2023 Regional Transportation Plan

Chapter 6

Regional Programs and Projects to Achieve Our Vision

2023 Regional Transportation Plan

July 10, 2023 Public Review Draft

Metro

TABLE OF CONTENTS

FIGURES

TABLES

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 our current funding scenario we don't have the resources to invest at the levels needed to address all of 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 Regional Transportation Plan (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
- Climate change and air quality

- Congestion and reliability
- 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 Constrained RTP Projects and Programs: This section describes the 2023-2045 Constrained RTP project list, which are the projects and programs that fit within the constrained budget of federal, state and local funds the greater Portland region can reasonably expect through 2045 under current funding trends. These projects are referred to as the Constrained RTP list throughout this chapter, and are categorized as near-term priorities (2023-2030) and long-term priorities (2031-2045).

6.4 Strategic RTP Projects and Programs: This section describes the Strategic list of projects and programs, which are additional priority projects the region would pursue 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 2031-2045 time period.

6.2 WHAT ARE THE REGION'S INVESTMENT PRIORITIES?

The Regional Transportation Plan (RTP) implements the 2040 Growth Concept through an approach that views the transportation system as an integrated and interconnected system that supports planned land uses, shifting the emphasis from simply moving vehicles to moving people, goods and services, providing access to jobs and other destinations, and helping to create and connect places and people.

During the update of the RTP, regional investment priorities were identified to address the challenges listed in the previous section. 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 Maintaining the system we have

The RTP is an important to tool to help maintain a state of good repair for the existing transportation system. The RTP recognizes the importance of system maintenance we before building new roadways. 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 providing for security and routes for efficient emergency services are growing concerns across the region.

6.2.2 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
- 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.

6.2.3 Enhancing Mobility Options

The 2023 Regional Transportation Plan 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 2023 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

Data continues to show that our current transportation unequally distributes disparities on Black, Indigenous and people of color and people with low incomes. 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.

6.2.6 Supporting a Thriving Economy

In addition to ensuring residents of this region have safe, reliable, and affordable transportation options, the Regional Transportation Plan also works 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 Implementing Climate Action and System Resilience

The 2023 Regional Transportation Plan is a key tool for implementing the region's adopted Climate Smart Strategy. The Regional Transportation plan aims to 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 Investment Strategy

Examples of the types of investments identified to address regional transportation challenges

Projects

Bridge and road maintenance

Bridge and road pavement resurfacing, preventive maintenance, preservation and rehabilitation

Bus and rail vehicle maintenance and replacement

Preventive maintenance for fleet and facilities, transit vehicle replacement, etc. to keep system in good repair

Complete streets for all users

Modernize street and intersection designs to reduce conflicts and better serve all modes and users

Freight access to industry and ports

Road and railroad crossing upgrades, port and intermodal terminal access improvements, rail yard and rail track upgrades

Throughway expansion

Interchange fixes, strategic widening, auxiliary lane additions in areas of consistent bottlenecks

Main street retrofits

Retrofit streetscapes in areas with shopping, restaurants and local services to include street trees, improved lighting, street furniture, such as benches, garbage bins, wider sidewalks, bike parking, etc.

Seismic upgrades

Retrofit roads and bridges to increase resiliency to earthquakes, particularly major river crossings

Street connections and expansion

New arterial and collector street connections, strategic widening, highway overcrossings, etc.

Transit service enhancement and expansion

Increased bus service coverage, speed and frequency, MAX and streetcar extensions, expanded WES commuter rail service, employee and community shuttles, separate travel lanes for buses, etc.

Walking and biking connections

Protected and/or separated bike lanes, sidewalks, crosswalks and curb ramps on major streets, off-street trails, etc.

Programs

Affordable transit pass program

Provide affordable transit passes to students, seniors and low-income riders

Programs and incentives to reduce vehicle trips

Regional travel options programs, paid and timed parking in centers, encourage walking, biking, use of transit, carpooling, carsharing, ridesharing, telecommuting, etc.

Smart technology and traffic management

Traffic signal and transit priority coordination, vehicle charging stations, clearing crashes quickly, etc.

Transit amenities

Bus shelters and benches, passenger boarding areas, transit stop and station access, lighting at stops, etc.

Transit oriented development

Policy and market incentives to encourage building higher-density, mixed-use projects in centers and along corridors served by high capacity and frequent transit

Transportation safety and education programs

Improved and expanded Safe Routes to Schools programs, speed enforcement, Safe Routes to Transit programs, etc.

Transportation services for older adults and people with disabilities

On-call paratransit services, door-to-door pick up, etc.

Other tools that could be supported by policies

Emerging market-based technologies

Freight movement technology, self-driving vehicles, shared mobility services (e.g., Uber and Lyft), etc.

High occupancy vehicle/tolled lanes, express lanes/congestion pricing

High occupancy vehicle (HOV) lanes, high occupancy tolled (HOT) lanes, tolling, managed lanes, congestion pricing

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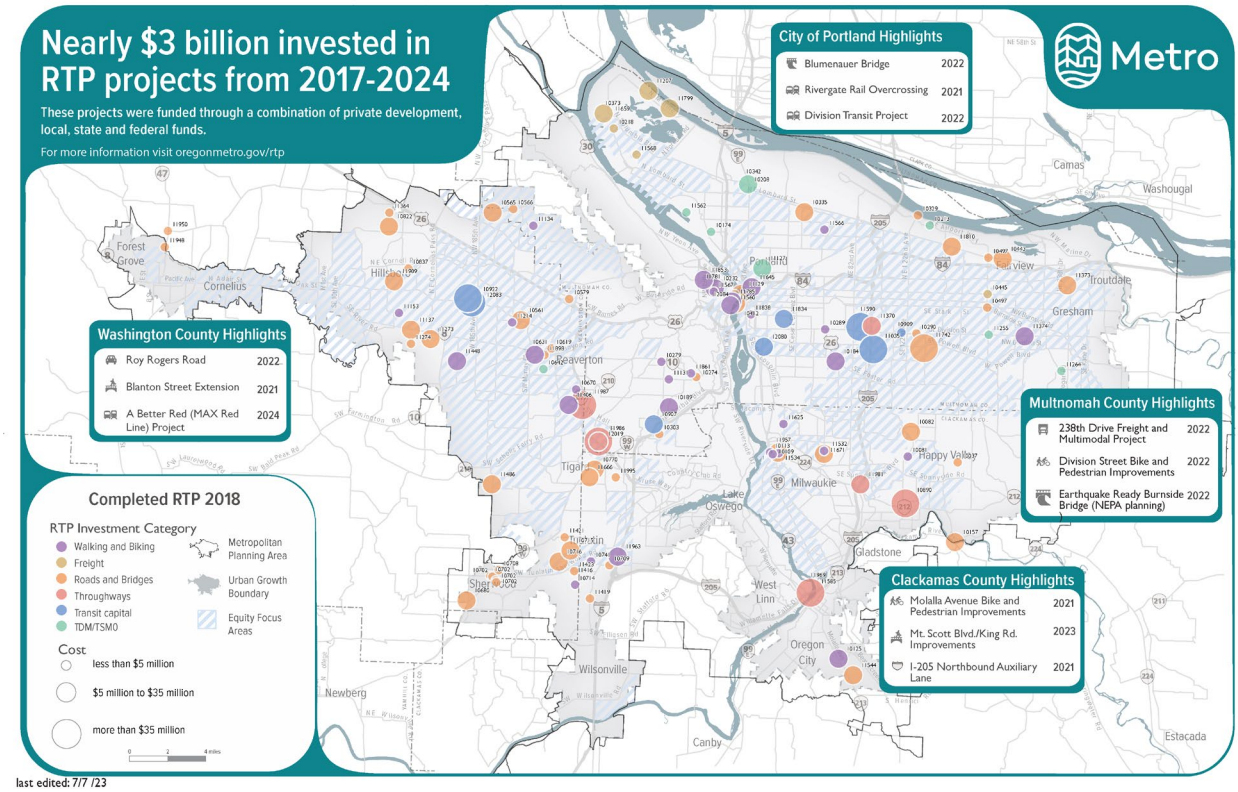
6.3 RTP PROJECTS AND PROGRAMS

The policy sections in Chapter 2 and Chapter 3 of the RTP set the vision, goals, objectives, performance targets and policies for the greater Portland region's system of throughways, arterials, bridges, bikeways, sidewalks, and transit and freight routes.

The project lists, 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. Projects in the 2023-2030 and 2031-2045 Constrained RTP investment strategies are eligible for federal or state transportation funding and must be part of the planned regional transportation system.

Figure 6.2 RTP Projects Investments, 2017-2024



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.

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 with limited English proficiency. This input shaped the updated vision and goals identified in **Chapter 2** to serve as the foundation for updating and evaluating the plan's project priorities. The needs and priorities are described in **Chapter 4.**

Metro staff also worked in cooperation with staff from cities, counties an 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 draft forecast provides an estimate of how much funding can be reasonably expected to be available during the life of the plan (2023-2045) both for capital projects and for maintaining and operating the existing transportation system. As a result, the revenue forecast serves as a budget for the updated financially constrained RTP project list. This means the total cost of the updated financially constrained RTP project list must not exceed the revenues forecasted to be available through 2045.

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, shown in Table 6.1.

Table 6.1 2023 RTP Project Lists

Near-term Constrained	The 2030 Constrained Project List identifies the highest priority projects and programs that the greater Portland region can reasonably expect to fund in the near-term – (2023-2030).
Long-term Constrained	The 2045 Constrained Project List includes all of the 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).
Long-term Strategic	The 2045 Strategic Project List includes additional priority investments (not constrained to the budget based on current funding trends) that could be built with additional resources. These projects are not anticipated to be completed unless new, as of yet identified funding becomes available. For analysis purposes, these projects are assumed to be implemented in the 2031 to 2045 time period.

Considering the RTP policy framework and working within financially constrained budget and funding targets, 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.

These projects were submitted to Metro by jurisdictional partners in February 2023 to build the draft project lists for technical evaluation and public review in Spring 2023. Metro also consulted with the Confederated Tribes of the Grand Ronde. The consultation process resulted in the Tribe nominating a complete streets project to the draft constrained project list.

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 the project list assessment and system-level evaluation findings described **in Chapter 7**, and public feedback on the draft project list.

Common themes heard during the Spring 2023 engagement[1] and throughout the process included:

- Safety is the top priority.
- Climate and equitable transportation are also important outcomes to focus on in the near-term.
- Investments in biking and walking, transit and roads and bridges are top priorities.
- Maintenance is a top community priority.

Considering analysis findings described in Chapter 7 and subsequent public and stakeholder 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 opportunities identified by Metro staff to inform refinement of the Constrained RTP project lists to accelerate projects that improve safety, reduce climate emissions – particularly in equity focus areas and on the regional high injury corridors.

[1] Summary reports of all engagement activities are available on the project website at: https://www.oregonmetro.gov/public-projects/2023-regional-transportation-plan/engagement.

Table 6.2 Opportunities for jurisdictional partners to further advance RTP goals in the near-term

1	Update descriptions to specify project features that will advance RTP goals, particularly the safety, climate and equity goals.
2	Re-prioritize or shift project timing to accelerate projects to the near-term list that: • invest in safety on and around transit • ensure all projects in high injury corridors address safety to reduce the likelihood and severity of crashes for all travelers • complete regional network gaps, particularly biking, walking and transit networks • fill gaps for biking and walking in high injury corridors or that provide connections to transit, schools, jobs and 2040 centers • invest in Equity Focus Areas
3	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.
4	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.

In Spring 2023, Metro staff presented these opportunities for consideration by cities, counties and transportation agencies. A small number of project list updates were submitted in May 2023 that are reflected in the plan. Additional refinements may be identified by partners as part of finalizing the plan for consideration by JPACT and the Metro Council in Fall 2023, as they consider public feedback in Spring 2023 and during the public comment period.

6.3.2 RTP Constrained projects and programs

This section describes the RTP Constrained list of projects and programs – the list of priority investments that the region can reasonably assume it will complete based on funding assumptions described in Chapter 5. **Figure 6.3** shows the general location of projects on the RTP Constrained list of projects region-wide. For an interactive map of the projects visit **www.oregonmetro.gov/rtp.**

Figure 6.3 Greater Portland region: Map of Constrained RTP Projects

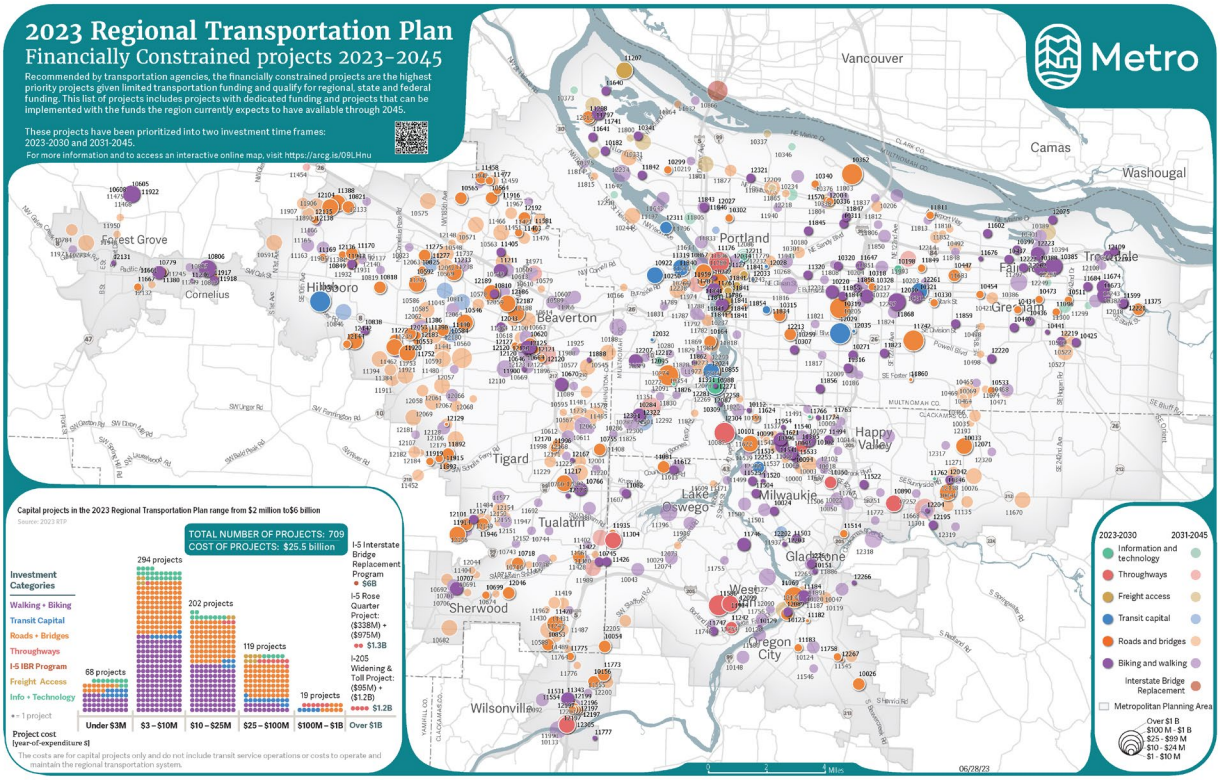


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Table 6.3 shows the breakdown of RTP projects in the constrained lists by investment category, and provides a quick reference for comparing the relative cost of the near-term and long-term Constrained investment strategies. The 2023-2045 Constrained costs shown in Table 6.3 include the 2023-2030 Constrained RTP project costs plus estimated costs for additional projects that could be implemented from 2031 to 2045 based on the funding assumptions described in Chapter 5.

