$2.05 - \$3.15 between 5 AM and 11PM, with a minimum overnight toll of \$1.50</li> <li>• A new I-5 Columbia River crossing with three through lanes, safety shoulders, and one auxiliary lane in each direction</li> <li>• A 1.9-mile extension of the MAX Yellow Line, including three new stations, from the existing Expo Center Station to a terminus near Evergreen Boulevard in Vancouver</li> <li>• A new arterial bridge for local traffic with a shared use path for pedestrians and bicyclists</li> <li>• Improvements to seven interchanges</li> <li>• Wider shoulders to accommodate express bus-on-shoulder service along I-5 between Victory Boulevard in Portland and State Route 500 in Vancouver</li> </ul>
I-205 Toll Project	<p>Included in 2030 Constrained, 2045 Constrained, and Strategic scenarios:</p> <ul style="list-style-type: none"> <li>• Variable rate tolls on the Abernethy Bridge were assumed in the analysis reflecting the toll schedule in the I-205 Supplemental Environmental Assessment (EA).</li> <li>• Variable rate tolls for drivers crossing the Abernethy bridge ranged from \$0.75 - \$2.25 between 5 AM and 11PM, with a minimum overnight toll of \$0.75</li> <li>• Consideration of toll rate schedules for the Abernethy bridge will be part of the environmental review process, as well as the traffic and revenue analysis, both of which will continue through 2024</li> </ul>
I-205 Corridor Improvements (I-205 SB and NB Widening and Tualatin River Bridge Toll)	<p>Included in 2045 Constrained and Strategic scenarios:</p> <ul style="list-style-type: none"> <li>• Addition of a third through lane in both directions of I-205 between the Stafford Road exit and OR 43, constructed using funds from variable tolling at the Tualatin River Bridge</li> <li>• Variable rate tolls on the Tualatin River bridges were assumed in the analysis reflecting the toll schedule in the I-205 Supplemental EA: variable rate tolls for drivers crossing the Tualatin River bridges ranged from \$0.75 - \$2.25 between 5 AM and 11PM, with a minimum overnight toll of \$0.75.</li> <li>• A northbound auxiliary lane between OR 43 and OR 213</li> <li>• A southbound auxiliary lane between OR 99E and OR 43</li> <li>• Seismic bridge upgrades or replacements along I-205; replacement of the Tualatin River Bridges</li> </ul>
I-5 and I-205 Regional Mobility Pricing Project	<p>Included in 2030 Constrained, 2045 Constrained, and Strategic scenarios:</p> <ul style="list-style-type: none"> <li>• Modeling assumptions for the Regional Mobility Pricing Project include variable rate tolls for drivers on I-205 between the Columbia River (north) and the intersection of I-5 (south). Tolls vary by location, direction of travel, congestion levels, and time of day.</li> <li>• Between the hours of 5AM and 11PM, RMPP could cost drivers on I-5 and I-205 anywhere between \$0.75 and several dollars, depending on which portions of the freeways are being used, and the time of day that the travel occurs. No tolls (\$0) are assumed overnight.</li> <li>• Consideration of toll rate schedules will be part of the environmental review process, as well as the traffic and revenue analysis, both of which will occur in 2023-24</li> </ul>

It is important to note that **the RTP does not account for how rates might be discounted for low-income travelers and other marginalized communities, how revenues might be reinvested to provide affordable and convenient alternatives to tolled trips, or for other**

**adjustments to mitigate the impacts of tolling.** These details are not available yet, and will be determined as the projects listed above progress.

The large-scale, aggregate nature of Metro’s travel model makes it challenging to detail the regional impacts of any single project, even one as potentially significant as tolling. Instead of attempting to isolate the impacts of tolling, Metro staff identified several qualitative findings about tolling’s impacts based on the modeling results for the constrained RTP scenario and on Metro’s experience supporting tolling analyses in the region:

- **Tolling is expected to reduce total VMT.** VMT is likely to decline both during peak periods and throughout the day on the tolled portions of I-5 and I-205, as solo drivers whose trips would be priced shift to carpooling or using transit. There is likely to be some re-routing of traffic to parallel arterials, which would increase VMT on these facilities. However, the potential increase in VMT on parallel arterials is smaller than the anticipated decrease on the tolled throughways, leading to a net reduction in VMT.
- **Tolling is expected to reduce congestion on I-5 and I-205.** Since tolling reduces VMT on I-5 and I-205, it also frees up capacity, reducing vehicle hours of delay on those tolled throughways both during peak periods and throughout the day. The anticipated diversion to parallel arterials discussed above is not expected to produce substantial additional delay on arterials since most diversion is expected to occur in the off-peak periods, when arterials have excess capacity. Also, some vehicles that presently reroute to arterials to avoid congestion on I-5 and I-205 would choose to pay the toll and benefit from a more efficient trip. As ODOT proceeds to develop these projects, it intends to optimize pricing in order to reduce congestion on throughways. Pricing is one of the reasons that the RTP maintains existing levels of throughway reliability even as the region grows. According to FHWA, removing even as few as 5% of the vehicles from a congested roadway could enable traffic to flow much more efficiently.<sup>18</sup>
- **Tolling will likely lead to an increase in carpooling.** Average vehicle occupancy is expected to increase along all tolled throughways, and particularly on the portions of I-5 that also have High Occupancy Vehicle (HOV) lanes that only allow vehicles with two or more people to use them during peak periods. This increase in carpooling is one of the factors contributing to the VMT and congestion reductions discussed above.
- **Tolling will likely encourage people to shift when they travel.** Travelers who have flexible schedules and are price-sensitive are expected to shift some of their trips to shoulder or off-peak periods instead of paying higher tolls during peak travel times. This “peak-spreading” is one of the factors contributing to tolling’s impact on congestion.

As noted previously, more evaluation of future pricing strategies is needed to better understand their effect on the region’s parallel arterials, low-income households and land use patterns to ensure any unintended consequences are identified and addressed in design and implementation.

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<sup>18</sup> <https://ops.fhwa.dot.gov/publications/congestionpricing/sec2.htm>



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## 2023 Regional Transportation Plan



# 2023 Regional Transportation Plan Chapter 8

## **Moving forward together**

November 30, 2023

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## 8.0 PURPOSE

How people get around shapes their communities and everyday lives. The economic prosperity and quality of life in greater Portland depend on a transportation system that provides every person and business with access to safe, reliable and affordable ways to get around. The Regional Transportation Plan (RTP) is a blueprint for the future of transportation in the region.



Metro is the metropolitan planning organization (MPO) designated by Congress and the State of Oregon for the Oregon portion of the Portland-Vancouver urbanized area, serving 1.7 million people living in the region's 24 cities and three counties. As the MPO, Metro formally updates the Regional Transportation Plan every five years in cooperation and coordination with the Oregon Department of Transportation (ODOT) and the region's cities, counties, federally-recognized tribal governments, port districts, transit agencies and other partners.

Learn more about the 2023 Regional Transportation Plan at [oregonmetro.gov/rtp](https://oregonmetro.gov/rtp)

The 2023 RTP sets the region on the path toward shared goals of transportation equity, safety, climate action, mobility options and a thriving economy. However, there is significant and urgent work needed to advance these goals and keep pace with the opportunities and the complex challenges facing the greater Portland region. It will require collaboration, adequate and sustainable funding, and innovation by all government levels and partnerships with transportation agencies, community leaders and organizations, businesses and the public.

### Chapter organization

This chapter is a near-term action plan that will help guide the work of Metro and its partners between now and the next RTP update, due in 2028. Many of the priorities expressed by the public, government and agency partners and decision makers that could not be fully addressed within the 2023 RTP update will be advanced through the work in this chapter. The chapter is organized as follows:

- 8.1 Introduction:** This section summarizes the purpose and content of the chapter.
- 8.2 Planning and programs:** This section summarizes ongoing and near-term local, regional and state planning and programs that advance implementation of the plan.

## 8.1 INTRODUCTION

### **Connecting our shared values and vision for the future: Setting a course for transportation**

Metro worked with many groups and organizations to develop the 2023 Regional Transportation Plan, including:

- Federal, state and local government partners
- Federally-recognized tribal governments
- Transportation agencies
- Community members
- Community-based organizations
- Businesses.

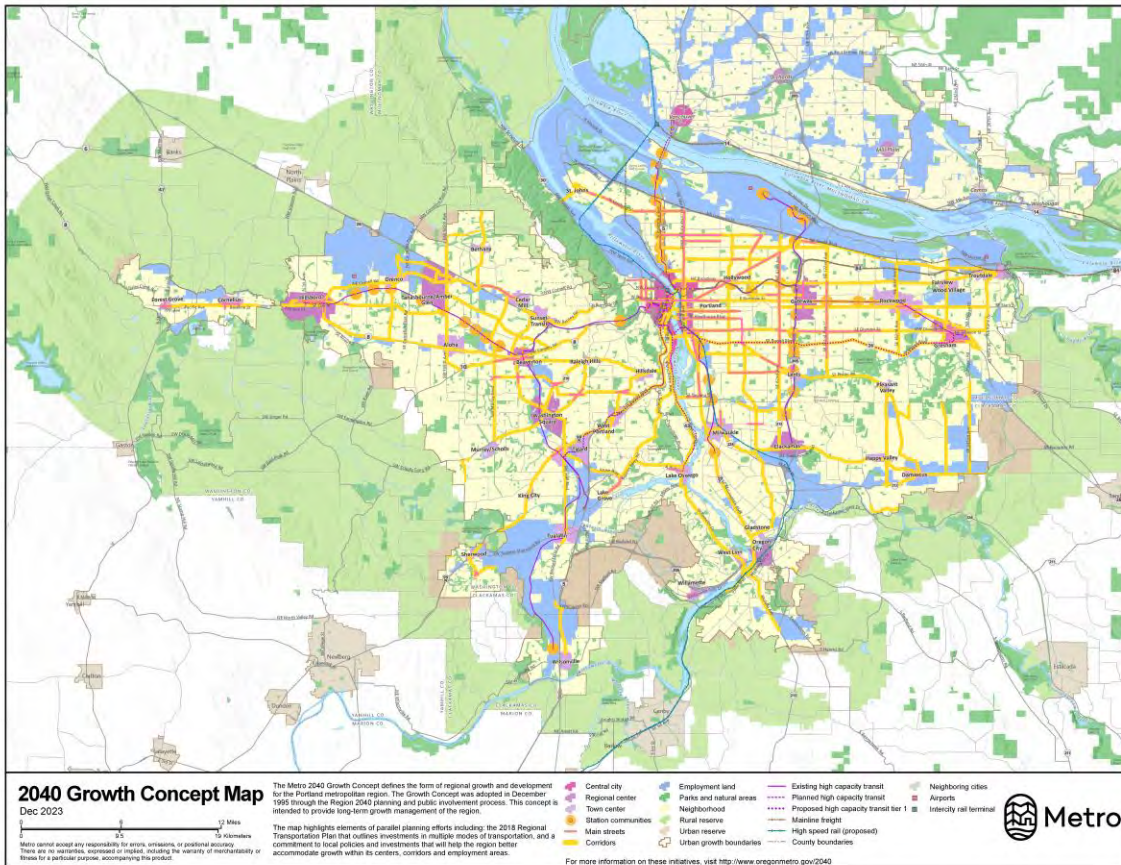
See Appendix D for more information about the groups and organizations and how they were engaged and consulted throughout the process.

The result of that work is:

- A set of regionally identified goals and policies that guide our transportation planning and investment decisions overall;
- Strategies to help meet those goals and policies;
- A shared understanding about existing financial resources; and
- A recommended set of projects that make progress addressing the region’s significant and growing transportation needs and challenges.

The goals, policies, projects and strategies in this plan also address federal, state and regional planning requirements based on our shared values and the outcomes we are trying to achieve as a region, including implementation of the 2040 Growth Concept and Climate Smart Strategy.

**Figure 8.1: 2040 Growth Concept Map (2023)**



*The 2023 Regional Transportation Plan is a key tool for implementing the 2040 Growth Concept and the Climate Smart Strategy—the region’s foundation for climate action.*

The plan sets an updated course for future transportation planning and investment decisions and continued implementation of the 2040 Growth Concept—the region’s adopted land use and transportation strategy for managing growth and building climate-friendly and equitable communities and a strong economy.

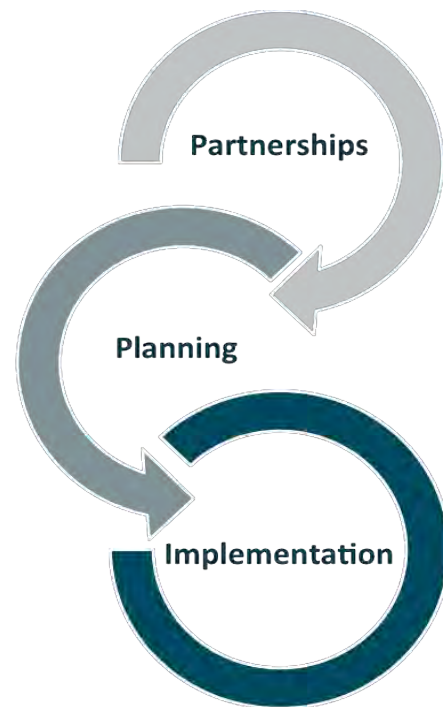


Dramatic changes have unfolded since the RTP was last updated five years ago, many documented in the Emerging Transportation Trends Study<sup>1</sup>. As greater Portland continues to emerge from the disruptions of the pandemic and respond to other urgent trends and challenges, this update provides an opportunity for all levels of government to work together to deliver a better transportation future.

The plan considers the changing circumstances and challenges facing our growing region and addresses them directly, adopting new approaches for addressing mobility and prioritizing investments to advance transportation equity, climate, safety, mobility and economic goals. Central to this plan are innovative approaches to connect community land use aspirations, transportation investments and use of regional mobility corridor strategies to comprehensively address our growing transportation needs while protecting public and environmental health. Each mobility corridor strategy is uniquely tailored by (1) optimizing operations on existing thoroughways and arterial streets that also serve as transit and freight routes, (2) completing gaps in biking and walking connections and (3) strategically expanding the transit and roadway system.

This RTP incorporates a new regional mobility policy focused on the policy outcomes of equity, options, safety, reliability, efficiency and access. It includes performance targets focused on reducing vehicle miles traveled per capita, building a complete and interconnected system and reliability of thoroughways using travel speed.

Through its policies, projects and strategies, the RTP aims to attract jobs and diverse housing to our region’s downtown centers, main streets and employment areas. It seeks to increase the use of public transit, bicycling and walking and reduce the amount of miles that our region’s residents, employers and visitors need to drive in order to get around. It also seeks to increase the safety, reliability and efficiency of the roadway and transit systems for all travelers. When we measure our performance, we find we have some



The plan will be implemented through a variety of policies, projects, strategies and actions at the local, regional, state and federal levels.

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<sup>1</sup> <https://www.oregonmetro.gov/public-projects/2023-regional-transportation-plan/research>

successes, but overall, the RTP falls short of meeting several performance targets set forth in Chapter 7.

To make more progress toward the goals and objectives of the plan, the region must take additional steps together and individually to address a wide range of planning, programmatic and project activities that will make it easier to implement adopted policies, projects and strategies. This chapter outlines those activities.

The plan will be implemented through a variety of strategies and actions at the local, regional, state and federal levels. The various jurisdictions in the region are expected to pursue policies, projects and strategies that contribute to meeting the agreed upon goals, objectives and policies of this RTP. Implementation of this plan will require a cooperative effort by all jurisdictions responsible for transportation planning in the region and will involve:

- Adoption of regional policies and strategies in local plans, including functional classifications for all modes, land use and transportation needs and agreed upon solutions identified in each mobility corridor strategy.
- A concerted regional effort to secure needed funding to build planned transportation investments needed to serve our growing and changing region.
- Focusing investments and system management strategies to support implementation of the 2040 Growth Concept and preserve the function of the region’s mobility corridors to ensure that land use and transportation policies are mutually supportive and make it easier for people to live and move around.
- Ongoing monitoring for consistency of changes to local transportation system plans (TSPs), local comprehensive plans and land use designations with the RTP and other agency plans, including: (1) the new Oregon Transportation Plan, (2) the planned updates to the Oregon Highway Plan and four-year State Transportation Improvement Program (STIP), (3) the Oregon Department of Land Conservation and Development’s Transportation Planning Rule (TPR), (4) the Oregon Metropolitan Greenhouse Gas Emissions Reduction Rule, (5) the Climate-Friendly and Equity Communities (CFEC) Program and (6) TriMet’s Transit Implementation Plan (TIP).

#### *Defining terms*

##### **Functional Classification**

*The way roads, streets, and highways are grouped into classes according to the character of service and access they provide for different modes of travel.*

##### **Modes**

*A type of transportation distinguished by means used (e.g., such as walking, bike, motor vehicle, bus, train, truck, air, marine).*

##### **Mobility corridors**

*Mobility corridors represent subareas of the region and include all regional transportation facilities within the subarea as well as the land uses served by the regional transportation system.*

The Regional Transportation Plan is a living document and will continue to evolve and be updated on a regular basis to address existing and emerging issues. Metro will continue to engage and collaborate with governmental partners and interested parties on all topics and provide support to ensure successful implementation of this plan.



## 8.2 PLANNING AND PROGRAMS

This section summarizes on-going and near-term local, regional and state efforts that advance implementation of the plan and 2040 Growth Concept.

### 8.2.1 Local Implementation of the RTP

Local planning efforts that help implement the Regional Transportation Plan include (1) updates to the local transportation system plans, (2) concept plans for designated urban reserves and topical, modal or subarea plans needed for consistency with the RTP or (3) to address specific local or subarea transportation needs or emerging issues.

Local plans and projects are developed and updated to meet local transportation needs and priorities consistent with local land use plans and to implement the RTP and Regional Transportation Functional Plan (RTFP). The RTFP directs how city and county plans will implement the RTP through their respective comprehensive plans, local transportation system plans (TSPs) and land use regulations. All actions included in the RTFP will help the region proactively address climate change, improve access and mobility and support other desired outcomes.

The anticipated schedule for local transportation system plan updates is available at [oregonmetro.gov/tsp](https://oregonmetro.gov/tsp). The local plan updates are phased appropriately to support local desires for completing plan updates in a timely manner, in coordination with other planning efforts and to take advantage of state and regional funding opportunities. ODOT will be funding TSP updates in the region to implement the statewide Climate Friendly and Equitable Communities Program.

In addition, the Portland metropolitan region has emerging communities, areas that have been brought into the urban growth boundary since 1998, that have 2040 land use designations, that lack adequate transportation and transit infrastructure and financing mechanisms. Additional work is needed to define the needs of emerging communities and strategies needed to facilitate development in these areas, consistent with the 2040 Growth Concept.

### 8.2.2 Metro programs that support implementation of the RTP

Metro is responsible for several on-going regional programs that provide a combination of grants, technical assistance and planning to support local jurisdictions in implementing the 2040 Growth Concept and RTP. Modal experts provide expertise and support on freight, bicycle, pedestrian, motor vehicle, transit and Intelligent Transportation Systems (ITS) and operations planning. Topic experts provide support on climate change, equity, safety, street design, safe routes to school, resilience, transportation funding, brownfields,

equitable housing and transit-oriented development. Metro’s Regional Flexible Funds provide programmatic funding to help support that technical assistance and capital funds to support implementation. The region’s 2040 Grant Program supports planning processes to align land use and transportation goals, and the Equitable Housing grant program specifically focuses on supporting planning efforts to increase access to affordable housing across the region.

Regional programs identified in the Unified Planning Work Program (UPWP), adopted annually by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council, are described below.

#### **8.2.2.1 Civil rights and environmental justice program**

Metro’s transportation planning policies and programs ensure compliance with the following:

- Title VI of the 1964 Civil Rights Act;
- The Executive Order on Environmental Justice;
- Section 504 of the 1973 Rehabilitation Act;
- Title II of the 1990 Americans with Disabilities Act;
- Goal 1 of Oregon’s Statewide Planning Goals and Guidelines; and
- Metro's organizational values of respect and public service.

The program is advancing methods on identifying potentially affected populations, engaging those populations in the development of policy and program decisions and analyzing the effects of policies and programs for marginalized communities that systems in power have excluded from opportunities and resources to which others have easy access.

Metro's work to ensure compliance includes:

- Implementing outreach strategies that remove barriers to participation for people that have been and continue to be blocked from access because of their age, race, class, abilities, ethnicity, gender, immigration status or any other identity not represented by the dominant culture;
- Demographic data collection and mapping;
- Assessing outcomes of plans and programs for marginalized communities; and
- Trainings provided to staff on Title VI compliance requirements and environmental justice outreach best practices.

Program work on compliance is found across many areas of transportation planning:

- Developing the Regional Transportation Plan;
- The Metropolitan Transportation Improvement Program (MTIP);
- Corridor planning projects that follow the National Environmental Policy Act (NEPA) regulations; and
- In the Regional Travel Options program, which conducts federally-funded outreach that promotes non-automobile transportation options.

In 2012, Metro created a new public engagement review process designed to ensure that Metro's public involvement is effective, reaches diverse audiences and harnesses emerging best practices. One of the three criteria for selection of members of the Public Engagement Review Committee, an advisory committee to the Metro Council, is the ability to represent diverse communities in the region. Other components of the public engagement review process that will contribute to more inclusive engagement and accountability include an annual public survey, meetings of public involvement staff from around the region to address best practices, an annual community summit to gather input on priorities and engagement techniques and an annual report.

Metro addresses compliance agency-wide as well as within transportation planning functions and program-by-program. A key way that Metro complies across the agency is with implementation of its Diversity Action Plan, updated and adopted by the Metro Council in May 2017. The plan identifies goals, strategies and actions to increase diversity and cultural competence at Metro in four key areas: (1) internal awareness and diversity sensitivity, (2) employee recruitment and retention, (3) committee membership and public involvement and (4) procurement. Metro's [Strategic Plan to Advance Racial Equity, Diversity and Inclusion](#) was adopted by the Metro Council in June 2016 and identifies goals and actions under five goals:

- 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.

Metro continues to implement department-level racial equity plans to reach the goals of the racial equity strategy for planning, development and research, parks and nature, property and environmental services and the Oregon Zoo. In 2023, Metro prepared an



ADA Self-Evaluation and Transition Plan that addresses the requirements of the Americans with Disabilities Act and supports Metro's commitment to diversity, equity and inclusion.

### **8.2.2.2 Regional Safe Streets for All program**

Metro's regional Safe Streets for All program activities support advancing the Safe System approach to achieve regional safety goals, policies and targets, including zero serious crashes by 2035. Program activities are consistent with strategies and actions in the 2018 Regional Transportation Safety Strategy, the Regional Safe Routes to School Program and local and state safety plans. Following adoption of the 2023 RTP, Metro will coordinate with regional partners and communities to implement the regional Safe Streets for All Federal grant. The grant supports development of the regional safety program and local Transportation Safety Action Plans.

Efforts will focus on:

- Managing speeds for safety;
- Vehicle sizes and weights;
- Increasing pedestrian safety; and
- Eliminating disparities for Black, Hispanic and Native American people and other people of color;
- Eliminating disparities for people with low income; and
- Eliminating disparities for other populations disproportionately impacted by serious traffic crashes.

Program activities include:

- Periodic updates on the state of safety to the Metro Council, Metro technical and policy advisory committees and other interested parties;
- Technical assistance and coordination with local, regional, state and federal partners in planning and project development;
- Support for the development and updates to local and regional safety plans and policies; updates to safety data and analysis;
- Updates to safety plans and policies;
- Safety data collection, maintenance, analysis and interpretation;
- Encouraging best practices in transportation safety and roadway design with funding and programmatic support identifying legislative priorities; and

- Collaborating on efforts to highlight safety in materials, messaging and campaigns.

The program will be closely coordinated with other regional transportation programs and region-wide planning activities.

#### **8.2.2.3 Regional active transportation program**

The regional active transportation program manages updates to and implementation of pedestrian, bicycle and access to transit in the RTP and the Regional Active Transportation Plan. The program provides guidance to jurisdictions in planning for safe, efficient and comfortable active transportation access and mobility on the regional transportation system (including regional trails and multi-use paths). The program is closely coordinated with other regional transportation programs, region-wide planning activities and Metro's parks and nature department. Additionally, the program supports coordination with local, regional, state and federal plans to ensure consistency in approach to active travel needs and issues across the region. The program ensures that prioritized regional bicycle and pedestrian projects are competitively considered within federal, state and regional funding programs. Ongoing data collection, analysis, education and regional coordination are also key elements of Metro's active transportation program.

#### **8.2.2.4 Regional freight program**

The regional freight program manages updates to and implementation of multimodal freight elements in the RTP and the supporting Regional Freight Strategy. The program provides guidance to jurisdictions in planning for freight movement on the regional transportation system. The program supports coordination with local, regional, state and federal plans to ensure consistency in approach to freight-related needs and issues across the region. Metro's coordination activities include ongoing participation in the Oregon Freight Advisory Committee (OFAC) and the Portland Freight Committee (PFC). The program ensures that prioritized freight projects are competitively considered within federal, state and regional funding programs. Ongoing freight data collection, analysis, education and coordination are also key elements of Metro's freight program. The program is closely coordinated with other regional transportation programs and region-wide planning activities.

