PUBLIC REVIEW DRAFT

2018 Regional Transportation Plan

Regional Transit Strategy

A strategy for providing better transit service in the greater Portland region

June 29, 2018

oregonmetro.gov/transit

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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**
Regional Transit Strategy web site: **oregonmetro.gov/transit**

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.

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This is under development and will be included in the final transit strategy.

EXECUTIVE SUMMARY

This section is under development and will be added to the final transit strategy. Executive summary will be about 2-4 pages.

CHAPTER 1: INTRODUCTION

The 2018 Regional Transit Strategy (RTS) sets regional transit policy and provides a framework for working towards implementing a regional transit system that supports our 2040 Growth Concept.

The Regional Transit Strategy provides a comprehensive assessment of our transit priorities for the greater Portland region, defined as the area within the Metropolitan Planning Area (MPA). The MPA is slightly larger than the region's Urban Growth Boundary. The Regional Transit Strategy is the transit modal component of the 2018 Regional Transportation Plan update.

Figure 1.1: RTP Modal and Topical Plans within Statewide Planning Hierarchy

Figure is under development and will included in the final transit strategy.

This Introduction provides context for the RTS, including Metro's role in transit planning; the policy framework that was used to define the overall regional transit strategy and vision, relation to other plans, the planning process and public engagement and the organization of this document.

1.1 Metro's Role

As the region's metropolitan planning organization (MPO), Metro has a variety of roles in transportation transit planning, including:

- setting regional transit vision, policies, targets, and performance measures;
- reporting on annual transit targets and performance measures;
- planning for high capacity transit projects, environmental planning, project development leading to a locally preferred alternative;
- convening jurisdictions and agencies to achieve better coordination;
- encouraging best practices in transit planning and design;
- supporting and introducing transportation legislation;

- supporting local and state efforts; and
- allocating federal transportation funding.

The 2018 RTS provides the regional transit vision for the Portland metro region: to make transit more frequent, convenient, accessible and affordable for everyone.

1.2 Policy Context

The planning context and policy framework for the Regional Transit Strategy is dependent upon a variety of regional and state plans that determine, and shape key policies, goals and principles should be considered.

1.2.1 State Policy and Planning Context

The following section describes the relevant statewide plans and policies.

The **Oregon Transportation Plan (OTP)** is the long-range transportation system plan for the state. It establishes a vision and policy foundation to guide transportation system development and investment. The OTP and its mode and topic plans guide decisions by the Oregon Department of Transportation and other transportation agencies statewide and is reflected in the policies and decisions explained in local and regional plans.

The **Oregon Public Transportation Plan (OPTP)** is the transit modal plan for the OTP and is currently being updated. The OPTP provides a statewide vision for the public transportation system as well as policy foundation to assist transportation agencies in make decisions.

The OPTP vision is: "In 2045, public transportation is an integral, interconnected component of Oregon's transportation system that makes Oregon's diverse cities, towns, and communities work. Because public transportation is convenient, affordable and efficient, it helps further the state's quality of life and economic vitality and contributes to the health and safety of all residents, while reducing greenhouse gas emissions." The OPTP includes goals and policies regarding:

- Mobility – public transportation user experience
- Accessibility and connectivity – getting from here to there
- Community livability and economic vitality
- Equity
- Health
- Safety and security
- Environmental sustainability
- Land use
- Strategic investment
- Communication, collaboration, and coordination

In addition to the OPTP, there was a need for the **Oregon Transportation Options Plan** in response to increasingly diverse transportation needs of Oregon residents and the need to plan for a multiplicity of new transportation modes and programs being introduced by public and private sector providers. The Oregon Transportation Options Plan identifies opportunities to expand transportation choices; looks to increase funding opportunities for transportation options programs and activities; and provides direction to better integrate transportation options into local, regional, and state transportation planning. This plan has been developed under the policy foundation provided by the OTP.

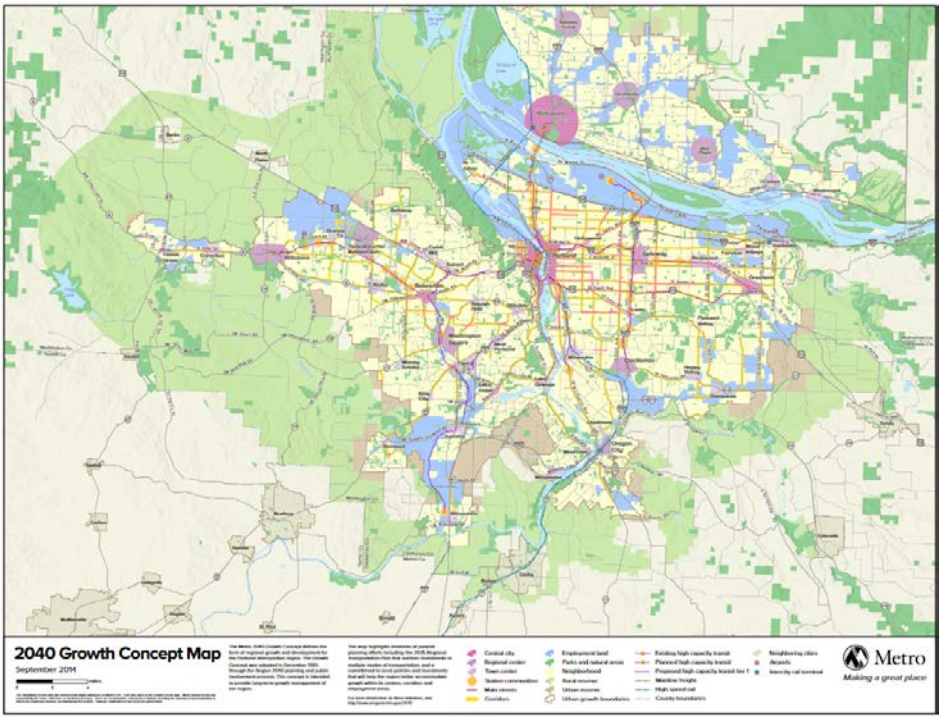
The **Transportation Planning Rule (TPR)**, Chapter 660, division 12 of the Oregon Administrative Rule, implements the statewide planning goals for transportation. The rule includes requirements for how local governments and Metropolitan Planning Organizations (MPOs) in metropolitan areas coordinate planning for land use and transportation systems to increase transportation choices.

1.2.2 Regional Planning Context

The following section describes the relevant regional plans and policies.

Metro's **2040 Growth Concept**, as shown in Figure 1.2, is the region's long-range land use and transportation plan for managing growth to preserve the region's economic health and livability in an equitable, environmentally-sound and fiscally-responsible manner. The 2040 Growth Concept concentrates mixed-use and higher density development in urban centers, station communities, corridors and main streets that are well-served by transit. It envisions a well-connected street network that supports biking and walking for short trips.

Figure 1.2: Metro 2040 Growth Concept Map



The **Regional Framework Plan**, adopted in 1997, identifies regional policies to implement the 2040 Growth Concept. The Plan has been amended over time, most recently as part of the adoption of the Climate Smart Strategy in 2014. The policies in this plan aim to implement the 2040 Growth Concept and guide the RTS:

- Protect the economic health and livability of the region.
- Improve the safety of the transportation system.
- Provide a transportation system that is efficient and cost-effective, investing our limited resources wisely.
- Make the most of the investments the region has already made in our transportation system through system and demand management strategies, such as expanding the use of technology to actively manage the transportation system and providing traveler information and incentives to expand the use of travel options.
- Make **transit** convenient, accessible, and frequent.
- Provide access to more and better choices for travel in this region and serve special access needs for all people, including youth, older adults and people with disabilities and people with low income.
- Provide adequate mobility for people and goods within the region.
- Protect air and water quality, promote energy conservation, and reduce greenhouse gas emissions.
- Provide transportation facilities that support a balance of jobs and housing.
- Make biking and walking the most convenient, safe and enjoyable transportation choices for short trips.
- Limit dependence on drive alone travel, and increase biking, walking, carpooling, vanpooling and the use of **transit**.
- Make streets and highways safe, reliable and connected to provide for the movement of people and goods through an interconnected system of street, highway, air, marine and rail systems, including passenger and freight intermodal facilities and air and water terminals.
- Integrate land use, automobile, bicycle, pedestrian, freight and public transportation needs in regional and local street designs.
- Limit the impact of urban travel on rural land through use of green corridors.
- Manage parking to make efficient use of vehicle parking and land dedicated to vehicle parking.
- Demonstrate leadership on reducing greenhouse gas emissions.

The **Regional Transportation Plan** is a blueprint to guide investment and identify the region's priorities for all forms of travel – motor vehicle, transit, bicycle and walking– and the movement of goods and freight throughout the Portland metropolitan area. The plan identifies current and future transportation needs, investments needed to meet those

needs and what funds the region expects to have available through 2040 to make those investments a reality. The plan is key step for these projects to qualify for potential regional, state and federal funding.

In 2009, Metro adopted a 30 year **Regional High Capacity Transit (HCT) System Plan** to guide investments in light rail, commuter rail, bus rapid transit and rapid streetcar in the Portland metropolitan area. The HCT Plan identified16 corridors (see Figure 1.3) identified and ranked those corridors into four regional priority tiers, creating a framework for future system expansion prioritization. The four tiers are:

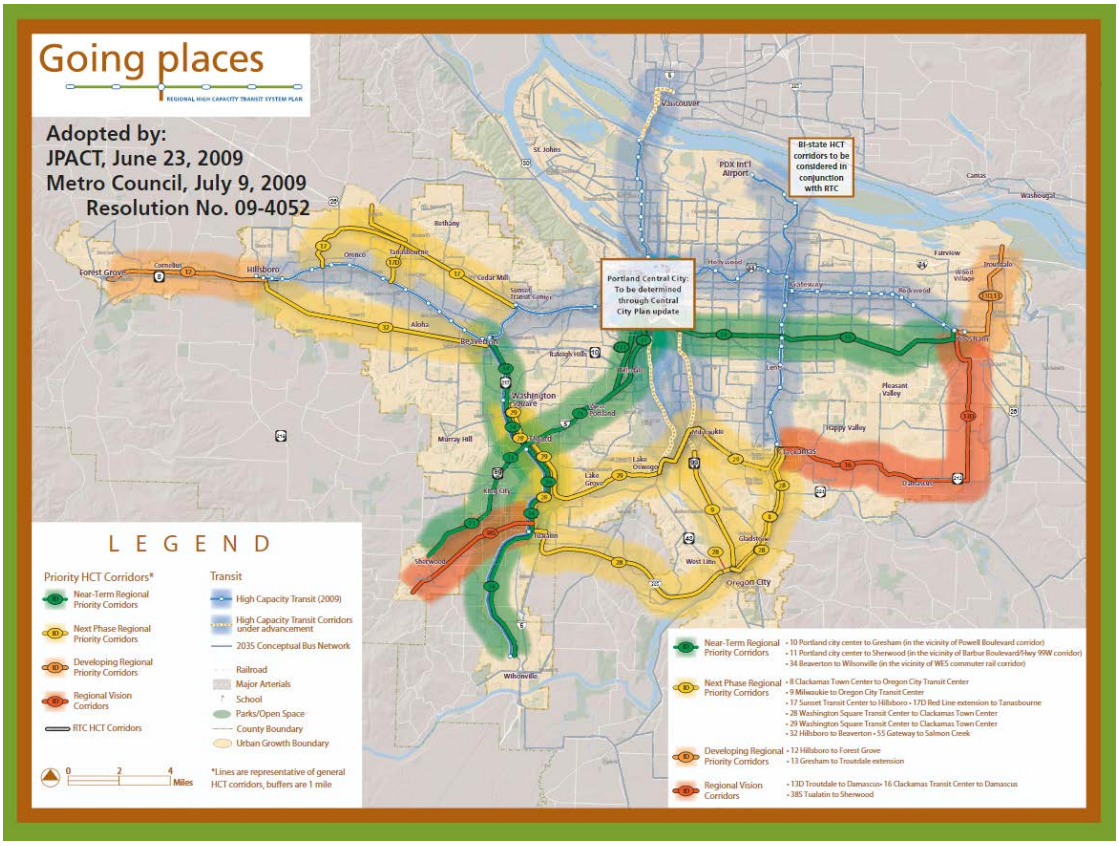
1. Near term regional priority corridors: corridors most viable for implementation in the next four years;
2. Next phase regional priority corridors: corridors ripe for HCT investments if other planning and policy actions are implemented;
3. Developing regional priority corridors: corridors where future land uses and projected ridership potential are not supportive of HCT, but have a long term potential based future visions; and
4. Regional vision corridors: corridors where future land uses and projected ridership potential are not supportive of HCT implementation.