Table 6.3 Estimated costs for Constrained RTP Investment Strategy

RTP Capital Costs	Near-term Constrained 2023-2030	Long-term Constrained 2031-2045	Total Constrained 2023-2045
I-5 Interstate Bridge Replacement (IBR) Program	--	$6.0 billion	$6.0 billion
Transit capital	$1.0 billion	$1.6 billion	$2.7 billion
Throughways capital (includes tolling)	$3.2 billion	$2.1 billion	$5.3 billion
Roads and bridges capital	$3.1 billion	$4.4 billion	$7.5 billion
Freight access	$74 million	$307million	$381 million
Walking and biking	$955 million	$2.1 billion	$3.1 billion
Information and technology	$165 million	$408 million	$573 million
RTP Operations and Maintenance Costs*	**Near-term 2023-2030**	**Long-term 2031-2045**	**Total 2023-2045**
Transit operations and maintenance	$5.8 billion	$16.7 billion	$22.6 billion
Transit maintenance	$1.3 billion	$3.7 billion	$5.0 billion
Roads and throughways operations and maintenance	$4.0 billion	$11.5 billion	$15.4 billion
Total estimated costs (in year-of-expenditure dollars)	**$19.53 billion**	**$48.92 billion**	**$68.45 billion**

Source: Draft 2023 RTP Financially Constrained Project List. Costs are in year-of-expenditure dollars and have been rounded.

**Operations and maintenance costs are pending further review and subject to refinement.*

Projects and programs identified in the 2031-2045 Strategic list are not described in this section because funding has not been identified. Refer to **Section 6.4** for costs by project type associated with the strategic list. The 2045 Strategic list of projects can be viewed in **Appendix B.**

Why the Constrained project list matters

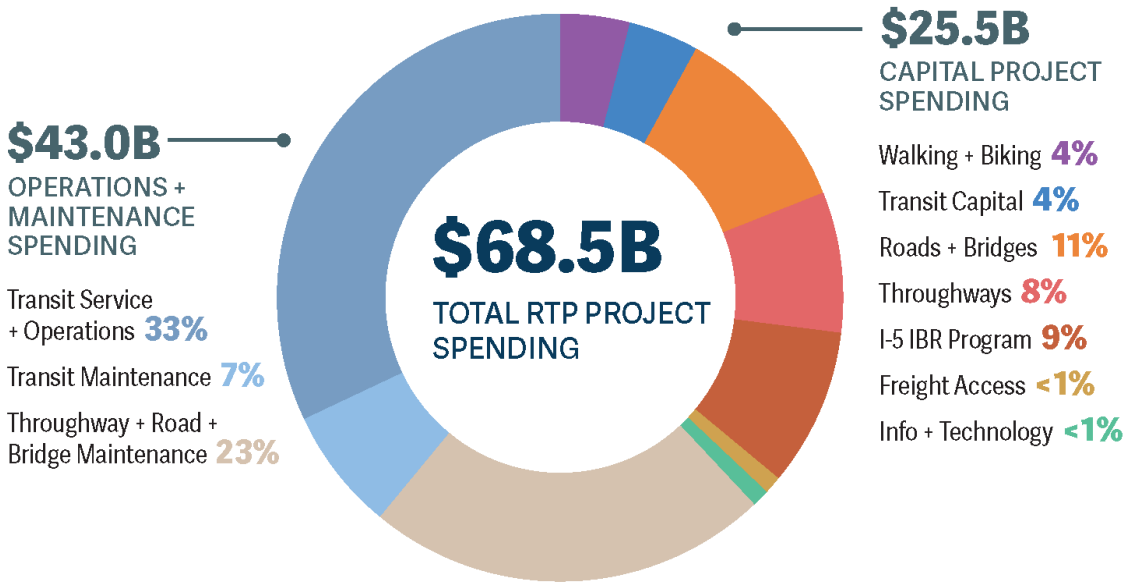
In order to be eligible for federal or state transportation funding, a project must be included on the "Constrained" list and must be part of the planned regional transportation system.

The region's operations and maintenance commitments are significant and consume most federal, state, and local revenues identified for the greater Portland region through 2045

estimated $43 billion. The RTP Constrained list of capital projects represents another $25.5 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 operations and maintenance of the transportation system by investment category for the period 2023-2045.

Figure 6.4 Total estimated investment by 2045 (YOE$)



Source: 2023 RTP Financially Constrained Project List. Costs are in year-of-expenditure dollars and have been rounded. Operations and maintenance costs are pending further review and subject to refinement.

Notes for Figure 6.4

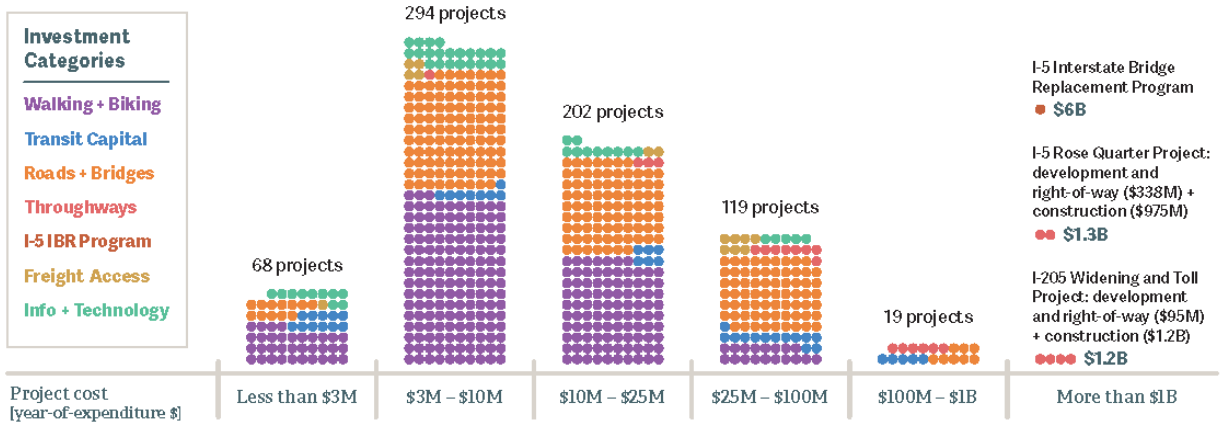
1. Year of Expenditure $ represent current year costs inflated to a projected cost for the year of expenditure.
2. Totals and percentages may not add up due to rounding.
3. Road and bridge projects include street reconstructions, new street connections and widening, and throughway overcrossings with 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.

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 and for each of the three counties. A map of the location of all RTP constrained capital projects is also provided for the region, the City of Portland and each county.

Greater Portland region

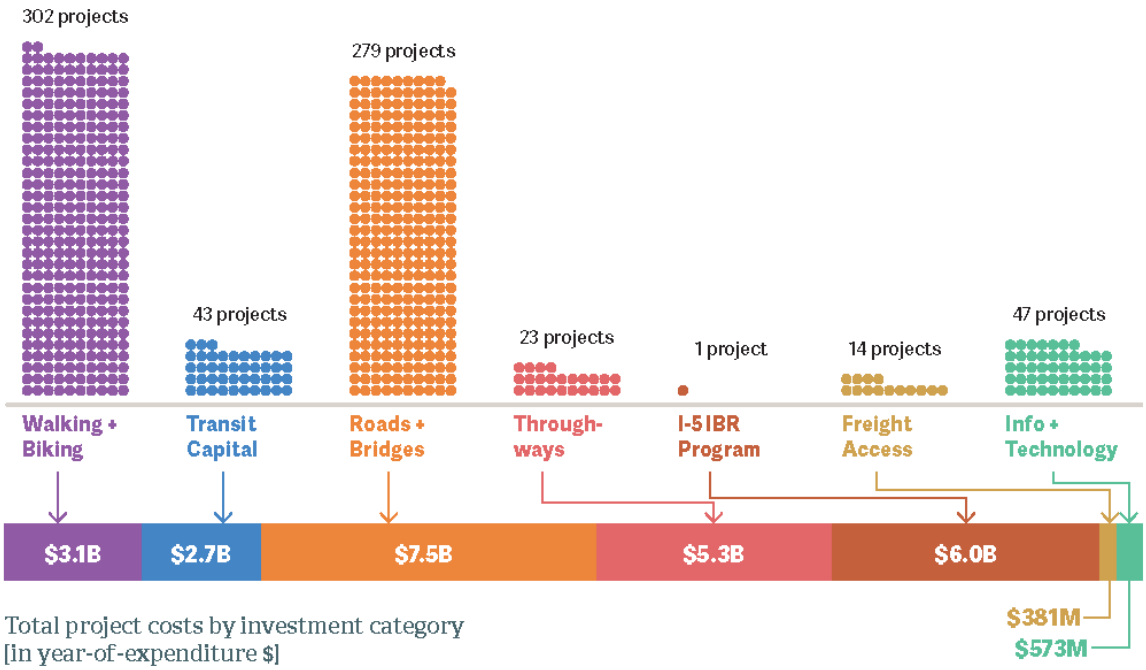
Figures 6.5 and Figure 6.6 show RTP investments broken down by investment category. Roads, bridges, and walking and biking connections comprise most projects in the Constrained RTP project list, though the cost of projects vary greatly**.**

Figure 6.5 Greater Portland region: Cost range of Constrained RTP projects by investment category



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 Constrained RTP projects by investment category

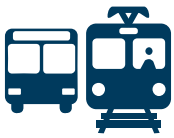


Source: 2023 RTP Financially Constrained Project List. Costs are in year of expenditure dollars and have been rounded to the nearest hundred million. Road and transit operations and maintenance costs are not included in the information presented here.

Road and bridge projects often include "complete street" reconstructions, arterial street connectivity and widening, and highway overcrossings provide mobility and access for all modes of travel. 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. 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.

Table 6.4 identifies the major throughway and transit projects in the RTP.

Table 6.4 Summary of major planned throughway and transit investments

	2030 Constrained	2045 Constrained *(2030 Constrained, plus)*	2045 Strategic *(2045 Constrained, plus)*
Throughway 	• I-5 IBR, pre-construction tolling *(10866)* • I-5/Rose Quarter Improvement Project *(10867, 11176)* • I-205/Abernethy Bridge *(11969, under construction)* • I-205 widening and I-205 Toll Project *(11586, 11904, 12099)* • I-5 and I-205: Regional Mobility Pricing Project *(12304)* • OR 212/224 Sunrise Project Ph. 2 (PE, RW) *(10890)* • OR 224 WB widening *(11350)* • I-5 Boone Bridge and Seismic Improvement Project (PE, RW) *(12305)*	• I-5/Interstate Bridge Replacement Program *(10866)* • OR 212/224 Sunrise Project Ph. 2 (CON) *(11301)* • I-5 Boone Bridge and Seismic Improvement Project (CON) *(11990)* • I-5 NB braided ramps *(11989)* • I-5 NB auxiliary lane extension Ph. 2 *(11402)* • I-5 SB truck climbing lane *(11984)* • OR 217 SB braided ramps *(11988)* • US 26/185th Avenue on-ramp widening *(12148)*	• Sunrise Project Ph. 3 *(12020)* • I-5 NB auxiliary lane extension Ph. 3 *(11583)* • I-5/OR 217 Interchange Ph. 2 *(11302)* • OR 217 capacity improvements *(11582)* • OR 217 NB auxiliary lane extension *(11976)* • US 26 widening *(11393)*
High Capacity Transit 	• MAX Red Line Improvements *(10922, under construction)* • Southwest Corridor (PD) *(12322, 12301)* • 82nd Avenue Transit Project *(12029)* • Tualatin Valley Highway Transit Project *11589)* • Montgomery Park Streetcar *(11319)*	• I-5/Interstate Bridge Replacement Program *(10866)* • Southwest Corridor (PD, PE, RW) *(12292, 12300)* • Steel Bridge Transit Bottleneck (PD) *(12050)*	• Southwest Corridor (CON) *(11587)* • Steel Bridge Transit Bottleneck (CON) *(10921)* • Beaverton-Hillsdale Highway Corridor HCT *(12290)* • Burnside/Stark Corridor HCT *(12286)* • Lombard/Cesar Chavez Corridor HCT *(12288)* • Martin Luther King Jr. Corridor HCT *(12287)* • SW 185th Corridor HCT *(12289)* • Sunset Highway Corridor HCT *(11912)* • Forest Grove HCT *(10771)* • AmberGlen/N. Hillsboro Streetcar (*11278, 11573)* • Johns Landing Streetcar *(11639)* • WES expansion to Salem *(11751)*

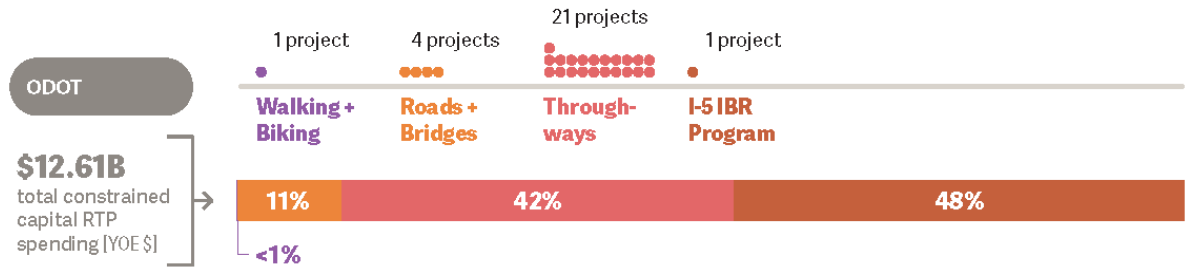
	2030 Constrained	2045 Constrained *(2030 Constrained, plus)*	2045 Strategic *(2045 Constrained, plus)*
Better Bus 	• East Burnside/SE Stark Enhanced Transit Project *(12030)* • Lombard/Cesar Chavez Enhanced Transit Project *(12034)* • NE MLK Jr Blvd Enhanced Transit Project *(12027)* • NE Sandy Blvd Enhanced Transit Project *(12028)* • SE Belmont Enhanced Transit Project *(12033)* • SE Hawthorne/Foster Ave Enhanced Transit Project *(11834)* • Portland Central City Portals Enhanced Transit *(11761)* • SE Powell Blvd Enhanced Transit Project *(12035)* • SW Beaverton-Hillsdale Hwy Enhanced Transit Project *(12032)* • 122nd Avenue Corridor Transit Improvements *(11868)* • Additional transit supportive projects region-wide *(including 10779 and 11440)*	• Cornell/Barnes/ Line 48 Enhanced Transit Project *(12063)* • 185th and Farmington/Line 52 Enhanced Transit Project *(12064)* • Inner North Portland (Vancouver/Williams/ Mississippi/Albina) Enhanced Transit Project *(11833)* • ETC/Rose Lanes Transit Improvement Fund *(12232)* • Additional transit supportive projects region-wide *(including 11441, 10805 and 10846)*	• 99W Enhanced Transit Project *(12176)* • Additional transit supportive projects region-wide

Note: Projects shown in blue text have completed NEPA work (or NEPA work is underway). *RTP IDs are shown in italics.* See Chapter 8 (Section 8.3) for a summary of completed and current major project development activities in the region.