#### **8.2.2.5 Regional transit program**

The regional transit program conducts long-range transit planning for the Portland Metro region, managing updates to and implementation of the transit elements in the RTP and the supporting Regional Transit Strategy and its components like the High Capacity Transit Strategy. Together, these provide the roadmap for making transit investments over time in collaboration with our transit providers and local government partners in

the region and ensure that prioritized transit projects are competitively considered within federal, state and regional funding programs. The Regional Transit Strategy will need to be amended to reflect the High Capacity Transit Strategy adopted in 2023 and the Connecting First and Last Mile Study anticipated to be complete in 2025 (see Section 8.2.3.6 below).

Program work includes:

- Ongoing coordination with transit providers, cities and counties to ensure implementation of these strategies through plans and capital projects;
- Periodic support for major transit planning activities in the region; and
- Coordination with state transit planning officials.

Ongoing data collection, analysis, education and coordination are also key elements of Metro’s transit program. The program is closely coordinated with other regional transportation programs and region-wide planning activities.

#### **8.2.2.6 Transportation System Management and Operations (TSMO) program**

With the intent of supporting broad Transportation System Management and Operations (TSMO) investment and activity in the greater Portland metropolitan region, the TSMO program encompasses regional strategy development, implementation, grant management, project management and system performance monitoring (includes support to the region’s Congestion Management Process). The program facilitates a variety of approaches to reliable, equitable, accessible, safe transportation related to TSMO. These include intelligent transportation systems (ITS), Mobility on Demand (MOD) and related mobility, freight technologies and operations.

The program maintains and periodically updates the regional TSMO Strategy. Strategy updates incorporate RTP policy and develops actions and work plans for implementation. Implementation involves convening operations leaders, engineers and technical experts to share procedures and protocols such as the regional ITS Architecture. ITS Architecture is needed to comply with the Federal Highway Administration (FHWA) rule for federally funded transportation projects and their compliance with the National ITS Architecture. The program also guides implementation of the region’s ITS data communications assets and networks, representing coordination of shared digital infrastructure. The regional role for program implementation supports opportunities for inclusion, research, education and training on TSMO.

The program manages the sub-allocation of Regional Flexible Funding for TSMO. These projects are prioritized by a subcommittee of the Transportation Policy Alternatives Committee (TPAC), called TransPort, through criteria that is consistent with the adopted



Regional TSMO Strategy. The TSMO program provides support for regional ITS projects by helping to apply systems engineering, ITS Architecture, standards and procedures.

The program supports system performance monitoring, including the federal mandates to maintain a Congestion Management Process (CMP). The program implements actions identified in the Arterial Performance Management Regional Concept of Traffic Operations (RCTO) to advance the region's performance measurement capabilities on arterial streets. CMP performance monitoring will continue in order to support development of the RTP, local transportation system plans and MTIP programming. The program partners with PORTAL, a regional archived data user service managed by Portland State University. PORTAL will continue to expand the collection, visualization and uses of multimodal performance data in a way that will enhance the region's ability to diagnose and address mobility and support multimodal operations consistent with the region's CMP.

The TSMO program is closely coordinated with other regional transportation programs and region-wide planning activities.

#### **8.2.2.7 Regional Travel Options (RTO) and Safe Routes to School programs**

The Regional Travel Options program implements RTP policies and the Regional Travel Options Strategy. The program's purpose is to reduce drive-alone auto trips and personal vehicle miles of travel and increase use of travel options. The program improves mobility and reduces greenhouse gas emissions and air pollution by carrying out the transportation demand management components of the RTP through three primary program areas: (1) commute trip reduction, (2) community-based travel options and (3) Safe Routes to School. Each RTO program area works to advance RTP goals through the following strategies:

- Regional policy development
  - The RTO program advances travel options policy through policies in the RTP and developing the Regional Travel Options Strategy. It also supports local and state policy development and implementation.
- Funding local program implementation
  - The RTO program provides ongoing funding to local programs and partners to deliver critical Transportation Demand Management (TDM) services across the region. The program also seeks out new partnerships to ensure the travel needs of all residents are prioritized.
- Technical assistance and regional program administration

- The RTO program provides technical assistance to program providers through trainings, resource development and peer networking and learning. In addition, the RTO program administers regional programming to advance the goals of the RTP and RTO strategy in collaboration with local partners.

The program maximizes investments in the transportation system and eases traffic congestion by managing travel demand, particularly during peak commute hours. Specific RTO activities include promoting transit, shared trips, bicycling, walking, telecommuting and the Regional Safe Routes to School program. The program is closely coordinated with other regional transportation programs and region-wide planning activities.

#### **8.2.2.8 Air quality and climate change monitoring program**

The air quality and climate change monitoring program ensures the RTP and the MTIP address state and federal regulations and are carrying out the commitments and rules set forth in the following administrative rules and statutes:

- The federal Clean Air Act Amendments
- The federal Carbon Reduction Program created by the federal Bipartisan Infrastructure Law (BIL)
- The Portland Area State Implementation Plan (SIP)
- The Oregon Transportation Planning Rule
- The Metropolitan Greenhouse Gas Emissions Reduction Target Rule

The program is focused on:

- Coordinating with other air quality and climate change initiatives in the region and statewide;
- Monitoring and reporting on Climate Smart Strategy implementation; and
- Monitoring federal and state rulemaking that address air quality and climate change.

As part of this program, Metro participates in a regional collaborative effort to develop and implement a clean air construction strategy and standards for clean diesel equipment and vehicles on select public improvement projects. This program also conducts planning, research and tool development to improve climate monitoring and reporting efforts and inform policy and investment decisions that have climate impacts. These activities aim to support monitoring and implementation of the region's adopted [Climate Smart Strategy](#) and allocation of Carbon Reduction Program funding in the region. Approved by the Land Conservation and Development Commission in 2015, the Climate Smart Strategy is the region's adopted strategy for meeting state mandated climate targets.

The Carbon Reduction Program is administered by the FHWA, which provided \$6.4 billion in formula funding for states and MPOs to develop carbon reduction strategies and for projects to reduce transportation emissions through:

- Traffic management;
- Public transportation;
- Bicycle and pedestrian facilities;
- Alternative fuels; and
- Port electrification.

Metro is expected to have \$12 to 13 million in Carbon Reduction Program funding to allocate for the years 2027 to 2030.

This program's activities are coordinated with state agencies responsible for monitoring air quality and greenhouse gas emissions and implementation of state-level policies and programs that aim to reduce transportation-related air pollution, air toxics and greenhouse gas emissions. This includes activities led by the ODOT climate office and the Department of Environmental Quality (DEQ) Climate Protection Program and other activities that ODOT and the Department of Land Conservation and Development (DLCD) are leading through implementation of the [Climate-Friendly and Equitable Communities \(CFEC\) Program](#), ODOT's [Carbon Reduction Strategy](#) and the [Statewide Transportation Strategy: A 2050 Vision for Greenhouse Gas Emissions Reduction](#). Program staff will also participate in a state review of target rules and assumptions that is due by June 1, 2025.

With support from an Environmental Protection Agency (EPA) grant, the [Climate Pollution Reduction Grant](#) (CPRG), Metro is convening a collaborative regional effort that will result in a comprehensive regional greenhouse gas inventory and improved data and tools for quantifying emissions reductions from different climate strategies across multiple sectors, including transportation, buildings, electricity generation, industry, agriculture and waste management (see description in Section 8.2.3.2 of the EPA Carbon Pollution Reduction Planning Grant). New federal rules are anticipated in 2024 that will direct ODOT and Metro to set transportation-related greenhouse gas emissions reduction targets and monitor progress as part of the region's federal transportation performance measures reporting in Appendix L.

#### **8.2.2.9 Designing Livable Streets and Trails program**

The Infrastructure Investment and Jobs Act (IIJA) requires that MPOs must use 2.5 percent of their overall funding to develop and adopt complete streets policies, active transportation plans, transit access plans, transit-oriented development plans or regional



intercity rail plans. Metro complies with this requirement by funding a robust complete streets program. Metro's Designing Livable Streets and Trails program provides regional street and design guidelines and policies, regional arterial and throughway design classifications and other tools to support local jurisdictions to design streets that implement context-sensitive design solutions to advance regional and local goals.

Program activities include:

- Providing technical assistance to cities and counties as transportation projects go through project development and design;
- Convening workshops, forums and field tours to increase understanding; and
- Utilization of best practices in transportation design.

The program is closely coordinated with other regional transportation programs and region-wide planning activities, and with Metro's parks and nature department.

#### **8.2.2.10 Regional Transit-Oriented Development program**

Since 2001, Metro's Transit-Oriented Development (TOD) program has had a unique and critical role in implementing the 2040 Growth Concept vision for vibrant, walkable centers and station areas linked by transit. The program invests in compact mixed-use projects near light rail stations, along frequent service bus corridors and in regional and town centers throughout the region, increasing opportunities for people to live, work and shop in neighborhoods with easy access to high-quality transit. The program provides financial incentives for TOD projects to (1) increase transit ridership, (2) stimulate private development of mixed-use buildings that would otherwise not proceed and (3) increase affordable housing opportunities near transit in high cost and gentrifying neighborhoods through land acquisition and project investments. With an increased focus on affordable housing, the program supports construction of housing near transit and services that are more affordable for older adults and lower-income households compared to what would otherwise be built on a property. Related program activities include opportunity site acquisition, investment in urban living infrastructure and technical assistance to communities and developers.

#### **8.2.2.11 Investment areas program**

Metro's investment areas program helps communities build their downtowns, main streets and corridors and leverage public and private investments that implement the region's 2040 Growth Concept. Projects include:

- Supporting compact, transit-oriented development in the region's mixed use areas;

- Evaluating high capacity transit and other transportation improvements that cross city and county lines;
- Strengthening bi-state partnerships; and
- Integrating freight and active transportation projects into multimodal corridors.

Major public infrastructure investments do not stop at city or county lines. The region's transportation system connects communities within greater Portland with the rest of the state and the rest of the world. When city, county and state agencies spend billions of dollars on expanding its road, transit and highway system to keep up with the continued population and employment growth, those public investments can both benefit and burden nearby communities. Over time, the region has become more strategic at linking together the transportation, housing, economic, racial equity and environmental goals, policies and investments to intentionally preserve and create great places that serve all people throughout the region, even as change and growth occurs.

One example of linking multiple regional goals is the development of equitable development strategies. As the Portland region has grown, issues such as housing affordability, community and business displacement and inclusive growth have come to the forefront of the public's concern. Metro, in collaboration with local government and community partners, aims to address these concerns by working to create an Equitable Development Strategy (EDS) for each major transit investment corridor where Metro is leading the planning process. The purpose of the EDS process is to leverage investments in transportation improvements to support the region's community development objectives, address existing inequities and reduce associated impacts of displacement that can accompany major investments in public infrastructure.

The Investment Areas program completes system planning and develops multimodal projects in transportation corridor refinement plans identified in the RTP. It also works on finance plans to align public investments in areas that support the region's growth economy. It includes ongoing involvement in local and regional transit and roadway project conception, funding and design. Metro provides assistance to local jurisdictions for the development of specific projects as well as corridor-based programs identified in the RTP.

Metro's investment areas program has been connecting planning for major transportation projects with the community's broader goals and needs. While each area's conditions and needs are different, the approach of bringing together government, community and business partners provides a framework to produce a shared plan of action to guide the investments and decisions of multiple agencies. Including a broader set of participants in a collaborative decision-making process allows for decisions that once seemed unclear or

unfair to be more transparent. This approach improves greater Portland’s ability to involve and include those who are affected by these decisions and investments.

Investment areas can set the stage for a range of major capital investments beyond high-capacity transit. Other Metro investment areas have focused on freight routes connecting major highways through small communities, redevelopment of brownfields in employment areas and leveraging the opportunities of a regionally significant riverfront destination. The program is closely coordinated with other regional transportation programs and region-wide planning activities, including corridor refinement planning activities.

Table 8.1 and Figure 8.2 identify areas in the region, called mobility corridors, that are recommended for more detailed refinement planning to identify multimodal investment strategies adequate to serve regional transportation needs in the corridor. More detail about these needs can be found in Appendix V.

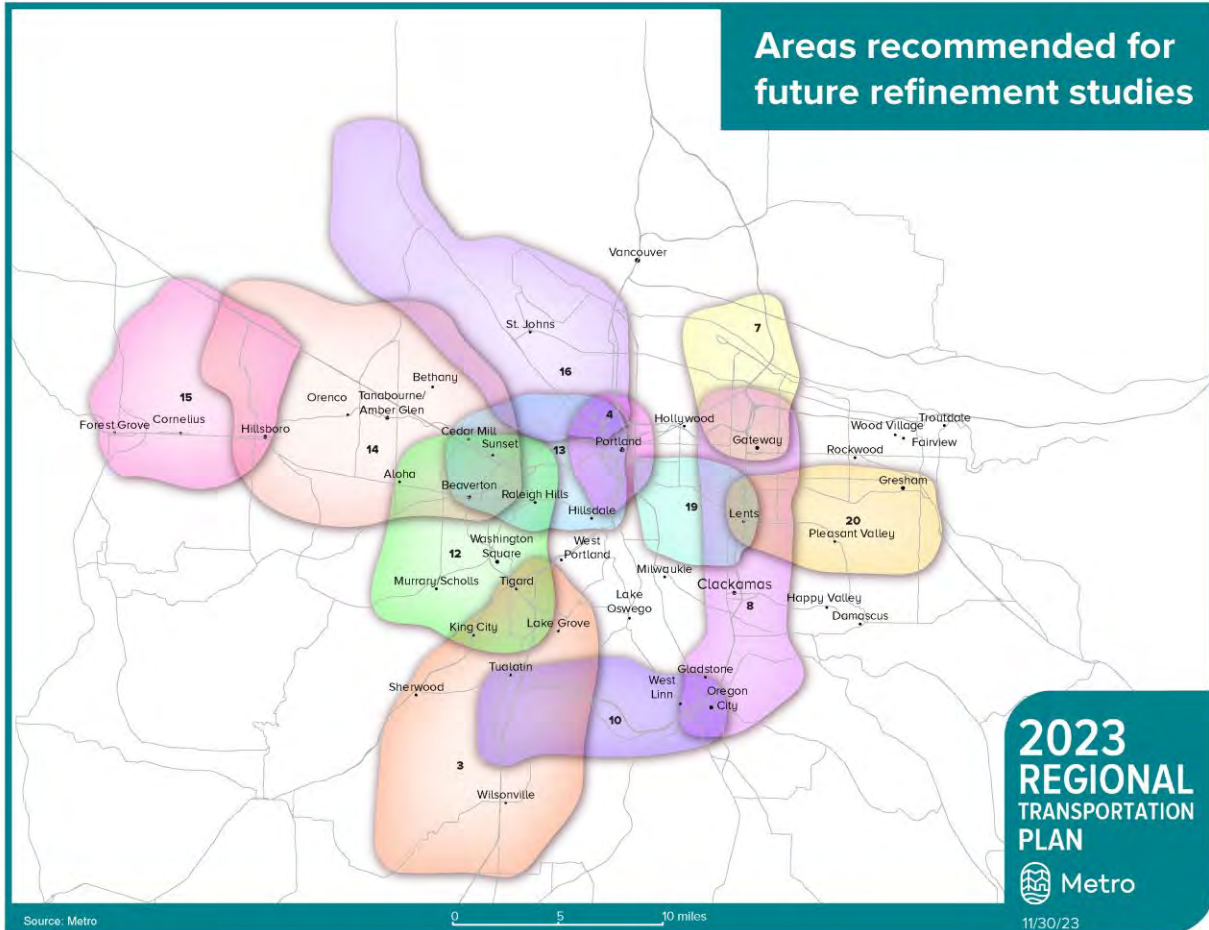
**Table 8.1: Mobility corridors recommended for future corridor refinement planning**

Regional mobility corridor	General geographic scope of mobility corridor
<b>Mobility Corridors #3 and #12</b>	Beaverton to Wilsonville via Tigard, which includes 217 and I-5 South <sup>2</sup>
<b>Mobility Corridor #4</b>	Portland Central City Loop, which includes I-5/I-405 Loop  Central City Transit Access - Steel Bridge Transit Bottleneck Study
<b>Mobility Corridors #7, #8 and #10</b>	Clark County to I-5 via Gateway, Oregon City and Tualatin, which includes I-205
<b>Mobility Corridors #14 and #15</b>	Beaverton to Forest Grove, which includes Tualatin Valley Highway
<b>Mobility Corridors #13 and #14</b>	Hillsboro to Portland, which includes US 26
<b>Mobility Corridors #19 and #20</b>	Portland Central City to Lents and Lents to Gresham, which includes US 26/Powell Boulevard

<sup>2</sup> In coordination with project development activities for Mobility Corridor #10.



**Figure 8.2: Mobility corridors recommended for future refinement planning**



### 8.2.2.12 Better Bus program

The Better Bus program is a joint Metro and TriMet endeavor that identifies transit priority and access treatments to improve the speed, reliability and capacity of TriMet frequent service bus lines or streetcar lines, building on the previous Enhanced Transit Concepts (ETC) program. Better Bus treatments are relatively low-cost to construct, context-sensitive and can be implemented quickly to improve transit service in congested corridors. The program develops partnerships with local jurisdictions and transit agencies to design and implement Better Bus capital and operational investments.

### 8.2.2.13 Regional congestion pricing program

The regional congestion pricing program ensures coordination and alignment between the RTP and state and federal pricing policies and regulations, including the Oregon Transportation Plan, the Oregon Highway Plan, the federal Value Pricing Pilot Program, Section 129 of Title 23 of the U.S. Code and the Oregon Department of Transportation's

(ODOT) future low-income tolling program. The program includes application of the findings and recommendations from the 2021 Metro Regional Congestion Pricing Study in the RTP and the MTIP. The program also:

- Coordinates tolling with regional planning efforts and corridor development work, including ODOT's Regional Toll Advisory Committee, the Statewide Toll Rulemaking Advisory Committee and the Equity and Mobility Advisory Committee;
- Tracks, participates in, and/or advises on pricing programs and projects such as ODOT's Regional Mobility Pricing Project or City of Portland's Pricing Options for Equitable Mobility Task Force;
- Monitors changes in federal and state rulemaking that may impact regional or local pricing policies or programs; and
- Tracks implementation of the following recommended actions related to future MTIP actions for toll projects in the region:
  - JPACT and Metro Council shall clarify expectation of ODOT to prepare findings that document how the RTP pricing policies and actions and previous ODOT commitments with the Metro Council are addressed when requesting JPACT and the Metro Council to consider future MTIP amendments for toll projects.
  - As the I-205 Toll Project develops and future phases and cost adjustments are amended into the MTIP, reports shall be submitted documenting consistency on compliance with the RTP Chapter 3 pricing policies.
  - As the Regional Mobility Pricing Project (RMPP) develops and future phases and cost adjustments are amended into the MTIP, reports shall be submitted documenting consistency on compliance with the RTP Chapter 3 pricing policies.
  - ODOT has made a series of commitments to ensure that pricing projects contained in ODOT's Urban Mobility Strategy align with the Pricing Policy in the 2023 RTP as documented in RTP Appendix U. To ensure continuing accountability with those commitments, JPACT and Metro Council shall coordinate with regional partners (including ODOT) on a proposed toll revenue sharing approach to address safety and diversion impacts from tolling and work together to expand transportation options along priced corridors. JPACT and Metro Council shall provide testimony to the Oregon Transportation Commission (OTC) in support of the collaboratively developed toll revenue sharing approach.
  - ODOT will bring the work of the Equity and Mobility Advisory Committee (EMAC) into the analysis and discussion about the revenue raising potential of tolling and/or pricing consistent with EMAC's foundational statements accepted by the OTC. ODOT

#### *Defining terms*

##### **Diversion**

*Diversion is the movement of automobile trips from one facility to another because of pricing implementation.*

shall seek opportunities to incorporate the equity framework of the EMAC where appropriate. Due to the bi-state nature of the Interstate Bridge Replacement (IBR) program, the advisory committees established by ODOT for the Oregon Toll Program will not be the entity utilized for the IBR program. The IBR program will work with the OTC and the Washington State Transportation Commission (WSTC) to identify the process for incorporating public, advisory group and partner agency input around toll rate-setting and policies.

- ODOT will evaluate, document and address diversion on local routes where diversion is identified as part of the ongoing National Environmental Policy Act (NEPA) analyses consistent with Federal requirements and the additional commitments made by ODOT referenced in Appendix U.
- Consistent with these commitments and to inform decision-making, ODOT shall provide participating agencies with technical information regarding anticipated short- and long-term safety and mobility impacts resulting from tolling, including but not limited to one set of maps for each RMPP option based on select-link analysis that show the major routes in the region conveying vehicles to/from I-5/I-205, including identified mobility corridors.
- Consistent with the ongoing I-205 NEPA processes, ODOT will utilize the Metro Regional Travel Demand Model and other models that rely on state, regional and local data to evaluate tolling options for I-205. ODOT will conduct a separate analysis to determine if a managed lane concept on I-205 between OR 43 and Stafford Road is viable. This analysis will include an evaluation of using one or more managed lanes to address congestion, raise revenues for needed expansion and minimize diversion.
- Metro staff is directed to recommend an MTIP amendment process for the RMPP that:
  1. Recognizes the unprecedented nature of the RMPP;
  2. Requires ODOT to prepare findings that document how the RTP policies, including the pricing policies and actions and previous ODOT commitments with the Metro Council are addressed when requesting JPACT and the Metro Council consider future MTIP amendments for the RMPP; and
  3. Provides additional time and meaningful opportunities for the public, local jurisdictions and elected officials to review project-specific data and provide input on concerns relating to:
    - a) Funding and projects to address the impacts of RMPP on safety and traffic diversion on local roadways;
    - b) Implementation of a low-income fare program for RMPP, and

- c) Expanding transportation options along priced corridors.

These recommended actions aim to ensure local and regional concerns, RTP pricing policies, and the ODOT commitments related to tolling are addressed through the NEPA processes currently underway in future amendments to the MTIP and during project implementation.

#### **8.2.2.14 Data and tools to support performance-based planning and implementation**

##### **Performance-based planning and programming (PBPP)**

Over the past two decades, Metro and other transportation agencies have increasingly been applying performance management—a strategic approach that uses performance data to support decisions to help achieve desired performance outcomes. Performance management is credited with (1) improving project and program delivery, (2) informing investment decision-making, (3) focusing staff on leadership priorities and (4) providing greater transparency and accountability to the public.

PBPP applies this strategic approach within the planning and programming processes of MPOs, like Metro and other transportation agencies, to achieve desired performance outcomes for the multimodal transportation system. This includes a range of activities and products undertaken by a MPO together with other agencies, decision-makers and the public as part of a 3C (cooperative, continuing and comprehensive) process. It includes development of:

- Long-range regional transportation plans;
- The Congestion Management Process;
- Other plans and processes developed by ODOT and transit providers, such as Strategic Highway Safety Plans, Asset Management Plans, Transit Agency Asset Management Plans and Transit Agency Safety Plans; and
- Programming documents, including State and Metropolitan Transportation Improvement Programs (STIPs and MTIPs).

PBPP attempts to ensure that transportation investment decisions are made—both in long-term planning and short-term programming of projects—based on their ability to meet established goals.

This work, described in more detail in Appendix L, includes data and research activities to address existing and emerging planning and policy priorities and innovative practices in transportation planning and analysis. These activities help ensure that the region has the resources to fulfill its state and federal transportation performance measurement, monitoring and reporting responsibilities. A summary of these activities follows.



### **Data collection and coordination**

This work includes data collection and coordination to support regional transportation planning and analysis, including regional travel model calibration and validation, federal congestion management process analysis and performance-based planning target setting and monitoring. The majority of this data is maintained in Metro's Regional Land Information System (RLIS). This database is comprised of over 150 different (primarily geospatial) data sets, and most of the data sets identified in the sections below are elements. Metro publishes RLIS on a quarterly basis, but many data sets are on different cycles and come from different sources. All data sets are available for review at [rlisdiscovery.oregonmetro.gov](http://rlisdiscovery.oregonmetro.gov), along with a date of last publication. The associated metadata should be consulted in advance to understand how the data were generated and to determine the appropriateness of its use.

### **Analysis tool maintenance and enhancement**

This work includes planned maintenance and enhancement of the regional travel model and EPA's Motor Vehicle Emission Simulator (MOVES) and the development of a replacement land use model for the MetroScope model to address existing and emerging planning and policy priorities and innovative practices in regional transportation planning and analysis.

### **Analysis tool development**

This work includes development of new analysis tools to address existing and emerging planning and policy priorities and innovative practices in regional transportation planning and analysis. It includes (1) visualization tools, (2) housing and transportation cost tool, (3) project-level evaluation, (4) an activity-based transportation model (Activity Sim), (5) piloting the multi-criteria evaluation (MCE) tool, (6) climate analysis and (7) crash prediction modeling tools.