The near term regional priority corridors included three projects:

1. Portland city center to Gresham (in the vicinity of the Powell Boulevard corridor)
2. Portland city center to Sherwood (in the vicinity the Barbur Boulevard/Highway 99 corridor) and
3. Beaverton to Wilsonville (in the vicinity of the WES Corridor).

Two of these projects are moving forward. The Portland city center to Gresham is now called the Division Transit Project. The Division Transit Project is a 14-mile project that will increase transit capacity and improve travel time as well as transit reliability between Downtown Portland, Southeast East Portland and Gresham. This project is currently in "project development" under the Federal Transit Administration (FTA) Capital Investment Grant program Small Starts funding pipeline.

Figure 1.3 2009 High Capacity Transit System Plan Map



The Portland city center to Sherwood is now known as the Southwest Corridor Project. The Southwest Corridor Project proposal is a new 12-mile MAX line from Downtown Portland to Tigard and Bridgeport Village in Tualatin, along with numerous walking, biking and roadway projects to help people access stations. Metro is working with TriMet, local partners and the FTA to develop the Southwest Corridor Environmental Impact Statement, in compliance with the National Environmental Policy Act, in anticipation of seeking federal funding through FTA's Capital Investment Grant program New Starts funding program.

Since these projects are moving forward, Metro, TriMet and regional partners will be updating the HCT plan as part of this effort.

Another aspect of the HCT Plan is the **System Expansion Policy** framework to advance high capacity transit project to regional priority. The framework:

- identifies which corridors should move into the federal project development process
- establishes a process for other corridors to advance toward development
- measures a corridor's readiness for investment using targets such as transit supportive land use policies, ridership development plans, community support and financial feasibility.

The system expansion policy is updated as part of the RTS and discussed further in Chapter 6: Implementation of this report.

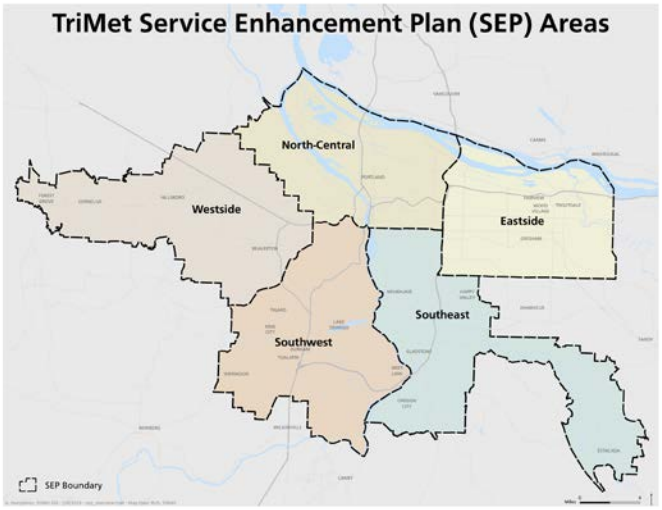
The **Active Transportation Plan** (ATP) provides a vision, plan and policies for communities in our region to increase transportation options and support economic development, healthy active living, and equity. The primary recommendation policy of the ATP is the completion of the active transportation network with a specific focus on providing access and connection to transit options. Holistic transportation planning considers more than one mode of transportation and the ATP clearly highlighted the importance of integrating active transportation and access to transit options.

The **Climate Smart Strategy**, a 2009 mandate by the Oregon Legislature, sets policies, strategies and near-term actions to guide how the region moves forward to integrate reducing greenhouse gas emissions by 20 percent by 2035 with ongoing efforts to create the future we want for our region. The Climate Smart Strategy, adopted in 2014, affirmed the region's commitment to provide more transportation choices, keep our air clean, build healthy and equitable communities, and grow our economy- all while reducing greenhouse gas emissions. The Climate Smart Strategy will achieve a 29 percent reduction in per capita greenhouse gas emissions by 2035, if fully implemented. Transit plays a key role in achieving these reductions.

As part of Metro's Code, the **Regional Transportation Functional Plan** contains policies and guidance to help local jurisdictions implement the policies in the Regional Transportation Plan its modal plans, including active transportation, freight and high capacity transit.

The **Urban Growth Management Functional Plan**, within the Functional Plan, provides guidance, under **Title 6: Centers, Corridors, Station Communities and Main Streets,** to cities and counties the actions they must perform to be eligible for any regional investments. To be eligible for a regional investment, projects must be included in the RTP. In addition, cities or counties shall:

- Establish boundaries for the Center, Corridor, Station Community or Main Street;
- Perform an assessment of the Center, Corridor, Station Community or Main Street (including specific assessments to be included in this assessment); and
- Adopt a plan of actions and investments to enhance the Center, Corridor, Station Community or Main Street.



TriMet, the region's largest transit provider, has been working with riders, residents, neighborhood groups, governments, schools and businesses to create a shared vision for the future of the local bus network through **TriMet's Service Enhancement Plans** (www.trimet.org/future).

Starting in 2012, TriMet began taking a fresh look at how bus service and access to transit could be improved... TriMet used available data on travel patterns, population and employment projections, analyses of existing gaps in the transit network, and demographic information to identify potential changes and additions to the local bus network. Throughout the process, TriMet also conducted substantial outreach to transit riders, businesses, neighbors, high schools, colleges, and universities, and other major institutions such as hospitals and event centers to understand the needs of stakeholders throughout the service district. In order to tailor the plans to meet differing communities' needs, the Service Enhancement Plans were developed for each of five geographic subareas, covering the entire region with TriMet's service district (in the order developed: West, Southwest, North-Central, Eastside and Southeast). As they were being developed, TriMet planners were careful to coordinate across these sub areas where the proposed network crosses those boundaries in order to form a coherent vision for the transit system. Each Service Enhancement Plan identified bus routes that would be prioritized for additional frequency and new bus routes or amendments to existing routes that would add coverage in places that currently lack bus service.

These long-range plans (covering approximately a 20-year planning horizon) form the basis of the future service plans for the local bus network reflected in the Regional Transit Strategy and the 2018 Regional Transportation Plan update.

In 2017, Oregon legislature passed Oregon House Bill Keep Oregon Moving (HB2017) requiring TriMet to conduct a study on service for the region. This work is currently underway.

The 2016 update to **TriMet's Coordinated Transportation Plan for Elderly and Persons with Disabilities (CTP)** builds upon the foundation of the 2012 CTP as well as the 2009 update, known as the Tri County Elderly and Disabled Transportation Plan (EDTP), both of which described the region's vision of a continuum of transportation services that takes into account people's abilities as they transition through various stages of age and disability.

The guiding principles of the CTP are to guide transportation investments toward a full range of options for seniors and persons with disabilities. This vision is accomplished through:

- Coordination
- Innovation and Collaboration
- Community Involvement
- Improving the service foundation
- Integrating land use and transportation decisions
- Improving customer convenience
- Improving safety
- Measuring Performance

1.2.3 Local Planning Context

The following section describes the relevant local plans and policies, from local transit provides. Additionally, cities and counties have policies, programs and project related to transit in their Transportation System Plans (TSPs) not listed in detail.

The Portland Streetcar is owned by the City of Portland and operated by the Bureau of Transportation (PBOT) in partnership with TriMet (the regional transit agency) and Portland Streetcar, Inc. (PSI), a non-profit that provides management support and private sector involvement in planning and operations. The **Portland Streetcar Strategic Plan 2015 – 2020** outlines the priories over the next five years. The vision for Portland Streetcar is to:

- Support and encourage growth in residential and commercial development in the central city, consistent with the City's Comprehensive Plan.
- Provide comfortable, convenient connections between housing, employment, educational institutions, services, and recreation.

More generally, the streetcar system was built to drive development toward the high-density neighborhoods identified in city and regional planning documents, and to provide a quality transit connection for those developments. This plan is meant to focus the partnership's work plan and resources on key areas of improvement for Portland Streetcar. Implementing the identified strategies will result in a more reliable and cost-effective streetcar system that is recognized within the community as a critical component of Portland's present and future

The City of Wilsonville operates a transit service for the City of Wilsonville and connections outside the city called South Metro Area Regional Transit (SMART). The **Wilsonville Transit Master Plan** (TMP) (see http://ridesmart.com/327/Transit-Master-Plan-2017) provides a broad look ahead to the type of transit system and supportive transportation options required to meet Wilsonville's mobility needs. This is accomplished

by providing proposals for improved transit service as well as strategies to reduce single-occupancy vehicles. With its combined transit and transportation options approaches, the TMP will guide future decision-making for SMART for the next five to seven years.

Cities and counties develop local transit plans and policies as well as development of their **Transportation System Plans (TSPs)**. The TSP identifies local needs and modal priorities, including transit. Cities and counties also develop localized plans, policies and incentives around transit.

Building upon our existing transit investments, policies, and plans, **the Regional Transit Strategy vision is to make transit more frequent, convenient, accessible and affordable for everyone**. The transit strategy will coordinate the operational, capital and transit supportive elements to make transit work more efficiently and effectively for everyone. The Regional Transit Vision is in response to the community needs and is as much about improving operations and ensuring a state of good repair as it is building new connections and supporting our 2040 Growth Concept and our Climate Smart Strategy.

1.3 Planning and Public Engagement Process

The Regional Transit Strategy was developed in coordination with and as part of the update of the Regional Transportation Plan between May 2016 and December 2018. Throughout the planning process, transit and travel options were repeatedly identified as key elements to meeting and achieving our regional and local goals for the region. The Regional Transit Strategy also provides and update to the Regional High Capacity Transit System Plan., adopted in 2009.

1.3.1 The Regional Transportation Plan and Regional Transit Strategy process and public engagement

Phase 1: Getting started Beginning in summer 2015, the first phase consisted of engaging local, regional, state, business and community partners to prioritize the regional challenges to be addressed in the update and the process for how the region should work together to address them. This engagement included:

- interviews with 31 stakeholders
- discussion groups in partnership with Metro's diversity, equity and inclusion team with communities of color and youth on priorities and issues related to racial equity
- a partnership with PSU's Center for Public Service and 1000 Friends of Oregon to explore components of inclusive public engagement to develop an approach to better reach underrepresented communities
- a public involvement retrospective that summarized previous feedback from communities of color on transportation planning and project development
- an online survey with more than 1,800 participants to help identify the top transportation issues facing the greater Portland region.