ODOT Projects

Figure 6.7 shows the cost of RTP investments submitted by ODOT broken down by investment category. The I-5 IBR Program comprises nearly half of ODOT's $12.61 billion constrained project list with less than 1% being allocated towards walking and biking. 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 Constrained RTP capital projects by investment category

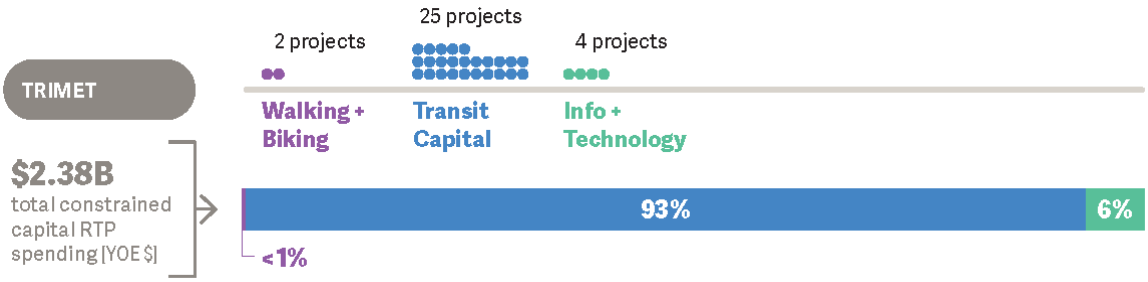


Source: 2023 RTP Financially Constrained Project List. Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by ODOT. Road, bridge and throughway operations and maintenance costs are not included.

TriMet Projects

Figure 6.8 shows the cost of RTP transit capital investments submitted by the TriMet broken down by investment category. TriMet transit capital projects comprise the majority of TriMet's capital project costs in the Constrained RTP project list. See Section 6.3.13 for more information on region-wide transit operations and maintenance costs.

Figure 6.8 TriMet: Cost and number of Constrained RTP capital projects by investment category

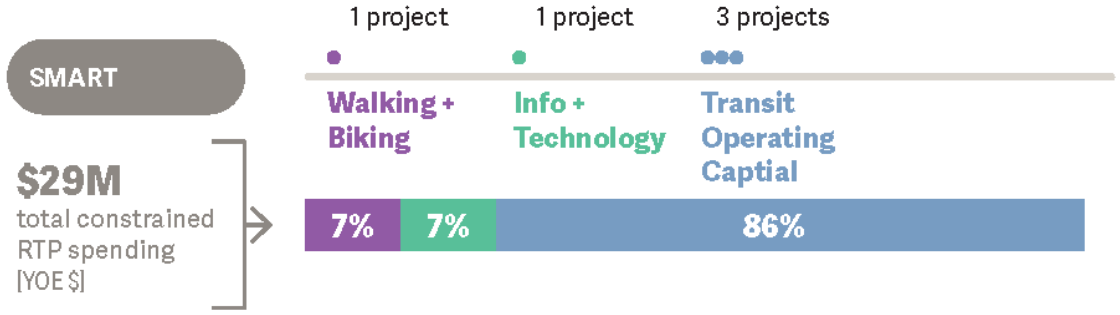


Source: 2023 RTP Financially Constrained Project List. Costs are in year-of-expenditure dollars and have been rounded. Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by TriMet. Transit capital projects submitted by cities and counties and transit operations and maintenance costs are not included.

SMART 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 Constrained RTP project list. See Section 6..X.XX for more information on region-wide transit operations and maintenance costs.

Figure 6.9 SMART: Cost and number of Constrained RTP capital projects by investment category

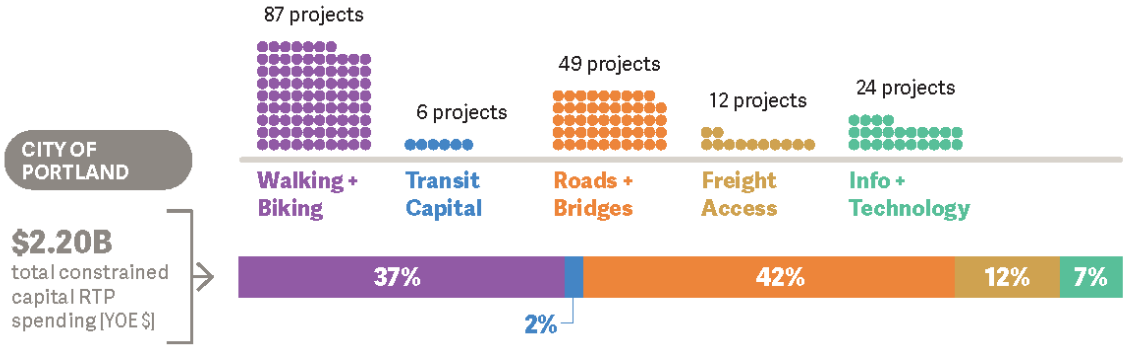


Source: 2023 RTP Financially Constrained Project List. Costs are in year-of-expenditure dollars and have been rounded. Costs are in year-of-expenditure dollars and have been rounded. The information includes capital projects submitted by SMART. Transit operations and maintenance costs are not included.

City of Portland and Port of Portland Projects

Figures 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.

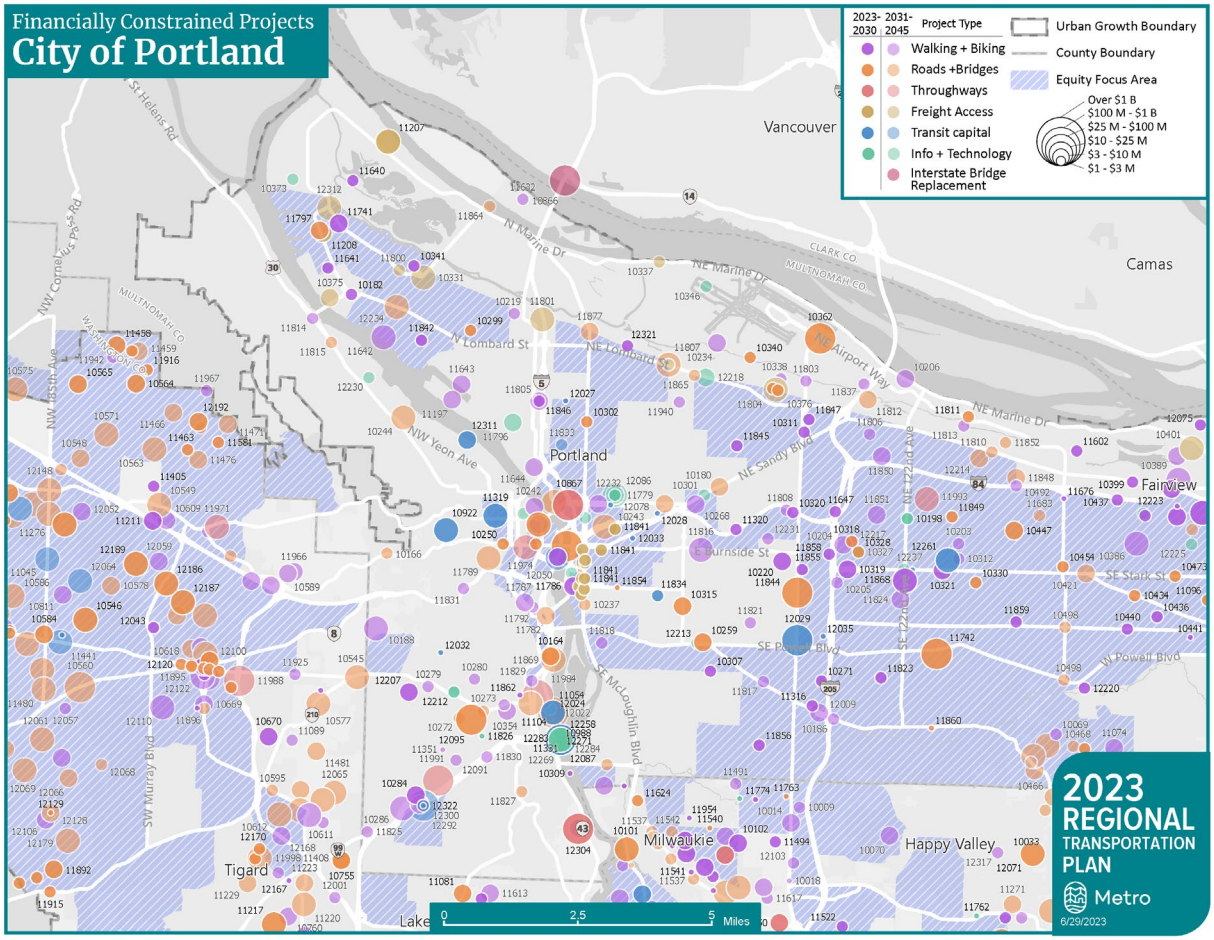
Figure 6.10 City of Portland and Port of Portland: Cost of Constrained RTP capital projects by investment category



Source: 2023 RTP Financially Constrained Project List. 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 6.11 includes all projects that fall within City of Portland boundary, including projects submitted by other jurisdictions and agencies.

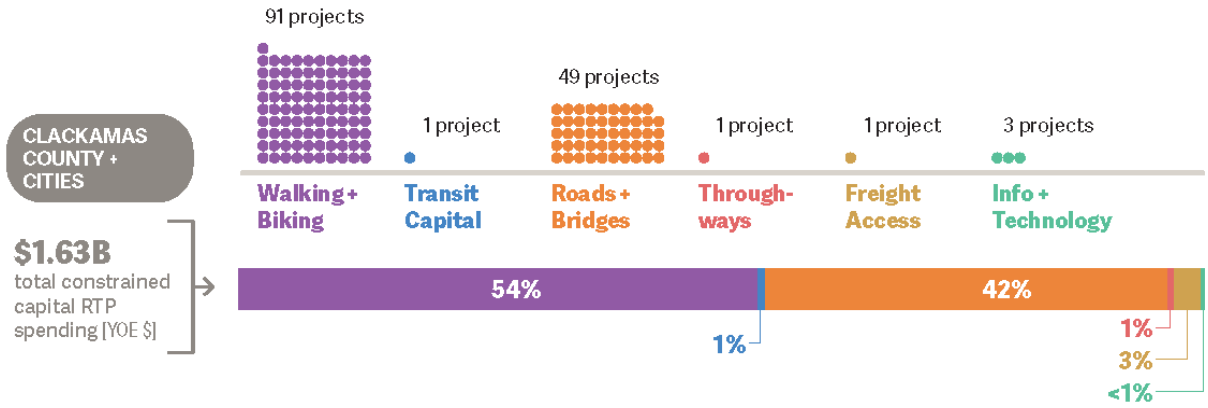
Figure 6.11 Map of all Constrained RTP capital projects within the City of Portland



Urban Clackamas County and Cities of Clackamas County Projects

Figures 6.12 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.

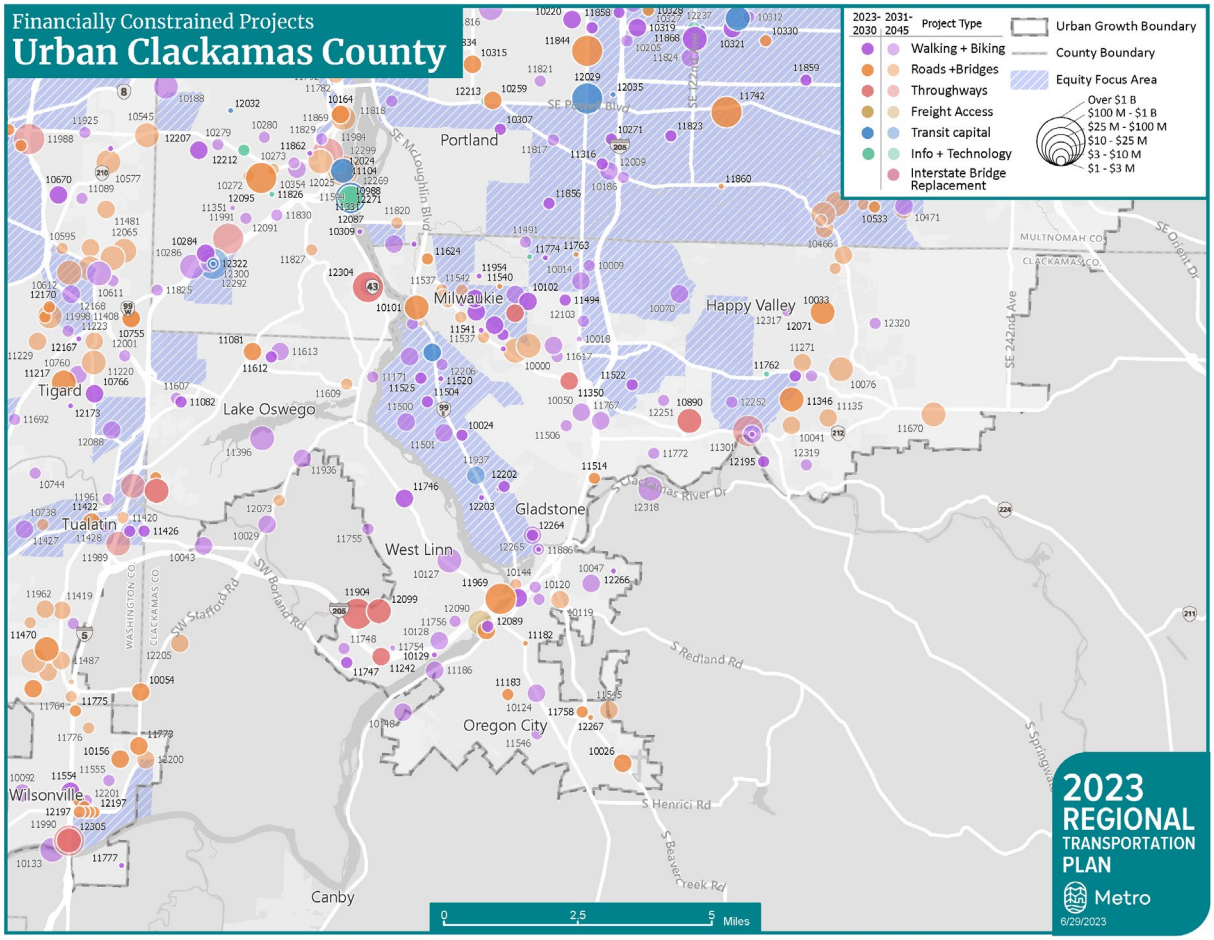
Figure 6.12 Clackamas County and Cities: Cost of Constrained RTP capital projects by investment category



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 6.13 shows the general location of all Constrained RTP projects located in Clackamas County. The map includes all capital projects submitted, including projects submitted by other jurisdictions and agencies.