### **Monitoring and reporting tools**

This work includes information systems and data resource coordination efforts that Metro is doing or will do to ensure that the region has the resources to fulfill its state and federally-required transportation performance-based planning, programming and reporting responsibilities.

### **8.2.2.15 Metropolitan Transportation Improvement Program (MTIP)**

The MTIP documents how all federal transportation funding is spent in the greater Portland region for a four-year period as well as state and locally funded projects that may significantly affect the region's transportation system performance. The MTIP documents:

- All federally funded transportation expenditures;
- Funding sources for transportation projects;
- Project implementation details (e.g., in what year the preliminary engineering, right-of-way acquisition and construction phase is expected);
- Federal planning and fiscal requirements to expend federal funds have been met; and
- How adopted regional policies influenced the selection of these near-term investments as priorities for funding.

The RTP plays a significant guiding role for the MTIP as it sets the policy direction for what transportation investments are eligible for federal funding and the prioritization criteria for allocating federal funding. Through inter-regional coordination throughout the planning and programming process, the MTIP ensures that (1) investments of federal funds are consistent with the RTP, (2) are expected to make progress towards achieving performance targets established in the plan and (3) funding is available to complete each project phase included in the MTIP. The MTIP is updated every three years.

Demonstrating consistency with the RTP includes (1) verifying that projects are included in the RTP's financially constrained project list, (2) that projects emerged from a planning process that have met public involvement guidelines and adoption procedures and (3) have been demonstrated to address one or more of the RTP's investment priority goals. JPACT and the Metro Council identified these transportation system goals in the 2023 RTP: mobility options, safe system, equitable transportation, thriving economy and climate action and resilience. These investment priority policies are consistent with the federal planning performance measures and planning factors issued by the U.S. Department of Transportation.

As a federal requirement, both the RTP and the MTIP are fiscally constrained. Project costs are not to exceed expected revenue sources. For the MTIP, transportation identified investments are only those projects for which resources are expected to be available, and funding identified for the first year must be committed by administering agencies to the project.

The MTIP development process is initiated by Metro with an update to the MTIP program direction and an initial financial forecast of revenues expected to be available for programming. The program direction identifies how JPACT and the Metro Council intend to coordinate the funding allocation processes administered by Metro through the Regional Flexible Funds Allocation (RFFA) process and for funds administered by ODOT and public transit agencies—TriMet and South Metro Area Regional Transit (SMART). The program direction document also describes how the funding allocation processes address federal regulations for the allocation of federal transportation funds. Upon adoption by the Metro Council, the MTIP is submitted to the Governor of Oregon for inclusion in the STIP.

### 8.2.3 Regional planning and collaboration to implement the 2023 RTP and address key transportation issues of regional concern

This section summarizes near-term planning at the regional scale to advance implementation of the plan. The regional transportation planning and investment activities listed below reflect a combination of federally required (\*) and previously committed (\*\*) regional initiatives and other activities that address transportation policy or planning issues of regional concern that could not be resolved during the plan update. Each planning effort is needed to address regional transportation policy or planning issues that could not be resolved during the plan update.

**Table 8.2: Summary of RTP implementation work (2023-28)**

Regional initiative	Lead Agency	Anticipated timing
Regional Transportation Priorities and Funding Strategy**	Metro, JPACT	2023-28
EPA Climate Pollution Reduction Grant – PCAP/CCAP**	Metro	2023-25
USDOT Safe Streets for All Grant**	Metro	2023-25
Transit planning	TriMet	Annually
Emergency Transportation Routes Project, Phase 2**	Metro, RPDO	2024-26
Connecting First and Last Mile: Accessing Mobility Through Transit Study**	Metro	2024-26
Frequent Service Express Implementation Plan	TriMet	2024-25
Regional Mobility Policy Implementation Actions**	Metro, ODOT	2024 and beyond
Regional Transportation Demand Management (TDM) Strategy**	Metro	2024-25
Regional Transportation Functional Plan Update	Metro	2024-25
Tribal Consultation and Engagement Process Review	Metro	2024-25
Regional Industrial Lands Availability and Intermodal Facilities Access Study	Metro	2024-25
RTP Process, Metrics and Analysis Review	Metro	2025
Workforce Diversification in Regional Transportation Infrastructure Projects	Metro	2025
Regional Electrification Coordination	Metro	2025
Regional Freight Rail Study	Metro, Port	2025-26
2040 Refresh Coordination	Metro	Pending Metro Council direction

These efforts will be completed consistent with the RTP goals, policies and strategies. A lead agency, project partners and proposed timing for completion is identified for each planning effort along with a description of the issues to be addressed and expected outcomes from the work. This work will be completed by multiple partners as resources are available and pending future Metro Council and JPACT policy direction and will be



coordinated through the development and approval of the annual Unified Planning Work Program (UPWP).

### 8.2.3.1 Regional transportation priorities and funding strategy

Lead agency	Partners	Proposed timing
Metro	Cities, counties, ODOT, TriMet, Port	2024-28

There is insufficient funding to meet the region’s currently identified needs and RTP goals. The gas tax continues to fall behind in the near-term and is not viable in the long-term with the rise of electric vehicles, yet it is unclear whether new revenues such as congestion pricing, vehicle miles traveled (VMT)/road usage charge or other revenues will fill in this gap. Other key concerns identified during the 2023 RTP update include the region’s lack of consensus on how to prioritize investments made with existing or new funding, existing funding streams under-investment in transit and multimodal improvements.

#### *Defining terms*

##### **Vehicle miles traveled (VMT)**

*A measure of roadway use by multiplying miles traveled per vehicle by the total number of vehicles for a specified time period. Excludes buses and trucks.*

##### **Road usage charge (RUC)**

*Motorists are charged for each mile driven.*

During the adoption of the 2023 RTP, policymakers recommended preparing a JPACT work plan to focus on increasing and accelerating regional transportation investments. The work plan should address:

- Developing state and federal funding legislative priorities position supported by JPACT and the Metro Council, such as the need to maintain the transportation system, invest more in transit and active transportation, address resiliency of bridges and the system and create dedicated funding for active transportation, transit, programs like Great Streets and infrastructure like Willamette River and other major bridges.
- Dedicating resources and coordination to increase our region’s competitiveness for emerging Bipartisan Infrastructure Law (BIL) federal funding opportunities.
- Pursuing transportation funding, including new funding sources to replace the gas tax, in the 2025 legislative session and federal funding opportunities.
- Dedicating staff time to assess whether new revenues such as congestion pricing, a VMT/road user fee, changes to user fees and taxes on gasoline sales

and other aspects of travel can provide the necessary funding building on the equitable funding research conducted as part of the 2023 RTP update.

- Developing strategies to support smaller jurisdictions in securing state and federal funding for transportation investments in their communities.
- Developing effective strategies to fund and implement transportation infrastructure in urban growth boundary expansion areas and adjacent networks to meet urban multimodal standards and support complete communities consistent with the regional 2040 Growth Concept.

Within the context of a transportation funding strategy, the aging Willamette River bridges provide a unique and persistent challenge. The region continues to struggle with a long-term funding strategy for maintaining Willamette River bridges that serve regional travel. Currently, Multnomah County has primary responsibility for five of the 11 bridges within the Metropolitan Planning Area (see Table 8.4 below) with insufficient funding to pay for all expected future maintenance of these structures.

**Table 8.4 Willamette River bridges in the Metropolitan Planning Area**

Bridge Name	Bridge Owner
Broadway Bridge	Multnomah County
Burnside Bridge	Multnomah County
Morrison Bridge	Multnomah County
Hawthorne Bridge	Multnomah County
Sellwood Bridge	Multnomah County
St Johns Bridge	ODOT
Fremont Bridge	ODOT
Marquam Bridge	ODOT
Ross Island Bridge	ODOT
Tilikum Crossing Bridge	TriMet
Steel Bridge	Union Pacific Railroad

Within 20 years, four of Multnomah County’s five Willamette River Bridges will be 100 years old. The Burnside Bridge is anticipated to be replaced by 2030. The county’s capital program for the remaining three bridges (Broadway Bridge, Hawthorne Bridge and Morrison Bridge) is estimated to cost \$790 million, yet only \$332 million in federal, state and county revenues has been identified in revenue forecasting through 2045. ODOT owns four of the bridges, including the Fremont Bridge and Marquam Bridge (interstate bridges), as well as the St. Johns Bridge and Ross Island Bridge. Union Pacific Railroad owns the Steel Bridge, which is also due for significant maintenance, with costs to be determined. TriMet owns the Tilikum Crossing bridge, and while it was recently

constructed, it will eventually require maintenance as well, as the region's bridges face maintenance challenges that come from age and use.

More collaboration and work are needed to develop a financial plan for ensuring ongoing operations and maintenance and other transportation needs of Willamette River bridges, given the importance to the regional economy, emergency response and climate resilience.

### 8.2.3.2 Regional Environmental Protection Agency (EPA) Climate Pollution Reduction Grant

Lead agency	Partners	Timing
Metro	Public agencies throughout the seven-county Portland-Vancouver Metropolitan Statistical Area	2023-27

In early 2023 the U.S. EPA announced the Climate Pollution Reduction Grant (CPRG) program, a new funding program dedicated to helping public agencies across the U.S. take significant actions to reduce greenhouse gas emissions in the near term. Metro is leading a CPRG planning grant for the Portland-Vancouver Metropolitan Statistical Area (which includes Clackamas, Clark, Columbia, Multnomah, Skamania, Washington and Yamhill Counties) focused on identifying near-term opportunities for agencies within this seven-county region to lead projects that will significantly reduce greenhouse gas emissions. Actions identified through the grant deliverables will be eligible for follow-up implementation grants that will help put the plans developed through the first round of grants into action, including \$4.6 billion dollars in competitive grants that EPA plans to make available in late 2024.

Under the [CPRG grant](#) the region is responsible for producing three deliverables:

- A Priority Climate Action Plan (PCAP), due in March 2024, that is focused on identifying high-impact climate actions that can readily be implemented by Metro and its local/regional agency partners using funding that EPA plans to make available in late 2024.
- A Comprehensive Climate Action Plan (CCAP), due late summer 2025, that accounts for all major greenhouse gas emissions, sinks in the region and recommends a broader set of implementation actions that can be funded by a variety of state and federal sources.
- A status report, due late summer 2027, that provides an update on the implementation actions and identifies any changes to the actions or results of the PCAP and CCAP.

In addition to reducing emissions and aligning with the authority of agency partners within the region, the plans created under the CPRG grant are expected to prioritize actions that advance equity and workforce development. CPRG funding will support the technical analysis and engagement necessary to identify the actions that best meet EPA’s criteria. CPRG grantees are required to address all greenhouse gas emissions and sectors. Though CPRG deliverables are not limited to the transportation issues that are the focus on the Regional Transportation Plan, transportation is expected to be an area of focus for the grant given that transportation accounts for most of Oregon’s greenhouse gas emissions, and agency partners in the region have strong authority over the infrastructure and land use decisions that influence transportation emissions.

**8.2.3.3 USDOT Safe Streets for All grant**

Lead agency	Partners	Timing
Metro	Cities, counties, FHWA, ODOT,	2023-25

Awarded to Metro by the Federal Highway Administration (FHWA) in February 2023, this grant supports development of the regional safety program and local Transportation Safety Action Plans to help reach the goal of zero deaths and life-threatening injuries on roadways by 2035. Efforts will focus on managing speeds for safety, vehicle sizes and weights, increasing pedestrian safety, and eliminating disparities for Black, Hispanic, Native American, people with low income, and other populations disproportionately impacted by serious traffic crashes.

**8.2.3.4 Transit planning**

Lead agency	Partners	Timing
TriMet and SMART	Cities, counties, Ride Connection, other transit providers	Annually

TriMet conducts annual transit service planning as part of the agency’s annual budgeting process, guided by the TriMet Board. Annual service planning identifies specific service changes to be implemented within the coming fiscal year. The annual service planning process includes two rounds of public outreach as well as a formal public hearing. Service improvements are funded both through TriMet’s general fund as well as the Statewide Transportation Improvement Fund. Upcoming work by the agency includes:

- Forward Together 2.0.
- Taking the fiscally constrained bus service network concept to the next level.



- An update to the Coordinated Transportation Plan for Seniors and People with Disabilities by summer 2024.
- Continued work, including vehicle testing, on fleet electrification toward the goal of being a net zero agency by 2050.

Each year, alongside the City of Wilsonville’s annual budget, SMART staff compiles potential projects that utilize federal funding for the upcoming fiscal year (July 1 to June 30). The list of projects and associated costs is known as the Program of Projects, or POP. Members of the public have opportunities to comment on these projects directly to staff in May, or at meetings in May (Budget Committee) and June (City Council) of each year. Any changes based on those public comments will be incorporated into a final version at the budget adoption in June.

SMART recently update its Transit Master Plan, which identifies transit improvement projects that could be implemented over the next three to five years. The plan identifies (1) where frequency will be improved, (2) the times of day and days of week to add service, (3) where and how connections between routes could be made and (4) new routes inside Wilsonville and connecting to other cities. Next steps include working to take the plan and translate it to service and projects.

**8.2.3.5 Regional Emergency Transportation Routes Project Phase 2**

Lead agency	Partners	Proposed timing
Metro and Regional Disaster Preparedness Organization (RPDO)	Cities, counties, TriMet, SMART, ODOT, DOGAMI, WASHDOT, SW RTC, REMTEC	2024-26

Natural disasters can happen anytime, and the transportation system needs to be prepared to withstand them and to facilitate life-saving and life-sustaining activities, including the transport of first responders (e.g., police, fire and emergency medical services), fuel, essential supplies and patients.

The Emergency Transportation Routes Project is a collaborative effort between public, private and non-profit partners, co-led by the five-county, bi-state [Regional Disaster Preparedness Organization \(RDPO\)](#) and Metro to improve the safety and resiliency of the region’s transportation system to natural disasters, extreme weather events and climate change.

From 2019 to 2021 the RDPO and Metro partnered to complete phase 1 of the project - updating the designated Regional Emergency Transportation Routes (RETRs) for the five-county Portland-Vancouver metropolitan region, which includes Clackamas, Columbia, Multnomah and Washington counties in Oregon and Clark County in Washington. The

routes had not been updated since 2006. The updated routes are shown within the Climate Action and Resilience section in Chapter 3 of the RTP.

A second phase of follow-on work is proposed for 2024 to 2026 to further prioritize/tier the updated routes and develop operational guidance for route owners/operators. For more information on RETRs, please visit [rdpo.net/emergency-transportation-routes](https://rdpo.net/emergency-transportation-routes).

### 8.2.3.6 Connecting the first and last mile: Accessing mobility through transit study

Lead agency	Partners	Proposed timing
Metro	TriMet, SMART, Cities, counties, Ride Connection, other transit providers	2024-2026

Local transit service has long used smaller vehicles that range from vans and shuttles to small buses with fixed to flexible routes to fill the gap between traditional bus and rail services, as well as local destinations. An emerging trend in these types of services is using ride-hailing and other new technologies to provide on-demand micro transit services. This study will:

- Identify local service and coordination gaps specific to the Metro region, especially for urban and suburban areas of the region; particularly areas more recently brought into the urban growth boundary and regional parks that currently have little to no transit service.
- Document the range of potential solutions.
- Explore innovative ways to improve transit access and convenience for users (e.g. microtransit), particularly for the first and last mile.

This work will build upon local planning efforts (e.g., Transit Development Plans, Statewide Transportation Improvement Fund Plans, Washington County First and Last Mile Transit Study) and be completed in close coordination with public transit service providers in the region. The project will identify actions and make recommendations for the local transit strategy carried forward for consideration in the 2028 RTP update.

### 8.2.3.7 Frequent express strategic implementation plan

Lead agency	Partners	Proposed timing
TriMet	Metro, cities, counties	2024-25

TriMet and Metro will be developing a Bus Rapid Transit (BRT) Strategic Implementation Plan as part of regional transit planning efforts. The Plan will further advance work in the High-Capacity Transit Plan and will outline a vision for how Frequent Express (FX) investments can enhance existing and future frequent bus service corridors to serve

the region’s goals. It will identify a network of BRT routes, prioritize routes for implementation, develop a delivery efficiency strategy and identify potential regional funding strategies.

### 8.2.3.8 Regional Transportation Demand Management (TDM) strategy

Lead agency	Partners	Proposed timing
Metro	Cities, counties, ODOT, DEQ, TriMet, SMART	2024-25

The 2023 RTP includes new policy direction regarding transportation demand management (TDM). Through the process of developing the 2023 RTP, the region identified the need for clearer direction regarding how TDM should be implemented. This direction more clearly describes the role of TDM in helping implement the region’s strategies for mobility management and greenhouse gas emission reductions. New policy direction includes a section in Chapter 3 of the RTP dedicated to TDM, as well as updates to the region’s Mobility Policy, which will elevate the expectation for TDM integration into local TSPs and comprehensive plan amendments. The RTP requires a greater commitment from the region’s cities and counties to implement TDM activities. At the same time, it recognizes the important role played by non-profit organizations in delivering TDM services.

During the course of this project, Metro will develop a regional strategy to implement the new TDM policies in 2023 RTP, and update Metro’s Regional Travel Options (RTO) Program Strategy to support implementation. The Regional TDM Strategy should provide implementation guidance to state agencies, transit providers, local agency and non-profit partners and direction on how the Metro RTO program can support these efforts through identified and coordinated activities that are meaningful and appropriate to the context of specific communities. This project will comprise two distinct phases:

- Phase I includes an assessment of the RTO program and existing regional TDM services.
- Phase II includes the Regional TDM Strategy as well as an update to the 2018 RTO Program Strategy in the form of an internally oriented RTO work plan.

### 8.2.3.9 Regional mobility policy implementation action plan

Lead agency	Partners	Proposed timing
Metro and ODOT	DLCD, cities, counties, TriMet, SMART, FHWA, SW RTC	2024 and beyond

The 2023 RTP contains a new regional mobility policy that is a critical step toward developing more housing, jobs and services in designated growth areas across the region and ensuring those areas and existing communities have improved access to safe and affordable transportation. The policy represents an important advancement in measuring mobility for all modes and predicting reliable travel speeds on the region’s interstates and major highways. The policy will guide the development of a complete and well-connected transportation system that gives people safe and reliable transportation options and helps reduce the region’s climate pollution.

Last updated in 2000, the regional mobility policy is a policy in Chapter 3 of the RTP as well as the Oregon Highway Plan (OHP). It applies to transportation system planning and comprehensive plan amendment processes within the Portland metropolitan area. The policy is used to identify multimodal transportation needs and solutions during updates to the RTP and local transportation system plans (TSPs) and to evaluate the potential impacts of local comprehensive plan amendments and zoning changes.

Development of the new policy started in 2019 through a joint effort of Metro and the ODOT. In November and December 2022, JPACT and the Metro Council accepted the new draft policies and implementation action plan and supported further development of the performance measures and targets/thresholds during the 2023 RTP update. The new policy identifies three mobility performance measures:

- (1) vehicle miles traveled per capita,
- (2) system completion for all modes (including TDM and TSMO) and
- (3) throughway reliability using travel speed.

In November 2023, JPACT and the Metro Council adopted the new policy and measures in Chapter 3 of the 2023 RTP and the implementation actions that follow.

#### Regional mobility policy implementation timeline and key tasks

Prior to the next RTP update, Metro and ODOT will continue working in collaboration with the region’s cities and counties and in coordination with DLCD, the statewide Climate-Friendly and Equitable Communities ([CFEC implementation program](#)) and the planned [Oregon Highway Plan update](#). This work is needed to support implementation of the new policy and includes actions to incorporate the policy into existing policy documents, guidance and procedures and development of the data and tools needed for



cities, counties, Metro, ODOT and practitioners to implement the policy. This work will inform the update to the Regional Transportation Functional Plan (RTFP) that is planned for 2024 and 2025 (see section 8.2.3.11).

The implementation actions are organized in two time periods:

- 2024 and 2025
- 2026 and beyond

Each action identifies a lead agency and anticipated timing for completion, along with a brief description of the action. Lead agencies are Metro and ODOT. Partners include the Department of Land Conservation and Development (DLCD), cities, counties, transit providers and other partners in the greater Portland region. These implementation actions will be completed as resources are available.

### **2024 and 2025**

- **Develop interim TDM and TSMO system completion guidance.** Finalize interim guidance for measuring system completeness for both transportation demand management (TDM) and transportation system management and operations (TSMO). The interim guidance will (1) identify expectations for system completeness for TDM and TSMO at a regional level, (2) identify roles and responsibilities for Metro and its partners in implementation, (3) include recommended processes for system planning and plan amendments for local jurisdictions and (4) provide recommended TDM tools to support implementation. The TSMO guidance is anticipated to include a checklist, using the existing Regional Intelligent Transportation System (ITS) Architecture Plan and ITS checklist as a starting point. The Regional ITS Architecture Plan allows a local agency to track how information flows among transportation operators to manage the multimodal system and assures the equipment they put into capital projects is effective and can work together, satisfying requirements of the region, ODOT and FHWA. Chapter 3 of the 2023 RTP contains a map of the key TSMO corridors (Figure 3.36) that reflects the network in which transportation systems management strategies are most essential in the region. This work will be completed in coordination with ODOT, cities and counties and other partners in the region.

**Lead Agency:** Metro

**When:** Spring 2024

- **Develop a VMT evaluation approach for TSP updates.** Develop an approach for evaluating household-based VMT per capita to aid cities and counties when updating transportation system plans consistent with OAR 660-012-0160 and when making land use decisions in the Portland area consistent with OAR 660-012-0210. This work will help establish baseline per capita VMT for household-based trips in the region. A standalone tool will be developed to help assess potential changes to VMT/capita,

minimizing the need for using the regional travel demand model for all plan amendments. Since Fall 2023, ODOT has been working with a state-level technical work group to develop data and tool specifications, review relevant research and conduct sensitivity testing in coordination with Metro and other MPOs. This work is anticipated to support implementation of this policy and OAR 660-012 and OAR 660-044 statewide. This work will be completed in collaboration with ODOT and DLCD and in coordination with the statewide CFEC implementation program work that is underway, including updates to the ODOT TSP Guidelines and ODOT Analysis Procedures Manual (APM) described below. Cities, counties, other partners and TPAC will be engaged in implementing this work through the Regional Transportation Functional Plan.

**Lead Agencies:** ODOT and Metro

**When:** 2024

- **Determine appropriate reliability metric(s) for signalized throughways.** Conduct additional analysis to determine appropriate reliability metric(s) for signalized throughways.<sup>3</sup> This work will build on travel speed analysis documented in Appendix E. This work will be completed in coordination with Metro, TPAC, affected jurisdictions and the Oregon Highway Plan update.

**Lead Agency:** ODOT

**When:** 2025

- **Implementation support.** Develop supporting analysis methodologies and guidance to support implementation consistent with the Transportation Planning Rule, statewide CFEC implementation program and the RTP regional mobility policy. This work includes:
  - **Develop multimodal infrastructure inventory.** This work will produce an initial inventory of multimodal infrastructure for all cities within metropolitan planning organizations to support jurisdictions in meeting the inventory and reporting requirements in OAR 660-012 and OAR 660-044. The inventory dataset will also support implementation of the regional mobility policy system completeness measure. The [Regional Land Information System](#) (RLIS) Metro maintains includes data collected by local governments and reported to Metro that provides important information to support this work. Outreach to Metro and local agencies is anticipated in early 2024 and the first datasets are anticipated in late 2024. This project may run through 2026. Long-term data management solutions will also be addressed. Metro will continue to maintain relevant RLIS data for the greater Portland region.

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<sup>3</sup> Signalized throughways designated in the RTP are designated as expressways in the Oregon Highway Plan. See Figure 3.8 in Chapter 3 of the 2023 RTP for a map of designated throughways in the region.

**Lead Agency:** ODOT

**When:** 2024-25

- **Update ODOT’s Analysis Procedures Manual (APM), ODOT Development Review Guidelines and ODOT TSP guidelines to reference the updated Regional Mobility Policy.** The APM and TSP Guidelines are being updated in 2024 to reflect CFEC and new TPR requirements, including some data and analysis requirements. Further updates to procedures and guidance may be needed specific to the Portland area to provide guidance on assessing impacts of comprehensive plan amendments on ODOT facilities. This work includes further documentation of methods and guidance for consultants and local governments to use for calculating hourly average travel speed on throughways in regional travel demand models to ensure a consistent approach to segment lengths, model hour(s) reviewed and any calibration needed. The updates will build on work underway to support implementation of OAR 660-012 and OAR 660-044 and will be updated after the updated Oregon Highway Plan (OHP) is adopted by the Oregon Transportation Commission (anticipated in 2027).