This phase concluded in December 2015 with JPACT and Council approval of the work plan and public participation plan for the update. In addition to implementing the 2014 Climate Smart Strategy, the adopted work plan identified seven policy topics for the Regional Transportation Plan update to focus on – safety, equity, freight, transit, finance, performance, and design.

Phase 2: Framing trends and challenges The second phase began in January 2016 and concluded in April 2016. In this phase, Metro engaged the public, jurisdictional partners and business and community leaders to document key trends and challenges facing the region as well as priority outcomes for investment in the region's transportation system. This included:

- an online survey with more than 5,800 participants working through the questions
- a Regional Snapshot on transportation, published in April 2016.

Also in April 2016, the Metro Council convened members of MPAC, JPACT, state legislators, community and business leaders and other interests from across the region to discuss the key trends and challenges facing the region during the first of four regional leadership forums.

Metro staff also worked with ODOT's economist and jurisdictional partners, individually and through a technical work group, to forecast a budget of federal, state and local funds the greater Portland region can reasonably expect by 2040 under current funding trends.

Phase 3: Looking forward From May 2016 to May 2017 technical work and public engagement activities continued to focus on finalizing a shared vision statement for the plan, developing draft strategies for safety, transit and freight, and updating the evaluation framework and measures for evaluating plan performance. The engagement for this phase included:

- a round of follow up discussion groups in partnership with Metro's diversity, equity and inclusion team with communities of color and youth to review actions and priorities for the agency's racial equity strategy
- focus and discussion groups on transportation priorities for communities of color and strategies to improve engagement with underrepresented groups,
- an online survey focusing on priorities for communities of color
- an online survey with more than 2,600 participants on investment priorities and funding,
- another round of discussion groups with communities of color on hiring practices and priorities related to the Planning and Development department-specific equity plan.

Metro Council also hosted its second and third regional leadership forums. In regional leadership forums 1 and 2, there was consensus that a bold vision and more funding are needed to build a 21st century transportation system. In forum 3, leaders discussed a shared vision for the future transportation system and potential near-term priorities for

addressing regional transportation challenges in ways that supported the vision. Participants also identified actions to build a path to future funding.

Staff also compiled background information and online resource guide maps to support jurisdictional partners as they updated their investment priorities for further evaluation and public review during Phase 4. In addition, staff launched the RTP Project Hub – an online visual database – for jurisdictional partners to use to update project information and collaborate with other jurisdictions. Phase 3 concluded with Metro Council directing staff to release a Call for Projects to update the region's transportation near- and long-term investment priorities to support regional goals for safety, congestion relief, affordability, community livability, the economy, social equity and the environment.

Phase 4: Building a shared strategy The fourth phase began in June 2017 with release of a second Regional Snapshot on transportation and the Call for Projects for jurisdictional partners to update the plan's regional transportation project priorities. Agencies were asked to identify projects that address regional needs and challenges, reflect public priorities and maximize progress toward the region's agreed upon vision and goals for the future transportation system.

Local jurisdictions and county coordinating committees worked within a constrained budget and capital funding targets to determine the project priorities to put forward for inclusion in the plan in collaboration with Oregon Department of Transportation (ODOT), Metro, SMART and TriMet. All project submissions were required to have come from adopted plans or studies that provided opportunities for public input.

In summer 2017, Metro analyzed three funding scenarios: 10-year constrained project priorities, 2040 constrained project priorities and 2040 strategic project priorities. The analysis tested new and updated outcomes-based system performance measures to evaluate performance of the transportation system as a whole for each scenario to help inform finalizing the plan's project priorities in Phase 5. Metro staff also prepared an interactive map of proposed projects and lists that was made available on the project website for the public and partners to use to learn more about the projects under consideration. Safety, transit, freight and emerging technology strategies continued to be developed on parallel tracks. Jurisdictions also piloted project-level evaluation criteria on 50 projects; the pilot project evaluation will be advanced during the next RTP update.

The results of the analysis were released in November 2017. Engagement on the Call for Projects included:

- a community leaders' forum for feedback on the results
- Metro Councilor briefings to business and neighborhood groups
- an online survey with more than 2,900 participants.

The analysis was also summarized in a larger discussion guide for decision-makers that also relayed key issues and the results of the Call for Projects. A fourth and final Regional

Leadership Forum was held in March 2018 to discuss findings and recommendations from the technical analysis and public engagement to inform finalizing the plan during Phase 5.

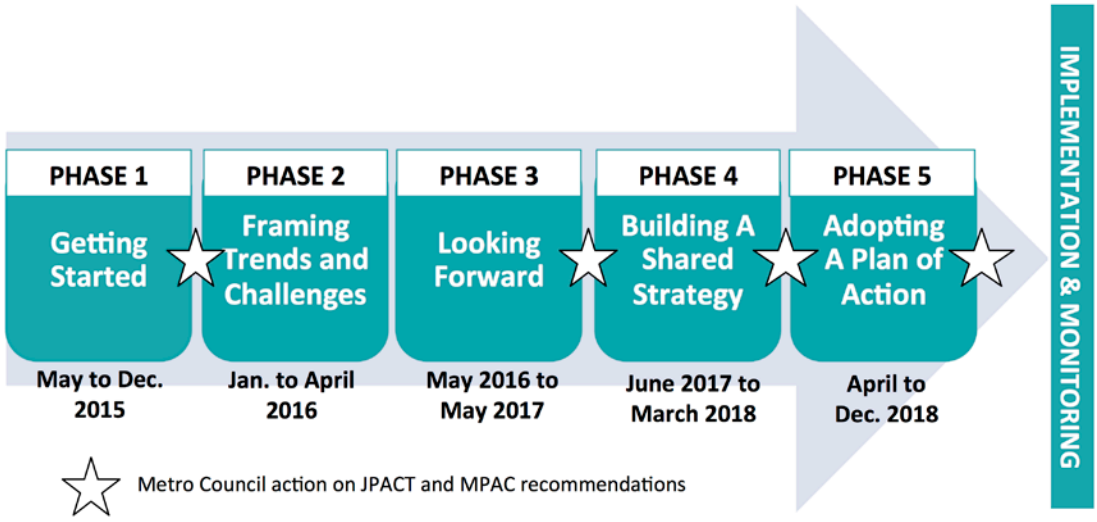
Phase 5: Adopting a plan of action The fifth, and final, phase of the process began in April 2018 and is focused on finalizing and adopting the region's investment priorities and strategies recommended through 2040. The 2018 Regional Transportation Plan will be available for public review in June 2018, with a formal comment period from June 29 through Aug. 13. For this comment period, engagement activities include:

- an online survey with a high level summary the plan
- an interactive map of projects, project lists and a briefing book that provides a more in-depth summary;
- draft documents, including the 2018 Regional Transportation Plan and safety, transit, freight and emerging technology strategies, available for review and comment.

The Metro Council will hold a hearing on Aug. 2, 2018. All comments received during the comment period will be summarized in a public comment report. Recommended changes to the draft materials to respond to all substantive comments received during the comment period will be summarized in a public comment log that will be considered by MPAC, JPACT and the Metro Council during the adoption process.

JPACT and MPAC will make recommendations to the Metro Council in October 2018. Metro Council is scheduled to hold legislative hearings on Nov. 8 and Dec. 6. Metro Council will consider adoption of the final plan, project priorities and strategies for safety, transit, freight and emerging technologies in December 2018.

Figure 1.4: 2018 Regional Transportation Timeline



1.4 Document Organization

The 2018 RTS is organized into six chapters, with a foreword, executive summary, and back matter such as a glossary and list of acronyms. Supporting documents are provided as standalone appendices. This section provides an overview of the different parts of the document.

Executive Summary: Provides a short summary and key elements of the strategy.

Chapter 1: Introduction: Provides and introduction to and context for understanding the strategy.

Chapter 2: Our Current Transit System: Describes our current transit system, both inside and connections to our MPA.

Chapter 3: Key Trends, Challenges and Opportunities: Describes the key trends, challenges and opportunities that shape our transit vision and policies.

Chapter 4: Regional Transit Vision and Policies: Describes the Regional Transit Vision and associated policies.

Chapter 5: Strategies and Actions: Describes the strategies and actions to help achieve our transit vision.

Chapter 6: Performance, Monitoring and Measuring Progress: Describes performance and monitoring measures for achieving our vision.

Chapter 7: Implementation: Outlines how to implement the Regional Transit Vision.

List of Partners: Agencies, organizations, non-profits, private entities, industry and the public who will play a role in implementing the 2018 RTS. *This section is under development and will be included in the final transit strategy.*

Acronyms: Defines acronyms used in the document. *This section is under development and will be included in the final transit strategy.*

Glossary: Defines terms used in the document. *This section is under development and will be included in the final transit strategy.*

Appendices: *This section is under development and will be included in the final transit strategy*. Appendices are stand-alone documents that provide additional technical information for the 2018 Regional Transit Strategy.

CHAPTER 2: OUR CURRENT TRANSIT SYSTEM

2.1 Our region continues to grow and change

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 world-class transportation system. The region is surrounded by stunning natural landscapes and criss-crossed with a network of parks, trails and natural areas within a walk, bike ride or transit stop from home.

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.

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. Because of 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 times are challenging. The region is growing, our economy is expanding, and emerging technologies are changing how we do business and get around.