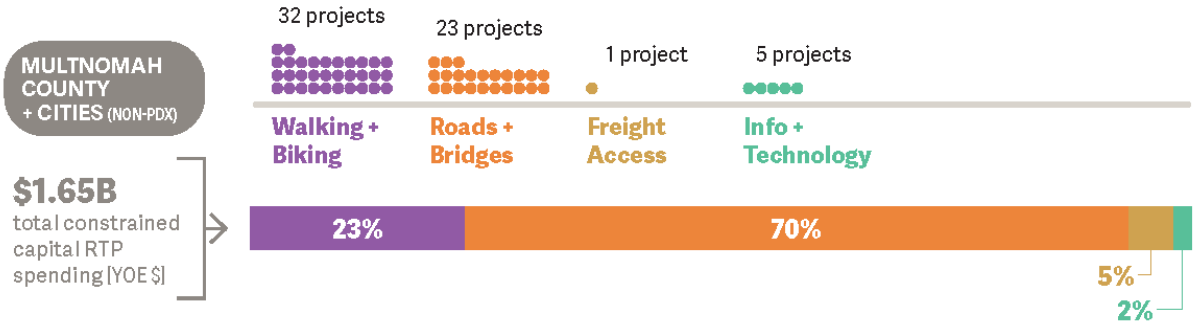
Figure 6.13 Map of Constrained RTP Capital Projects in Urban Clackamas County



Multnomah County and Cities in East Multnomah County Projects

Figures 6.14 shows the cost and number of RTP investments submitted by Multnomah County and its cities (except Portland) broken down by investment category. Roads and bridges projects comprise a majority of costs and number of projects due in large part to the County's six Willamette River bridges.

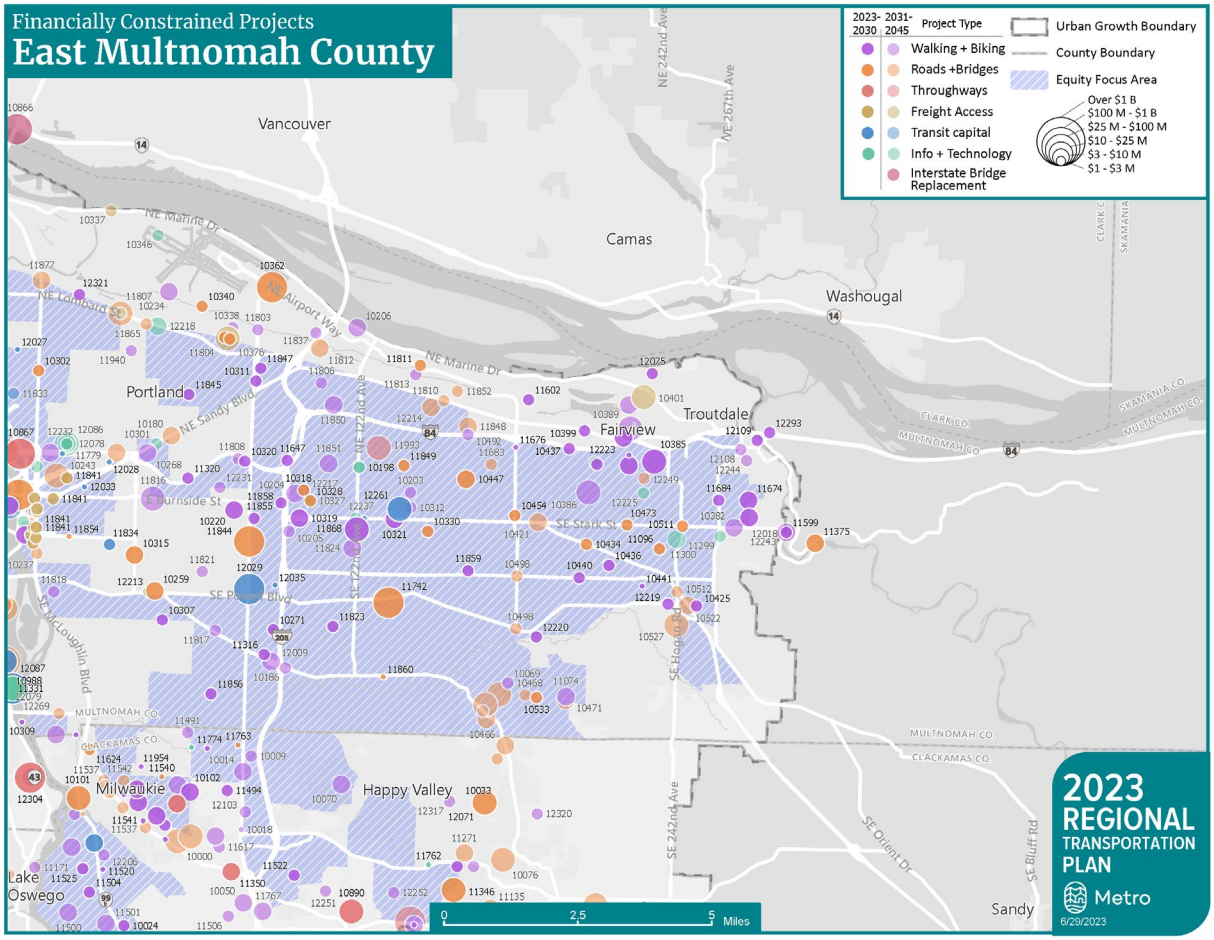
Figure 6.14 East Multnomah County and Cities: Cost of Constrained RTP capital projects by investment category



Source: 2023 RTP Financially Constrained Project List. 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 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 6.15 shows the general location of all Constrained RTP projects located in Multnomah County. The map includes all capital projects submitted, including projects submitted by other jurisdictions and agencies.

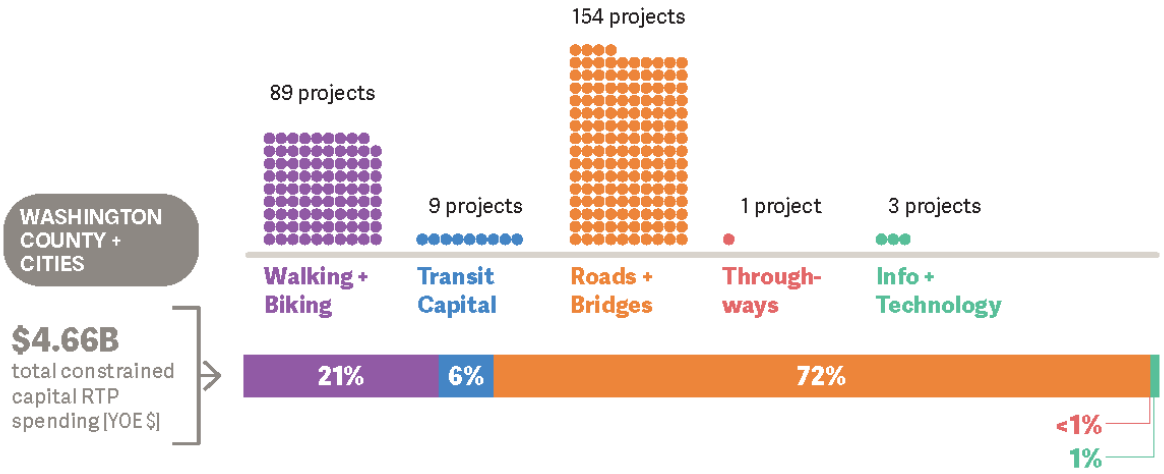
Figure 6.15 East Multnomah County: Map of all Constrained RTP projects



Urban Washington County and Cities in Washington County Projects

Figures 6.16 shows the cost and number of RTP investments submitted by Washington 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.

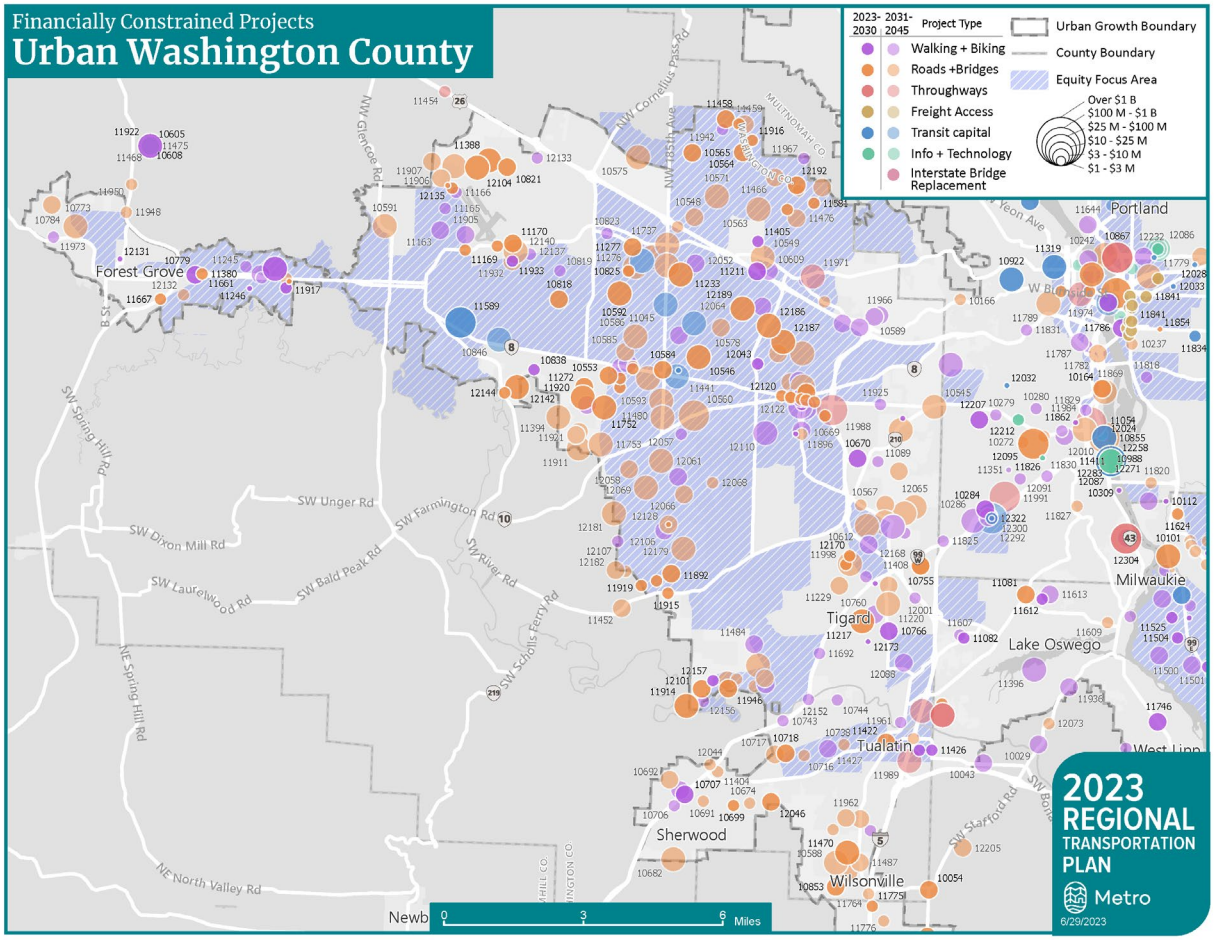
Figure 6.16 Urban Washington County and Cities: Cost of Constrained RTP capital projects by investment category



Source: 2023 RTP Financially Constrained Project List. 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 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 6.17 shows the general location of all Constrained RTP projects located in Washington County. The map includes all capital projects submitted, including projects submitted by other jurisdictions and agencies.

Figure 6.17 Urban Washington County: Map of all Constrained RTP projects



6.3.3 Transit capital projects and planned service

Transit investments make up about 40 percent of the total cost of the Constrained RTP project list. As shown in **Table 6.5**, transit capital projects in the 2045 Constrained project list include several enhanced transit corridors and high-capacity transit projects. See **Table 6.5** for a listing of major transit capital projects in the RTP.

Table 6.5 Summary of Constrained RTP transit capital projects and planned service

Transit Capital Projects	Near-term Constrained (2023-2030)	Long-term Constrained (2031-2045)
Number of transit capital projects	25	18
Number of transit capital projects on a high injury corridor	16	9
Daily revenue hours (TriMet and SMART only; excludes C-TRAN)	7,996	9,531
Service Expansion	38% increase from 2020	60% increase from 2020
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 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

Transit Capital Projects	Near-term Constrained (2023-2030)	Long-term Constrained (2031-2045)
Estimated capital cost in YOE dollars	**$1.0 billion**	**$1.6 billion**

Figure 6.18 shows the general location of Constrained RTP transit capital projects and planned service.