**Lead Agency:** ODOT

**When:** 2027-28

- **Request consideration of adoption of the 2023 RTP regional mobility policy for the Portland metropolitan area in the Oregon Highway Plan.** An [update of the OHP](#) is planned for 2024-27 to respond to and implement the [2023 Oregon Transportation Plan](#). Metro and ODOT will request the OHP be updated to reflect the 2023 RTP regional mobility policy performance measure targets and thresholds and to integrate explanatory text and other state guidance for transportation system planning for interstates and state highways in the Portland metropolitan area. The requested OHP updates will consider removal of the recommendation in the Oregon Highway Plan for local agencies to adopt ODOT mobility standards for development review purposes.

**Lead Agencies:** Metro and ODOT

**When:** 2024-25

- **Amend Regional Transportation Functional Plan (RTFP) to direct local implementation of the new policy.**<sup>4</sup> This work will be completed in coordination with ODOT, DLCD, transit providers, cities, counties and other partners in the region and the statewide CFEC implementation program. Further scoping of this work is needed.

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<sup>4</sup> See Section 8.2.3.10 for a description of other planned updates to the Regional Transportation Functional Plan.

Key mobility policy related tasks are anticipated to include:

- **Update Title 1 (system design) of the RTFP** to reflect relevant system planning provisions for TDM and TSMO system completion and relevant new provisions contained in OAR 660-012.
- **Update Title 2 (development and update of transportation system plans) of the RTFP** to reflect the regional mobility policy and any relevant provisions contained in OAR 660-012. Title 2 references mobility targets and thresholds in Table 3.08-2. Sections 3.08.210 and 3.08.220 address identification of transportation needs and solutions. Section 3.08.230 defines performance targets and thresholds and requires Oregon Transportation Commission approval for local adoption of mobility standards for state highways that differ from those in Table 3.08-2. This work will update the transportation needs and solutions evaluation and reporting process that agencies must follow to demonstrate that the RTP congestion management process was applied and that other solutions were considered and analyzed first before projects that add roadway capacity are selected consistent with OTP and RTP policies, OAR 660-012-0830 and 660-012-0155.
- **Update Title 5 (amendments of city and county comprehensive and transportation system plans) of the RTFP** to reflect the regional mobility policy, updates to Title 2 of the RTFP and any relevant provisions contained in OAR 660-012.
- **Update Title 6 (centers, corridors, station communities and main streets) of the Urban Growth Management Functional Plan** to reflect the regional mobility policy, updates to Title 2 of the RTFP and any relevant provisions contained in OAR 660-012.
- **Clarify applicability to land use decisions.** Clarify what types of land use decisions are governed by the regional mobility policy, consistent with OAR 660-012-0210 and OAR-012-0215 and in coordination with ODOT and DLCDC and the statewide CFEC implementation program. The mobility policy is intended to apply to transportation system planning, including area and refinement planning and comprehensive plan amendments.
- **Develop model codes and guidance to support local implementation of the regional mobility policy.**

**Lead Agency:** Metro

**When:** 2024-25



## 2026 and beyond

- **Implement Regional Mobility Policy through local TSP and comprehensive plan updates.** Local implementation of the updated regional mobility policy will follow the RTFP update, though cities and counties may begin implementing the policy prior to that. Local TSP and plan updates are expected to apply the new mobility policy in their system planning and to reflect the new policy in updated local code requirements for comprehensive plan amendments. Local jurisdictions that have adopted ODOT's current OHP volume to capacity (v/c) targets as standards in their development codes, may also remove the v/c targets from consideration or consider using v/c targets in combination with other mobility policy measures when evaluating allowed use development. Metro and ODOT staff will support local agencies when they begin applying the regional mobility policy in local planning.

**Lead Agency:** Cities and counties

**When:** 2026 and beyond

- **Reconsider the use of the VMT/employee measure in this policy.** Review previous analysis of the VMT/employee measure to determine whether the measure is useful to pursue in the regional mobility policy.

**Lead Agencies:** ODOT and Metro

**When:** 2026

- **Determine remaining needs for updates to the Oregon Highway Design Manual to acknowledge the Portland Metro area mobility policy adopted in the 2023 RTP.** The updates will build on work underway to support implementation of OAR 660-012 and OAR 660-044 and may be further updated when the updated OHP is adopted by the Oregon Transportation Commission (anticipated in 2027).

**Lead Agency:** ODOT

**When:** 2027 and beyond

- **State and regional modeling collaboration.** Modify and create new regional modeling tools in coordination with the Oregon Modeling Statewide Collaborative (OMSC) to better account for all modes of travel, including light-duty commercial travel, in support of implementation of this policy and OAR 660-012 and OAR 660-044. This includes expanding the region's dynamic traffic assignment capabilities, supporting the statewide joint-estimation and regional deployment of ActivitySim and supporting tools, which will better integrate state and regional modeling efforts, particularly where these models overlap and exchange data.

**Lead Agency:** Metro and ODOT

**When:** 2027 and beyond

More information about the regional mobility policy update can be found at:

[oregonmetro.gov/mobility](https://oregonmetro.gov/mobility). Information and the statewide CFEC implementation work can be found at: [oregon.gov/odot/planning/pages/climate-transportation-planning.aspx](https://oregon.gov/odot/planning/pages/climate-transportation-planning.aspx).

Information about the Oregon Highway Plan update can be found at: [oregon.gov/odot/Planning/Pages/Oregon-Highway-Plan-Update.aspx](https://oregon.gov/odot/Planning/Pages/Oregon-Highway-Plan-Update.aspx).

### 8.2.3.10 Regional Transportation Functional Plan update

Lead agency	Partners	Proposed timing
Metro	Cities, counties, ODOT, DLCD, TriMet, SMART	2024-25

Since the adoption of the 2040 Growth Concept in 1995, cities and counties across the region have updated their comprehensive plans, development regulations and transportation system plans to implement the 2040 Growth Concept in locally tailored ways. The RTP provides a long-range blueprint for implementing the transportation element of the 2040 Growth Concept and presents the overarching vision, policies goals and system concepts for all modes of travel and strategies for funding and local implementation for the region. Projects submitted to the RTP are from adopted local, regional or state planning efforts that provided opportunities for public input. Cities and counties are responsible for creating transportation system plans that are periodically updated to stay consistent with the RTP and reflect local transportation priorities and needs. Each city and county develop their own process for engaging the public in the development of the plans.

Most communities throughout the region have an adopted transportation system plan that serves as the transportation element of a comprehensive plan consistent with the Regional Transportation Functional Plan (RTFP). The functional plan implements the goals, objectives and the policies of the RTP and its constituent strategies, including the Climate Smart Strategy and strategies for safety, active transportation, freight, transit, transportation system management and operations, regional travel options and emerging technology.

Under state law, the RTFP directs cities and counties within the metropolitan planning area boundary as to how to implement the RTP through local transportation system plans and associated land use regulations and transportation project development. Local implementation of the RTP will result in a more comprehensive approach for implementing the 2040 Growth Concept, help communities achieve their aspirations for growth and support current and future efforts to achieve the goals objectives and policies of the RTP.

The RTFP was last updated in 2012. A comprehensive review and update is needed to:

- Modernize the functional plan language to be inclusive and in plain writing.
- Make miscellaneous technical corrections and clarifications, such as updating outdated references to maps and figures.
- Ensure the functional plan language and provisions are consistent with and adequately reflect new and updated goals, objectives and policies adopted in the RTP since 2014, including safety, transportation equity, climate, pricing, mobility, freight transit, transportation system management and operations and transportation demand management.
- Align the functional plan language and requirements with recent statewide rulemaking and policy development to implement the [Climate-Friendly and Equitable Communities Program](#), including modal system planning, multimodal inventories, transportation performance, project prioritization, parking management and reporting.
- Define how the updated mobility policy will be implemented in local TSPs and local comprehensive plan amendments in coordination with local governments and the statewide CFEC implementation program and [Oregon Highway Plan update](#).
- Update the timeline for local TSPs updates in collaboration with cities, counties and in coordination with DLCD and the ODOT [Transportation System Plan Funding Program](#).

Metro will work with partners to develop guidance and other tools to support local implementation.

#### 8.2.3.11 Tribal consultation and engagement process review

Lead agency	Partners	Proposed timing
Metro	Tribes	2024-25

#### Background

Per 23 CFR 450.316, Metro is required as a Metropolitan Planning Organization (MPO) to consult with tribes on the development and adoption of the Regional Transportation Plan. As an MPO, Metro works collaboratively with tribal governments, cities, counties and transportation agencies to develop an overall transportation plan for the greater Portland region and decide how to invest federal highway and public transit funds within its metropolitan planning area.

Metro Council shares decision-making authority for these plans and responsibilities with the Joint Policy Advisory Committee on Transportation (JPACT). Metro sees interested

sovereign tribal governments as important partners in development of these transportation planning and policy documents to:

- Support partnership and relationship development between Metro and interested tribal governments in recognition of tribal sovereignty and in service of the greater public and environment in regional long-range transportation planning.
- Understand and address tribal interests and priorities in regional transportation projects and planning.
- Increase Metro’s awareness and subsequent opportunities to meet transportation needs of tribal members and urban Indigenous communities residing in the MPO planning area.
- Ensure compliance with our MPO consultation requirements under federal law, 23 CFR 450.316.

In addition, Metro also recognizes the importance of consulting and engaging with interested tribes so their sovereign and time immemorial interests and connections to the greater Portland area can be considered in public transportation planning processes.

The lands now known as the greater Portland metropolitan area are part of the aboriginal homelands, traditional use areas and trade networks of numerous tribes. For millennia, Indigenous people resided throughout the Willamette Valley and along the Willamette and Columbia Rivers and their tributaries in traditional villages, permanent communities and seasonal encampments. The relationship of tribes, their lands and interests extend from time immemorial to the present day and beyond. Each tribe’s interests are distinct. These interests may overlap and intersect with the static boundaries of Metro’s MPO planning area and the urban region’s transportation system in various ways.

### **Overview of 2023 RTP update tribal consultation and engagement outcomes**

Metro invited consultation with seven tribes to inform Metro’s 2023 update to the Regional Transportation Plan and Metropolitan Transportation Improvement Program. In alphabetical order, these Tribes included:

- Confederated Tribes and Bands of the Yakama Nation
- Confederated Tribes of Grand Ronde
- Confederated Tribes of Siletz Indians
- Confederated Tribes of the Umatilla Indian Reservation
- Confederated Tribes of the Warm Springs Reservation of Oregon



- Cowlitz Indian Tribe
- Nez Perce Tribe

After this invitation to consultation, staff and representatives from multiple tribes engaged formally and informally with Metro staff regarding the updates to the RTP and MTIP respectively.

Input from participating tribes highlighted the importance of natural resources restoration and conservation for First Foods such as salmon. Multiple tribes also shared a desire to see transportation planning and consultation work done properly and for Metro to take into account potential impacts to not only historic resources but also cultural and archeological resources important to tribes. Tribes also requested to be engaged earlier in the process and not strictly at the outset of the call for projects and environmental assessment decision making processes. More specifically Tribes shared priorities, concerns and requests to Metro, including (1) better definition and understanding around which government agencies, i.e. local city and county governments or Metro, are responsible for proactively notifying tribes and (2) engaging in consultation with them regarding individual proposed projects in the RTP and MTIP plans. They also requested clarification of when in the process archeological compliance and protection activities would occur for projects and which agency is responsible for leading tribal notification and consultation for these efforts. Informal consultation comments also highlighted and expressed an interest and desire for Metro to examine conflicting outcomes of various transportation policies that are embedded within the RTP that make it challenging to (1) assess proposed projects for potential impacts to tribal interests and (2) assess proposed projects for inclusion in the adopted RTP.

#### **Future work to improve Metro's tribal consultation process**

In response to the priorities, concerns, themes and requests identified through tribal consultation and engagement with participating tribes, the Metro tribal affairs program will work with Metro planning staff to recommend improvements to Metro's tribal consultation process for regional transportation planning and processes including future updates to the RTP and MTIP.

### 8.2.3.12 Regional Industrial Lands Availability and Intermodal Facilities Access Study

Lead agency	Partners	Proposed timing
Metro	Cities, counties, ODOT, WSDOT, RTC, Port of Vancouver and Port of Portland	2024-26

This study includes data collection and analysis to better understand the potential transportation impacts and related land use and transportation policy issues around the growing need for larger distribution centers and fulfillment centers in the region. The study will also explore the potential shortage and/or lack of readiness for industrial land in the region that will meet that growing need. This study was identified as part of the key findings and recommendations of the Regional Freight Delay and Commodities Movement Study, which looked at the need for improved access and mobility to and from regional industrial lands and intermodal facilities.

Access to regional industrial lands and intermodal facilities were briefly addressed as part of the Regional Freight Delay and Commodities Movement Study. However, the scope of this study did not allow for studying the future availability, need and readiness of large industrial sites that may be needed to accommodate the growth in fulfillment centers and distribution centers that meet customer demand for e-commerce deliveries. The Regional Freight Delay and Commodities Movement Study did not address the potential localized and regional transportation impacts of the growth in fulfillment centers and large distribution centers. The Regional Industrial Lands Availability and Intermodal Facilities Access Study is needed to address these land use and transportation issues and further study the need for new regional freight and land use policy.

Some of the potential outcomes of the proposed study are:

- Identification of the number, size, and readiness of industrial sites that can accommodate large distribution and fulfillment centers. Identify clusters of smaller industrial parcels that could potentially be consolidated to a large enough parcel with the readiness to accommodate a needed distribution or fulfillment center.
- Case studies of existing fulfillment centers (in the region or other urbanized locations) that identify the constraints and opportunities that helped determine the location of the fulfillment center. These case studies

#### *Defining terms*

##### **Fulfillment centers**

*Places in which orders are received, products are packaged and then shipped to the customers that placed the original order on behalf of eCommerce retailers.*

##### **Distribution centers**

*A facility used for receiving, temporary storage, and distribution of goods according to orders as they are received.*

could look at the localized and regional traffic impacts over time of additional truck trips at these fulfillment centers.

- Further development of methods and measures for determining where existing industrial site access needs to be improved along with access needs to existing intermodal facilities in the region.
- Developing scenarios that address improving access to key industrial sites and intermodal facilities.

The Regional Industrial Lands Availability and Intermodal Facilities Access Study will inform the next RTP update and the 2040 Refresh work described in Section 8.2.3.17.

**8.2.3.13 RTP project list development process, metrics and analysis review**

Lead agency	Partners	Proposed timing
Metro	Cities, counties, CBOs, ODOT, DLCD, TriMet, SMART, Port	2025

There is broad support for the RTP goals, but concerns were raised during the 2023 RTP update that the transportation investments in the RTP do not advance the goals enough, in particular, the safety and climate goals. Transportation safety surfaced as a top community concern during engagement on the 2023 RTP and is a central concern for local jurisdictions and other transportation providers. In recent years, safety is moving in the wrong direction in the region, the state and nationally, as deaths and serious injuries have increased on our roadways. The 2023 RTP also brought into focus the need for improved climate analysis capabilities to monitor implementation of the [Climate Smart Strategy](#) and better inform RTP investment priorities.

Metro will work with cities, counties, community-based organizations and transportation agencies to improve the process of developing and evaluating the project list in advance of the next RTP update. This work will support Metro implementation of OAR 660-012-0155. This work will include:

- Convening a group or multiple groups to review Metro’s existing metrics and tools for evaluating the impacts of transportation decisions on the region’s safety, climate, equity, mobility and economy to ensure metrics and tools reflect community and regional priorities.
- Conducting a review of processes and best practices used by four to five peer MPOs to identify needs and evaluate and prioritize investments.

- Working with cities, counties and transportation agencies to share best practices and information on conducting inclusive, equitable engagement and applying safety, climate and equity data and metrics to identify investment priorities in advance of the 2028 RTP call for projects.
- Developing strategies to improve coordination on submitting projects on state or multi-jurisdictional facilities.
- Reviewing lessons learned during past RTP project-level evaluations, including those conducted during the 2018 and 2023 RTP updates. The 2018 RTP tested a rigorous quantitative approach to comparing selected RTP projects, and Metro encountered challenges producing consistent information for projects with a wide variety in project types and sizes. The 2023 RTP tested a qualitative approach that provided consistent information across all projects, but did not provide information in enough detail for decision-makers to distinguish between the potential greenhouse gas emissions and VMT impacts of both larger-scale projects and smaller-scale projects. This suggests that a hybrid approach that involves a qualitative evaluation of most RTP projects and a more detailed quantitative evaluation of larger-scale projects could meet the region's needs.

Recommendations from this work will inform the process for the next RTP update.

#### 8.2.3.14 Workforce diversification in regional transportation infrastructure projects

Lead agency	Partners	Proposed timing
Metro	Cities, counties, ODOT, TriMet, SMART, FHWA, SW RTC, community organizations, construction industry	2025

As the greater Portland region plans for needed investment in transportation projects, the region faces a shortage of skilled construction workers which will drive up construction costs. Addressing this challenge presents an opportunity to deliver shared economic prosperity and advance regional equity goals by expanding access to well-paying construction jobs for all residents—including women and Black, Indigenous, and People of Color (BIPOC) workers. A comprehensive regional workforce and contractor equity strategy would support the Regional Transportation Plan’s infrastructure investments by growing regional workforce supply, managing costs, creating shared economic opportunity and, ultimately, building a stronger regional economy.

The workforce shortages in the construction industry are driven by two key factors. First, one in six construction workers are approaching retirement age, meaning the pool of workers will dramatically decrease over the next decade. Second, women and BIPOC



workers face significant barriers in accessing jobs and building successful careers in the construction industry. Diversifying the workforce is a key strategy for addressing workforce shortages. Creating safer, more accessible job pathways will support all people in accessing the unique career and wealth building opportunities the construction industry offers.

The Construction Career Pathways Regional Framework provides a comprehensive strategy for creating career pathways for women and BIPOC workers in the construction industry. The framework aims to increase the available skilled workforce while reducing barriers to entry. Metro created the Construction Career Pathways through an inclusive process in collaboration with 16 public agencies and with buy-in from a range of decision-makers, workforce advocates, community-based organizations, contractors, labor partners and training programs. This broad collaboration is continuing to support effective implementation across jurisdictions. The framework has been formally adopted and implemented as policy by nine government agencies including Metro, Clackamas County, Multnomah County, Washington County, TriMet, City of Portland, Prosper Portland, Portland Public Schools and Portland Community College.<sup>5</sup> Construction Career Pathways paired with strategies to support the participation and growth of BIPOC- and women-owned firms will provide the skilled labor needed for transportation infrastructure projects, while advancing regional equity goals. Given the broad support and on-going collaboration in this effort, there is an opportunity to explore a more direct connection between Construction Career Pathways and how it can support the demand for a skilled workforce to support transportation investments.

Prior to the next RTP update, Metro will work with local, regional, state partners, community organizations and the construction industry to explore a strategy for regional implementation of Construction Career Pathways in the transportation sector. Further analysis should identify the resources and capacity needs of partner agencies and

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<sup>5</sup> On October 24, 2019, Metro Council approved Resolution 19-5028 to approve the Construction Career Pathways Framework. On November 17, 2020, Clackamas County Board of Commissioners approved to adopt the Construction Career Pathways Framework. On December 19, 2019, the Multnomah County Board of Commissioners approved Resolution 219-106 to approve the Construction Career Pathways Framework. On November 30, 2021, the Washington County Board of Commissioners approved Resolution 21-131 to adopt the Construction Career Pathways Framework. On January 15, 2020, City Council approved Resolution 37474, authorizing the Chief Procurement Officer to sign the Construction Career Pathways Project Framework and committing the city to continue to support the regional workgroup led by Metro. On April 7, 2023, TriMet submitted a letter to Metro communicating their support and commitment to Construction Career Pathways Framework. On October 9, 2019, Prosper Portland adopted Resolution 7344 to approve the Construction Career Pathways Framework. On February 4, 2020, Portland Public Schools approved Resolution 6050 to adopt the Construction Career Pathways Framework. On August 31, 2021, Portland Community College submitted a letter to Metro outlining their commitment to adopt the Construction Career Pathways Framework.

industry and assess the benefits of collaboration in this effort to facilitate implementation. If adopted regionally, Construction Career Pathways has the potential to (1) increase shared economic prosperity, (2) reduce workforce shortages and increased construction costs, (3) ensure timely deliveries on community projects and (4) support job access for historically underrepresented workers in the region.

### 8.2.3.15 Regional electrification coordination

Lead agency	Partners	Proposed timing
Metro	Cities and counties, ODOT, DEQ, TriMet, SMART, FHWA	2025

The region aims to support federal and state electrification efforts in the greater Portland region. Metro will work with regional partners to identify actions to advance transportation electrification in the greater Portland region that complement existing federal and state policies and programs. Potential local and regional coordination actions may include:

- Setting a vision for what the electrified future looks like.
- Describing roles and responsibilities in the private sector and at various governmental levels in helping to achieve that vision.
- Identifying gaps in current private/federal/state actions that local and regional agencies can fill and identifying potential implementation actions that address identified gaps and sources of implementation funding. This could include such actions as: best practices for ensuring Electric Vehicle (EV) charger availability at multi-family developments - starting with those funded by Metro via the TOD and Affordable Housing programs.
- Making shared EVs available (e.g., expanding car sharing and shared e-bikes/scooters, including via both site- and city-wide deployments).
- Providing access to e-bikes (e.g., providing free trials at events, funding consumer rebates).
- Preparing EV-ready code amendments to ensure that it is easy and cheap to install EVs, especially at new multifamily development.
- Partnering with businesses to increase charger availability at retail and other common opportunity-charging destinations.
- Siting and funding a limited number of high-profile public charging demonstration projects (e.g., Electric Avenue).

### 8.2.3.16 Regional Freight Rail Study

Lead agency	Partners	Proposed timing
Metro	Cities, counties, ODOT, WSDOT, Port of Vancouver and Port of Portland	2025-26

Identified in the Regional Freight Strategy, this study would seek to identify and produce increases in rail capacity, safety, land use compatibility and operational efficiencies to support freight and goods movement in the region, which is important to our long-term economic and environmental sustainability and will help to maintain the region's competitive advantage in a global marketplace. The RTP and Regional Freight Strategy also note freight rail bottlenecks impacting critical access to the region's ports and intermodal facilities, as well as the need for rail to efficiently carry its full share of existing and future commodities.

#### *Defining terms*

##### **Intermodal facilities**

*Places where freight is transferred between two or more freight modes (e.g., truck to rail, rail to ship, truck to air). Examples include airports, rail stations, marine terminals, and rail-yards that facilitate the transfer of containers or trailers.*

Potential outcomes of the study include:

- Identification of economically viable opportunities to develop short line intermodal hubs or logistics parks or other cargo-oriented development.
- A strategy to identify, develop and position top projects for confirmed and potential future federal and state funding, as appropriate, including:
  - An updated list of regional freight rail project priorities focused on improving capacity constraints and targeting industrial access to the rail networks.
  - A strategy to fund regional freight/passenger rail bottlenecks.
  - A strategy to fund needed grade separations.
  - A strategy to fund critical modernization projects on the short rail lines.

The study will address the balance between passenger and freight rail goals and a set of viable solutions and initiatives to meet these goals, including:

- Regional guidance for public/private investment partnerships to guide investment of regional and national funding sources in identifying and developing freight rail corridors of local, regional and national significance.
- Specific guidance for local jurisdictions as they develop their transportation system plans in order to avoid or minimize conflicts between freight rail and other transportation modes and preserve or enhance the functionality of rail facilities and connected industrial land uses.

The Regional Freight Rail Study will work with Union Pacific (class 1 rail operator), ODOT, Port of Portland, Portland Bureau of Transportation (PBOT) and other local jurisdictions to determine which at-grade railroad crossings of the Union Pacific Kenton line and which at-grade rail crossings should be grade separated.

**8.2.3.17 2040 Refresh coordination**

Lead agency	Partners	Proposed timing
Metro	Cities, counties, ODOT	Pending Metro Council direction

In 1995, the Metro Council adopted a long-range land use and transportation plan for the region. The 2040 Growth Concept was seen as visionary for its time but does not address topics such as racial equity and climate change, which have taken on increasing importance. In recent years, the Metro Council, local jurisdictions, decision-makers and partners have seen a need to update the Growth Concept, which is now approaching 30 years since adoption.

In spring 2019, the Metro Council directed staff to proceed with implementation of a work program to refresh the Growth Concept. The work program focused on incorporating racial equity and climate change considerations into the region's long-term plans and expressed an intention to do so while maintaining an emphasis on compact growth and reinvestment in existing urban locations. With the emergence of the COVID pandemic in early 2020, the Metro Council called for a pause on this work, pending future Council direction. In addition to topics such as racial equity and climate change, the 2040 Refresh project should focus on the need to plan for complete transportation networks to support the emerging urban areas as well as support freight and employment uses throughout the region. Metro staff anticipates guidance from the Metro Council on a work program after the Metro Council makes its urban growth management decision in late 2024.