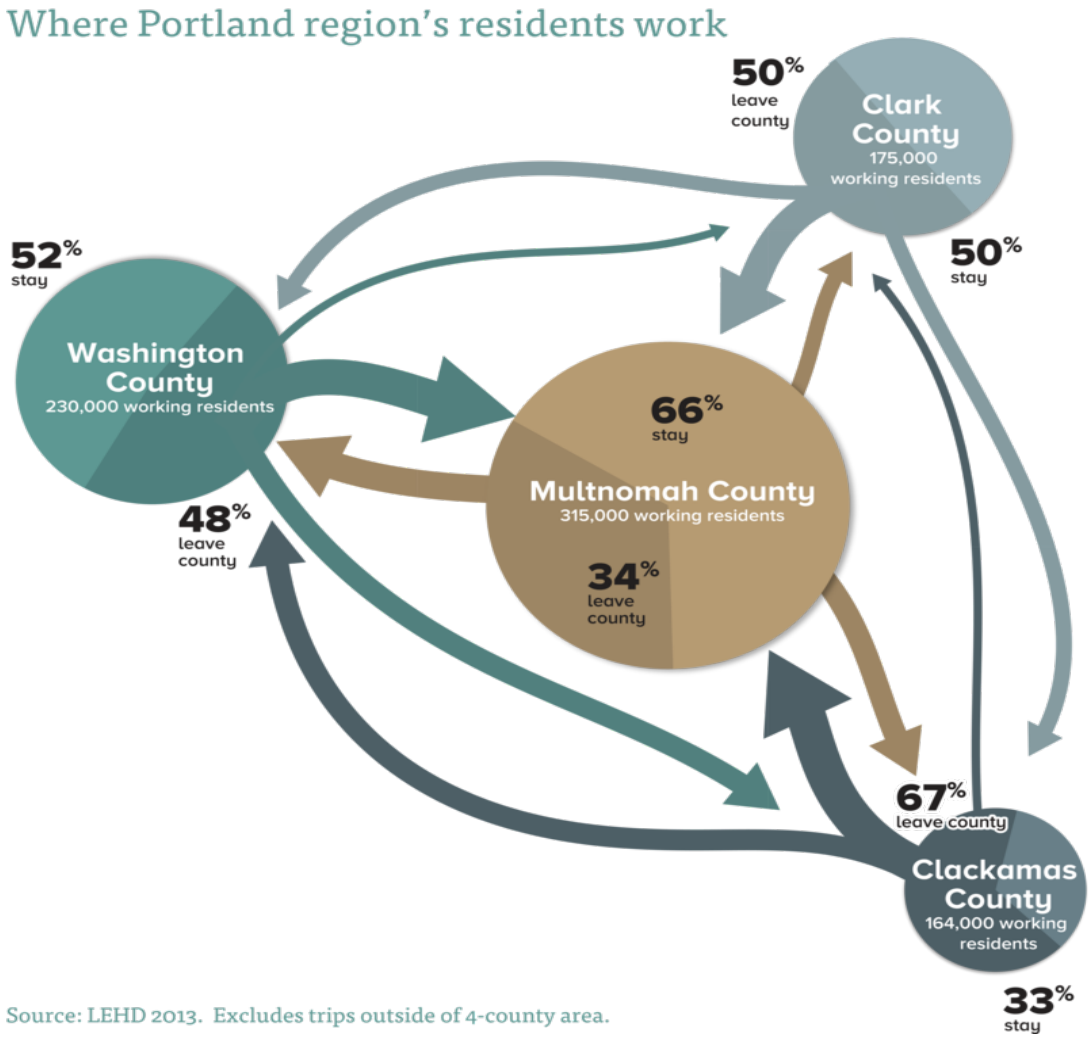
Housing affordability, climate change, racial disparities, traffic deaths and life changing injuries, and traffic congestion demand new kinds of leadership, innovation and thoughtful deliberation and action to ensure our region remains a great place to live, work and play for everyone. In collaboration with city, county, state, business and community leaders, Metro has researched how land use and transportation policies and investments can be leveraged to respond to these complex and interrelated challenges at a regional scale.

The region expects to welcome more than 500,000 new residents – about half from growing families – and more than 350,000 new jobs within the urban growth boundary by 2040.

While this growth brings jobs and opportunity, it also creates new challenges; more people will be using the region's transportation system to get to work, school, shopping and other daily activities.

But there are differences in where each of us goes every day, providing insight into the region's distribution of housing and jobs. Take the flow of the daily commute, for example. Multnomah County has the most working residents and the most jobs. According to data from the Census Bureau, two-thirds of working residents in Multnomah County stay in their home county for work. Of those who leave, most head into Washington County, the region's second biggest job center.

Figure 2.1: Metro Regional Commute Patterns



For working residents of Clark and Washington counties, it's roughly an even split between working in the county and leaving, with most workers who leave commuting into Multnomah County. Clackamas County sees two-thirds of its working residents commute elsewhere, also mostly to Multnomah County. Washington and Clackamas counties also swap thousands of working residents each day – though not nearly as many commuters as each county send into Multnomah County.

We have options on how we get around today; we can drive, carpool, car share, bike, walk, or take transit. While this report focuses in on transit, a successful transportation system is a multi-modal transportation system. For more information about travel and transportation options around the Portland Metropolitan Region, see Chapter 4 of the 2018 Regional Transportation Plan.

2.2 The role of transit in our region

MAX Light rail, WES commuter rail, bus, and Portland Streetcar and supporting infrastructure make up the current regional transit system, which has seen increased ridership. In 2014, people in the Portland region took more than 103 million rides on transit. Although ridership has fluctuated over the last 10 years, weekday transit ridership among the region's major transit services – TriMet, SMART (Wilsonville), C-TRAN (Vancouver and Clark County WA) and Portland Streetcar – has grown while the average miles each person drives daily has declined.

Figure 2.2: National Commute by Transit Comparison

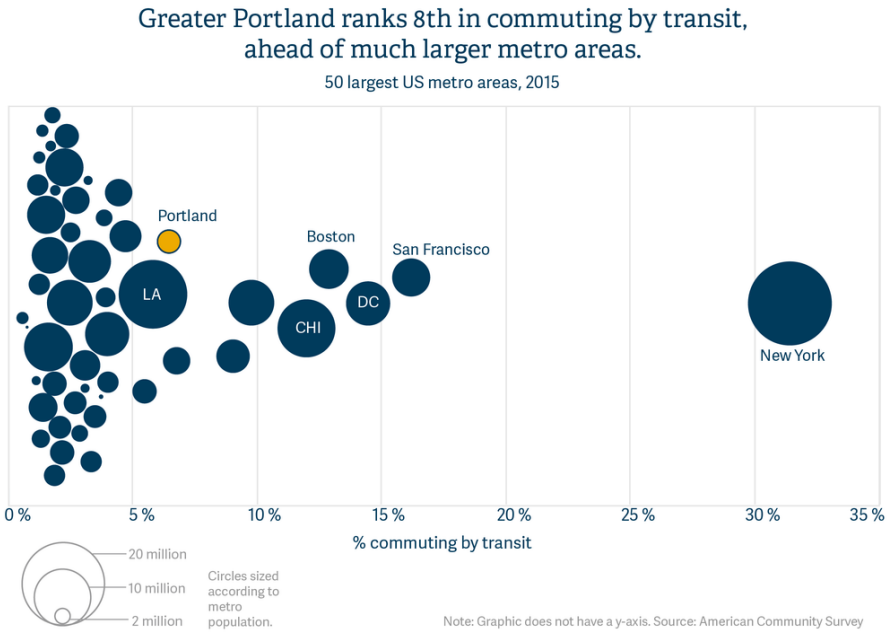
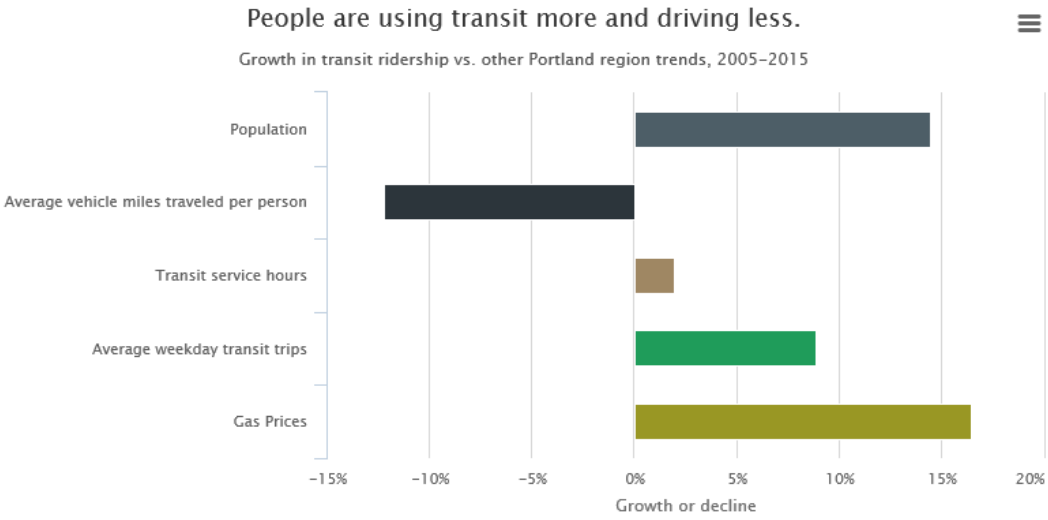


Figure 2.3: Regional Transit and Population Growth



Increasing transit service is a key component of Metro's Climate Smart Strategy for the Portland metropolitan region. The strategy identified making transit convenient, frequent, accessible and affordable as one of the most promising approaches to meet adopted targets for reducing greenhouse gas emissions from light-duty vehicles while creating healthy and equitable communities and a strong economy. To meet this goal new performance targets to increase the number of jobs and households, including low-income households, within a ¼ mile of 15-minute service or better by 2035 were identified. In addition air quality-related federal laws require consistent service growth over time.

The transit system is especially important in ensuring mobility for people with low-income and people of color, who are twice as likely to be frequent transit riders as higher-income persons or white people. It is also critical to ensuring mobility for people who can't drive due to age or disability, or who simply choose not to own a personal vehicle. There are numerous ways to measure the busiest transit lines in the region, two options are the total number of passengers boarding and the productivity of the line – that is, the number of people boarding for every hour it operates.

Below is a map of the region's existing transit system followed by a list of the 2015 top ten transit lines by ridership and productivity.