Figure 6.18 Greater Portland region: Map of 2030 Constrained RTP transit capital projects and planned service

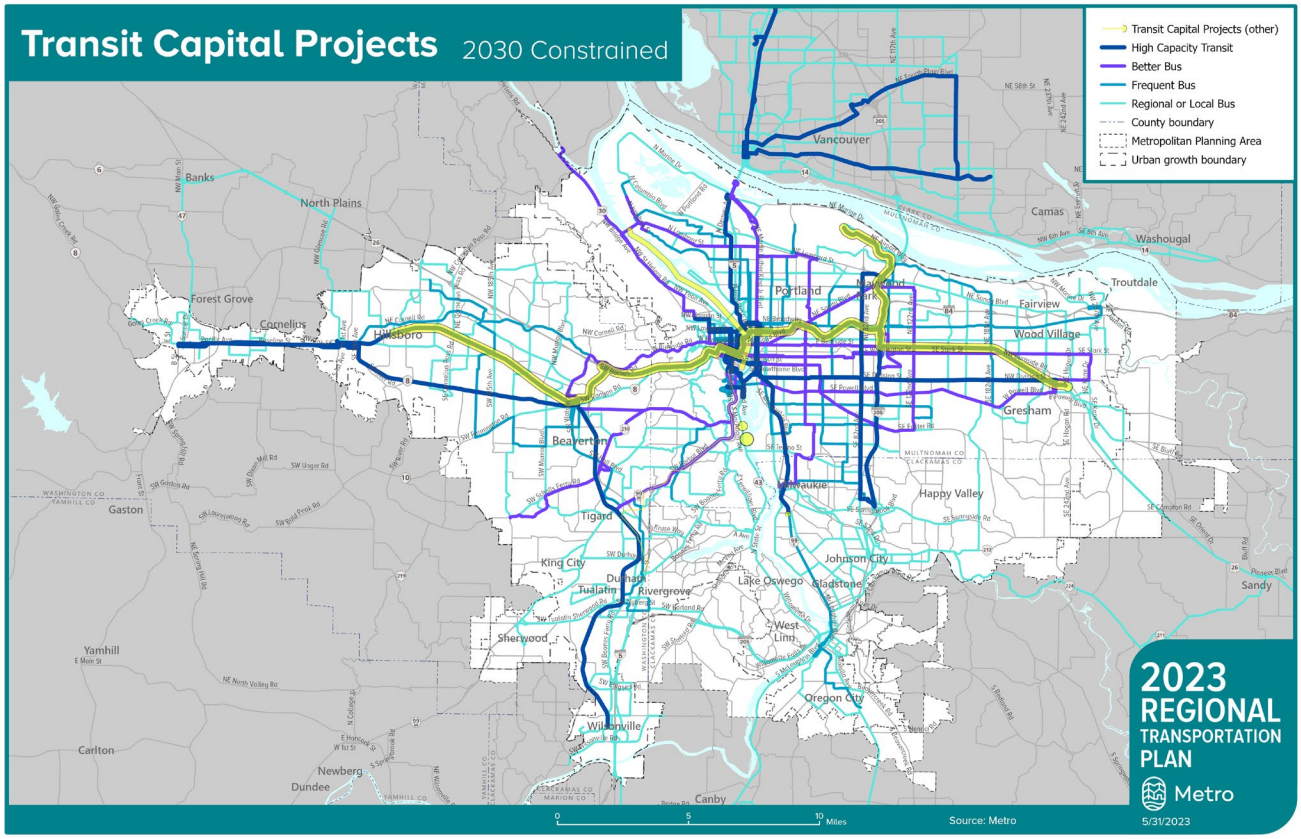
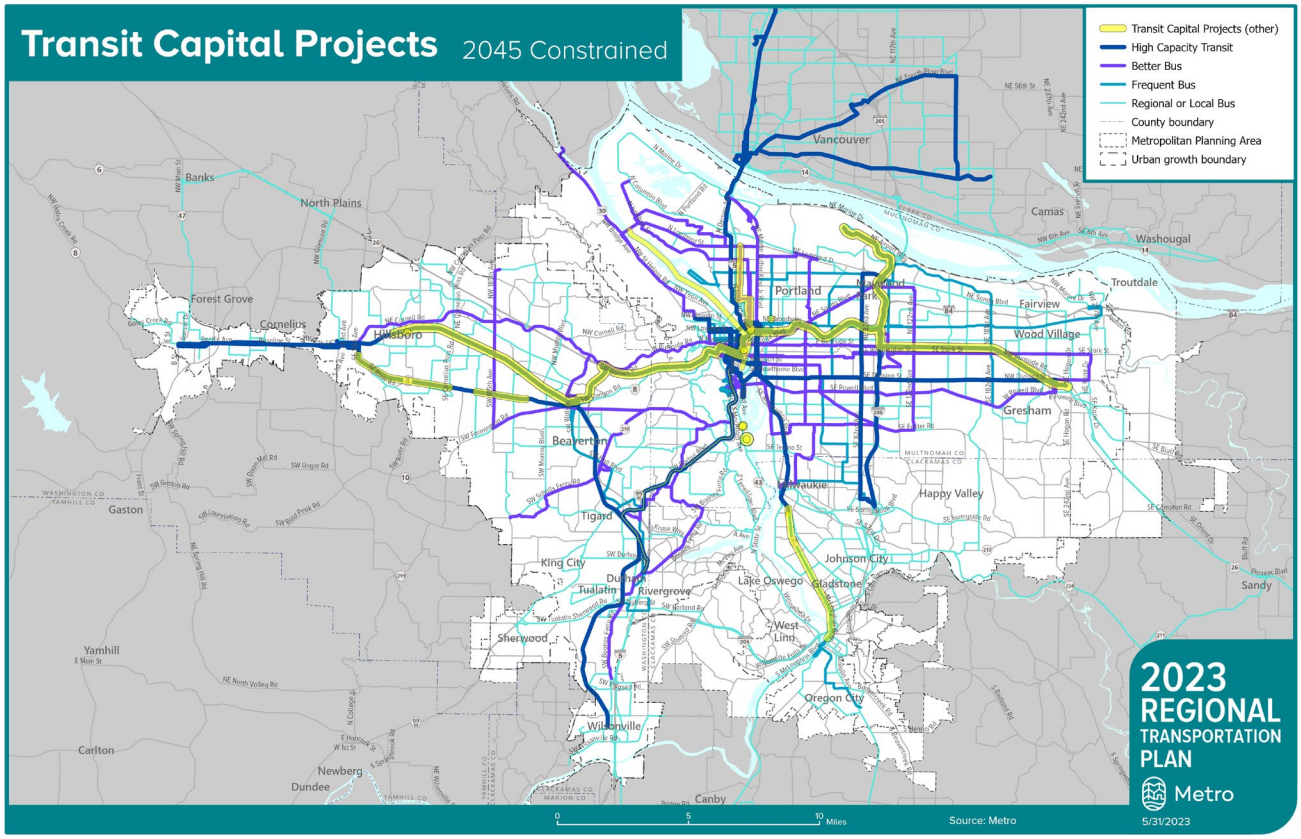


Figure 6.19 Greater Portland region: Map of 2045 Constrained RTP transit capital projects and planned service



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 enhance access to industrial areas and intermodal facilities where goods move from one transportation mode to another.

Throughway projects comprise about 7 percent of the total number of **capital** projects in the Constrained RTP list of projects, and about 21 percent of capital spending in the plan. The Interstate Bridge Replacement Project is the single largest project in the plan and represents nearly 25 percent of capital spending in the plan. **Table 6.6** lists some of the major throughway capital projects in the 2030 and 2045 constrained lists.

Table 6.6 Summary of Constrained RTP throughway projects, including Interstate Bridge Replacement Program

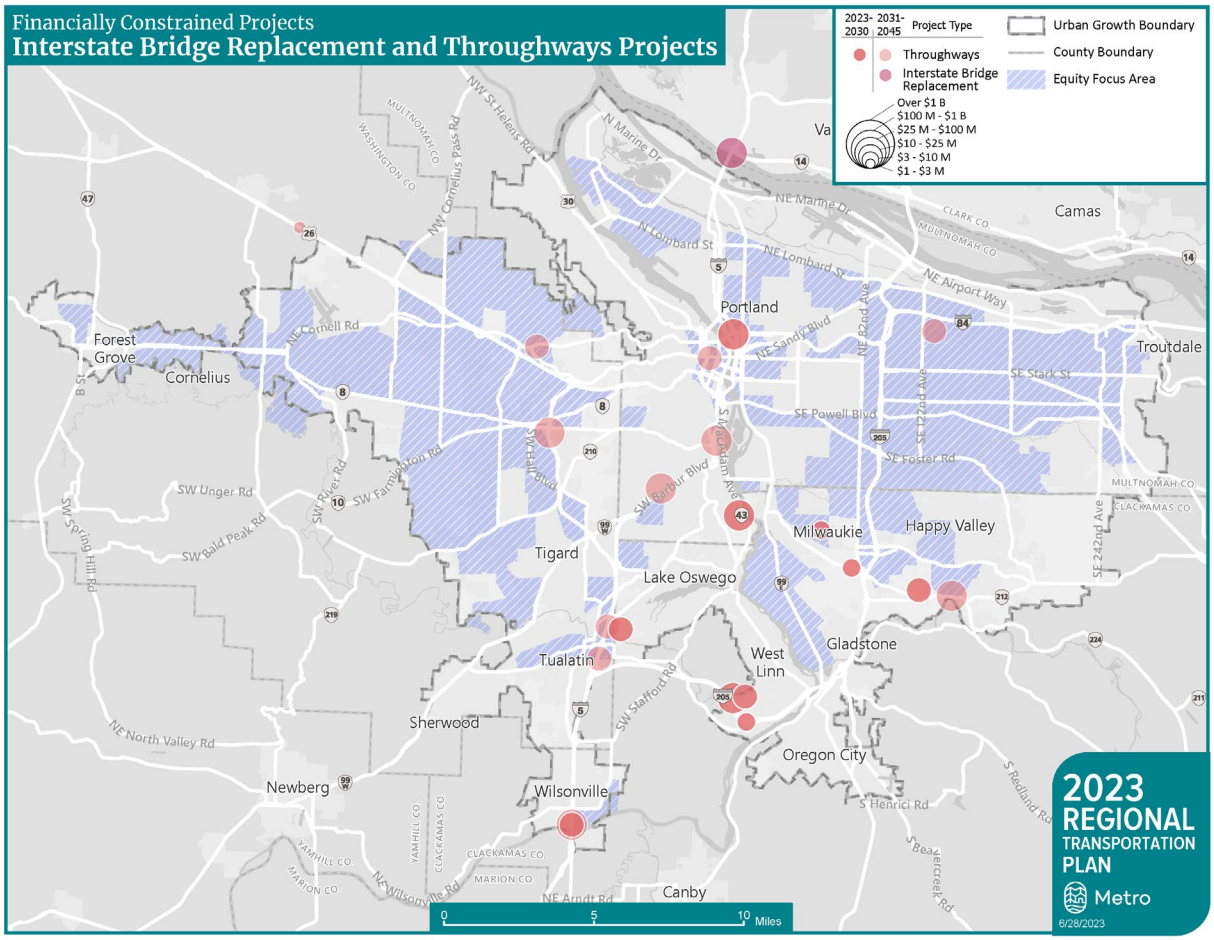
Throughway Projects and Interstate Bridge Replacement Program	Near-term Constrained (2023-2030)	Long-term Constrained (2031-2045)
Number of throughway projects or project phases*	13	11
Number of throughway projects or project phases with safety benefit	7	1
Number of throughway projects or project phases on high injury corridor	5	4
Throughway capacity (including new auxiliary lanes), change from 2020 base network	18 new lane miles	35 new lane miles
Throughway Tolling Programs	I-5 Interstate Bridge Replacement pre-construction tolling, I-205 Toll Program, Regional Mobility Pricing Project	I-5 Interstate Bridge Replacement Program
New throughway capacity, (including new auxiliary lanes)	I-5/Rose Quarter, I-205/Abernethy Bridge, I-205 widening and Toll Project, OR 224	I-5 Interstate Bridge Replacement Program, 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
Throughway Projects *Estimated capital cost in YOE dollars*	**$3.1 billion**	**$2.1 billion**
Interstate Bridge Replacement Program *Estimated capital cost in YOE dollars*	-	**$6.0 billion**

*Note: Does not include I-5 IBR Program. Some throughway projects reflect discrete phases of a throughway project.

See Appendix A and Appendix M for more information about these projects.

Figure 6.20 shows the general location of Constrained RTP throughway projects.

Figure 6.20 Greater Portland region: Map of Constrained RTP throughway projects and the Interstate Bridge Replacement Program



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 6.22, 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 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 36 percent of the total number of capital projects in the Constrained RTP list of projects. Road and bridge capital projects 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 Constrained RTP roads and bridges projects

Roads and bridges capital projects	Near-term Constrained (2023-2030)	Long-term Constrained (2031-2045)
Number of roads and bridges capital projects	118	160
Number of roads and bridges projects with a safety benefit	60	80
Number of roads and bridges projects on a high injury corridor	53	67
Arterial roadway capacity	112	230
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
Estimated capital cost in YOE dollars	**$3.1 billion**	**$4.4 billion**

Figure 6.21 Greater Portland region: Map of Constrained RTP roads and bridges projects