## 2023 Regional Transportation Plan



# 2023 Regional Transportation Plan Glossary of Terms

November 30, 2023

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## GLOSSARY OF TERMS

**Accessibility** – The ability to reach desired goods, services, activities and destinations with relative ease, within a reasonable time, at a reasonable cost and with reasonable choices. Many factors affect accessibility (or physical access), including mobility, the quality, cost and affordability of transportation options, intersection design, land use patterns, connectivity of the transportation system and the degree of integration between modes. The accessibility of a particular location can be evaluated based on distances and travel options, and how well that location serves various modes. Locations that can be accessed by many people using a variety of modes of transportation generally have a high degree of accessibility. See also Transit accessibility.

**Accessible** – Complying with the applicable standards of ORS 447.210 through 447.280, and where applicable, with ORS 447.310.

**Accessway** – A walkway that provides pedestrian and or bicycle passage either between streets or from a street to a building or other destination such as a school, park, or transit stop. Accessways generally include a walkway and additional land on either side of the walkway, often in the form of an easement or right-of-way, to provide clearance and separation between the walkway and adjacent uses. Accessways through parking lots are generally physically separated from adjacent vehicle parking or parallel vehicle traffic by curbs or similar devices and include landscaping, trees, and lighting. Where accessways cross driveways, they are generally raised, paved, or marked in a manner that provides convenient access for pedestrians.

**Access Management** – Measures regulating access to streets, roads and highways from public roads and private driveways. Measures may include but are not limited to restrictions on the siting of interchanges, restrictions on the type and amount of access to roadways, and use of physical controls, such as signals and channelization including raised medians, to reduce impacts of approach road traffic on the main facility..

**Action** – Discrete steps to make progress toward a desired outcome(s).

**Active Living** – Lifestyles characterized by incorporating physical activity into daily routines through activities such as walking or biking for transportation, exercise or pleasure. To achieve health benefits, the goal is to accumulate at least 30 minutes of activity each day.

**Active transportation** – Non-motorized forms of transportation including walking and biking, people using wheelchairs or mobility devices and skateboarding. Transit is considered part of active transportation because most transit trips start with a walking or bicycle trip.

**Active transportation network** – Combined network of streets, trails and districts identified on the *Regional Pedestrian and Bicycle Network Functional Classification Maps* and identified as pedestrian and bicycle parkways, regional bikeways, regional pedestrian corridors and regional pedestrian and bicycle districts, which include station communities. The active transportation

network also includes frequent bus routes, all of which are designated as pedestrian parkways, and high ridership bus stops.

**Active Transportation Plan** – Adopted in 2018, the Regional Active Transportation Plan identifies a vision, policies and actions to complete a seamless green network of on- and off-street pathways and districts connecting the region and integrating walking, biking and public transit.

**Adaptation** – This term refers to adjustment in natural or human systems in anticipation of or response to a changing environment in a way that effectively uses beneficial opportunities or reduces negative effects.

**Air toxics** – Also known as toxic air pollutants or hazardous air pollutants, are those pollutants that cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects.

**Air quality** – Air quality refers to the degree to which the air is suitable or clean enough for humans or the environment. Good air quality means the air is free of harmful substances.

**All Roads Transportation Safety (ARTS)** – Formerly known as the Jurisdictionally Blind Safety Program, is an Oregon Department of Transportation Program that is designed to address safety needs on all public roads in Oregon. The program’s goals are to:

- Increase awareness of safety on all roads;
- Promote best practices for infrastructure safety;
- Complement behavioral safety efforts;
- Focus limited resources to reduce fatal and serious injury crashes in the state of Oregon.

The program is data driven to achieve the greatest benefits in crash reduction and is blind to jurisdiction.

**Amendment** – A revision to a long-range statewide or metropolitan transportation plan, TIP, or STIP that involves a major change to a project included in a metropolitan transportation plan, TIP, or STIP, including the addition or deletion of a project or a major change in project cost, project/project phase initiation dates, or a major change in design concept or design scope (e.g., changing project termini or the number of through traffic lanes or changing the number of stations in the case of fixed guideway transit projects). Changes to projects that are included only for illustrative purposes do not require an amendment. An amendment is a revision that requires public review and comment and a redemonstration of fiscal constraint. If an amendment involves “non-exempt” projects in nonattainment and maintenance areas, a conformity determination is required.

**Arterial** – A classification of street. Arterial streets interconnect and support the throughway system. Arterials are intended to provide general mobility for travel within the region. Correctly sized arterials at appropriate intervals allow through trips to remain on the arterial system thereby discouraging use of local streets for cut-through travel. Arterial streets link major



commercial, residential, industrial and institutional areas. Major arterials serve longer distance through trips and serve more of a regional traffic function. Minor arterials serve shorter, more localized travel within a community. As a result, major arterials usually carry more traffic than minor arterials. Arterial streets are usually spaced about one mile apart and are designed to accommodate bicycle, pedestrian, truck and transit travel.

**Arterial traffic calming** – Designed to manage traffic at higher speeds and volumes, but still minimize speeding and unsafe speeds. Treatments can include raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.

**Asset management** – A strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on both engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost.

**Attainment area** – Any geographic area in which levels of a given criteria air pollutant (e.g., ozone, carbon monoxide, PM<sub>10</sub>, PM<sub>2.5</sub>, and nitrogen dioxide) meet the health-based National Ambient Air Quality Standards (NAAQS) for that pollutant. An area may be an attainment area for one pollutant and a nonattainment area for others. A “maintenance area” (see definition in this section) is not considered an attainment area for transportation planning purposes. The greater Portland region received attainment status in 2017.

**Autonomous vehicle (AV)** – Also known as a driverless car, self-driving car, robotic car, AVs use sensors and advanced control systems to operate independently of any input from a human driver. Transportation experts have developed a five-level system to distinguish between different levels of automation;<sup>i</sup> in this plan we focus on Level 4 or 5 AVs, which can operate independently under most or all conditions.

**Auxiliary lane** – An auxiliary lane is the portion of the roadway adjoining the through lanes for speed change, turning, weaving, truck climbing, maneuvering of entering and leaving traffic, and other purposes supplementary to through-traffic. An auxiliary lane provides a direct connection from one interchange ramp to the next. The lane separates slower traffic movements from through traffic, helping smooth the flow of traffic and reduce the potential for crashes and is not intended to function as a general purpose travel lane. Auxiliary lanes add additional motor vehicle capacity. *See also definition for Congestion Management Process.*

**Barrier** – A condition or obstacle that prevents an individual or a group from accessing the transportation system or transportation planning process. Examples include a physical gap or impediment, lack of information, language, education and/or limited resources.

**Best practices** – For purposes of this document, the term “best practices” is used as a general term of preferred practices accepted and supported by experience of the applicable professional discipline. It is not prescriptive to a particular set of standards or a particular discipline.

**Better Bus (enhanced transit toolbox)** – Better bus is a set of street design, signal, and other enhanced transit improvements that improve transit capacity, reliability and travel time along major Frequent Service bus lines. Actions can include changes to the design and operation of streets and signals, typically owned and operated by the City. It can also include changes to transit vehicle fleet, station equipment and operation systems typically owned and operated by TriMet.

Better Bus projects come in a variety of shapes and sizes; for example, the improvements might address bottlenecks, or a portion of a transit line experiencing delay, or in some cases, improvements to a full transit line. Treatments can be applied systematically across a transit network to improve multiple lines or through a corridor approach to improve one or more transit lines. Better Bus is intended to be flexible and context-sensitive during design and implementation. It encompasses a range investments comprised of capital and operational treatments of moderate cost. It can be deployed relatively quickly in comparison to larger transit capital projects, such as building light rail.

**Bicycle** – A vehicle having two tandem wheels, a minimum of 14 inches in diameter, propelled solely by human power, upon which a person or persons may ride. A three-wheeled adult tricycle is considered a bicycle. In Oregon, a bicycle is legally defined as a vehicle. Bicyclists have the same right to the roadways and must obey the same traffic laws as the operators of other vehicles. Also referred to as bike.

**Bicycle boulevards** – Sometimes called a bicycle priority street, a bicycle boulevard is a bicycle facility on a street with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority. These are streets where all types of vehicles are allowed, but the street is modified as needed to enhance bicycle safety and convenience by providing direct routes that allow free-flow travel for bicyclists at intersections where possible. Bicycle boulevards use signs, markings, traffic diverters, or other measures to discourage through trips by motor vehicles. Traffic control features are used to create safe, convenient crossings of intersecting streets. Typically these modifications also calm traffic and improve pedestrian safety. Bicycle boulevards may also be referred to as “neighborhood greenways.” *see also Neighborhood Greenways*

**Bicycle comfort index (BCI)** – A method to analyze the auto volumes, auto speeds and number of auto lanes on existing bikeways and within defined ‘cycle zones’ and assign a comfort rating to the bikeway. Generally off-street paths receive the highest rating because they are completely separated from auto traffic. Results help identify existing bikeways on the regional bicycle network that could be upgraded to increase bicyclists comfort. Metro’s BCI analysis was used in the existing conditions step of developing the Regional Active Transportation Plan. Additional data would be useful to refine the tool.

**Bicycle district** – An area with a concentration of transit, commercial, cultural, institutional and/or recreational destinations where bicycle travel is attractive, comfortable and safe. Bicycle districts are areas where high levels of bicycle use exist or a planned. Within a bicycle district, some routes may be designated as bicycle parkways or regional bikeways, however all routes within the bicycle district are considered regional. A new concept for the *Regional Transportation Plan* and added to the regional bicycle network through the Regional Active Transportation Plan.

The Central City, Regional and Town Centers and Station Communities are identified as bicycle districts.

**Bicycle facilities** – A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities, all bikeways and shared roadways not specifically designated for bicycle use.

**Bicycle parkway** – A bicycle route designed to serve as a bicycle highway providing for direct and efficient travel for large volumes of cyclists with minimal delays in different urban and suburban environments and to destinations outside the region. These bikeways connect 2040 activity centers, downtowns, institutions and greenspaces within the urban area. The specific design of a bike parkway will vary depending on the land use context within which it passes through. These bikeways could be designed as an off-street trail along a stream or rail corridor, a cycletrack along a main street or town center, or a bicycle boulevard through a residential neighborhood.

**Bicycle routes** – Link bicycle facilities together into a clear, easy to follow route using wayfinding such as signs and pavement markings, connecting major destinations such as town centers, neighborhoods and regional destinations.

**Bike (bicycle) lane** – A portion of a roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

**Bike share** – Systems like Biketown in Portland make fleets of bicycles available for short-term rental within a defined service area. Some bike share systems now offer electric bikes. Conventional bike share systems like Biketown in Portland are operated through exclusive agreements between a private company and a public agency, and in most cases users must pick up and leave bikes at designated stations, though Biketown and other modern systems also offer users the option of locking a bike anywhere within the service area. Fully dockless systems operated by companies such as Ofo, Lime bike and Spin allow users to pick up and leave bikes (or electric scooters, which many companies now offer) within a defined service area and require less coordination between the public and private sector.

**Bike-transit facilities** – Infrastructure that provide connections between the two modes, by creating a “bicycle park-and-ride,” a large-scale bike parking facility at a transit station.

**Bikeable** – A place where people live within biking distance to most places they want to visit, whether it is school, work, a grocery store, a park, church, etc. and where it is easy and comfortable to bike.

**Bikeway** – Any road, street, path or right-of-way that is specifically designated in some manner as being open to bicycle travel, either for the exclusive use of bicycles or shared use with other vehicles or pedestrians, including separated bike paths, striped bike lanes or wide outside lanes that accommodate bicycles and motor vehicles.

**Bipartisan Infrastructure Law** – The Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the “Bipartisan Infrastructure Law”) is the Federal transportation bill

signed into law November 15, 2021 by President Biden. The Bipartisan Infrastructure Law is the largest long-term investment in infrastructure and economy in the history of the United States.

**Capacity** – A transportation facility’s ability to accommodate a moving stream of people or vehicles in a given place during a given time period. Increased capacity can come from building more streets or throughways, adding more transit service, timing traffic signals, adding turn lanes at intersections or many other sources. Certain facilities that increase motor vehicle capacity must be reviewed as provided for in OAR 660-012-0830: (A) A new or extended arterial street, highway, freeway, or bridge carrying general purpose vehicle traffic; (B) New or expanded interchanges; (C) An increase in the number of general purpose travel lanes for any existing arterial or collector street, highway, or freeway; and (D) New or extended auxiliary lane(s) with a total length of one-half mile or more.

Notwithstanding any provision in subsection (a) of OAR 660-012-0830, subsection (b) includes exceptions to enhanced review for certain proposed facilities: (A) Changes expected to have a capital cost of less than \$5 million; (B) Changes that reallocate or dedicate right of way to provide more space for pedestrian, bicycle, transit, or high-occupancy vehicle facilities; (C) Facilities with no more than one general purpose travel lane in each direction, with or without one turn lane; (D) Changes to intersections that do not increase the number of lanes, including implementation of a roundabout; (E) Access management, including the addition or extension of medians; (F) Modifications necessary to address safety needs; or (G) Operational changes, including changes to signals, signage, striping, surfacing, or intelligent transportation systems. *See also definitions Auxiliary lane and Congestion Management Process.*

**Capital project** – A capital project is a project to construct either new facilities or make significant, long-term renewal improvements to existing facilities.

**Car share** – Services allow people to rent a nearby vehicle for short trips and pay only for the time that they use. Different car share service types include:

- Stationary car share (ZipCar, in some cases ReachNow), under which cars are kept at fixed stations and users pick up cars from and return them to the same station.
- Free-floating car share (Car2Go, ReachNow), which allows people to pick up and drop off cars anywhere within a defined service area.
- Peer-to-peer car share (Getaround, Turo), which enables people to rent cars from their neighbors on a short-term basis.

**Central city (2040 Design Type)** – Downtown Portland and adjacent areas (like Lloyd District) within the city of Portland.

**Climate change** – Any significant change in the measures of climate lasting for an extended period of time. Climate change includes major variations in temperature, precipitation or wind patterns, among other environmental conditions, that occur over several decades or longer.



Changes in climate may manifest as a rise in sea level, as well as increase the frequency and magnitude of extreme weather events now and in the future.

**Climate pollution** – Emissions of greenhouse gases as defined in ORS 468A.210.

**Collector street** – A class of street. Collector streets provide both access and circulation between residential, commercial, industrial and agricultural community areas and the arterial system. As such, collectors tend to carry fewer motor vehicles than arterial streets, with reduced travel speeds. Collector streets are usually spaced at half-mile intervals, midway between arterial streets. Collectors may serve as bike, pedestrian and freight access routes providing local connections to the arterial street network and transit system.

**Committed transportation facilities** – Those proposed transportation facilities and improvements that are consistent with the acknowledged comprehensive plan and have approved funding for construction in a public facilities plan or the Statewide Transportation Improvement Program.

**Community places** – Destinations and gathering places such as hospitals and other medical services, civic places, such as post offices, churches, social services, libraries, schools and colleges, financial institutions, such as banks and credit unions, grocery stores, and retail services, such as hardware stores, pharmacies and laundry services

**Commute** – Regular travel between home and work or school.

**Commuter rail** – Short-haul rail passenger service operated within and between metropolitan areas and neighboring communities. This transit service operates in a separate right-of-way on standard railroad tracks, usually shared with freight use. The service is typically focused on peak commute periods but can be offered other times of the day and on weekends when demand exists and where rail capacity is available. The stations are typically located one or more miles apart, depending on the overall route length. Stations offer infrastructure for passengers, bus and LRT transfer opportunities and parking as supported by adjacent land uses. *See also Inter-city rail.*

**Complete streets** – A transportation policy and design approach where streets are designed, operated and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities, regardless of their mode of transportation.

**Complete streets project checklist** – A Project Checklist that is circulated for a sign-off from various agency departments when street designs are in process to ensure coordination to ensure projects implement Complete Street elements.

**Congestion** – A condition characterized by unstable traffic flows that prevents movement on a transportation facility at optimal legal speeds. Recurrent congestion is caused by constant excess volume compared with capacity. Nonrecurring congestion is caused by incidents such as bad weather, special events and/or traffic accidents.

**Congestion management** – The application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. *See Appendix L for more information.*

**Congestion management process (CMP)**– A systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state, regional and local needs. This systematic approach is required in transportation management areas (TMAs) to provide for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C., and title 49 U.S.C., through the use of travel demand reduction and operational management strategies.

Section 3.3.4 of the RTP describes the congestion management process policy to analyze and implement system and demand management strategies and/or a combination of other strategies (e.g. pedestrian, bicycle, transit strategies) prior to building new motor vehicle capacity, consistent with the Federal Congestion Management Process (CMP) and the Oregon Transportation Plan policies (including Oregon Highway Plan Policy 1G). Sections 3.08.220 and 3.08.510 of the Regional Transportation Functional Plan (RTFP) further direct how cities and counties implement the CMP in the local transportation system planning process. *See Appendix L for more information on the Congestion Management Process.*

**Congestion Mitigation and Air Quality Improvement (CMAQ) Program** – A federal source of funding for projects and activities that reduce congestion and improve air quality, both in regions not yet attaining federal air quality standards and those engaged in efforts to preserve their attainment status.

**Connected vehicles (CVs)** – Vehicles that communicate with each other, wireless devices or with infrastructure like traffic signals and incident management systems. It seems increasingly likely that vehicles in the near future will be automated and may include some connected elements, we typically use “automated vehicles” to refer to vehicles that include a mix of automated and connected elements, and only use “connected vehicles” to distinguish connected from automated vehicles.

**Connected vehicle (CV) infrastructure** – This refers to the communications, wireless devices and other infrastructure, such as traffic signals and roadside sensors, that offer the ability of vehicles to send and receive message to other vehicles, wireless devices and communication devices to communicate information in order to help them navigate the transportation system safely and efficiently.

**Connectivity** – The degree to which the local and regional street, pedestrian, bicycle, transit and freight systems in a given area are interconnected.

**Consideration** – One or more parties takes into account the opinions, action, and relevant information from other parties in making a decision or determining a course of action.

**Constrained budget** – The budget of federal, state and local funds the greater Portland region can reasonably expect through 2040 under current funding trends presuming some increased funding compared to current levels.

**Constrained list** – Projects that can be built by 2040 within the constrained budget.

**Consultation** – One or more parties confer with other identified parties in accordance with an established process and, prior to taking action(s), considers the views of the other parties and periodically informs them about action(s) taken. This definition does not apply to the “consultation” performed by the States and the Metropolitan Planning Organizations (MPOs) in comparing the long-range statewide transportation plan and the metropolitan transportation plan, respectively, to State and tribal conservation plans or maps or inventories of natural or historic resources (see section 450.216(j) and sections 450.324(g)(1) and (g)(2)).

**Context sensitive design** – A model for transportation project development that requires proposed transportation projects to be planned not only for its physical aspects as a facility serving specific transportation objectives, but also for its effects on the aesthetic, social, economic and environmental values, needs, constraints and opportunities in a larger community setting.

**Cooperation** – The parties involved in carrying out the transportation planning and programming processes work together to achieve a common goal or objective.

**Coordinated public transit-human services transportation plan** – A locally developed, coordinated transportation plan that identifies the transportation needs of individuals with disabilities, older adults, and people with low incomes, provides strategies for meeting those local needs, and prioritizes transportation services for funding and implementation. TriMet leads development of this plan for the region.

**Coordination** – The cooperative development of plans, programs, and schedules among agencies and entities with legal standing and adjustment of such plans, programs, and schedules to achieve general consistency, as appropriate.

**Corridor** – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, freight, active transportation and transit route alignments.

**Corridors (2040 design type)** – A type of land use that is typically located along regional transit routes and arterial streets, providing a place for somewhat higher densities than is found in 2040 centers. These land uses should feature a high-quality pedestrian environment and convenient access to transit. Typical new developments would include row houses, duplexes and one to three-story office and retail buildings, and average about 25 persons per acre. While some corridors may be continuous, narrow bands of higher-intensity development along arterial streets, others may be more nodal, that is a series of smaller centers at major intersections or other locations along the arterial that have high quality pedestrian environments, good connection to adjacent neighborhoods and transit service.

**Countermeasure** – An activity, initiative or design element to prevent, neutralize, or correct a specific safety problem.

**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.

**Crash** – A violent collision between two or more motor vehicles (including commercial vehicles, school buses, transit buses, etc.), or between a vehicle and a pedestrian, person on a bicycle or motorcycle, scooter, or other type of micromobility, or with a stationary object such as a pole or guard rail.

**Criteria pollutants** – Carbon monoxide, lead, ground-level ozone, nitrogen oxides, particulate matter, and sulfur dioxides. Criteria pollutants are the only air pollutants with national air quality standards that define allowable concentrations of these substances in ambient air.

**Cycletrack** – Bicycle lanes that are physically separated from motor vehicle and pedestrian travel. A cycle track is an exclusive bike facility that has elements of a separated path and on-road bike lane. A cycle track, while still within the roadway, is physically separated from motor traffic and is distinct from the sidewalk. Cycle tracks may be one-way or two-way, and may be at road level, at sidewalk level, or at an intermediate level. They all share in common some separation from motor traffic with bollards, car parking, barriers or boulevards.

**Cyclist** – Person riding a bicycle.

**Data-driven safety analysis** – Uses data to promote the integration of safety performance into all roadway investment decisions. Broader implementing of quantitative safety analysis so that it becomes an integral part of safety management and project development decision making in order to lead to better targeted roadway investments that result in fewer fatal and serious injury crashes. Decisions are compelled by data, rather than by intuition or by personal experience.

**Deficiency** – A performance, design or operational constraint that limits, but does not prohibit the ability to travel by a given mode. Examples include locations where throughway capacity is less than six through lanes or that do not meet the travel speed thresholds defined in Table 3.5 (Mobility performance targets and thresholds), or that have poor or substandard design features; at-grade rail crossings; height restrictions; bike and pedestrian connections that contain obstacles (e.g., missing curb ramps, distances greater than 330 feet between pedestrian crossings, absence of pedestrian refuges, sidewalks occluded by utility infrastructure, high traffic volumes and complex traffic environments); transit overcrowding, inadequate frequency, or schedule unreliability; and high crash locations). A deficiency is a transportation need. *See also gap.*

**Delay** – The additional travel time required by all travelers, as measured by the time needed to reach destinations at posted speed limits (free-flow speed) versus traveling at a slower congested speed. Delay can be expressed in several different ways, including total delay in vehicle-hours, total delay per vehicle miles traveled (VMT) and share of delay by time period, day of week or speed range.



**Demand management** – Actions that are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods may include, but are not limited to, the use of non-driving modes, ride-sharing and vanpool programs, trip-reduction ordinances, shifting to off-peak periods, and reduced or paid parking. *See also Transportation demand management.*

**Design type** – The conceptual areas depicted on the Metro 2040 Growth Concept Map and described in the Regional Framework Plan, including Central City, Regional Center, Town Center, Station Community, Corridor, Main Street, Inner Neighborhood, Outer Neighborhood, Regionally Significant Industrial Area, Industrial Area and Employment Area.

**Diversions** - Diversion is the movement of automobile trips from one facility to another due to various reasons, including crashes, congestion, and pricing implementation. With 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.

**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. MDynamic fee systems may sometimes include a pre-set maximum price. The current price is often displayed on electronic signs prior to the beginning of the priced facility.

**Electric vehicles (EVs)** – Vehicles that use electric motors for propulsion instead of or in addition to gasoline motors.

**Emergency** – Any human-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to, fire, explosion, flood, severe weather, drought earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

**Emergency medical services (EMS)** – The treatment and transport of people in crisis health situations that may be life threatening. Emergency medical support is applied in a wide variety of situations, including traffic crashes.

**Emergency transportation routes** – Priority routes used during and after a major regional emergency or disaster to move people and response resources, including the transport of first responders (e.g., police, fire and emergency medical services), fuel, essential supplies and patients.

**Emerging technologies** – A blanket term that we use throughout this plan to refer to new developments in transportation technology. We use it to refer both to technologies like automated vehicles or smart phones and services that operate using these technologies, like car and bike share.

**Employer-based commute programs** – Work-based travel demand management programs that can include transportation coordinators, employer-subsidized transit pass programs, ride-matching, carpool and vanpool programs, telecommuting, compressed or flexible work weeks and bicycle parking and showers for bicycle commuters.

**Employment areas** – Areas of mixed employment that include various types of manufacturing, distribution and warehousing uses, and may include commercial and retail development. Retail uses should primarily serve the needs of the people working or living in the immediate employment area. Exceptions to this general policy can be made only for certain areas indicated in a functional plan.

**Employment lands** – Areas of mixed employment that include various types of manufacturing, distribution and warehousing uses, and may include commercial and retail development.

**Environmental justice** – The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. (EPA definition)

**Environmental justice populations** – People living in poverty, people with low-income as determined annually by the U.S. Department of Health and Human Services Low-Income Index, people of color, elderly, children, people with disabilities, and other populations protected by Title VI and related nondiscrimination statutes.

**Environmental mitigation activities** – Strategies, policies, programs, and actions that, over time, will serve to avoid, minimize, rectify, reduce, or eliminate impacts to environmental resources associated with the implementation of a long-range statewide transportation plan or metropolitan transportation plan.