Figure 2.4: Existing transit services in the greater Portland region and beyond

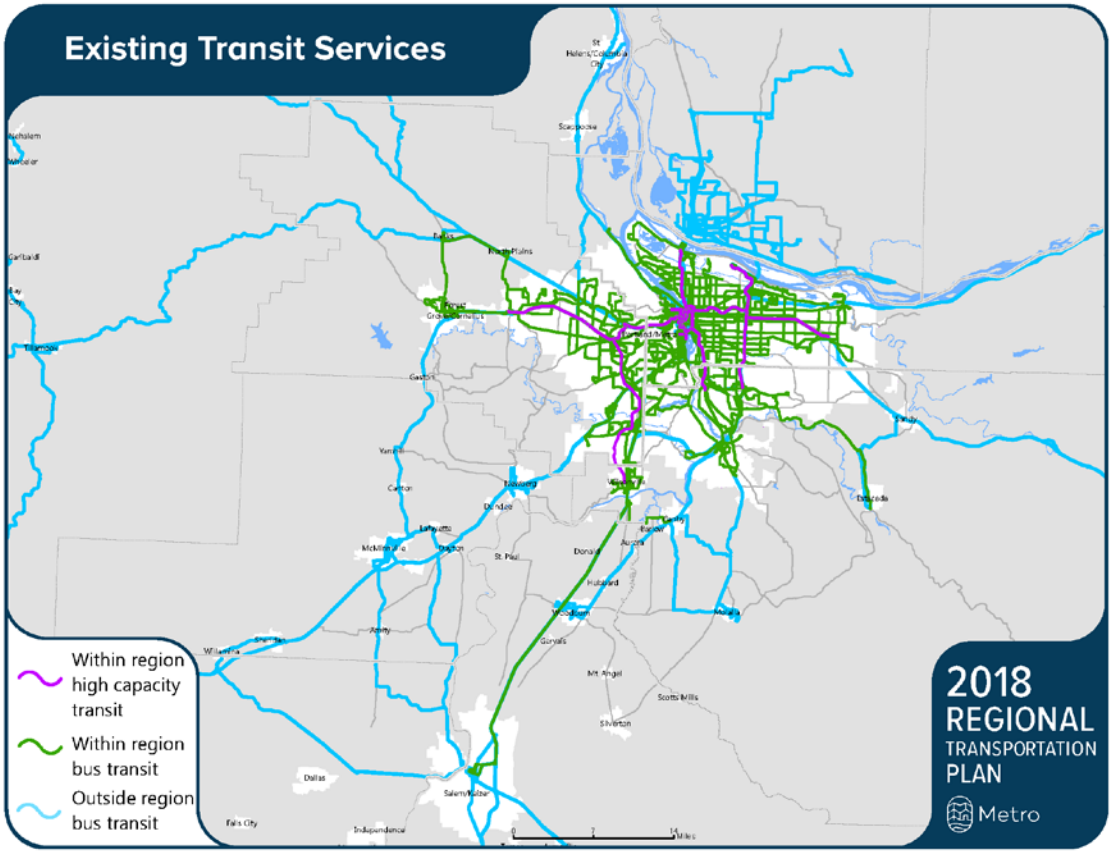
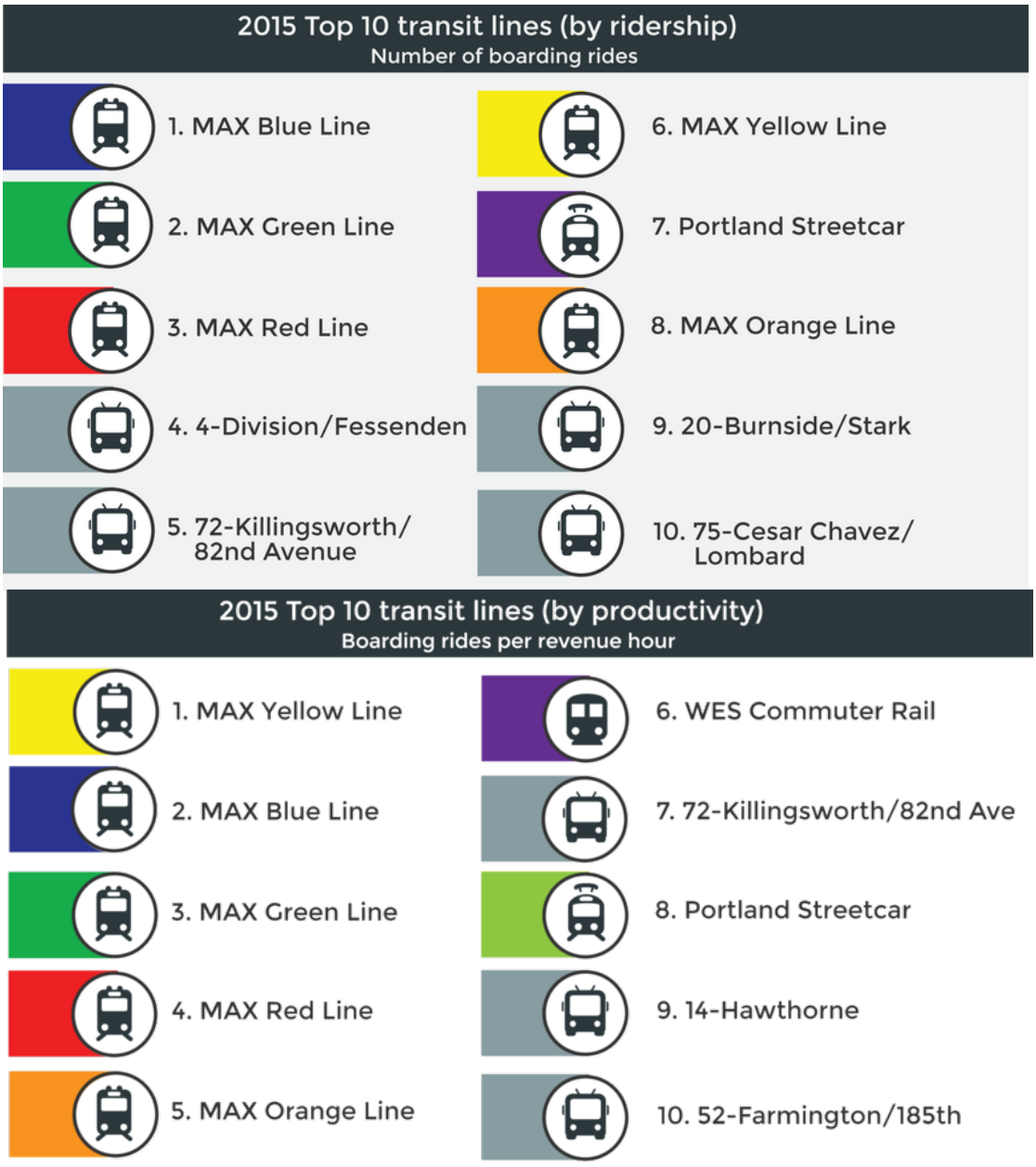


Figure 2.5: Top 10 Transit Lines



As can be seen in the figures above, rail transit (light rail, commuter rail and streetcar) carries a big share of the region's transit passengers. For example, although the MAX network only has 88 total track miles compared to the bus network's 822 miles, MAX lines carry almost two-fifths of all transit trips. The Blue MAX line alone carries nearly 60,000 people per day.

Figure 2.6: Existing Transit Service Hours map

Map of existing transit service hours map will be included in the final transit strategy.

2.2.1 Transit Service within the Metropolitan Planning Area (MPA)

The Oregon portion of our region is served internally by TriMet, Portland Streetcar Inc., the Portland Aerial Tram, Ride Connection and the City of Wilsonville SMART systems. The Southwest Washington portion of our region is served by CTRAN, a full service transit provider for Clark County Washington which provides direct connections to Portland.

The Portland metropolitan region is also served by smaller providers that mainly operate outside our region or MPA but do make connections into our region. The following section describes the transit services that operate within our MPA.

TriMet

TriMet is the largest transit provider in our region. TriMet provides bus, light rail, commuter rail and paratransit services to the Portland metro region. The bus system serves most of the region with 77 bus lines, 12 frequent service bus lines, 6,644 bus stops and 659 buses.

TriMet's light rail MAX connects our regional and town centers of Hillsboro, Beaverton, Gresham, Clackamas Town Center, Milwaukie, Portland and the Portland Airport. TriMet and the region have invested in 5 MAX lines, 97 stations, 145 vehicles and 60 miles of track.

The Westside Express Service (WES) Commuter Rail serves the cities of Beaverton, Tigard, Tualatin and Wilsonville along an existing freight rail corridor. The WES Commuter Rail serves the region with three diesel multiple units (DMUs) and one trailer, two rail diesel cars (RDCs), five stations and over 14.7 miles of track.

In addition to the bus and rail system, the LIFT Paratransit service provides door-to-door service for people with disabilities who are unable to ride regular bus or rail service. The LIFT Paratransit service is provided by 253 LIFT buses and 15 LIFT vans.

City of Portland Streetcar

The Portland Streetcar is owned by the City of Portland and operated by the Bureau of Transportation (PBOT) in partnership with TriMet (the regional transit agency) and Portland Streetcar, Inc. (PSI), a non-profit that provides management support and private sector involvement in planning and operations.

Portland Streetcar began service July 20, 2001 with a 2.4-mile alignment (4.8-miles round trip) from Portland State University to NW 23rd Avenue. Now, after 16 years, 5 extensions, and over 55 million riders, Portland Streetcar operates three lines around 16-miles of track in Portland's Central City.

South Metro Area Regional Transit (SMART)

The City of Wilsonville operates free in-town bus service in addition to inter-city connections to Salem, Canby, Tualatin, and South Portland. Known as South Metro Area Regional Transit, SMART also provides Dial-A-Ride service and an employee commuter program called SMART Options that encourages and shares resources for multi-modal commute trips. SMART operates over 35 vehicles ranging from 40-foot buses to minivans and a trolley bus.

Ride Connection

Ride Connection is a non-profit organization that works with community partners to provide and coordinate transportation options primarily for older adults and people with disabilities. Ride Connection provides a wide variety of services ranging from to shuttle service to grocery stores and neighborhood centers to commuter service in rural areas not served by fixed route transit.

The following list showcases the various services provided by Ride Connection:

- **RideWise** provides training for older adults and people with disabilities to travel independently and safely on public transit (bus and light rail). This service is at no cost for qualified individuals.
- **Door to Door services** provides personalized transportation services for a variety of needs including medical, nutritive, shopping, supportive services, recreational and volunteer/work related needs.
- **RideAbout** provides a free service for older adults and people with disabilities who need a little extra help getting around. RideAbout bus makes regular visits to grocery stores and local neighborhood centers.
- **Washington County Bus Service** provides residents in rural Washington County a way to get around. Washington County Bus Service provides a connection from the Hillsboro Transit Center to Forest Grove via North Plains and Banks during the morning and evening commute periods.
- **Tualatin Shuttle** provides a free deviated fixed route service connecting the Tualatin WES Commuter Rail Station to employment destinations in the Tualatin area during the morning and evening peak periods.
- **GroveLink** provides a free deviated fixed route service in Forest Grove for access to employment, local destinations and regional transit services like TriMet and Washington County Bus Service from morning to evening commute periods (including mid-day service).

- **North Hillsboro Link** provides a free deviated fixed route service linking the Orenco MAX Station to employment in the North Hillsboro area during the morning and evening commute periods.
- **Non Medical Transportation for OHP Members** provides transportation for non-medical travel for Oregon Health Plan (OHP) members to community services, activities and other services specified in their service plan.

- **Dahlia: Dialysis Transportation** provides a unique free transportation service to individuals who regularly receive dialysis treatments.

Portland Community College Shuttle

Portland Community College Shuttle is a free service to Portland Community College (PCC) students and staff. A current PCC ID must be shown to board the shuttle. Wheelchair lift is available on most buses.

Clackamas Community College Xpress Shuttle

The Clackamas Community College (CCC) Xpress Shuttle is a free shuttle service for students and the public. The shuttle connects from the MAX Green Line at the Clackamas Town Center to CCC in Oregon City and Harmony campuses. There are two shuttles: Shuttle 1 connects Clackamas Town Center and the CCC Oregon City Campus. Shuttle 2 also connects the Clackamas Town Center and the CCC Oregon City Campus with a stop at the Harmony Campus. The shuttles operate approximately 18 hours a day, Monday through Friday while school is in session.

2.2.2 Transit Service outside the Metropolitan Planning Area (MPA)

The following section describes the transit services that operate outside our MPA but provide critical connections to our region.

C-TRAN

C-TRAN offers the citizens of Clark County safe, reliable and convenient public transpiration throughout the Clark County service area. They provide express commuter service to downtown Portland, Lloyd District, and Marquam Hill as well as limited bus service with connections to the Yellow Line light rail station; and three Connector service areas within the city limits of Camas, La Center, and Ridgefield.

In January 2017, C-TRAN launched the region's first bus rapid transit line, The Vine. The Vine uses larger buses, level boarding platforms and other features in order to reduce travel time improve reliability and control costs. The Vine cost less to operate than the service it replaced and saves riders time and highlights C-TRAN as a regional leader in innovative transit infrastructure.

Salem-Keizer Transit Cherriots Regional

Salem Areas Mass Transit District, also known as Cherriots Regional, is the Salem-Keizer transit provider connecting people with places through safe, friendly, and reliable public transportation services. Enhancing the quality of life for the Salem-Keizer area through better air quality, less congestion, and increased services. Cherriots makes connections from Salem Transit Center to and from the Wilsonville Station at the WES between 5 a.m.

and 8 p.m. each weekday. This route is a partnership between Wilsonville SMART and Cherriots, SMART providing eight trips and Cherriots providing five trips each day. Cherriots buses do not operate on weekends or holidays.

Cherry Lift is an origin-to-destination transportation service for people whose disability prevents them from using the Cherriots buses.

Columbia County Rider

The Columbia County Rider ("CC Rider") serves Columbia County residents and visitors with timely bus service between the communities of Clatskanie, Rainier, St. Helens, Scappoose, Vernonia, PCC Rock Creek Campus and many others, including trips to Portland and Kelso/Longview, WA.