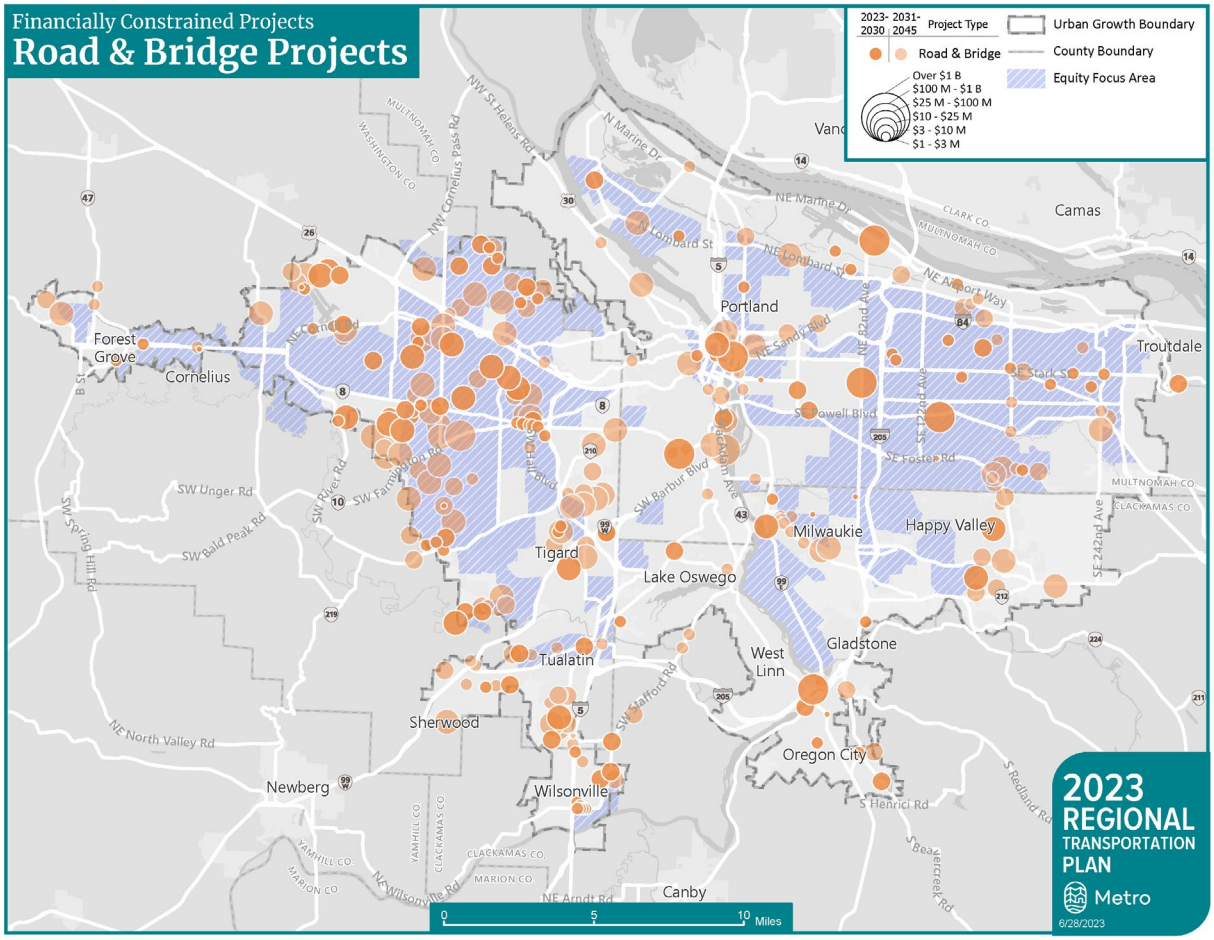
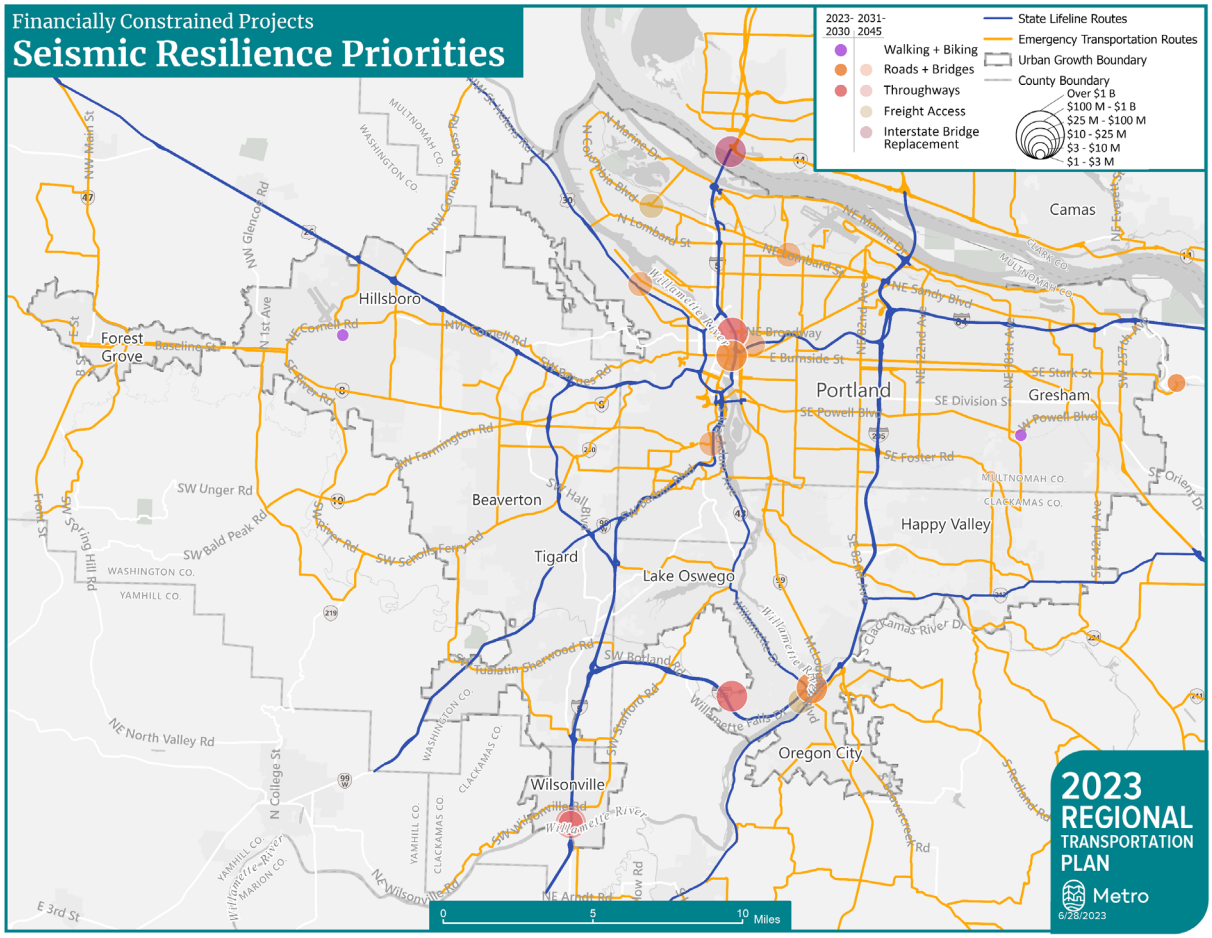


Figure 6.22 Greater Portland region: Map of Constrained RTP Seismic Resilience Priorities



Shown in Figure 6.22, several major projects in the RTP are planned to improve the region's readiness for major natural disasters, including earthquake-ready bridges across the Willamette (Abernethy Bridge and Earthquake Ready Burnside Bridge) and Columbia (Interstate Bridge Replacement Program) rivers, 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.

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 Constrained RTP project list are focused on:

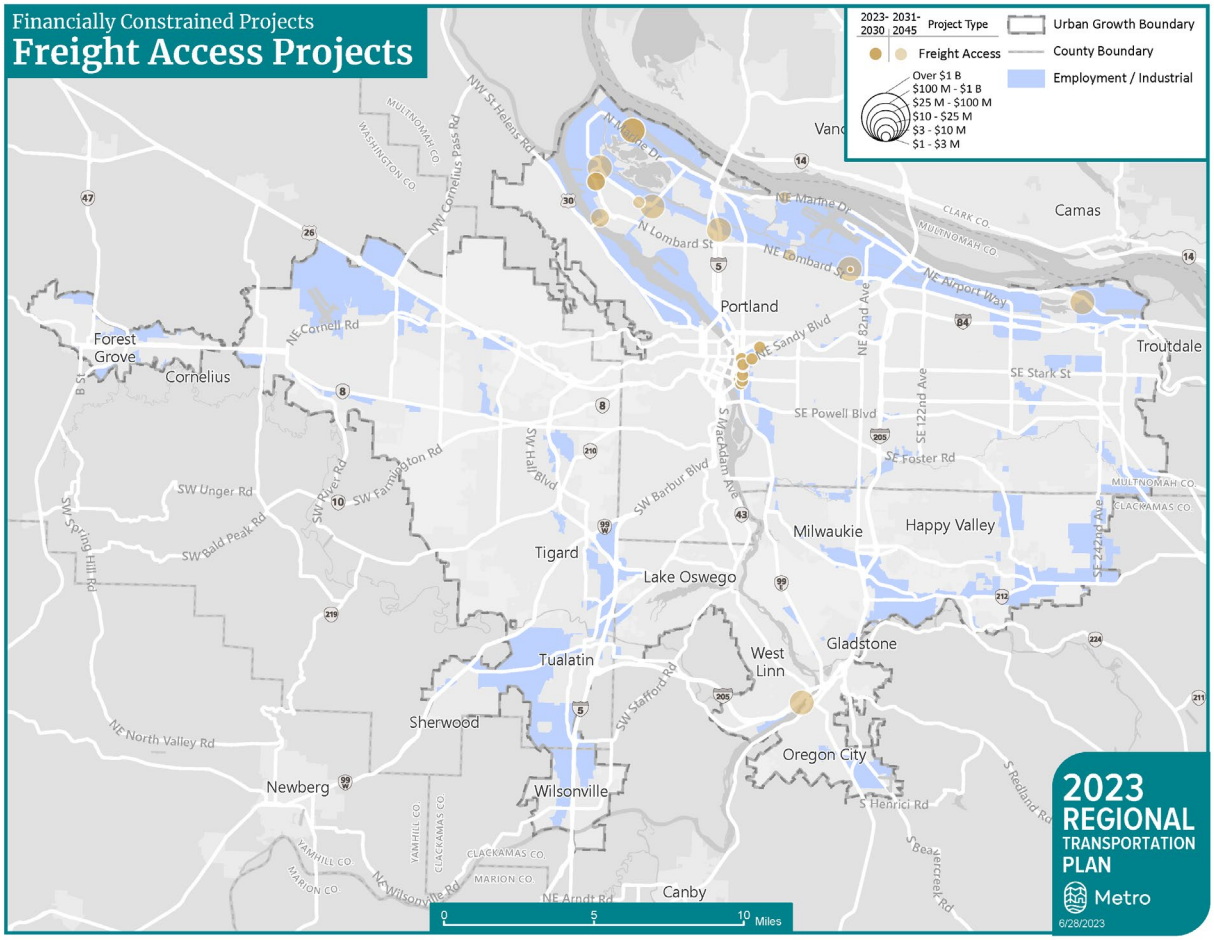
- **Freight reliability and safety.** Facilitate the safe, reliable and efficient movement of goods by better utilizing existing road and freight rail infrastructure and capacity, separating freight traffic from other modes to increase safety and minimize conflicts, and strategically investing in the 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 Constrained RTP list of projects. Additionally, none of the freight projects in the short-term constrained project list propose safety benefits.

Table 6.8 Summary of Constrained RTP freight access projects

Freight access capital projects	Near-term Constrained (2023-2030)	Long-term Constrained (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
Estimated capital cost in YOE dollars	**$74 million**	**$307 million**

Figure 6.23 Greater Portland region: Map of Constrained RTP freight access projects



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; removes barriers; adds routes across highways, railroads and waterways; makes high injury locations safer; and shortens trip distances and travel time. Access to transit
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.

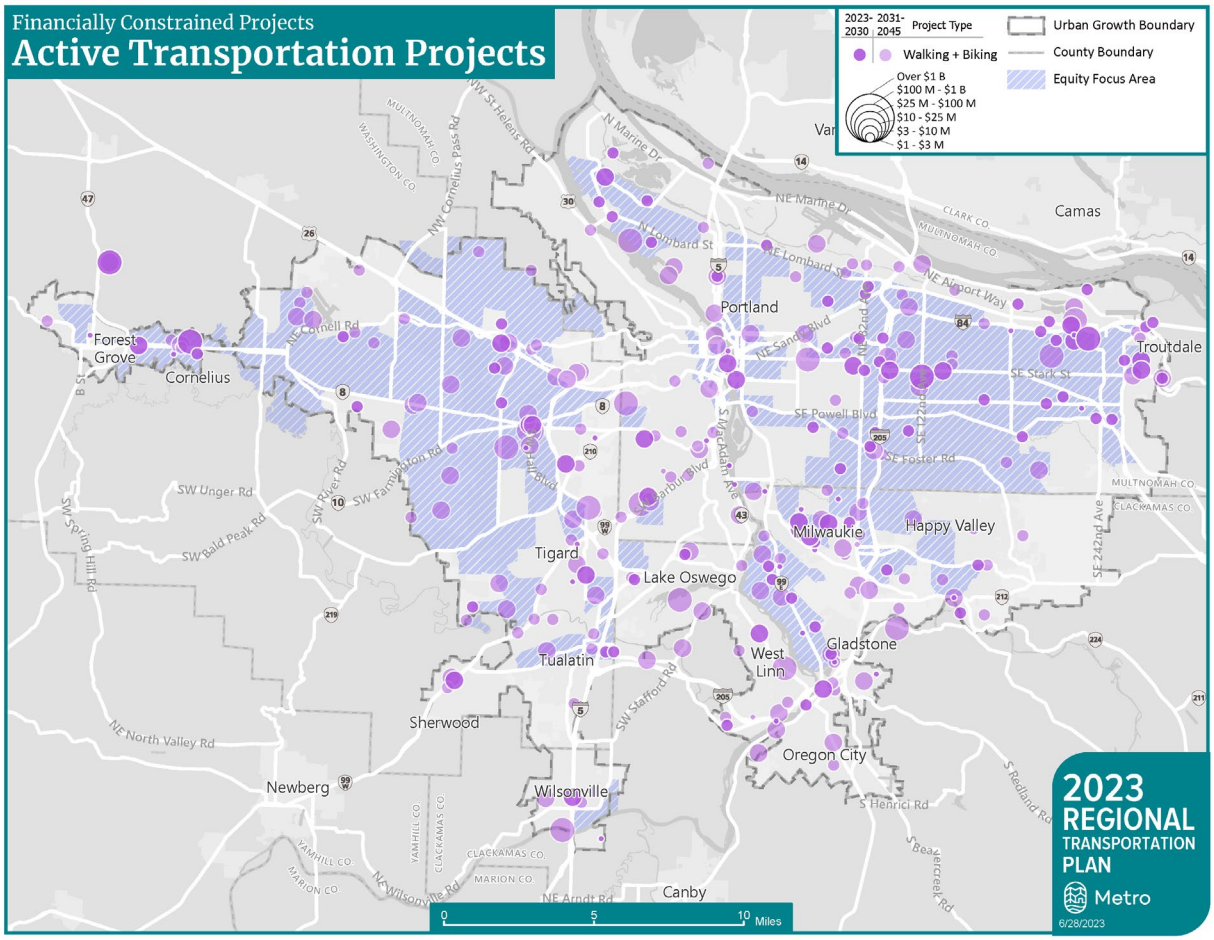
As shown in **Table 6.9**, active transportation investments comprise about 40 percent of the total number of capital projects in the Constrained RTP list of projects.