**Equitable Development** – An approach to creating healthy, vibrant, communities of opportunity by creating coordinated, intentional strategies to ensure that everyone (residents of all incomes, races and ethnicities) can participate in, and benefit from, decisions that shape their neighborhoods and region. This approach involves investments, policies, and protections to prevent displacement of vulnerable residents, businesses, and community organizations.

**Equitable Outcomes** – Means outcomes that burdens underserved populations less than and benefits underserved populations as much or more as the city or county population as a whole. Examples of equitable outcomes include:

- (a) Increased stability of underserved populations, lowering the likelihood of displacement due to gentrification from public and private investments;
- (b) More accessible, safe, affordable and equitable transportation options with better connectivity to destinations people want to reach;
- (c) Adequate housing with access to employment, education, fresh food, goods, services, recreational and cultural opportunities, and social spaces;

(d) Increased safety for people in public spaces, transportation and community development;

(e) Equitable access to parks, nature, open spaces, and public spaces;

(f) Better and more racially equitable health outcomes across the lifespan, particularly health outcomes connected to transportation choices, air pollution, and food;

(g) Recognizing and remedying impacts of past practices such as redlining, displacement, exclusionary zoning, and roadway and other public infrastructure siting decisions that harmed underserved communities; and

(h) Fairly-distributed benefits to residents and local governments across cities and counties within metropolitan areas.

**Equity** – Just and fair inclusion into a society in which all can participate, prosper, and reach their full potential. In transportation, a normative measure of fairness among transportation system users. *See also Racial equity, Social equity, and Transportation equity.*

**Equity focus areas** – Census tracts with higher than regional average concentrations and double the density of one or more of the following: people of color, people who do not speak English or who speak limited English, and/or people with lower income. Most of these areas also include higher than regional average concentrations of young people, older adults and people living with disabilities and other marginalized communities.

**Excessive delay** – The extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. For the purposes of MAP-21 target-setting, the speed threshold is 20 miles per hour (mph) or 60 percent of the posted speed limit, whichever is greater.

**Extreme events** – This term refers to risks posed by climate change and extreme weather events. The definition does not apply to other uses of the term nor include consideration of risks to the transportation system from other natural hazards, accidents, or other human induced disruptions.

**Extreme weather events** – Significant anomalies in temperature, precipitation and winds and can manifest as heavy precipitation and flooding, heatwaves, drought, wildfires and windstorms (including tornadoes). Consequences of extreme weather events can include safety concerns, damage, destruction and/or economic loss. Climate change can also cause or influence extreme weather events.

**Facility** – The fixed physical assets (structures) enabling a transportation mode to operate (including travel, as well as the loading and unloading of goods and passengers). This includes streets, throughways, bridges, sidewalks, bikeways, transit stations, bus stops, ports, air and marine terminals and rail lines and yards.

**Federal Highway Administration (FHWA)** – U.S. Department of Transportation agency responsible for administering the federal highway aid program to individual states, and helping to

plan, develop and coordinate construction of federally-funded highway projects. FHWA also governs the safety of hazardous cargo on the nation's highways. The FHWA implements transportation legislation approved at the congressional level that appropriates all federal funds to states, MPOs and local governments.

**Federal Transit Administration (FTA)** – U.S. Department of Transportation agency that provides financial and planning assistance to help plan, build and operate rail, bus and paratransit systems. The agency also assists in the development of local and regional traffic reduction programs.

**Federally recognized tribal lands** – Refers an area of land reserved for a Tribe or Tribes under treaty or other agreement with the United States, executive order, or federal statute or administrative action as permanent Tribal homelands, and where the federal government holds title to the land in trust on behalf of the Tribe. Approximately 56.2 million acres are held in trust by the United States for various Indian Tribes and individuals. Some reservations are the remnants of a Tribe's original land base. Others were created by the federal government for the resettling of Indian people forcibly relocated from their homelands. Not every federally recognized Tribe has a reservation. Federal Indian reservations are generally exempt from state jurisdiction, including taxation, except when Congress specifically authorizes such jurisdiction.

**Federally recognized tribe** – Refers an American Indian or Alaska Native Tribal entity that is recognized as having a government-to-government relationship with the United States, with the responsibilities, powers, limitations, and obligations attached to that designation, and is eligible for funding and services from the Bureau of Indian Affairs. Furthermore, Federally recognized Tribes are recognized as possessing certain inherent rights of self-government (i.e., Tribal sovereignty) and are entitled to receive certain federal benefits, services, and protections because of their special relationship with the United States. At present, there are 574 federally recognized American Indian and Alaska Native Tribes and villages.

**Financial plan** – Documentation required to be included with a metropolitan transportation plan and TIP (and optional for the long-range statewide transportation plan and STIP) that demonstrates the consistency between reasonably available and projected sources of Federal, State, local, and private revenues and the costs of implementing proposed transportation system improvements.

**Financially constrained or fiscal constraint** – This means that the metropolitan transportation plan, TIP, and STIP includes sufficient financial information for demonstrating that projects in the metropolitan transportation plan, TIP, and STIP can be implemented using committed, available, or reasonably available revenue sources, with reasonable assurance that the federally supported transportation system is being adequately operated and maintained.

**Fiscal (or financial) constraint** – A federal requirement that long-range transportation plans and four-year Metropolitan Transportation Improvement Programs (MTIP) include only projects that have a reasonable expectation of being funded, based upon anticipated revenues (for the long-range transportation plan) or secured revenues (for the four-year TIP). In other words, long-



range transportation plans or TIP cannot be a wish lists of projects; they must reflect realistic assumptions about revenues that will likely be available or secured.

**Fixing America’s Surface Transportation Act (FAST Act)** – A funding and authorization bill to govern United States federal surface transportation spending, signed by President Obama on December 4, 2015. The FAST Act established funding levels and federal policy for highways and public transit systems for fiscal years 2016-2020. The \$305 billion, five-year bill maintained the core highway and transit funding programs established by its predecessor MAP-21, and established the National Highway Freight Program, a formula program focused on goods movement.

**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, Congestion Relief Program, or Section 166 on interstate highways under Federal law.

**Forecast** – Projection of population, employment or travel demand for a given future year.

**Freeway** – A design for highway in which all access points are grade separated. Directional travel lanes usually separated by a physical barrier, and access and egress points are limited to on-and off-ramp locations or a very limited number of at-grade intersections. In the RTP freeways are indentified with the Throughway classification.

**Freight intermodal facility** – An intercity facility where freight is transferred between two or more freight modes (e.g., truck to rail, rail to ship, truck to air).

**Freight mobility** – The efficient movement of goods from point of origin to destination.

**Freight modes** – Freight modes are the means by which freight achieves mobility. These modes fall into five basic types: road (by truck), rail, pipeline, marine (by ship or barge) and air.

**Freight rail** – A freight train that is a group of freight cars hauled by one or more locomotives on a railway, transporting cargo all or some of the way between the shipper and the intended destination.

**Frequent bus** – Frequent bus service offers local and regional bus service with stops approximately every 750 to 1000 feet (between 5 and 7 every mile), providing corridor service rather than nodal service along selected arterial streets based on demand. This service typically runs at least every 15 minutes throughout the day and on weekends though frequencies may increase based on demand, and it can include transit preferential treatments, such as reserved bus lanes and transit signal priority, and enhanced passenger infrastructure along the corridor and at

major bus stops, such as covered bus shelters, curb extensions, special lighting and median stations.

**Full Funding Grant Agreement (FFGA)** – An instrument that defines the scope of a project, the Federal financial contribution, and other terms and conditions for funding New Starts projects

**Functional classification** – The class or group of roads to which the road belongs. There are three main motor vehicle functional classes as defined by the United States Federal Highway Administration: arterial, collector, and local. Throughways and freeways fall under arterial in the federal classification system. Classifications also exist for biking and walking networks. These definitions can be found elsewhere in the glossary: bicycle parkway, regional bikeway, local bikeway, pedestrian parkway, pedestrian corridor and local pedestrian connector.

**Gap** – A missing link or barrier in the “typical” urban transportation system for any mode that functionally prohibits travel where a connection might be expected to occur in accordance with the system concepts and networks in Chapter 3 of the RTP. A gap generally means a connection does not exist at all, but could also be the result of a physical barrier such as a throughway, natural feature, weight limitations on a bridge or existing development. Gaps are a transportation need. *See also deficiency.*

**Goal** – A broad statement that describes a desired outcome. Actions are steps taken to make progress toward goals.

**Greenhouse gas emissions** – The six gases identified in the Kyoto Protocol and by the Oregon Greenhouse Gas Mandatory Reporting Advisory Committee as contributing to global climate change: carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>), methane (CH<sub>4</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Greenhouse gases absorb solar radiation and act like a heat-trapping blanket in the atmosphere, causing climate change. More information is available at [epa.gov/climatechange](http://epa.gov/climatechange).

**Green infrastructure** – A network of multi-functional green spaces and environmental features, both natural and engineered, that use or replicate natural systems to better manage stormwater, protect streams and enhance wildlife corridors—trees, soils, water and habitats. Examples include: permeable paving, vegetated swales, rain gardens, green streets, green roofs, green walls, urban forestry, street trees, parks, green corridors such as trails, and other low impact development practices.

**Green streets** – An innovative stormwater management approach that captures rain where it falls by using vegetation, soil and engineered systems to slow, filter and clean stormwater runoff from impervious surfaces.

**Greenways** – Greenways generally follow rivers and streams and may or may not provide for public access. In some cases, greenways may be a swath of protected habitat along a stream with no public access. In other cases, greenways may allow for an environmentally compatible trail, viewpoint or canoe launch site. The greenways that are identified in Metro’s regional trails plan do not presently offer public access. Usage of the term “greenway” can be ambiguous because it is

sometimes used interchangeably with the word “trail.” For example, “Fanno Creek Trail”, “Fanno Creek Greenway”, and “Fanno Creek Greenway Trail” are used with equal frequency for the same trail. Trail and greenway professional prefer to make the technical distinction that the “trail” refers to the tread or the actual walking service, while the “greenway” refers to the surrounding park or natural corridor.

**Health impact assessment** – A combination of procedures, methods, and tools by which a policy, program or project may be evaluated as to its potential effects on the health of a population, and the distribution of these effects within the population.

**High capacity transit** – High capacity transit is public transit that can have exclusive right of way, non-exclusive right of way, or a combination of both. Vehicles make fewer stops, travel at higher speeds, have more frequent service and carry more people than local service transit such as typical bus lines. It includes:

- Light rail uses high capacity trains (68 seats with room and design for several passengers to stand) and focuses on regional mobility with stops typically one-half to 1 mile apart, connecting concentrated housing or local bus hubs and employment areas. The service has its own right of way. Cars can be doubled, and service frequency increased, during peak hours.
- Commuter rail uses high capacity heavy rail trains (74 seats in a single car, 154 in doubled cars), typically sharing right of way with freight or other train service (though out of roadway). The service focuses on connecting major housing or local bus hubs and employment areas with few stops and higher speeds. The service may have limited or no non-peak service.
- Bus rapid transit uses coach-style or high capacity busses (40-60 seats with room and design for several passengers to stand). The service may be in the roadway with turnouts and signal priority for stops, have an exclusive right of way, or be some combination of the two. The service focuses on regional mobility, with higher speeds, fewer stops, higher frequency and more substantial stations than local bus, connecting concentrated housing or local bus hubs and employment areas. Service frequency can be increased during peak hours.
- Using the same technology as local streetcar, rapid streetcar focuses on regional mobility, offering fewer stops and primarily running in exclusive right of way to connect housing areas to jobs or other destinations. Cars can be doubled, and service frequency increased, during peak hours. The service operates in mixed traffic, in exclusive right of way or a combination of the two. Local streetcar also helps extend the reach of the high capacity transit network by acting as a circulator within the Central City and between dense urban regional centers in close proximity.

**High crash location** – Highway or road segments identified by the frequency and severity of motor vehicle crashes. Identification of high crash locations is part of the safety problem identification process.

**High injury corridors and intersections (RTP)** – Roadways where the highest concentrations of fatal and severe injury crashes involving people in cars, biking and walking occur on the regional

transportation system. Corridors and intersections were analyzed to determine aggregate crash scores based on the frequency and severity of crashes, using the following methodology:

- Fatal and Injury A (serious) crashes for all modes are assigned to the network;
- "Injury B", "Injury C", and "PDO (property damage only)" crashes involving bikes and pedestrians are also assigned to the network;
- Fatal and Injury A crashes are given a weight of 10;
- Roadways are analyzed in mile segments; if a segment has only one Fatal or Injury A crash it must also have at least one B/C (minor injury) crash, for the same mode, to be included in the analysis.; and
- Roadway segments are assigned an N-score (or "crash score") by calculating the weighted sum by mode and normalizing it by the roadway length.

To reach 60 percent of Fatal and Severe Injury crashes, roadway segments had to have an N-score of 39 or higher; high injury Bicycle Corridors had to have an N-score of 6 or more, and high injury Pedestrian Corridors had to have an N-score of 15 or more. Intersections with the highest weighted crash scores were also identified; 5 percent of intersections had an N-score (or "crash score") higher than 80 and are also shown on the map, and 1 percent of intersections (the top 1 percent) had to have an N-score higher than 128.

**High risk roadways** – Characteristics if high risk roads are identified by looking at crash history on an aggregate basis to identify particular severe crash types (e.g. pedestrian) and then use the roadway characteristics associated with particular crash types (e.g. arterial roadways with four-or more lanes, posted speed over 35 mph, unlit streets) to understand which roadways may have a higher risk of the same type of severe crash.

**High-occupancy vehicle (HOV)** – A vehicle carrying more than two passengers with the exception of motorcycles.

**High-occupancy vehicle lane** – The technical term for a carpool lane. *See also high-occupancy vehicle.*

**Highway** – A design for a Throughway in which access points are a mix of separate and at-grade.

**Incident management** – The detection and verification of incidents (crashes, stalled vehicles, etc. blocking traffic) and the implementation of appropriate actions to clear the highway.

**Indigenous** - Refers to ethnic groups who are the descendants of the original peoples or earliest known inhabitants of an area, as opposed to ethnic groups that have settled, occupied or colonized the area more recently. This term includes native and aboriginal peoples from across the planet, including those native to the Americas, Asia, Pacific Island nations and more.



**Induced demand** – The process whereby improvements in the transportation system intended to alleviate congestion and delay result in additional demand for the transportation segment, offsetting some of the improvement’s potential benefits. For instance, when a congested roadway is expanded from 2 to 3 lanes, some drivers will recognize the increased capacity and take this roadway though they had not done so previously. *See also capacity.*

**Industrial areas** – Areas set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development and retail users whose market area is larger than the industrial area are not considered supporting uses.

**Intelligent transportation systems (ITS)** – Electronics, photonics, communications, or information processing used singly or in combination to improve the efficiency or safety of the transportation system. ITS can include both vehicle-to-vehicle communication (which allows cars to communicate with one another to avoid crashes and vehicle-to-infrastructure communication (which allows cars to communicate with the roadway) to identify congestion, crashes or unsafe driving conditions, manage traffic flow, or provide alternate routes to travelers.

**Intercity transit** – Intercity transit includes service that goes beyond regional boundaries to serve people traveling to destinations in and out of our region, connecting regions and even states. Intercity rail refers to passenger rail service that provides transportation between cities or metropolitan areas at speeds and distances greater than that of commuter or regional rail.

**Intermodal connector** – A road that provides connections between major rail yards, marine terminals, airports, and other freight intermodal facilities; and the freeway and highway system (the National Highway System).

**Intermodal facilities** – A transportation element that allows passenger and/or freight connections between modes of transportation. Examples include airports, rail stations, marine terminals, and rail-yards that facilitate the transfer of containers or trailers. See also passenger intermodal facility .

**Local bikeways** – Trails, streets and connections not identified as regional bicycle routes, but are important to a fully functioning network. Local bikeways are the local collectors of bicycle travel. They are typically shorter routes with less bicycle demand and use. They provide for door-to-door bicycle travel.

**Local jurisdiction** – For the purpose of this plan, this term refers to a city or county within the Metro boundary.

**Local pedestrian connectors** – All streets and trails not included on the regional network. Local connectors experience lower volumes of pedestrian activity and are typically on residential and low-volume/speed roadways or smaller trails. Connectors, however, are an important element of the regional pedestrian network because they allow for door-to-door pedestrian travel.

**Local streets or roads** – Local streets primarily provide direct access to adjacent land. While Local streets are not intended to serve through traffic, the aggregate effect of local street design impacts the effectiveness of the arterial and collector system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the arterial street network. In the urban area, local roadway system designs often discourage “through traffic movement.” Regional regulations require local street connections spaced no more than 530 feet in new residential and mixed used areas, and cul-de-sacs are limited to 200 feet in length. These connectivity requirements ensure that a lack of adequate local street connections does not result in the arterial system becoming congested. While the focus for local streets has been on motor vehicle traffic, they are developed as multi-modal facilities that accommodate bicycles, pedestrians and sometimes transit.

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

**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.

**Lower income focus area** – Census tracts with higher than regional average concentrations and double the density of people with lower income. Lower income is defined as households with incomes below 200 percent of the federal poverty level, adjusted for household size (i.e., with incomes up to twice the level of poverty), as defined by the U.S. Census.

**Main line rail** – Class I rail lines (e.g., Union Pacific and Burlington Northern/Santa Fe).

**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.

**Major transit stop** – Existing and planned transit stations, including light rail stations and other transit transfer stations, except for temporary facilities; other planned stops designated as major transit stops and existing transit stops that:

- (A) Have or are planned for an above average frequency of scheduled, fixed-route service when compared to region wide service. In the region, major transit stops are generally located along routes that have or are planned for 15-minute or better service frequency throughout the day and on weekends; and
- (B) Are located in a transit-oriented development or within one-quarter mile of an area planned and zoned for:
  - (i) Medium or high density residential development; or
  - (ii) Intensive commercial or institutional uses within one-quarter mile of subsection (i); or

(iii) Uses likely to generate a relatively high level of transit ridership.

**Marginalized communities** – Communities of people that have been excluded from critical aspects of social participation including, voting, education, housing and more. Historical marginalization is often a result of systematic exclusion based on devaluation of any individual existing outside of the dominant culture. For purposes of the RTP, this includes people of color, people with limited English proficiency, people with lower-incomes, youth, older adults and people living with a disability.

**Marine facilities** – A facility where freight is transferred between water-based and land-based modes.

**Meaningful involvement** – This term means that the public should have opportunities to participate in decisions that could affect their environment and their health, their contributions should be taken into account by regulatory agencies, and decision-makers should seek and facilitate the engagement of those potentially affected by their decisions. (from EPA).

**Measure** – An expression based on a metric that is used to establish targets and to assess progress toward achieving the established targets.

**Metric** – A quantifiable indicator of performance or condition.

**Metropolitan Greenspaces Master Plan (1992)** – Details the vision, goals and organizational framework of a regional system of natural areas, trails and greenways for wildlife and people in the region, and set the foundation for subsequent bond measures and trail plans.

**Metropolitan Planning Area Boundary (MPA)** – The geographic area determined by agreement between the Metropolitan Planning Organization (MPO) and the Governor, in which the metropolitan transportation planning process is carried out by the MPO.

**Metropolitan Planning Organization (MPO)** – A federally-required policy body responsible for the transportation planning, project selection and scheduling the use of federal transportation funds in its region. Governed by policy board, MPOs are required in urbanized areas with populations more than 50,000 and are designated by the governor of the state. JPACT and the Metro Council constitute the MPO for the Portland region. The MPO conducts federally mandated transportation planning work, including: a long-range Regional Transportation Plan (RTP), the Metropolitan Transportation Improvement Program (MTIP) for capital improvements identified for a four-year construction period, allocates federal transportation funding through the Regional Flexible Funds process (RFFA), a Unified Planning Work Program (UPWP), a congestion management process (CMP), federal performance-based planning and target-setting and conformity to the state implementation plan for air quality for transportation related emissions.

**Metropolitan Transportation Improvement Program (MTIP)** – The MTIP includes all federally funded transportation projects in the Portland metropolitan planning area, including projects planned by TriMet, the Oregon Department of Transportation and local agencies receiving federal funds allocated by Metro. The MTIP is incorporated in the Statewide Transportation Improvement

Program (STIP), which identifies the state’s four-year transportation capital improvements. See also transportation improvement program.

**Metropolitan transportation plan** – The official multimodal transportation plan addressing no less than a 20-year planning horizon that the MPO develops, adopts, and updates through the metropolitan transportation planning process. The Regional Transportation Plan is metropolitan transportation plan for the Portland region.

**Microtransit** – Services such as Via, Chariot and Leap can differ from conventional transit service in several different ways:

- **Dynamic routing:** Some microtransit services operate on flexible routes to pick up and drop off riders nearer to their origins and destinations. Services may deviate from a fixed route to make pickups and dropoffs, crowdsource routes from data provided by riders or make stops anywhere within a defined service area.
- **On-demand scheduling:** Instead of operating on a fixed schedule, microtransit services may allow riders to request a ride when they need it.
- **Smaller vehicles:** Microtransit services often use vans or small buses instead of 40-passenger buses.
- **Private operation:** Many microtransit services are privately operated or operated through partnerships between public agencies and private companies.

We distinguish between microtransit that is coordinated with public transit, for examples services that connect people to frequent transit or operate in areas that are hard to serve with conventional transit, and luxury microtransit that serve existing transit routes and offer more space or amenities than a public bus at a higher cost.

**Mileage Based User Fee** – See Road Usage Charge

**Mitigation** – Planning actions taken to avoid an impact altogether, minimize the degree or magnitude of the impact, reduce the impact over time, rectify the impact, or compensate for the impact. Mitigation includes:

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



**Mixed use** – Comprehensive plan or implementing regulations that permit a mixture of commercial and residential development.

**Mixed-use development** – Areas of a mix of at least two of the following land uses and includes multiple tenants or ownerships: residential, retail and office. This definition excludes large, single-use land uses such as colleges, hospitals, and business campuses.

**Mobility** – 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.

**Mobility corridor** – Mobility corridors are defined subareas of the region and include all regional transportation facilities within the subarea as well as the land uses served by the regional transportation system. This includes freeways and highways and parallel networks of arterial streets, regional bicycle parkways, high capacity transit, and frequent bus routes. The function of this network of integrated transportation corridors is metropolitan mobility – moving people and goods between different parts of the region and, in some corridors, connecting the region with the rest of the state and beyond. This framework emphasizes the integration of land use and transportation in determining regional system needs, functions, desired outcomes, performance measures, and investment strategies.

**Modal targets** – Performance targets for increased walking, biking, transit, shared ride and other non-drive alone trips as a percentage of all trips made in a defined area. The targets apply to trips to, from and within each 2040 Design Type. The targets reflect desired mode shares for each area for the year 2040 needed to comply with Oregon Transportation Planning Rule objectives to reduce reliance on single-occupant vehicles and per capita vehicle miles traveled.

**Regional 2040 modal targets**

2040 Design Type	Non-drive alone modal target
Portland central city	60-70%
Regional centers Town centers Main streets Station communities Corridors Passenger intermodal facilities	45-55%
Industrial areas Freight intermodal facilities Employment areas Neighborhoods	40-45%

Note: The targets apply to trips to, from and within each 2040 design type

**Mode** – A type of transportation distinguished by means used (e.g., such as walking, bike, bus, single- or high-occupancy vehicle, bus, train, truck, air, marine).

**Mode choice** – The ability to choose one or more modes of transportation.

**Mode share** – The proportion of total person trips using various modes of transportation.

**Motorcycle** – A motor vehicle with motive power having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground. The NHTSA defines “motorcycle” to include mopeds, two or three-wheeled motorcycles, off-road motorcycles, scooters, mini bikes and pocket bikes.

**Moving Ahead for Progress in the 21st Century Act (MAP-21 ) (P.L. 112-141)** –

Reauthorization of Federal highway funding, signed into law by President Obama on July 6, 2012. Subsequent adoption of the FAST Act does not replace MAP-21 in all areas regulation of transportation safety planning and funding, so both must be referenced.

**Multimodal** – Transportation facilities or programs designed to serve many or all methods of travel, including all forms of motor vehicles, public transportation, bicycles and walking.

**Multimodal level of service** – Multimodal level of service (MMLOS) is an analytical tool that measures and rates users’ experiences of the transportation system according to their mode. It evaluates not only drivers’ experiences, but incorporates the experiences of all other users, such as cyclists and pedestrians.

**Must** – When used in the context of actions and policies must means there is a legal obligation or requirement to take the action or enact the policy. Must is often used interchangeably with shall. *Also see should.*

**National Highway System (NHS)** – Title 23 of the U.S. Code section 103 states that the purpose of the NHS is to provide an interconnected system of principal routes that serve major population centers, international border crossings, ports, airports, public transportation facilities, intermodal transportation facilities, major travel destinations, meet national defense requirements, and serve interstate and inter-regional travel. Facilities included in the NHS are of regional significance.