CC Rider also offers a Dial-A-Ride service providing door to door transportation services for elderly, disabled and special life needs for the residents of Columbia County.

South Clackamas Transportation District

South Clackamas Transportation district (SCTD) operates three public transit service routes: Molalla to Clackamas Community College, Molalla to Canby, and Molalla City Bus. Upon request by a passenger (all passengers are eligible) using the Molalla City Bus Route, SCTD will deviate up to one-quarter mile from the established route.

Yamhill County Transit Area

The Yamhill County Transit Area (YCTA) provides bus service for everyone throughout Yamhill County with Link Routes to Hillsboro/MAX, Sherwood/TriMet, and Salem/SAM. YCTA also provides a Dial-a-Ride service for those unable to access the fixed routes due to mobility limitations or for those whose origins and destinations are not within close proximity to the fixed bus routes.

Canby Area Transit

Canby Area Transit (CAT) offers commuter bus service to Oregon City, Molalla, and Wilsonville. CAT also offers a general public Dial-A-Ride service within the Canby Urban Growth Boundary and a premium Dial-A-Ride service to eligible individuals who are unable to access the fixed route. Canby and Wilsonville SMART coordinate to provide better connections from Wilsonville to Canby and Oregon City.

Sandy Area Metro

Sandy Area Metro (SAM) offers Gresham and Estacada commuter routes as well as a demand-response service for door-to-door trips as needed. This service acts as a feeder service to the fixed route. A higher need of assistance requiring door-to-door service outside of the service area is also available.

Mt. Hood Express

The Mt. Hood Express transit is a public bus service administered by Clackamas County and serves the communities along Highway 26, running from the city of Sandy east to Government Camp and Timberline Lodge. This service operates seven days a week as a limited stop commuter service. Seasonal service features include bike trailers and ski boxes for the convenience of riders to stow their equipment.

Columbia Gorge Express

The Columbia Gorge Express provides service to and from Portland to Multnomah Falls, linking Gateway Transit Center with Multnomah Falls and Rooster Rock State Park, the Columbia Gorge Express bus provides an option, other than driving, for access the Gorge.

The Columbia Gorge Express will operate Friday through Sunday (and federal holidays), May through September. The bus departs Gateway Transit Center 10 times each day with round trip service to Rooster Rock State Park and Multnomah Falls.

CHAPTER 3: TRENDS, CHALLENGES AND OPPORTUNITIES

There are many trends, challenges and opportunities facing transit service in our region – from the increase in Transportation Network Companies (TNCs) including Uber and Lyft to the abundance of transit apps, an aging population, changing demographics, decline in ridership, growing environmental concerns and many more. It's critical that our region remains proactive instead of reactive.

The following section describes the trends, challenges and opportunities that have influenced our regional transit policies and vision.

3.1 Implementing Climate Smart Strategy Goals

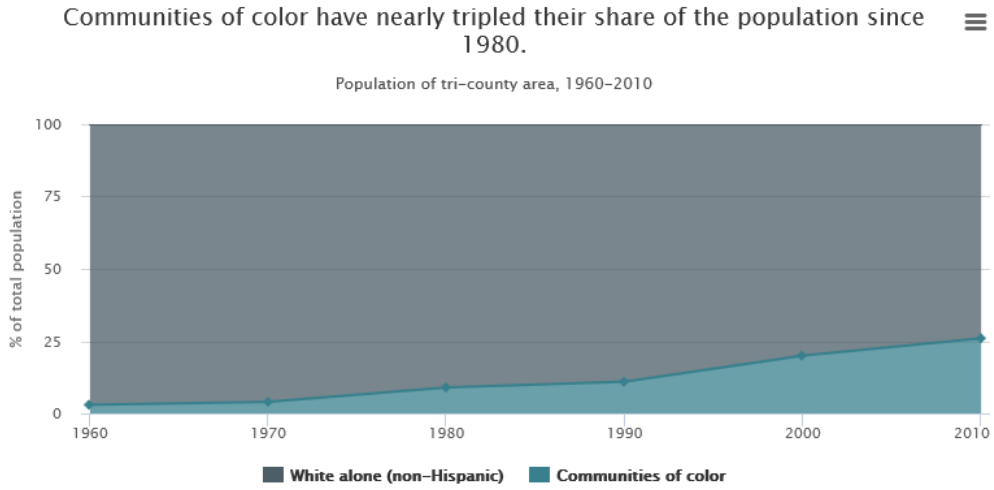
As greenhouse gases continue to increase, the Climate Smart Strategy is a response to a state mandate to develop and implement a strategy to reduce per capita greenhouse gas emission from cars and small trucks by 2035. Six desired outcomes for the region were endorsed by the Metro Policy Advisory Committee and approved by the Metro Council in 2010: vibrant communities, regional climate change leadership, transportation choices, economic prosperity, clean air and water, and equity. The Climate Smart Strategy achieves a 29 percent reduction in per capita greenhouse gas emissions, but it does more than just exceed the state mandated target. Analyses demonstrate it will also support job creation and economic development, save businesses and households money, help people live healthier lives, protect our region's clean air and water, and make the most of the investments we have already made in our transportation system.

The Regional Transit Strategy strives to support the goals laid out in the Climate Smart Strategy by improving transit's accessibility, service, reliability, and reach. Transportation sources account for 34 percent of greenhouse gas emissions in Oregon, the largest source of emissions in the state. Therefore, increasing use of transit, walking, biking, carpooling and an overall reduction to the number of automobiles on the road is a key way to decrease emissions and help meet the goals set out by the strategy. TriMet and SMART are actively pursuing opportunities to shift to low or no emission buses as part of their sustainability initiative to support this effort.

3.2 History of Racial Exclusion and Bias

Communities of color are growing in their share of the Portland region's population, and they're less concentrated in Multnomah County than they once were.

Figure 3.1: Communities of Color Population Growth



In 1960, Clackamas and Washington counties had a combined population of 205,275. According to that year's Census, 153 of them were black and 965 were neither white nor black. In Multnomah County, about 16,000 people of the county's total population of 523,000 people were black – the vast majority of the state's 18,000 black residents. By 2010, Multnomah County had 530,000 white, non-Hispanic residents – about 72 percent of its total population of 735,334 residents. The black population had grown to 41,000 residents, still the majority of Oregon's 69,000 black residents but not the overwhelming majority it was four decades earlier.

In 2010, about 220,000 residents of Clackamas and Washington counties identified as Hispanic or a race other than white – about a quarter of their total population. In 1980, the first year the Census reliably tracked Hispanic population figures; there were about 21,000 Hispanics in greater Portland – about 2 percent of the tri-county population. By 2014, that number was estimated to be 202,000 – close to 12 percent. Overall, communities of color saw their share of greater Portland's population rise from barely 3 percent in 1960 to almost 26 percent in 2010.

Unfortunately, most communities of color in the Portland metropolitan region currently experience the worst economic and social outcomes of any demographic group. A continued history of strategic, exclusionary and discriminatory policies has disproportionately impacted communities of color in our region. As a result, the region struggles with racial disparities across nearly every measure of well-being and prosperity, including transportation. As a region we must proactively address issues of racial disparity and embrace the current and future diversity.

The Portland metropolitan region's economic prosperity and quality of life depend on a transportation system that provides every person and business in the region with equitable access to safe, efficient, reliable, affordable and healthy travel options.

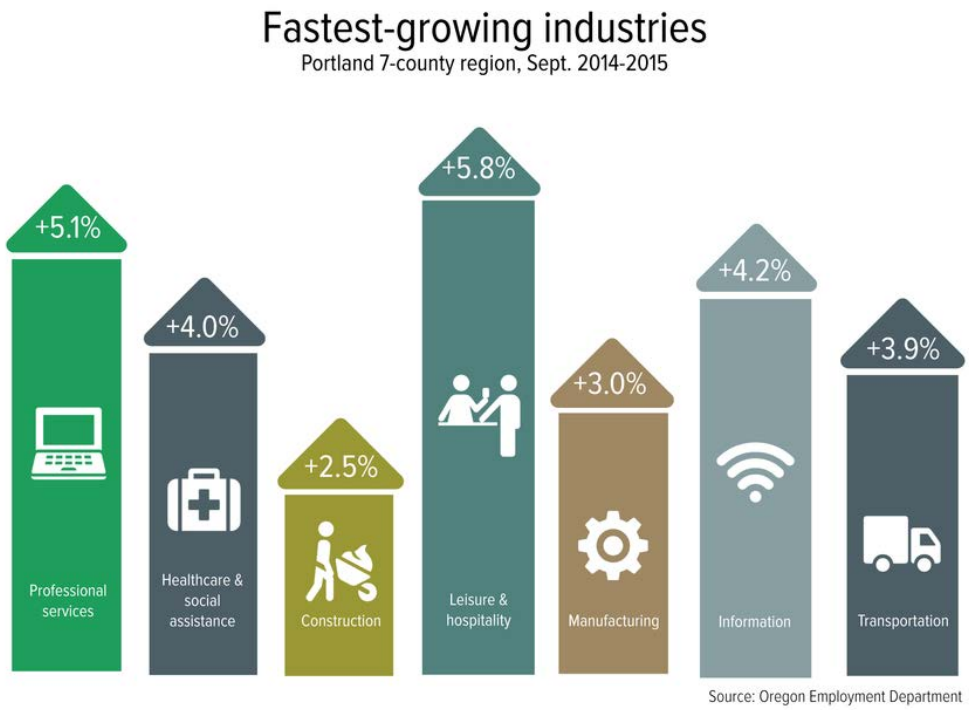
The region's transportation system is one tool of many for reducing disparities experienced by communities of color. With a transportation system focused on mobility and access that

addresses the transportation disparities faced by communities of color, the region's transportation system has the ability to open opportunities which can dramatically improve outcomes for people of color and the region as a whole.

3.3 Economic Growth

Portland is a critical West Coast domestic hub and international gateway for commerce and tourism. The economic health of the region is dependent on industries that have been attracted to the region because of our well-trained labor pool, relatively low cost of living, and high quality of life. Many of the companies who have moved to Oregon want to locate near transit lines.

Figure 3.2: Fastest Growing Industries



Several job sectors are doing exceptionally well in the Portland region, particularly professional and business services and leisure and hospitality. These sectors have been adding workers more quickly than other sectors as the region comes out of the recession.

Unfortunately, economic growth slowly puts strain on the factors that make the area attractive in the first place. As more people move to the area, congestion and the cost of living increase. As more goods are produced and transported throughout the region, emissions increase and erode air and water quality

Transit plays an important role in making the region affordable, attracting a well-educated work force, keeping freight and goods moving, and supporting access to new jobs. Transit supports a healthy economy by providing essential connections between where people

live and work. Transit can help reduce the number of cars on the road, which reduces traffic congestion and improves the movement of freight.

3.4 Aging Infrastructure

The region's transit system is relatively new compared to other metropolitan areas. However, it is becoming increasingly more important to invest in it in order to preserve safety and efficiency. While the focus has largely been on system expansion in previous years, critical elements will soon require maintenance as the system ages. TriMet has provided the region with public transit since 1969. Although significant technological advancements have required fairly constant updates, TriMet's fleet and facilities need to be kept in a state of good repair through continual investment.