Table 6.9 Summary of Constrained RTP active transportation projects

Active transportation capital projects	Near-term Constrained (2023-2030)	Long-term Constrained (2031-2045)
Number of active transportation projects	124	178
Number of active transportation projects with a safety benefit	113	157
Number of active transportation projects on a high injury corridor	50	65
Active transportation miles added along planned regional networks by sidewalk, bikeway and trail projects*	22 sidewalk miles added 30 bikeway miles added 24 trail miles added	38 sidewalk miles added 36 bikeway miles added 56 trail miles added
Examples of active transportation projects	Aloha-Reedville pedestrian Improvements, 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
Estimated capital cost in YOE dollars	**$955 million**	**$2.1 billion**

* This does not include miles of sidewalk and bikeways added to regional networks by projects in other investment categories.

Figure 6.24 Greater Portland region: Map of Constrained RTP active transportation projects



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. 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.

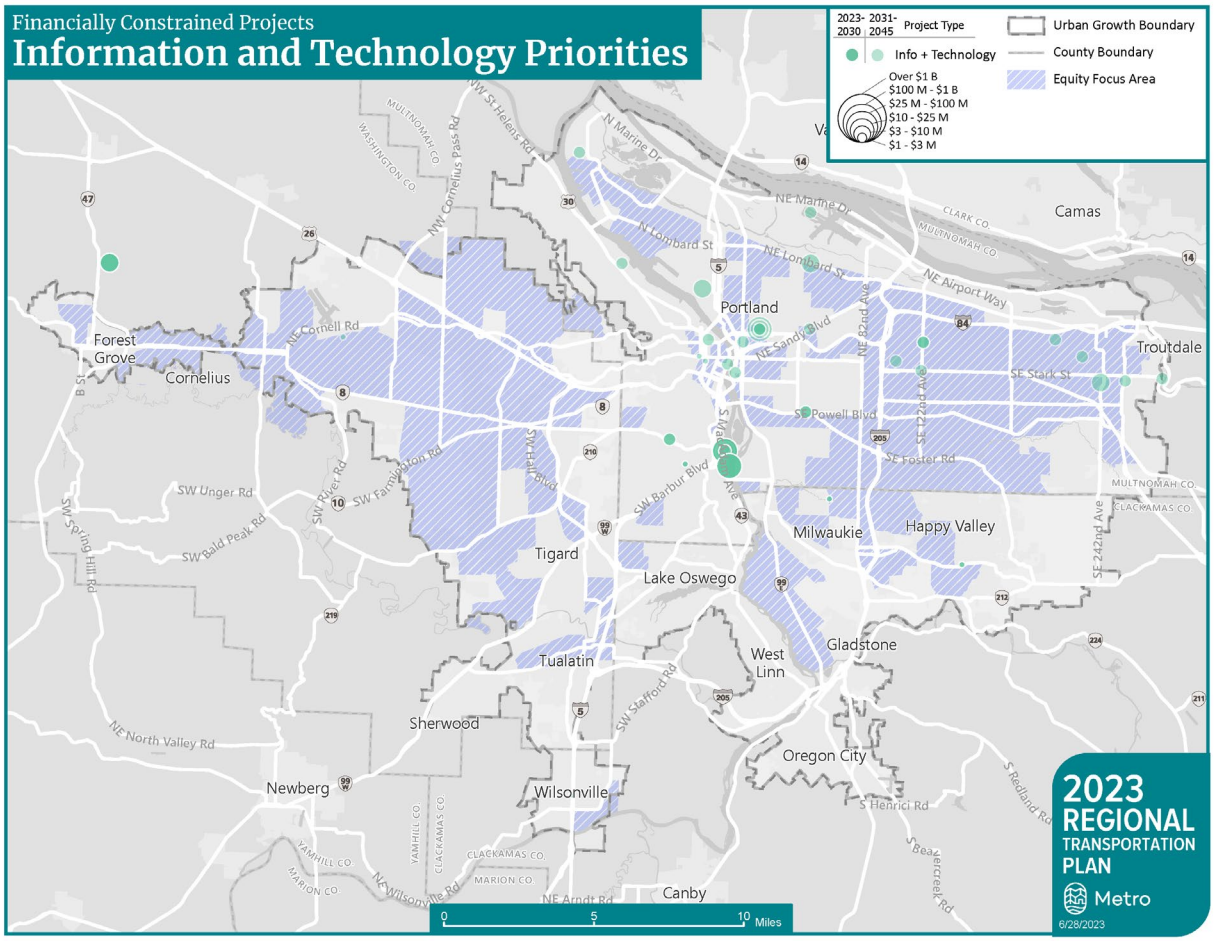
RTP transportation system management and operations projects are focused on:

- **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 count down signs; 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 Constrained RTP transportation system management and operations projects

Information and Technology Projects and Programs	Near-term Constrained (2023-2030)	Long-term Constrained (2031-2045)
Transportation System Management and Operations Projects	10	24
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 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 some of the region's major travel corridors
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 and major arterials adjacent to freeways
Estimated capital cost in YOE dollars	**$62 million**	**$213 million**

Figure 6.25 Greater Portland region: Map of Constrained RTP information and technology priorities



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:

- **Public awareness strategies** Events and other outreach strategies provide information about and encourage the public's use of travel options.

- **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.
- **Individualized marketing.** Focused outreach encourages individuals, families or employees interested in making changes in their travel choices to participate in a program. A combination of information and incentives is tailored to each person's or family's specific travel needs. This outreach can be part of a comprehensive commuter program.
- **Travel options support tools** Reduce barriers to travel options and support continued use with tools, such as online rideshare matching, trip planning tools, wayfinding signage, bike racks and carsharing.

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 Constrained RTP list of projects.

Table 6.11 Summary of Constrained RTP transportation demand management projects

Information/TDM Projects and Programs	Near-term Constrained (2023-2030)	Long-term Constrained (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 *Get There Oregon*	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
Estimated capital cost in YOE dollars	**$102 million**	**$195 million**

6.3.10 Other projects and programs to leverage capital investments

The RTP Constrained investment strategy includes regional planning activities and corridor investment area refinement and planning activities ($71 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.

Shown in Figure 6.26, out of the 771 projects in the Constrained RTP investment strategy, 450 capital projects are within an Equity Focus Area (58 percent). The Constrained RTP investment strategy shows the combined investment of transit capital projects and active transportation projects in equity focus areas reaches over $1.5 billion by 2030 and totals over $4.0 billion by 2045. These comprise about $3.9 billion in 2030 and $6.5 billion by 2045. These types of investments are projects that underserved people have identified as a priority through regional community engagement. Refer to Chapter 7 for information on how the investment strategies of the RTP impact marginalized communities in the greater Portland region.

Figure 6.26 Greater Portland region: Map of Constrained RTP Equity Priority Projects

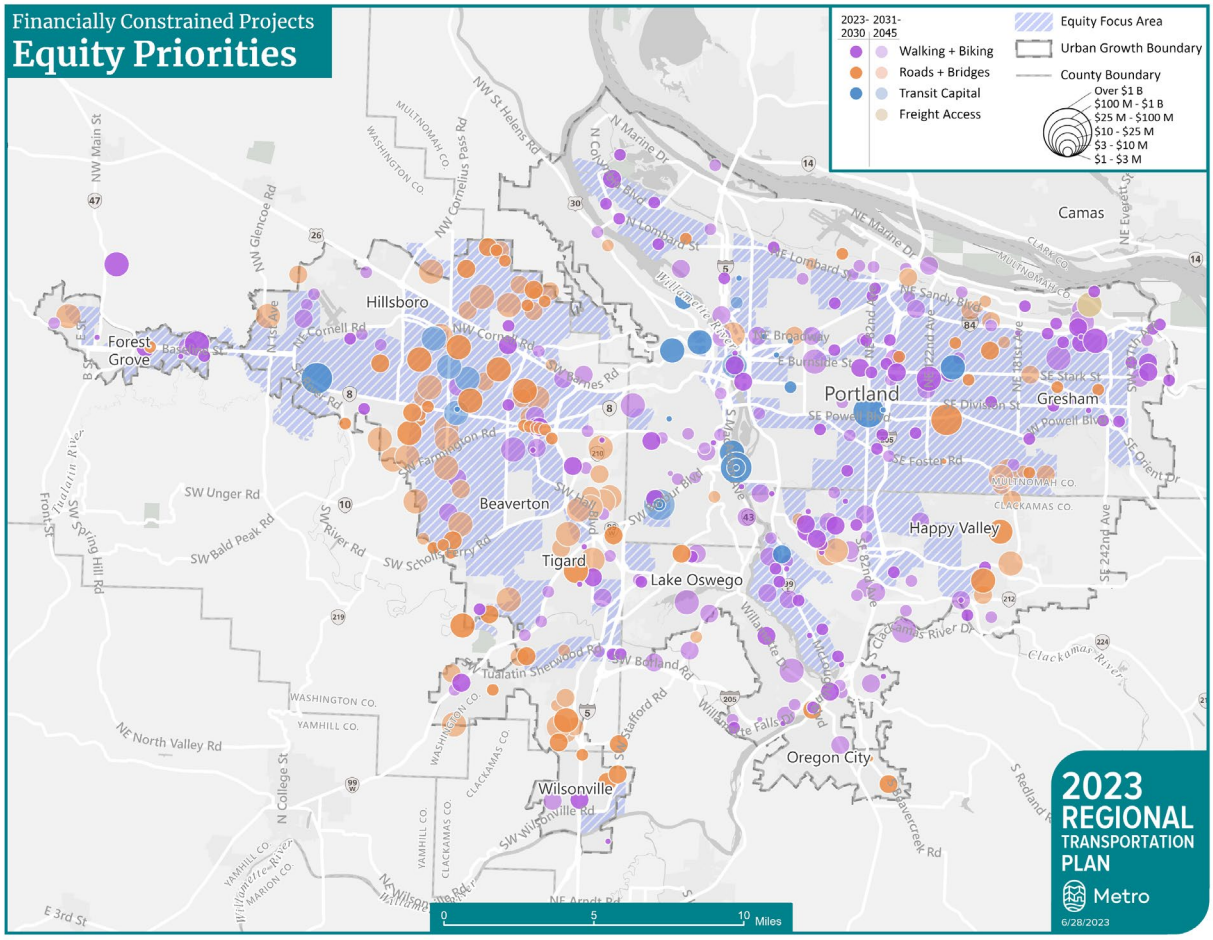


Figure 6.25 includes projects outside EFAs that have equity benefits as a primary project outcome.

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. These projects are shown in Figure 6.27.

Safety projects and safety benefit projects are targeted towards the Regional High Injury Corridors and Intersections and in race and income marginalized communities (equity focus areas).

As shown in **Table 6.12**, of the 771 capital projects on the Constrained list:

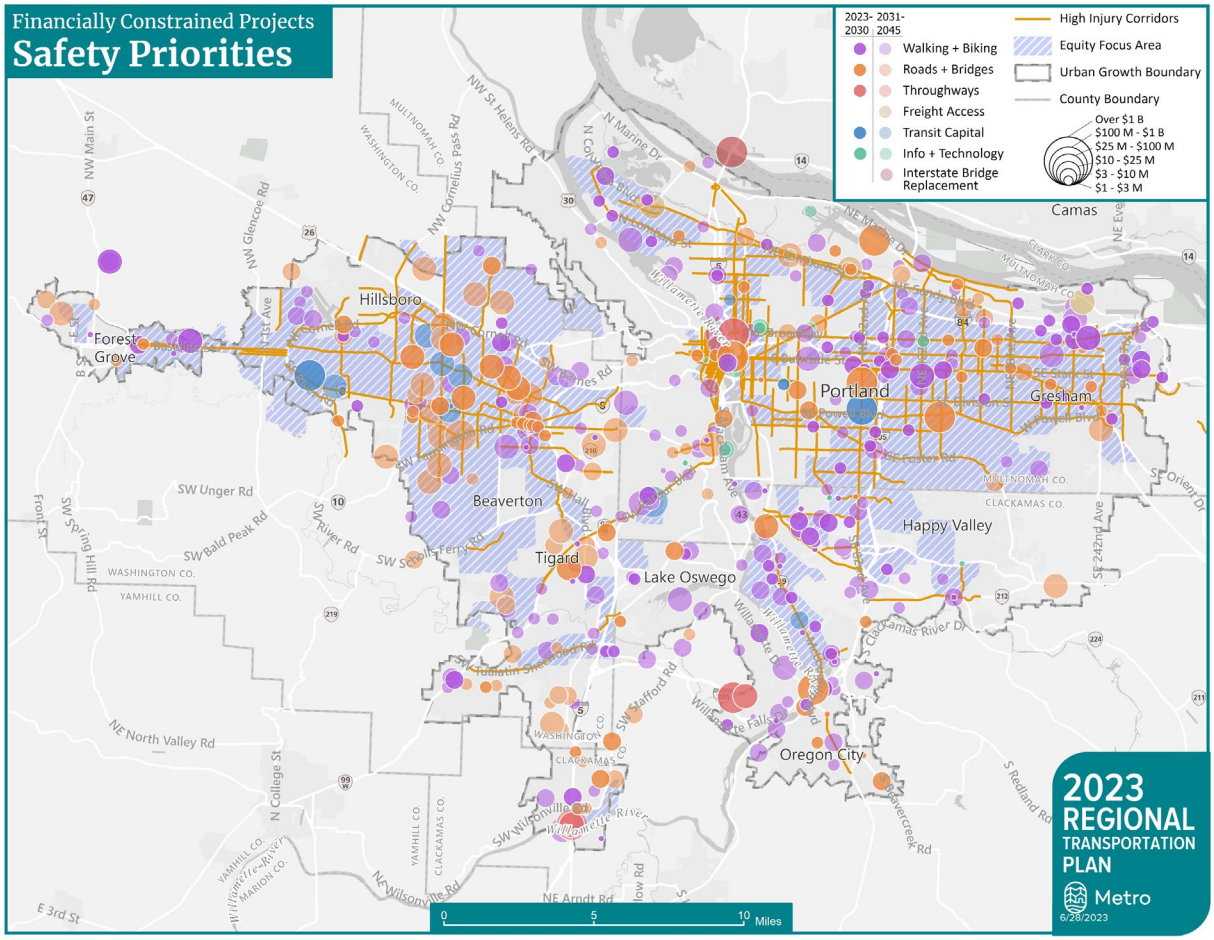
- **Safety Projects**. Across the short-term and long-term constrained project lists, 451 projects are identified as safety benefit projects. Those projects identify reducing fatal and severe injury crashes or reducing minor/non-injury crashes as the primary purpose of the project. Nearly 50 percent 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 Constrained RTP safety benefit projects

Information and Technology Projects and Programs	Near-term Constrained (2023-2030)	Long-term Constrained (2031-2045)
Projects that help reduce serious traffic crashes or address other safety issues	190	261
Number of **safety benefit projects** on a High Injury Corridor*	132	164
Number of **safety benefit projects** in Equity Focus Areas*	125	173
Estimated capital cost in YOE dollars	**$6.0 billion**	**$11.8 billion**

*Does not include projects that are programmatic or are not geographically specific.