**National Performance Management Research Data Set (NPMRDS)** – A data set derived from vehicle/passenger probe data (sourced from Global Positioning Station (GPS), navigation units, cell phones) that includes average travel times representative of all traffic on each mainline highway segment of the National Highway System (NHS), and additional travel times representative of freight trucks for those segments that are on the Interstate System. The data set includes records that contain average travel times for every 15 minutes of every day (24 hours) of the year recorded and calculated for every travel time segment where probe data are available. The NPMRDS does not include any imputed travel time data.

**Native American** - Refers to the Indigenous peoples of the continental United States and its territories. It arose in the 1960s as a word that was meant to include both American Indians and Alaska Natives. Since then, its meaning has been expanded to include Native Hawaiians and American Samoans.

**Needs** – *see Transportaton needs.*

**Neighborhood Greenway** - Neighborhood greenways are low-traffic and low-speed streets where priority is given to people walking, bicycling, and rolling. Neighborhood greenways are designed to provide a safe network that connects neighborhoods, parks, schools, and business districts. *see also Bicycle Boulevards*

**Network** – Connected routes forming a cohesive system.

**New mobility services** – Transportation services like ride-hailing, microtransit and car and bike share, which operate using smart phones and other emerging technologies. Many of these services are privately operated by new mobility companies.

**Non-motorized** – Generally referring to bicycle, walking and other modes of transportation not involving a motor vehicle.

**Non-SOV travel** – Any travel mode other than driving alone in a motorized vehicle (i.e., single occupancy vehicle or SOV travel), including travel avoided by telecommuting.

**Objective (in a plan)** – A specific, measureable desired outcome and means for achieving a goal(s) to guide action within the plan period.

**Off-peak hours** – The hours outside of the highest motor vehicle traffic period, generally between 9 a.m. and 3 p.m. and between 6 p.m. and 7 a.m.

**Older adults (vulnerable)** – The Moving Ahead for Progress in the 21st Century (MAP-21) Act created a new Special Rule for older drivers and pedestrians under 23 USC 148(g)(2), which was continued under the Fixing America's Surface Transportation (FAST) Act. If the rate per capita of traffic fatalities and serious injuries for drivers and pedestrians over the age of 65 in a State increases over the most recent 2-year period, this Special Rule requires a State to include strategies to address the increases in those rates in their State Strategic Highway Safety Plan (SHSP). FHWA issued the Section 148: Older Drivers and Pedestrians Special Rule Final Guidance in May 2016.<sup>1</sup> TriMet's *Coordinated Transportation Plan for Seniors and Persons With Disabilities* (2020) identifies several principles and actions related to addressing safety and security concerns getting to and at transit stops and on transit. *See Appendix G.*

**Operational and management strategies** – Actions and strategies aimed at improving the performance of existing and planned transportation facilities to relieve congestion and maximize the safety and mobility of people and goods.

**Oregon Transportation Commission (OTC)** – The Oregon Transportation Commission is a five-member governor-appointed government agency that manages the state highways and other transportation in the state of Oregon, in conjunction with the Oregon Department of Transportation.

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<sup>1</sup> U.S. Department of Transportation, Federal Highway Administration Older Drivers and Pedestrians Special Rule. <https://safety.fhwa.dot.gov/hsip/older/>

**Oregon Transportation Plan (OTP)** – The official statewide intermodal transportation plan that is developed through the statewide transportation planning process by ODOT and approved by the Oregon Transportation Commission.

**Parking management** – Strategies that encourage more efficient use of existing parking facilities, improve the quality of service provided to parking facility users, and improve parking facility design. Examples include developing an inventory of parking supply and usage, reduced parking requirements, shared and unbundled parking, parking-cash-out, priced parking, bicycle parking and providing information on parking space availability. When used in conjunction with other demand management strategies, parking management is an effective means of reducing drive-alone auto trips and achieving GHG reductions. More information can be found at [vtpi.org/park\\_man.pdf](http://vtpi.org/park_man.pdf)

**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.

**Passenger car equivalent** – Passenger Car Equivalent (PCE) is a metric used in Transportation Engineering, to assess traffic-flow rate on a highway. A PCE is essentially the impact that a mode of transport has on traffic variables compared to a single car.

**Passenger intermodal facilities** – Facilities that accommodate or serve as transfer points to interconnect various transportation modes for the movement of people. Examples include Portland International Airport, Union Station, Oregon City Amtrak station and inter-city bus stations.

**Passenger rail** – Inter-city passenger rail is part of the state transportation system and extends from the Willamette Valley north to British Columbia. Amtrak already provides service south to California, east to the rest of the continental United States and north to Canada. It is a transit system that operates, in whole or part, on a fixed guide-way. These systems should be integrated with other transit services within the metropolitan region with connections at passenger intermodal facilities.

**Passenger train** – A railroad train for only passengers, rather than goods. Amtrak is the company that controls the railroads that carry passengers in the U.S.

**Passenger vehicles** – Motor vehicles with at least four wheels, used for the transport of passengers, and comprising no more than eight seats in addition to the driver's seat. Light commercial vehicles are motor vehicles with at least four wheels, used for the carriage of goods.

**Peak period or hours** – The period of the day during which the maximum amount of travel occurs. It may be specified as the morning (A.M.) or afternoon or evening (P.M.) peak. Peak periods in the Portland metropolitan region are currently generally defined as from 7–9 AM and 4–6 PM.



**Pedestrian** – A person traveling on foot, in a wheelchair or in another health-related mobility device.

**Pedestrian comfort index (PCI)**- Uses data such as auto volumes, auto speeds, number of auto lanes, sidewalk existence and width, number of pedestrian crossings on existing roadways and assigns a comfort rating for pedestrians. Results help identify roadways on the regional pedestrian network that could be upgraded to increase bicyclists comfort. Metro has collected and analyzed initial data for the regional pedestrian network but has not created a PCI. Additional data and analysis is needed.

**Pedestrian connection** – A continuous, unobstructed, reasonably direct route between two points that is intended and suitable for pedestrian use. Pedestrian connections include but are not limited to sidewalks, walkways, accessways, stairways and pedestrian bridges. On developed parcels, pedestrian connections are generally hard surfaced. In parks and natural areas, pedestrian connections may be soft-surfaced pathways. On undeveloped parcels and parcels intended for redevelopment, pedestrian connections may also include rights-of-way or easements for future pedestrian improvements.

**Pedestrian corridor** – The second highest functional class of the regional pedestrian network. On-street 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 regional pedestrian corridors. These routes are also expected to see a high level of pedestrian activity, though not as high as the parkways.

**Pedestrian district** – A comprehensive plan designation or set of land use regulations designed to provide safe and convenient pedestrian circulation, with a mix of uses, density, and design that support high levels of pedestrian activity and transit use. The pedestrian district can be a concentrated area of pedestrian activity or a corridor. Pedestrian districts can be designated within the following 2040 Design Types: Central City, Regional and Town Centers, Corridors and Main Streets. Though focused on providing a safe and convenient walking environment, pedestrian districts also integrate efficient use of several modes within one area, e.g., auto, transit, and bike.

**Pedestrian facility** – A continuous, unobstructed, reasonably direct route between two points that is intended and suitable for pedestrian use, including sidewalks, walkways, accessways, stairways, pedestrian bridges, protected street crossings, crosswalks, and plazas. Pedestrian facilities may include signs, signals, pedestrian scale street lighting and benches.

**Pedestrian parkway** – A new functional class for pedestrian routes in the Regional Transportation Plan and the highest functional class. They are high quality and high priority routes for pedestrian activity. Pedestrian parkways are major urban streets that provide frequent and almost frequent transit service (existing and planned) or regional trails. Adequate width and separation between pedestrians and bicyclists should be provided on shared use path parkways.

**Pedestrian-scale** – A site, building design elements or urban development pattern that are dimensionally less than those intended to accommodate automobile traffic, flow, and buffering so

walking is a safe, convenient and interesting travel mode. The following are examples of pedestrian scale facilities: continuous, smooth and wide walking surfaces, easily visible from streets and buildings and safe for walking; minimal points where high speed automobile traffic and pedestrians mix; frequent crossings; and storefronts, trees, bollards, on-street parking, awnings, outdoor seating, signs, doorways and lighting designed to be perceived from a short distance; all well-integrated into the transit system and having uses that cater to pedestrians.

**People of color focus area** – Census tracts with higher than regional average concentrations and double the density of one or more of the following: people of color and/or people who speak limited English or do not speak English.

**People with disabilities** – People who have a record or history of physical, mental, intellectual, or sensory impairments that in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

**Per capita** – Used to describe the rate of something per person.

**Performance-based planning and programming** – Refers to the application of performance management within the planning and programming processes of MPOs and transportation agencies to achieve desired performance outcomes for the multimodal transportation system. Attempts to ensure that transportation investment decisions are made – both in long-term planning and short-term programming of projects – based on their ability to meet established goals.

**Performance management** – A strategic approach that uses data and information to support decisions that help to achieve identified performance outcomes.

**Performance measurement** – A process of assessing progress toward achieving goals using data.

**Performance measure** – A metric used to assess and monitor progress toward meeting an objective or performance target using quantitative or qualitative data and provide feedback in the plan’s decision-making process.

Some measures can be used to predict the future as part of an evaluation process using forecasted data, while other measures can be used to monitor changes based on actual empirical or observed data. In both cases, they can be applied at a system-level, corridor-level and/or project level, and provide the planning process with a basis for evaluating alternatives and making decisions on future transportation investments. As used in the RTP, performance measures are used to evaluate transportation system performance and potential impacts of the plan’s investments within the planning period. They are also used to monitor performance of the plan in between updates to evaluate the need for refinements to policies, investment strategies or other elements of the plan..

**Person trip** – A trip made by a person from one location to another, whether as a driver, bicyclist, passenger or pedestrian.

**Per vehicle miles traveled (VMT)** – Used to describe rate of something per the number of motor vehicle miles traveled, such as the crash rate per motorized vehicle miles. Except where otherwise noted, crash rates are per 100-million motorized vehicle miles travelled in this document.

**Physically separated bicycle lanes** – These types of facilities provide a physical buffer between a person riding a bicycle and auto traffic and can be referred to as cycle tracks, trails, paths and buffered bicycle lanes. Buffers can be provided by parked cars, landscaped strips, raised pavement, bollards and planters.

**Planning area boundary** – A boundary used by Metro for planning purposes – also called the metropolitan planning area boundary. Included within the boundary are all areas within the Metro jurisdictional boundary, the 2010 Census urbanized area, designated urban reserves and the urban growth boundary.

**Planning factors** – A set of broad objectives defined in Federal legislation to be considered in both the metropolitan and statewide planning process. The factors are:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety of the transportation system for motorized and non-motorized users.
- Increase the security of the transportation system for motorized and non-motorized users.
- Increase the accessibility and mobility of people and for freight.
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, people and freight.
- Promote efficient system management and operation.
- Emphasize the preservation of the existing transportation system.
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
- Enhance travel and tourism.

**Policy** – A policy is a statement of intent and describes a direction and a course of action adopted and pursued by a government to achieve desired outcome(s).

**Posted speed** – The speeds indicated on signs along the roadway. When speeds differ from statutory speeds there must be a posted sign indicating the different speed.

**Practicable** – This term means available and capable of being done after taking into consideration cost, existing technology and logistics, in light of overall project purposes.

**Preliminary design** – means an engineering design that specifies in detail the location and alignment of a planned transportation facility or project.

**Preparedness** – This term refers to actions taken to plan, organize, equip, train, and exercise to build, apply, and sustain the capabilities necessary to prevent, protect against, ameliorate the effects of, respond to, and recover from climate change related damages to life, health, property, livelihoods, ecosystems, and national security.

**Pricing** – Motorists pay directly for driving on a particular roadway or for driving or parking in a particular area. Pricing includes applying different rates by location, level of congestion, or time of day, 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

**Principal arterial** – Limited-access roads that serve longer-distance motor vehicle and freight trips and provide interstate, intrastate and cross-regional travel. See definition of Throughway.

**Project development** – A phase in the transportation planning process during which a proposed project undergoes a more detailed analysis of the project’s social, economic and environmental impacts and various project alternatives to determine the precise location, alignment, and preliminary design of improvements based on site-specific engineering and environmental studies. After a project has successfully passed through this phase, it may move forward to right-of-way acquisition and construction phases. Project development activities include: Environmental Assessment (EA)/Environmental Impact Statement (EIS) work, Design Options Analysis (DOA), management plans, and transit Alternatives Analysis (AA).

**Protected bike lanes** – Separated bike lane, cycle track, a bike lane that is physically separated, or that are protected from motor vehicle traffic by elements designed to inhibit intrusion into the bicycle facility. Protection may be created using planters, curbs, parked motor vehicles, posts or a raised elevation of the bicycle facility. Protected bicycle facilities are essential for creating a complete network of bike-friendly routes. For bicyclists, safety increases significantly when there is physical separation from motorists through infrastructure. Fully protected bikeways can reduce bicycle injury risk up to 90 percent.<sup>2</sup> Another report found that on-street bike lanes that use barriers to physically separate bicyclists from motor vehicles are 89 percent safer than streets with parked cars and without bicycling infrastructure. When physical separation is not possible,

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<sup>2</sup> “Route Infrastructure and the Risk of Injuries to Bicyclists: a Case-Crossover Study,” Teschke, et al. American Journal of Public Health, Vol. 102, No. 12, December 2012.



infrastructure such as striped bike lanes, bicycle boulevards, and bike boxes help reduce the risk of conflict with motor vehicles.<sup>3</sup>

**Public health** – The health of the population as a whole, especially as monitored, regulated, and promoted by the state.

**Public Transportation Safety Action Plan (PTASP)** – A plan developed by certain operators of public transportation systems that are recipients or subrecipients of Federal Transit Administration (FTA) grant funds that include the processes and procedures necessary for implementing Safety Management Systems (SMS). Each safety plan must include, at a minimum:

- An approval by the agency’s Accountable Executive and Board of Directors (or an equivalent authority); the designation of a Chief Safety Officer;
- The documented processes of the agency’s SMS, including the agency’s Safety Management Policy and processes for Safety Risk Management, Safety Assurance, and Safety Promotion;
- An employee reporting program;
- Performance targets based on the safety performance measures established in FTA’s National Public Transportation Safety Plan (NSP);
- Criteria to address all applicable requirements and standards set forth in FTA’s Public Transportation Safety Program and the NSP; and
- A process and timeline for conducting an annual review and update of the safety plan.

A rail transit agency’s safety plan also must include or incorporate by reference an emergency preparedness and response plan or procedures.

**Racial equity** – When race can no longer be used to predict life outcomes and outcomes for all groups are improved. 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 Strategic Plan to Advance Racial Equity, Diversity and Inclusion](#) with the intent of also effectively identifying solutions and removing barriers for other disadvantaged groups.

**Rail branch lines** – Non-Class I rail lines, including short line or branch lines.

**Ramp meter or metering** – A traffic signal used to regulate the flow of vehicles entering the freeway. Ramp meters smooth the merging process resulting in increased freeway speeds and reduced crashes. Ramp meters can be automatically adjusted based on traffic conditions.

**Reasonably direct** – Either a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.

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<sup>3</sup> A Right to the Road, p.48, GHSA, 2017.

**Refinement plan** – Amendment to a transportation system plan which determines at a systems level the function, mode or general location of a transportation facility, service or improvement, deferred during system planning because detailed information needed to make the determination could not be reasonably obtained during that process.

**Regional bike-transit facility** – The hub where the spokes of the regional bikeway network connect to the regional transit network. Stations and transit centers identified as regional bike-transit facilities have high-capacity bike parking and are suitable locations for bike-sharing and other activities that support bicycling. Criteria for identifying locations are found in the TriMet Bicycle Parking Guidelines.

**Regional bikeway** – Designated routes that provide access to and within the central city, regional centers and town centers. These bikeways are typically located on arterial streets but may also be located on collectors or other low-volume streets. These bikeways should be designed using a flexible “toolbox” of bikeway designs, including bike lanes, cycle tracks (physically separated bike lanes) shoulder bikeways, shared roadway/wide outside lanes and bicycle priority treatments (e.g. bicycle boulevards).

**Regional centers (2040 design type)** – Compact, specifically-defined areas where higher density growth and a mix of intensive residential and commercial land uses exists or is planned. Regional centers are to be supported by an efficient, transit-oriented, multi-modal transportation system. Examples include traditional centers, such as downtown Gresham, and new centers such as Gateway and Clackamas Town Center.

**Regional Conservation Strategy (RCS) for the Greater Portland Vancouver Metropolitan Area, Intertwine and Metro** - Identifies high quality land and riparian areas in the region. The strategy was developed by The Intertwine Alliance, Metro and a broad coalition of conservation organizations to pull together 20 years of conservation planning and create an integrated blueprint for regional conservation. The plan will help government, nonprofit and private organizations work together to care for and restore thousands of acres of natural area land and create habitat for wildlife.

**Regional destinations** – Include the following types of places: employment sites with 300 or more employees (includes regional sports and attraction sites such as Oregon Zoo, Oregon Museum of Science and Industry, Providence Park, Moda Center); high ridership bus stop locations; regional shopping centers; major hospitals and medical centers; colleges, universities and public high schools; regional parks; major government centers; social services; airports; and libraries.

**Regional Flexible Funds Allocation (RFFA)** – Regional flexible funds come from the Surface Transportation Block Grant Program and Transportation Alternatives set aside and the Congestion Mitigation/Air Quality Program federal funding programs. The regional flexible fund allocation process identifies which projects in the Regional Transportation Plan will receive these funds to carry out RTP investment policy priorities. Regional flexible funds are allocated every three years and are included in the Metropolitan Transportation Improvement Program. Unlike

funding that flows only to highways or only to transit by a rigid formula, this is money that can be invested in a range of transportation projects or programs as long as federal funding eligibility requirements are met

**Regional freight network** – Applies the regional freight concept on the ground to identify the transportation networks and freight facilities that serve the region and state’s freight mobility needs.

**Regional intelligent transportation system (ITS) architecture** – A regional framework for ensuring institutional agreement and technical integration for the implementation of ITS projects or groups of projects.

**Regional mobility policy** – The Regional Mobility Policy is a policy in Metro’s Regional Transportation Plan (RTP) as well as ODOT’s Oregon Highway Plan (OHP). It applies to system planning and plan amendment processes only within the Portland metropolitan area. The regional mobility policy is one of many policies that helps the region choose where to focus resources for the transportation system to support implementation of city and county comprehensive plans. The goal of the updated policy is to better align the policy and measures with shared regional values, goals, and desired outcomes identified in RTP and 2040 Growth Concept, as well as with local and state goals. Specifically, the updated policy is intended to support mobility outcomes related to equity, efficiency, access and options, safety, and reliability. Six policies and three measures (vehicle miles travel per capita, system completeness for all modes and throughway reliability) are included in the policy that have direct relationships to these desired mobility outcomes, replacing the volume-to-capacity ratio for system planning purposes.

**Regional trails** – Regional Trails are defined by Metro as linear facilities for non-motorized users that are at least 75% off-street and are regionally significant. Bicycle/pedestrian sidewalks on bridges are also included in this definition. The term “non-motorized” is used instead of “multi-use” or “multi-modal” because some Regional Trails are pedestrian-only. Trails must meet two levels of criteria to be considered “regionally significant.” The criteria are adopted by the Metro Council in the *Regional Trails and Greenways Plan*. Regional trails are physically separated from motor vehicle traffic by open space or a barrier. Bicyclists, pedestrians, joggers, skaters and other non-motorized travelers use these facilities.

While all trails serve a transportation function, not all regional trails identified on Metro’s *Regional Trails and Greenways Map* are included in the RTP. The RTP includes regional trails that support both utilitarian and recreational functions. These trails are generally located near or in residential areas or near mixed-use centers and provide access to daily needs. Trails in the RTP are defined as transportation facilities and are part of the regional transportation system. Regional trails in the RTP are eligible to receive federal transportation funds. Trails that use federal transportation funds need to be ADA accessible according to the AASHTO trail design guidelines. There are some pedestrian only trails or trails near sensitive habitat on the RTP network that would most likely not be paved. Regional bicycle connections are planned parallel to pedestrian only regional trails. Colloquially, terms like “bike path” and “multi-use path” are often

used interchangeably with “regional trail,” except when referring to pedestrian-only regional trails.

**Regional Trails and Greenways Map** – A map developed and maintained by Metro. The map was first developed as part of the *Metropolitan Greenspaces Master Plan*. The map includes the existing and proposed trails and greenways in the regional system. Many of the regional trails are included in the Regional Transportation Plan.

**Regional transit network** – The regional transit system includes light rail, commuter rail, bus rapid transit, enhanced transit, frequent bus, regional bus, and streetcar modes as well as major transit stops.

**Regional Transportation Functional Plan (RTFP)** – A regional functional plan regulating transportation in the Metro region, as mandated by Metro’s Regional Framework Plan. The plan directs local plan implementation of the Regional Transportation Plan.

**Regional Transportation Plan (RTP)** – A long-range metropolitan transportation plan that is developed and adopted for the greater Portland metropolitan planning area (MPA) covering a planning horizon of at least 20 years. The plan is updated every five years through the federally-mandated metropolitan transportation planning process. The plan identifies and analyzes transportation needs of the metropolitan region and creates a framework for implementing policies and project priorities. Required by state and federal law, it includes programs to better maintain, operate and expand transportation options to address existing and future transportation needs. The RTP also serves as the regional transportation system plan under the Oregon Transportation Planning Rule.

**Regional transportation system** – The regional transportation system is identified on the regional transportation system maps in the Regional Transportation Plan. The system is limited to facilities of regional significance generally including regional arterials and throughways, high capacity transit and regional transit systems, regional multi-use trails with a transportation function, bicycle and pedestrian facilities that are located on or connect directly to other elements of the regional transportation system, air and marine terminals, as well as regional pipeline and rail systems.

**Regional Travel Options (RTO) Program** – Regional program led by Metro and guided by a 10-year strategy aimed at reducing the demand for roadway travel, particularly single occupant vehicle travel and improving people's travel choices. Metro coordinates partner activities and provides grant funding for the following:

- support for employment-based programs to reduce SOV auto trips to worksites and ECO rule compliance
- a regional Safe Routes to School effort that supports local education programs in schools to teach kids how to walk and bicycle to school safely
- community-based programs that focus on the travel needs of specific neighborhoods or people



- funding for bicycle parking, wayfinding signage and other tools that help people to use travel options
- funding for pilot projects to test new ways to reach the public through technology or innovative engagement methods.

*See also transportation demand management.*

**Regionally significant industrial area (RSIA)** – 2040 land use designation; RSIA's are shown on Metro's 2040 map. Industrial activities and freight movement are prioritized in these areas.

**Regionally significant project** – A transportation project (other than projects that may be grouped in the TIP and/or STIP or exempt projects as defined in EPA's transportation conformity regulations (40 CFR part 93, subpart A)) that is on a facility that serves regional transportation needs (such as access to and from the area outside the region; major activity centers in the region; major planned developments such as new retail malls, sports complexes, or employment centers; or transportation terminals) and would normally be included in the modeling of the metropolitan area's transportation network. Chapter 3 of the RTP defines the regional transportation system.

**Reliability** – This term refers to consistency or dependability in travel times, as measured from day to day and/or across different times of day. Variability in travel times means travelers must plan extra time for a trip.

**Reload facility** – An intermediary facility where freight is reloaded from one land-based mode to another.

**Resilience or resiliency** – This term means the ability to anticipate, prepare for and adapt to changing conditions and withstand, respond to and recover rapidly from disruptions.

**Revision** – A change to a long-range statewide or metropolitan transportation plan, TIP, or STIP that occurs between scheduled periodic updates. A major revision is an “amendment” while a minor revision is an “administrative modification.”

**Ride-hailing services** – Also known as transportation network companies, or TNCs like Uber and Lyft, which use apps to connect passengers with drivers who provide rides in their personal vehicles.

**Rideshare** – A transportation demand management strategy where two or more people share a trip in a vehicle to a common destination or along a common corridor. Private passenger vehicles are used for carpools, and some vanpools receive public/private support to help commuters. Carpooling and vanpooling provide travel choices for areas underserved by transit or at times when transit service is not available.

**Right-of-way (ROW)** – Land that is publicly-owned, or in which the public has a legal interest, usually in a strip, within which the entire road facility (including travel lanes, medians, sidewalks, shoulders, planting areas, bikeways and utility easements) resides. The right-of-way is usually

acquired for or devoted to multi-modal transportation purposes including bicycle, pedestrian, public transportation and vehicular travel.

**Road diet** – Road diets are one way to reconfigure limited roadway space in a way that allows for the inclusion of wider sidewalks and separated bicycle facilities such as buffered bicycle lanes, which can provide space for all users to operate safely in their own “zones.” Road diets can have multiple safety and operational benefits for autos, as well as pedestrians and cyclists. On existing roadways, separated in-roadway facilities may be implemented by narrowing existing travel lanes, removing travel lanes, removing on-street parking or widening the roadway shoulder. If constraints, such as narrow existing right-of-way, prohibit providing optimally desired bicycle facility widths, then interim facility improvements can be used.