In addition, MAX light rail vehicles will need to be replaced during the plan period. The 26 oldest high-floor Type 1 MAX vehicles will need to be replaced by 2027 at a cost of $125 million, followed by 52 Type 2 MAX vehicles in 2034 and 27 Type 3 vehicles in 2040 at a cost of $250 million and $130 million respectively.

3.5 New Technology

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

Smart phones have changed the way people access information about transit. At a time when 90 percent of Americans own a cell phone, 58 percent own a smartphone, and 87 percent use the internet, technology can play a critical role in removing barriers to understanding and using a variety of transit options. For example, smartphone apps can tell people when the next bus or MAX will arrive or how to plan a trip that uses multiple modes.

In order to be effective, user information provided by technology must be easy to use, accurate, and reliable. While technology that is up-to-date and user-friendly can be an enormous asset, technology that isn't up to the standards that people have come to expect can be a hindrance to getting people to choose transit when more convenient options exist.

3.6 Affordability

Traditionally, housing is considered affordable if it costs less than 30% of household income. However, those measures don't account for transportation costs, which are typically a household's second largest expense and inextricably tied to housing. According to the Housing and Transportation Index, the average Portland metropolitan area household spends 31% of their income on housing and an additional 21% on transportation. While only slightly higher than the ideal 50% for housing and transportation costs, this number hides the shocking truth of how much these costs vary.

In reality, these costs range from a respectable 25% to a sky-high 105% when looking at individual blocks. In many scenarios housing costs are the primary financial burden for residents of our region, but in some areas transportation costs represent 27% of household income. When housing and transportation costs are looked at collectively it becomes clear that maintaining the affordability of transit in our region is critical to our region's economic success.

Additionally, increasing affordability means more than lowering the cost of transit. It also means increasing access to it. This is a region where 15.3% of households take fewer than 10 transit trips per year. No matter how low the cost, people will not use transit if it isn't physically accessible, safe, and reliable. If there are no alternative transportation options, people will be forced to bear the costs of owning and relying on automobiles, which add up to $12,213 for the average household in the metropolitan area.

The Regional Transit Strategy seeks to address these factors in order to make transit more accessible and convenient. In order to become the region we sought to create in the 2040 Growth Concept, affordable transit must become a priority.

3.7 Changing Travel Behavior

Travel behavior – mode choice, commuting patterns, trip length, and frequency – is influenced by a number of factors, including demographics, land use, community design, cost, access, car ownership, the economy, job locations, and social and environmental values.

Between 1990 and 1995, daily vehicle miles traveled (VMT) per capita increased significantly nationally as well as in the Portland metropolitan region. During the past 18 years, implementation of the region's integrated transportation and land use planning strategy – the 2040 Growth Concept – has resulted in 15 percent fewer miles driven per capita and less time spent commuting than the national average.

It is likely that this trend will continue, as transportation preferences are changing for the newer generations of Americans. The millennial and future generation expect shared mobility options rather than the single-occupancy vehicles their parents dreamed of because they allow them the luxury of working while in transit, staying connected with peers, relaxing, or exercising through active transportation. However, with the cost of housing on the rise, the millennial and future generations are unable to afford housing in areas with robust public transit options.

This public support could generate a big opportunity at this moment in time to promote investments that will encourage future generations to use more transit than previous generations through all stages of life and to continue to prioritize transit as a safer, more eco-friendly, and healthier transportation option.

3.8 Public Health

Inactive lifestyles are fueling an alarming increase in obesity in U.S. adults and children, and health experts are warning us about the resulting long-term health implications. At the same time, population growth puts added pressure on our air and water quality, which directly impact public health. According to the Centers for Disease control and Prevention (CDC), the estimated annual medical cost of obesity in the U.S. was $147 billion in 2008 U.S. dollars; the per capita yearly medical costs for people who are obese were $1,429 (42 percent) higher than those of normal weight.

There is a trend of rapidly rising rates of chronic disease associated with obesity, weight problems, and sedentary lifestyles – conditions that public health officials now describe as epidemic. There was a dramatic increase in obesity in the United States from 1989 through 2014. It has leveled off in recent years and even decreased in certain states, but more than one-third of U.S. adults (36.5%) are still obese today. Oregon obesity levels are lower than national levels; in 2015, 27.9% of Oregon's population was obese. In the greater Portland region, the percentage of adult survey respondents who reported being overweight or obese increased between 2002 and 2010. In 2010, Clackamas County had the highest percentage of adult survey respondents reporting being obese (27.6%). Washington County had the highest percentage of adult survey respondents reporting being overweight (39.2%) and the highest percentage of adults who were either obese or overweight (63.1%). Multnomah County had the lowest percentage of adults who were either obese or overweight (56.5%).

Another public health concern is air and water quality. Some measures of air quality have improved dramatically; others indicate more work is needed. Regional air quality has met the Environmental Protection Agency's air quality standards for six pollutants, sufficient to achieve "maintenance" status. In the 1960s, the region averaged 180 days of air quality violations every year for ozone and carbon monoxide, but today we average zero.

More work is needed though. The Interstate 5 (I-5) corridor and the Pacific Northwest have unacceptable levels of benzene and other air toxins. For example, levels of toxic emissions near downtown Portland – most notably benzene – have been measured at more than 8.5 times the federal standard. Diesel particulate matter is another air toxin concern, and diesel emission levels in parts of the region exceed healthy levels. Regulatory monitoring of these air toxins and carbon emissions is not currently required, yet they pose significant risks to public health.

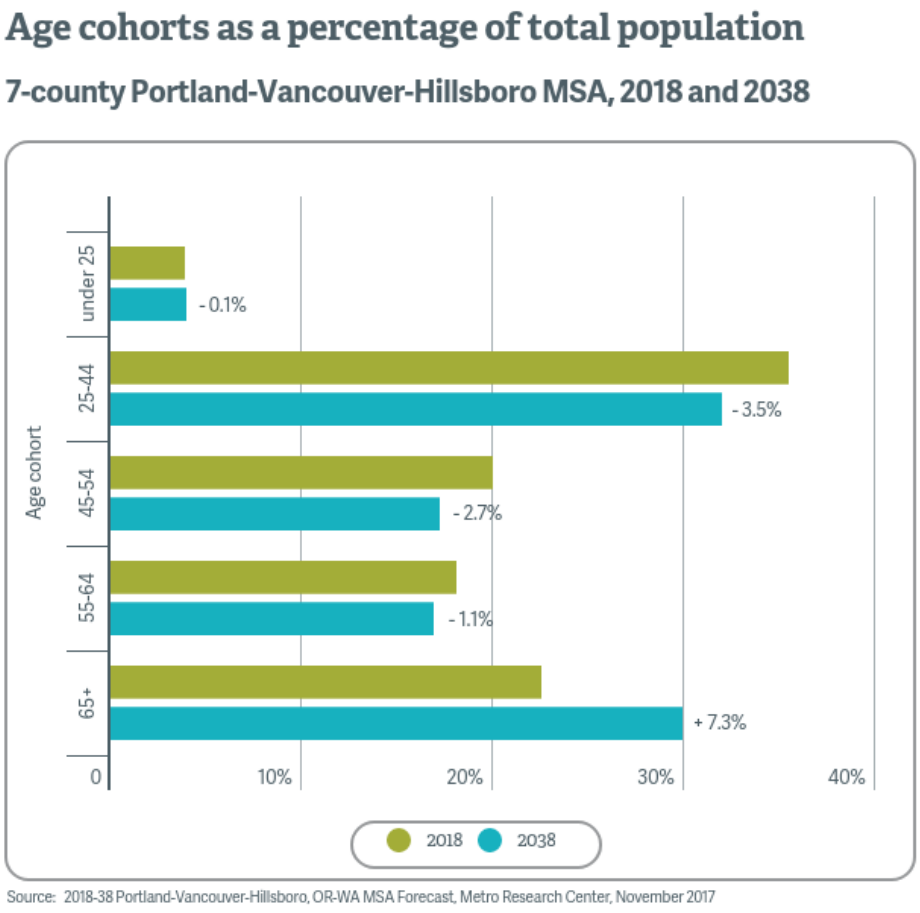
Interest in the connection between urban planning and active living grew in the 1990s, an outcome of a growing interest in "smart growth," a movement to integrate land use, transportation, and public health planning. Studies since then report positive effects on human health in neighborhoods built to encourage walking and biking. Not only does transit facilitate more active lifestyles, it also has a positive impact on chronic diseases such as asthma that are related to air quality and vehicle emissions. Since transit can have such a positive impact on public health, the Regional Transit Strategy affirms the RTP's vision for an active and healthy region.

3.9 Aging Population

Age distributions are influenced by birth rates, death rates, and migration. As the baby boomer population - the second largest generation after millennials - reaches retirement age, the proportion of people over 65 has begun to rise in both absolute numbers and percentage of the total population. The median age in the Portland region was 36.7 according to 2012 American Community Survey data, up from 34.8 in 2000.

In 2012, about 13.1 percent of the population in the Portland-Vancouver area was over 65; by 2030, that number is forecasted to be 17 percent. An aging population requires transit facilities equitably designed to serve people with a range of physical abilities.

Figure 3.3: Age cohorts as a percentage of total population



In the greater metropolitan statistical area (MSA) which includes the greater Portland area, there will be a significant growth in the older adult (65+ years) population between 2018 and 2038 of over 7%, compared to a reduction for other age groups.

The changing demographics of the region for age follow a national trend of aging – the percent of the population over 65 continues to increase. Today, 12 percent of Americans

are over the age of 65. By 2030, 20 percent of the United States' population will be older than 65.

3.10 Public Funding

The need for public funding is directly related to the issues of growth and aging infrastructure. Today, the federal government is investing less in infrastructure than ever before. While budgets are shrinking, our transit systems require funding for maintenance and expansion. Traditional approaches to financing transit projects are not only failing to maintain our existing infrastructure, they are wholly inadequate to expand and build new systems to accommodate growth.

Federal and state transit funding sources are at their lowest levels since the 1960s. Diminished resources mean increased competition for funds and reduced ability to expand, improve, and maintain existing transit infrastructure. New funding strategies, enhanced public and private collaboration, and stronger public support for new revenue sources must be developed to pay for major system investments.

HB2017, also known as Keep Oregon Moving, is an exciting new step in the right direction for transit funding. HB2017 includes funding for transit that will allow our region to expand and improve transit service. This goes a long way in expanding and improving transit service and includes opportunities for natural gas or electric vehicles purchases and a low income fare program.

Oregon lawmakers passed House Bill 2017(Section 122) the first comprehensive transportation package to receive legislative approval since 2009. At $5.3 billion, the package makes significant investments in transit and many other transportation initiatives across the state. The measure creates a statewide employee payroll tax dedicated to transit improvements.

CHAPTER 4: REGIONAL TRANSIT VISION AND POLICIES

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

4.1 Regional Transit Vision

What do frequent, convenient, accessible and affordable mean?

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

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

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

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

Make transit more accessible by ensuring safe and direct biking and walking routes and crossings that connect to stops, as well as improve accessibility for seniors and persons with disabilities to ensure transit is accessible for everyone. Accessibility could also

include park and ride facilities and drop off/pick up areas. Expand the system to improve access to jobs and essential destinations and daily needs.

Most people are comfortable walking ¼ to ½ mile to transit. The **first/last mile connection** refers to a distance greater than ¼ to ½ mile to fixed route transit service.