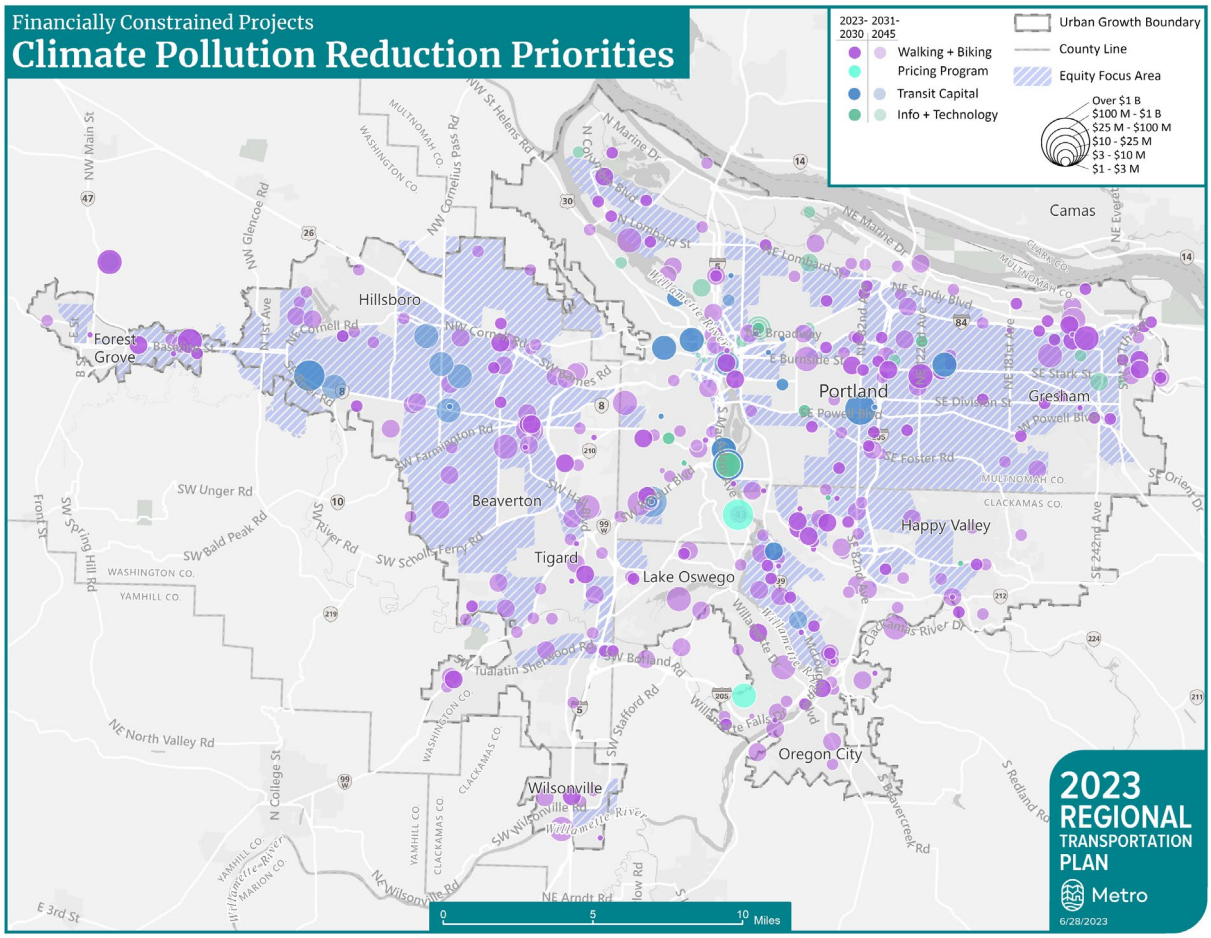
Figure 6.27 Greater Portland region: Map of Constrained RTP Priorities with Safety Benefit



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 6.28** implement high- or medium-impact climate pollution reduction 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 mange demand and help finance new transportation projects.

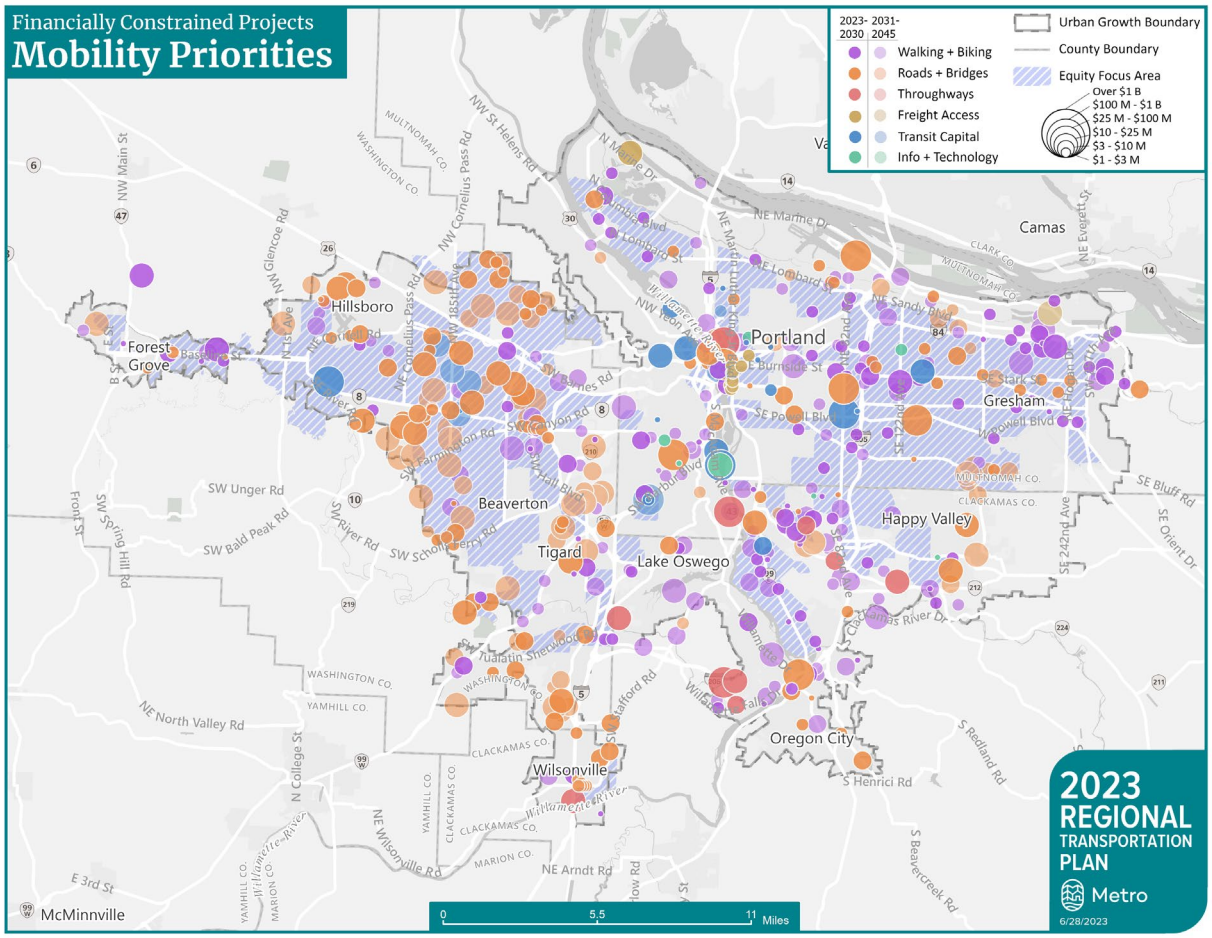
Figure 6.28 Greater Portland region: Map of Constrained RTP Climate Pollution Reduction Priorities



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**.

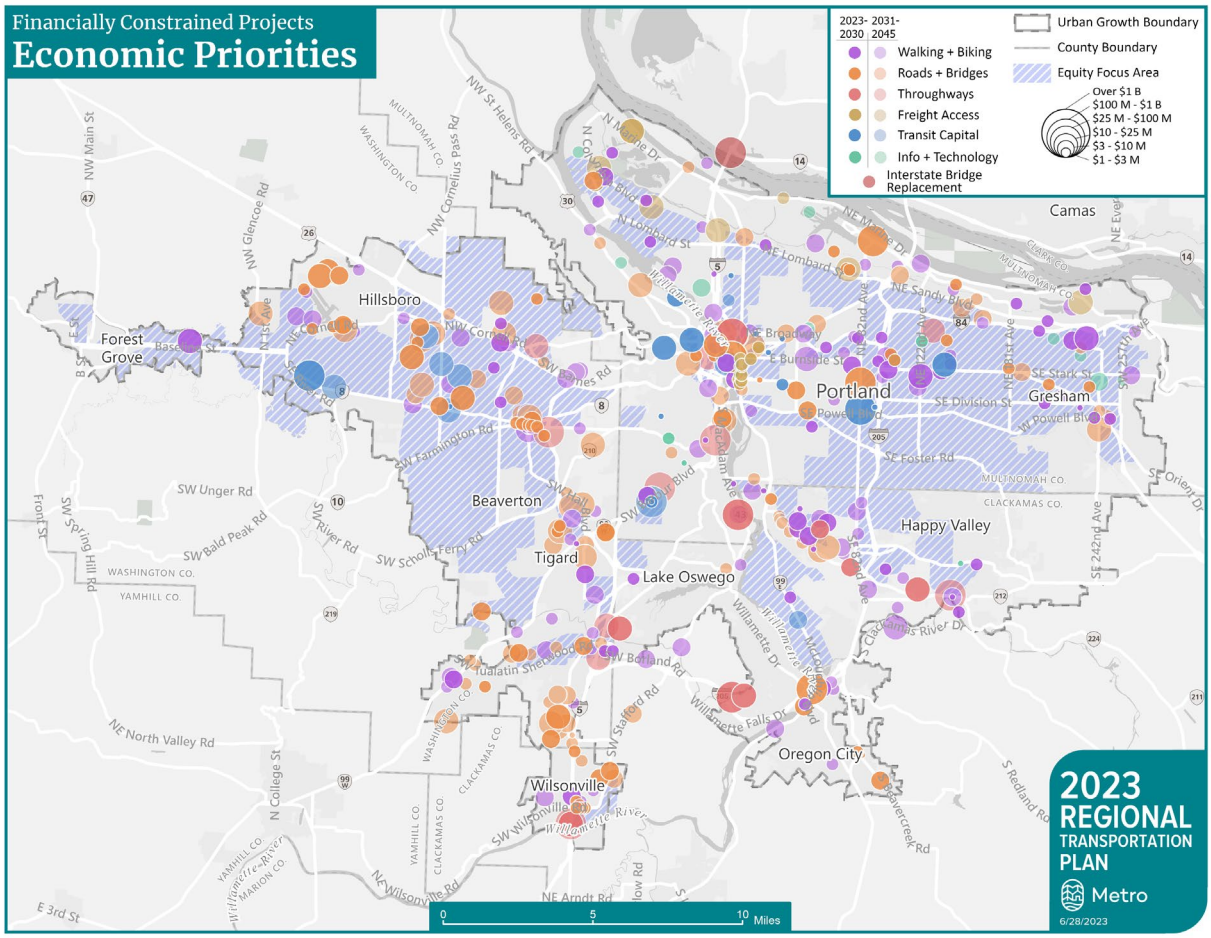
Figure 6.29 Greater Portland region: Map of Constrained RTP priorities that complete network gaps and include priority multimodal design elements



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**.

Figure 6.30 Greater Portland region: Map of Constrained Priorities that Support Economic Development



6.3.16 Transit operations and maintenance costs

Table 6.13 Summary of Constrained RTP transit operations and maintenance projects

Transit operations and maintenance	(2023-2030) Constrained	(2031-2045) Constrained
Examples of operating services	SMART Service to Clackamas Town Center and Oregon City	New bus service Columbia to Clackamas
Examples of maintenance projects	Preventative maintenance for fleet and vehicles, bus replacements, etc. to keep system in good repair	Preventative maintenance for fleet and vehicles, bus replacements, etc. to keep system in good repair
*Estimated cost** in YOE dollars	**$7.1 billion**	**$20.4 billion**

*Note: See **Appendix A** for the list of programmatic buckets in the Constrained RTP project list.*

*Operations and maintenance costs are pending further review and subject to further refinement.

6.3.17 Throughway, roads and bridges operations and maintenance costs

Table 6.14 Summary of Constrained RTP throughway, roads and bridges operations and maintenance projects

Throughway, roads and bridges maintenance	(2023-2030) Constrained	(2031-2045) Constrained
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
*Estimated cost** in YOE dollars	$4.0 billion	$11.5 billion

*Note: See **Appendix A** for the list of programmatic buckets in the Constrained RTP project list.*

**Operations and maintenance costs are pending further review and subject to further refinement.*

6.4 STRATEGIC PROJECT LIST

The strategic list of projects reflects additional policy-driven needs and project priorities that exceed the region's projected funding. The 2045 Strategic costs shown in **Table 6.15** include the Constrained RTP project costs plus estimated costs for additional projects that could be implemented with additional resources. Estimated transit operations and maintenance costs for the strategic project list are still under development.

Table 6.15 Estimated costs for RTP Constrained and Strategic Project Lists

RTP Capital Costs	(2023-2030) Constrained	(2031-2045) Constrained	(2031-2045) Strategic
Transit capital	$1.0 billion	$1.6 billion	$11.8 billion
Throughways	$3.2 billion	$2.1 billion	$2.3 billion
Roads and bridges	$3.1 billion	$4.4 billion	$4.1 billion
Freight access	$74 million	$307 million	$155 million
Walking + Biking	$955 million	$2.1 billion	$3.2 billion
Information and Technology	$165 million	$408 million	$132 million
RTP Operations and Maintenance Costs*	**(2023-2030) Constrained**	**(2031-2045) Constrained**	**(2031-2045) Strategic**
Transit operations and maintenance	$7.1 billion	$20.4 billion	Under development
Roads and throughways operations and maintenance	$4 billion	$11.5 billion	$4.1 billion
Total estimated cost in YOE dollars	$19.5 billion	$48.9 billion	Under development

Costs have been rounded and are in year-of-expenditure dollars.

**Operations and maintenance costs are pending further review and subject to refinement.*

See **Appendix A** for the list of projects included in the Constrained RTP Project List. See **Appendix B** for the list of projects included in the Strategic RTP project list.