**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.

**Road users** – A motorist, passenger, public transportation operator or user, truck driver, bicyclist, motorcyclist, or pedestrian, including a person with disabilities. (23 USC section 148)

**Roadway connectors** – Roads that connect other freight facilities, industrial areas, and 2040 centers to a main roadway route.

**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).

**Rural reserves (2040 Design Type)** – Lands that are high value working farms and forests or have important natural features like rivers, wetlands, buttes and floodplains. These areas are protected from urbanization for 50 years after their designation.

**Safe Routes to School** – A comprehensive engineering/education program focused on youth school travel that aims to create safe, convenient, and fun opportunities for children to walk and roll (bike, scooter, etc.) to and from schools. City or school district based programs incorporate evaluation, education, encouragement, engineering, enforcement, and equity with the goal of increasing walking and rolling to school. Safe Routes to School is a national program that works to nationally, regionally and locally to create safe, healthy, and livable urban, suburban and rural communities. The program works with parents, school districts, local governments, government, police and community partners to make it easy and safe for kids to walk and bike to school. Results are achieved through investments in small capital projects, educations and outreach such as walking school buses.

**Safe System Approach** – A data-driven, strategic approach to roadway safety that aims to eliminate fatal and severe injury crashes. The approach is based on a foundational understanding

of the underlying causes of traffic fatalities and severe injuries (using data) and is based on the principle that errors are inevitable but serious crashes should not be. Transportation safety policies that use a Safe System approach include Vision Zero, Towards Zero Deaths, Road to Zero and Sustainable Safety.

**Safe System Approach Speed Setting** – Speed limits are set according to the likely crash types, the resulting impact forces, and the human body’s ability to withstand these forces. It allows for human errors (that is, accepting humans will make mistakes) and acknowledges that humans are physically vulnerable (that is, physical tolerance to impact is limited). Therefore, in this approach, speed limits are set to minimize death and severe injury as a consequence of a crash.

**Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU)** – Signed into federal law in 2005, SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit through 2009. SAFETEA-LU refined and reauthorized TEA-21. SAFETEA-LU was subsequently replaced by MAP-21 and the FAST Act. *See also BIL*

**Safety** – Protection from death or bodily injury from a motor-vehicle crash through design, regulation, management, technology and operation of the transportation system.

**Safety benefit projects** – Projects with design features to increase safety for one or more roadway user. These projects may not necessarily address an identified safety issue at an identified high injury or high risk location, but they do include design treatments known to increase safety and reduce serious crashes. Examples include adding sidewalks, bikeways, medians, center turn lanes and intersection or crossing treatments.

**Safety data** – Includes, but is not limited to, crash, roadway, and traffic data on all public roads. For railway- highway grade crossings, safety data also includes the characteristics of highway and train traffic, licensing, and vehicle data.

**Safety project** – Has the primary purpose of reducing fatal and severe injury crashes or reducing crashes by addressing a documented safety problem at a documented high injury or high risk location with one or more proven safety countermeasures.

**Scenario planning** – An analytical approach and planning process that provides a comprehensive framework for evaluating how various combinations of strategies, policies, plans and/or programs may affect the future of a community, region or state. The approach involves identifying various packages or strategies or scenarios against a baseline projection.

**Security (public and personal)** – Protection from intentional criminal or antisocial acts while engaged in trip making through design, regulation, management, technology and operation of the transportation system.

**Serious Crash** – Refers to the total number of Fatal and Severe Injury (Injury A) crashes combined.

**Severity** – A measurement of the degree of seriousness concerning both vehicle impact (damage) and bodily injuries sustained by victims in a traffic crash.

**Shared mobility** – Describes services that allow people to share a vehicle, such as ride-hailing trips, shared e-scooters, car and bike share and microtransit, as well as traditional shared modes like transit, car- or vanpools and taxis. Some of these services are privately operated by shared mobility companies.

**Shared trips** – Trips taken by multiple passengers traveling in a single vehicle, including carpools, transit trips and some ride-hailing or car share trips.

**Short trip** – Generally defined as a one-way trip less than three miles.

**Should** – When used in the context of a policy or action, should means an expected course of action or policy that is to be followed unless inappropriate for a particular circumstance. *Also see must.*

**Sidewalk** – A walkway separated from the roadway with a curb, constructed of a durable, hard and smooth surface, designed for preferential or exclusive use by pedestrians.

**Single-occupant vehicle (SOV)** – A private motorized passenger vehicle carrying one occupant (the driver only). Also referred to as a drive alone vehicle. Also, an automated vehicle with one passenger.

**Smart cities** – The way in which public agencies are using technology to collect better data, provide better service, do business more efficiently and make better decisions.

**Social equity** – The idea that all members of a societal organization or community should have access to the benefits associated with civil society – the pursuit of an equitable society requires the recognition that there are a number of attributes that give members of a society more or less privilege and that in order to provide equitable situations the impacts of these privileges (or lack thereof) must be addressed. For transportation, equity refers to fair treatment or equal access to transportation services and options. In the context of safety, transportation equity relates to improving the travel choices, the safety of travel and not unfairly impacting one group or mode of transportation. More specifically it means improved safety for all transportation options and lessening the risks or hazards associated with different choices of transportation.

**Stakeholders** – Individuals and organizations with an interest in or who are affected by a transportation plan, program or project, including federal, state, regional and local officials and jurisdictions, institutions, community groups, transit operators, freight companies, shippers, non-governmental organizations, advocacy groups, residents of the geographic area and people who have traditionally been underrepresented.

**State Highways** – In Oregon, is a network of roads that are owned and maintained by the Highway Division of the Oregon Department of Transportation (ODOT), including Oregon's portion of the Interstate Highway System.



**State Transportation Improvement Program (STIP)** – The four-year funding and scheduling document for major street, highway and transit projects in Oregon. The STIP is produced by ODOT, consistent with the Oregon Transportation Plan (the statewide transportation plan) and other statewide plans as well as metropolitan transportation plans and MTIPs. The STIP covers the entire state and is overseen by the Oregon Transportation Commission (OTC). It must include all the metropolitan region’s TIPs without change as well as a list of specific projects proposed by ODOT in the non-metropolitan areas. Updated every three years, the STIP determines when and if transportation projects will be funded by the state with state or federal funds.

**State Transportation Plan** – The official statewide intermodal transportation plan that is developed through the statewide transportation planning process. See also Oregon Transportation Plan.

**Station communities (2040 Design Type)** – Areas generally within a one-quarter- to one-half-mile radius of a light rail station or other high capacity transit stops that are planned as multi-modal, mixed-use communities with substantial pedestrian and transit-supportive design characteristics and improvements.

**Strategic plan** – Defines the desired direction and outcomes to guide decisions for allocating resources to pursue the strategy.

**Strategic project list** – Additional policy-driven transportation needs and priority projects that could be achieved with additional resources.

**Strategy** – Involves a set of actions that follows the planning process of setting goals, objectives and performance measures, and mobilizing resources to execute the actions. A strategy describes how the ends (goals) will be achieved by the means (resources).

**Street** – A gravel or concrete- or asphalt-surfaced facility. The term collectively refers to arterial, collector and local streets that are located in 2040 mixed-use corridors, industrial areas, employment areas and neighborhoods. While the focus for streets has been on motor vehicle traffic, they are designed as multi-modal facilities that accommodate bicycles, pedestrians and transit, with an emphasis on vehicle mobility and special pedestrian infrastructure on transit streets.

**Surface Transportation Block Grant (STBG)** – A federal source of funding for projects and activities that is the most flexible in its use. Projects and activities which states and localities can use STBG include: projects that preserve and improve the conditions and performance on any federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure and transit capital projects, including intercity bus terminals.

**Sustainability** – A social goal about the ability of people to co-exist on Earth over a long time, using, developing and protecting the natural environment and resources in a manner that enables people to meet current needs and while enabling future generations to meet future needs, from the joint perspective of environmental, economic and community objectives.

**Sustainable** – A method of using a resource such that the resource is not depleted or permanently damaged.

**System efficiency** – Strategies that optimize the use of the existing transportation system, including traffic management, employer-based commute programs, individualized marketing and carsharing.

**Target** – A specific level of performance that is desired to be achieved within a specified time period.

**Threshold** – Thresholds determine the upper and lower limits of performance for a specific time period.

**Throughways** – Controlled access (on-ramps and off-ramps) interstates and major highways. These routes generally correspond to Expressways designated in the Oregon Highway Plan.

**Toward Zero Deaths** – The United States' highway safety vision. The National Strategy on Highway Safety provides a platform of consistency for state agencies, private industry, national organizations and others to develop safety plans that prioritize traffic safety culture and promote the national Toward Zero Deaths vision. As a strategic policy it is similar to Vision Zero.

**Traffic** – Movement of motorized vehicles, non-motorized vehicles and pedestrians on transportation facilities. Often traffic levels are expressed as the number of units moving over or through a particular location during a specific time period.

**Traffic calming** – A transportation system management technique that aims to prevent inappropriate through-traffic and reduce motor vehicle travel speeds on a particular roadway. Traditionally, traffic calming strategies provide speed bumps, curb extensions, planted median strips or rounds and narrowed travel lanes.

**Traffic incident management** – Planned and coordinated processes followed by state and local agencies to detect, respond to, investigate and remove lane-blocking or rail-blocking vehicles and debris quickly and safely in order to quickly recover road, transit and other operations for travelers.

**Traffic management** – Actions that improve traffic conditions for safety and reliability during incidents such as special events, crashes, construction, inclement weather or a natural disaster that cause delays, unreliable travel times and/or the need for alternate routes and/or additional transit and other mobility services.

**Traffic signal progression** – A process by which a number of traffic signals are synchronized to create the efficient progression of vehicles.

**Transit accessibility** – 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, walking or rolling, 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 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.

**Transit Asset Management Plan (TAMP)** – A plan that includes an inventory of capital assets, a condition assessment of inventoried assets, a decision support tool, and a prioritization of investments.

**Transit Asset Management System** – A strategic and systematic process of operating, maintaining, and improving public transportation capital assets effectively, throughout the life cycles of those assets.

**Transit oriented development (TOD)** – A mix of residential, retail, and office uses and a supporting network of roads, bicycle, and pedestrian ways focused on a major transit stop designed to support a high level of transit use. The key features of transit-oriented development include:

- (a) A mixed-use center at the transit stop, oriented principally to transit riders and pedestrian and bicycle travel from the surrounding area;
- (b) High density of residential development proximate to the transit stop sufficient to support transit operation and neighborhood commercial uses within the TOD;
- (c) A network of roads, and bicycle and pedestrian paths to support high levels of pedestrian access within the TOD and high levels of transit use.

**(Metro) Transit Oriented Development (TOD) Program** - Metro began a regional Transit Oriented Development program in 1998 as part of a strategy to leverage the region's significant investment in high capacity transit. As part of Metro's TOD Program, the agency strategically invests to stimulate private development of higher-density, affordable and mixed-use projects near transit to help more people live, work and shop in neighborhoods served by high-quality transit. In addition, the program invests in "urban living infrastructure" like grocery stores and other amenities, provides technical assistance to communities and developers, and acquires and owns properties in transit-served areas and solicits proposals from qualified developers to create transit-oriented communities in these places.

**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.

**Transportation Alternatives Program** – The Transportation Alternatives Program (TAP) was authorized under Section 1122 of Moving Ahead for Progress in the 21st Century Act (MAP-21)

and is codified at 23 U.S.C. sections 213(b), and 101(a)(29). Section 1122 provides for the reservation of funds apportioned to a State under section 104(b) of title 23 to carry out the TAP. The national total reserved for the TAP is equal to 2% of the total amount authorized from the Highway Account of the Highway Trust Fund for Federal-aid highways each fiscal year. The TAP provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways.

**Transportation demand** – The quantity of transportation services desired by users of the transportation system.

**Transportation demand management (TDM)** – A policy approach such as variable pricing to manage demand of limited transportation capacity or transportation services. Also, a strategy with a set of actions and programs designed to reduce demand for roadway travel, particularly single occupant vehicle trips, through various means (e.g. education, outreach, marketing, incentives, technology). The strategies aim to provide information, encouragement and incentives to help people choose non-SOV modes in order to make more efficient use of transportation infrastructure and services. Strategies include offering other modes of travel such as walking, bicycling, ride-sharing and vanpool programs, car sharing, alternative work hours, education such as individualized marketing, policies, regulations and other combinations of incentives and disincentives that are intended to reduce drive alone vehicle trips on the transportation network. Metro's TDM program is called the Regional Travel Options (RTO) program. *See also Demand Management and Regional Travel Options Program.*

**Transportation disadvantaged/persons potentially underserved by the transportation system** – Individuals who have difficulty in obtaining important transportation services because of their age, income, physical or mental disability. This includes every person in their youth and is likely to affect people in their oldest years.

**Transportation equity** – The removal of barriers to eliminate transportation-related disparities faced by and improve equitable outcomes for marginalized communities, especially Black, Indigenous, people of color.

**Transportation improvement program (TIP)** – A prioritized listing/program of multimodal transportation projects covering a period of 4 years that is developed and formally adopted by an MPO as part of the metropolitan transportation planning process. The TIP must be consistent with the metropolitan transportation plan, and is required for projects to be eligible for funding under title 23 U.S.C. and title 49 U.S.C. chapter 53. In the Portland metropolitan region, the TIP is referred to as the Metropolitan Transportation Improvement Program (MTIP). In practice, the MTIP is a short-term, four year program of transportation projects that will be funded with federal funds expected to flow to the region and locally and state-funded regionally significant projects.



**Transportation management associations (TMA)** – Non-profit coalitions of local businesses and/or public agencies, and/or residences (such as condo Home Owner Associations and Community Development Corporations) all dedicated to reducing traffic congestion and pollution while improving travel options for employees, residents and visitors.

**Transportation management area (TMA)** – An urbanized area with a population over 200,000, as defined by the U.S. Census Bureau and designated by the Secretary of Transportation, or any additional area where TMA designation is requested by the Governor and the MPO and designated by the Secretary of Transportation. These areas must comply with special transportation planning requirements regarding congestion management process, project selection, processes for development of tan RTP and MTIP and certification identified in 23 CFR 450.300-340.

**Transportation needs** – Estimates of the movement of people and goods based on current population and employment and future growth consistent with acknowledged comprehensive plans. Needs are typically defined based on an assessment of existing transportation system gaps and deficiencies and projections of future travel demand, from a continuation of current trends as modified by policy objectives expressed in Statewide Planning Goal 12, the Transportation Planning Rule, federal planning factors and the RTP (Chapter 2 and Chapter 3), and attaining the state’s goals for greenhouse gas emissions reduction, especially those for avoiding principal reliance on any one mode of transportation.

Deficiencies are defined as the difference between the current transportation system and adopted standards based on performance measures and targets identified in Chapter 2. Deficiencies are capacity or design constraints that limit but do not prohibit the ability to travel by a given mode. Gaps are defined as missing links in the transportation system for any mode. Gaps either prohibit travel by a particular mode or make it functionally unsafe. Together, gaps and deficiencies are defined as needs.

- Local transportation needs means needs for movement of people and goods within communities and portions of counties and the need to provide access to local destinations.
- Regional transportation needs means needs for movement of people and goods between and through communities and accessibility to regional destinations within a metropolitan area, county or associated group of counties.
- State transportation needs means needs for movement of people and goods between and through regions of the state and between the state and other states.

*See also gap and deficiency.*

**Transportation performance management (TPM)** – Strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.

**Transportation planning** – A continuing, comprehensive, and cooperative (3-C) process to encourage and promote the development of a multimodal transportation system to ensure safe and efficient movement of people and goods while balancing environmental and community needs.

**Transportation planning rule (TPR)** – Oregon’s statewide planning goals established state policies in 19 different areas. The TPR implements the Land Conservation and Development Commission’s Planning Goal 12 (Transportation) which requires ODOT, MPOs, Counties and Cities, per OAR 660-012-0015 (2) and (3), to prepare a Transportation System Plan (TSP) to identify transportation facilities and services to meet state, regional and local needs, as well as the needs of the transportation disadvantaged and the needs for movement of goods and services to support planned industrial and commercial development, per OAR 660-012-0030(1).

**Transportation project development** – Implementing the transportation system plan (TSP) by determining the precise location, alignment, and preliminary design of improvements included in the TSP based on site-specific engineering and environmental studies.

**Transportation system** – Various transportation modes or facilities (aviation, bicycle and pedestrian, throughway, street, pipeline, transit, rail, water transport, shared-use mobility) serving as a single unit or system.

**Transportation system management (TSM)** – A strategy composed of actions for increasing travel flow on existing facilities through improvements such as ramp metering, traffic signal performance, incident response, traveler information and integrated travel choices such as mobility on demand.

**Transportation system plan (TSP)** – The transportation element of the comprehensive plan for one or more transportation facilities that is planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and between geographic and jurisdictional areas. A TSP describes a transportation system and outlines projects, programs, and policies to meet transportation needs now and in the future based on community (and regional) aspirations. A TSP typically serves as the transportation component of the local comprehensive plan. The TSP supports the development patterns and land uses contained in adopted community and regional plans. The TSP includes a comprehensive analysis and identification of transportation needs associated with adopted land use plans. The TSP complies with Oregon’s Transportation Planning Rule, as described in statewide Planning Goal 12. The RTP is a regional TSP.

Local TSPs must be consistent with the applicable Regional Transportation Plan. Jurisdictions within a metropolitan area must adopt TSPs that reflect regional goals, objectives, and investment strategies specific to the area and demonstrate how local transportation system planning helps meet regional performance targets. A jurisdiction within a metropolitan planning area must make findings that the proposed Regional Transportation Plan amendment or update is consistent with the local TSP and comprehensive plan or adopt amendments that make the Regional Transportation Plan and the local TSP consistent with one another as defined in OAR 660-012-0015. Local governments must amend local transportation system plans to be consistent with an adopted regional transportation system plan within one year of the adoption of an updated Regional Transportation Plan or by a date specified in the adopted regional transportation system plan pursuant to OAR 660-012-0055(6).

**Travel options/choices** – The ability range of travel mode choices available, including motor vehicle, walking, bicycling, riding transit and carpooling. Telecommuting is sometimes considered a travel option because it replaces a commute trip with a trip not taken.

**Travel time** – The measure of time that it takes to reach another place in the region from a given point for a given mode of transportation. Stable travel times are a sign of an efficient transportation system that reliably moves people and goods through the region.

**Travel time reliability** – This term refers to consistency or dependability in travel times, as measured from day to day and/or across different times of day. Variability in travel times means travelers must plan extra time for a trip.

**Trip** – A one-way movement of a person or vehicle between two points. A person who leaves home on one vehicle, transfers to a second vehicle to arrive at a destination, leaves the destination on a third vehicle and has to transfer to yet another vehicle to complete the journey home has made four unlinked passenger trips.

**TripCheck** – An Oregon Department of Transportation website that displays real-time data and crowdsourced data regarding road conditions, weather conditions, camera images, crash alerts, delays due to congestion and construction, and other advisories. Additionally, TripCheck provides travelers with information about travel services such as food, lodging, attractions, public transportation options, scenic byways, weather forecasts, etc. This information is also available through the 511 travel information phone line.

**Truck terminal** – A facility that serves as a primary gateway for commodities entering or leaving the metropolitan area by road.

**Underserved communities** – Populations that have experienced a lack of consideration in the planning and decision making process. It describes marginalized communities in addition to those that are defined in the federal definition of Environmental Justice. These populations are seniors, persons with disabilities, youth, communities of color, low-income communities, and any other population of people whose needs may not have been full met in the planning process.

**Unified Planning Work Program (UPWP)** – This refers to annual statement of work identifying the planning priorities and activities to be carried out within a metropolitan planning area. At a minimum, a UPWP includes a description of the planning work and resulting products, who will perform the work, time frames for completing the work, the cost of the work, and the source(s) of funds.

**United States Department of Transportation (USDOT)** – The federal cabinet-level agency with responsibility for highways, mass transit, aviation and ports; it is headed by the Secretary of Transportation. The DOT includes the Federal Highway Administration and the Federal Transit Administration, among others.

**Universal access** – Universal access is the goal of enabling all citizens to reach every destination served by their public street and pathway system. Universal access is not limited to access by

persons using automobiles. Travel by bicycle, walking, or wheelchair to every destination is accommodated in order to achieve transportation equity, maximize independence, and improve community livability. Wherever possible, facilities are designed to allow safe travel by youth, seniors, and people with disabilities who may have diminished perceptual or ambulatory abilities. By using design to maximize the percentage of the population who can travel independently, it becomes much more affordable for society to provide paratransit services to the remainder with special needs.

**Update** – For federal purposes, this means making current a long-range statewide transportation plan, metropolitan transportation plan, TIP, or STIP through a comprehensive review. Updates require public review and comment, a 20-year horizon for metropolitan transportation plans and long-range statewide transportation plans, a 4-year program period for TIPs and STIPs, demonstration of fiscal constraint (except for long-range statewide transportation plans), and a conformity determination (for metropolitan transportation plans and TIPs in nonattainment and maintenance areas). For state purposes, this means TSP amendments that change the planning horizon and apply broadly to a city or county and typically entails changes that need to be considered in the context of the entire TSP, or a substantial geographic area.

**Urban growth boundary** – The politically defined boundary around an urban area beyond which no urban improvements may occur. In Oregon, UGBs are defined so as to accommodate projected population and employment growth within a 20-year planning horizon. A formal process has been established for periodically reviewing and updating the UGB so that it meets forecasted population and employment growth.

**Urbanized area (UZA)** – A geographic area with a population of 50,000 or more, as designated by the Bureau of the Census.

**Urban reserve** – Lands suitable for accommodating urban development over the 50 years after their designation.

**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 and is often published as a schedule on agency websites and other routing resources.

**Value pricing** – A demand management strategy that involves the application of market pricing (through variable tolls, variable priced lanes, area-wide charges or cordon charges) to the use of roadways at different times of day. Also called congestion pricing or peak period pricing. Also see *pricing*

**Vanpool** – A form of transit in which a group of passengers share the use and cost of a van in traveling to and from pre-arranged destinations together.



**Vehicle** – Any device in, upon or by which any person or property is or may be transported or drawn upon a public highway and includes vehicles that are propelled or powered by any means.

**Vehicle miles traveled (VMT)** – A common measure of roadway use by multiplying miles traveled per vehicle by the total number of vehicles for a specified time period. For purposes of this definition, "vehicles" include automobiles, light trucks and other passenger vehicles used for the movement of people. The definition does not include buses, heavy trucks and other vehicles that involve commercial movement of goods.

**VMT Fee** – *See Road Usage Charge.*

**Vision** – In this document, an aspirational statement of what the region (and plan) is trying to achieve over the long-term through policy and investment decisions.

**Vision Zero** – A system and approach to public policy developed by the Swedish government which stresses safe interaction between road, vehicle and users. Highlighted elements include a moral imperative to preserve life, and that the system conditions and vehicle be adapted to match the capabilities of the people that use them. Vision Zero employs the Safe System approach.

**Visualization techniques** – Methods used by States and MPOs in the development of transportation plans and programs with the public, elected and appointed officials, and other stakeholders in a clear and easily accessible format such as GIS- or web-based surveys, inventories, maps, pictures, and/or displays identifying features such as roadway rights of way, transit, intermodal, and non-motorized transportation facilities, historic and cultural resources, natural resources, and environmentally sensitive areas, to promote improved understanding of existing or proposed transportation plans and programs.

**Volume-to-capacity (v/c) ratio** – A traditional measure of congestion, calculated by dividing the number of motor vehicles passing through a section of roadway during a specific increment of time by the motor vehicle capacity of the section. For example, a V/C ratio of 1.00 indicates the roadway facility is operating at its capacity. *See also regional mobility policy.*

**Vulnerable users** – In this document, refers to groups of people that are more vulnerable to being killed or severely injured in traffic crashes. Vulnerable users are people that are more vulnerable to being killed or seriously injured in crashes. Vulnerable users are pedestrians, bicyclists, motorcycle operators, children, older adults, road construction workers, people with disabilities, people of color and people with low income.

**Walkable neighborhood** – A place where people live within walking distance to most places they want to visit, whether it is school, work, a grocery store, a park, church, etc.

**Walk score** – An online tool that produces a number between 0 and 100 that measures the walkability of any address. Similar tools for transit and bicycling - Transit Score and Bike Score.

**Walkway** – A hard-surfaced transportation facility designed and suitable for use by pedestrians, including persons using wheelchairs and other mobility devices. Walkways include sidewalks, hard-surfaced portions of accessways, regional trails, paths and paved shoulders.

**Wayfinding** – Signs, maps, street markings, and other graphic, tactile, haptic or audible methods used to convey location and directions to travelers. Wayfinding helps people traveling to orient themselves and reach destinations easily.

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If you picnic at Blue Lake or take your kids to the Oregon Zoo, enjoy symphonies at the Schnitz or auto shows at the convention center, put out your trash or drive your car – we’ve already crossed paths.

**So, hello. We’re Metro – nice to meet you.**

In a metropolitan area as big as Portland, we can do a lot of things better together. Join us to help the region prepare for a happy, healthy future.

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