Accessibility refers to two separate but related aspects of transit. One is to ensure that transit is physically accessible to everyone, regardless of age or ability. All transit users must access transit via biking or walking, even if stops are mere feet away. Complete sidewalks and bike paths enhance the experience of using transit and the accessible stations are essential to making transit work for everyone. The first/last mile is also an important part of accessibility, as it often represents the best opportunity for people living in rural towns or outlying areas to access our transit system.

The second component of accessibility is to ensure that essential destinations and jobs are accessible by transit. As the region grows, it's crucial to continue to expand community and regional transit service in order to improve access to these daily needs, and encourage employers to locate on existing transit routes.

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

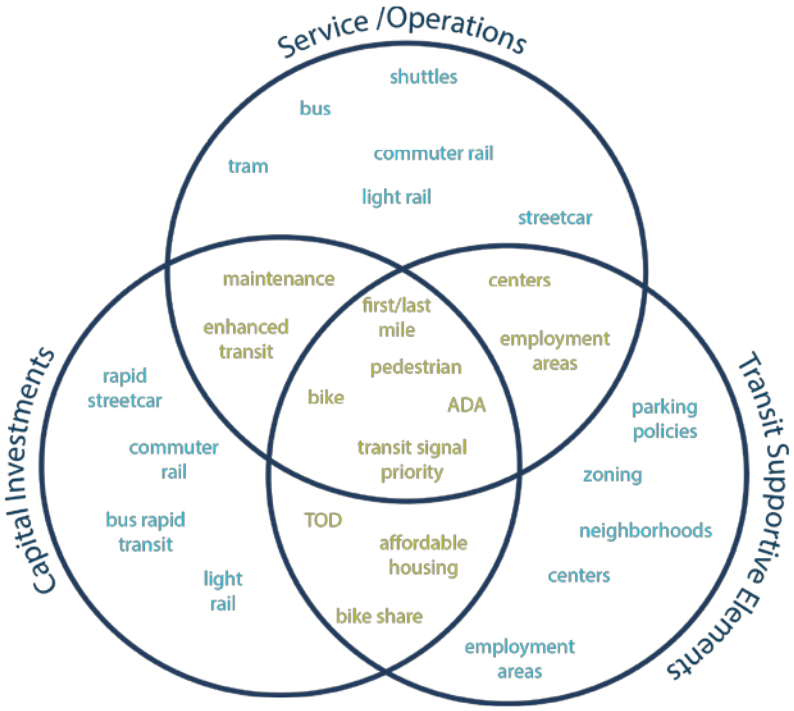
4.1.1 Implementation of the Regional Transit Vision

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

1. **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.
2. **Capital investments in transit:** new enhanced transit strategies such as signal priority, dedicated lanes or high capacity transit options such as bus rapid transit, light rail, commuter rail or high speed rail.
3. **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 4.1 shows the relationships between these different types of investments.

Figure 4.1: Service improvements, capital investments and transit supportive elements



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

4.1.2 Regional Transit Network Concept

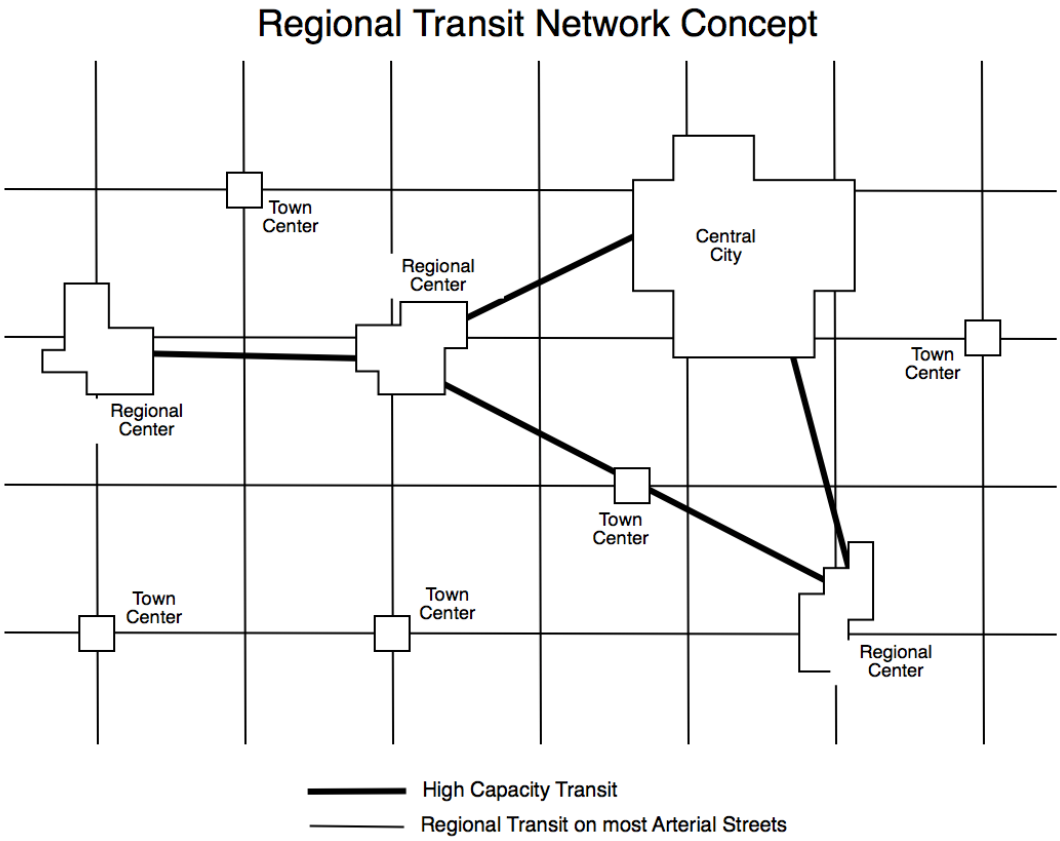
The regional street system has carried public transit for more than a century, beginning with the streetcars of the late 1800s and evolving into a combination of vans, buses, streetcars and light rail trains today. The Tri-County Metropolitan Transportation District of Oregon (TriMet) is the primary public transportation provider for the metropolitan region. The South Metro Area Regional Transit (SMART) in Wilsonville also provides regional transit service, connecting Wilsonville to downtown Portland. Just outside of the Metro region, Sandy Area Metro and Canby Area Transit provide transit service for Sandy and Canby. Bus service in other surrounding areas, all with connections to TriMet and SMART, is also provided by C-TRAN (Clark County, WA), Ride Connection, South Clackamas Transit District (SCTD), Cherriots (Salem, OR), Tillamook County Transportation District (Tillamook, OR), and Yamhill County Transit Area (Yamhill County, OR).

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

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

As part of the 2040 Growth Concept, transit is critical to connecting centers. **Figure 4.1** shows how the regional transit system concept would connect the 2040 centers.

Figure 4.2: Regional Transit Network Concept



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

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

Adjacent land uses, block size, street connectivity, and parking management affect the success of transit service. Policies and investments that make transit work best can be found in Table 4.1.

Table 4.1: Effects of Land Use Strategies on Transit Service

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

Source: TriMet

Transit-supportive development 4patterns include:

- A compact urban form that places destinations close to transit.
- A mix of uses, and a balance of jobs and housing, that creates a place where activity occurs at least 18 hours a day.
- Locating a mix of service near transit including grocery stores and medical offices.
- 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 paths to extend the effective coverage of bus and rail service.
- Managed on-street and off–street parking.

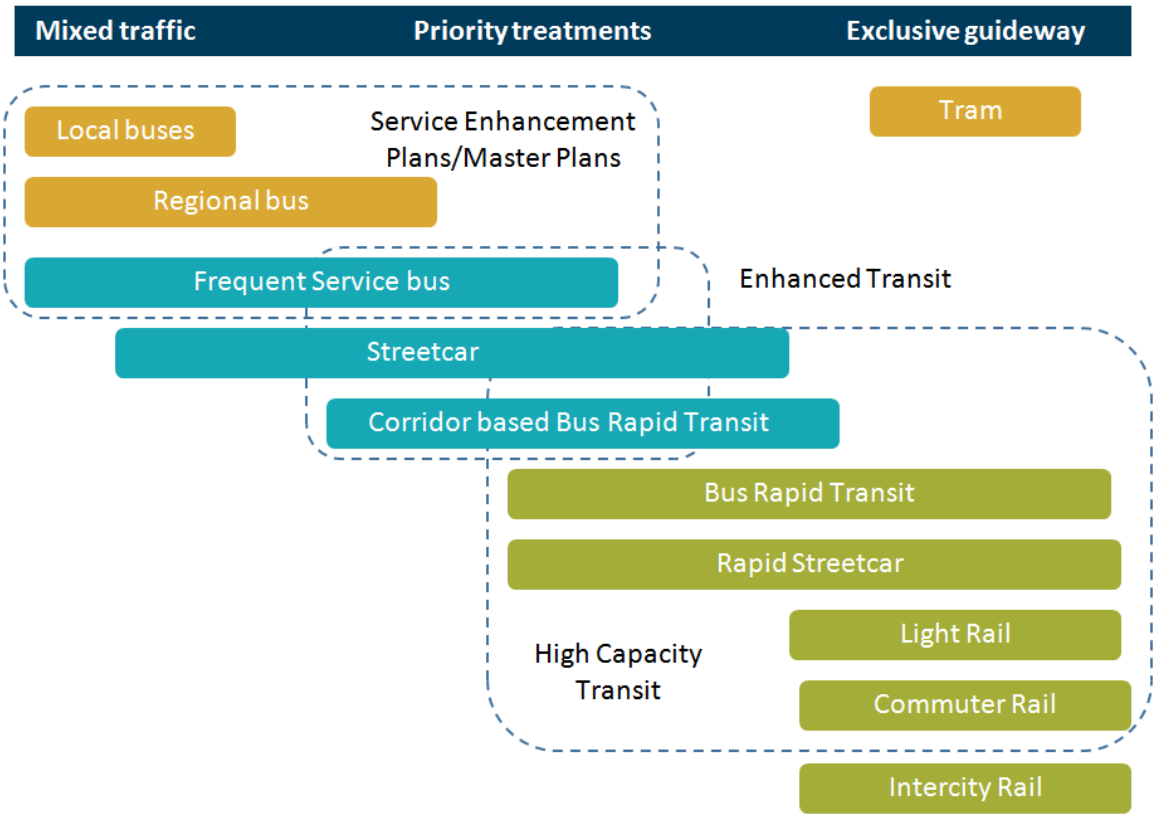
Areas with low population and/or employment densities, abundant free parking, and with difficult access to transit stops generate fewer riders than areas with transit-supportive development. When fewer riders are generated, it costs more per ride to provide transit

service than it does in transit-supportive areas. Ridership productivity is a key criterion in assessing the benefits of service improvements and new transit investments.

4.2 Regional Transit Network Map and Functional Classifications

The Regional Transit Network is the future transit vision. The Regional Transit Network includes future regional and local bus, enhanced transit corridors, high capacity transit and intercity rail, reflecting the region's updated future transit vision. Shown in Figure 4.3, the Regional Transit Network Map has been updated to include the 2009 HCT lines, new enhanced transit concept corridors, streetcar and future transit service as identified by TriMet's Service Enhancement Plans and Wilsonville's' Transit Master Plan. The map also highlights areas planned to be served by community-job connector shuttles.

Figure 4.3: 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.

4.2.1 Regional Transit Network Map

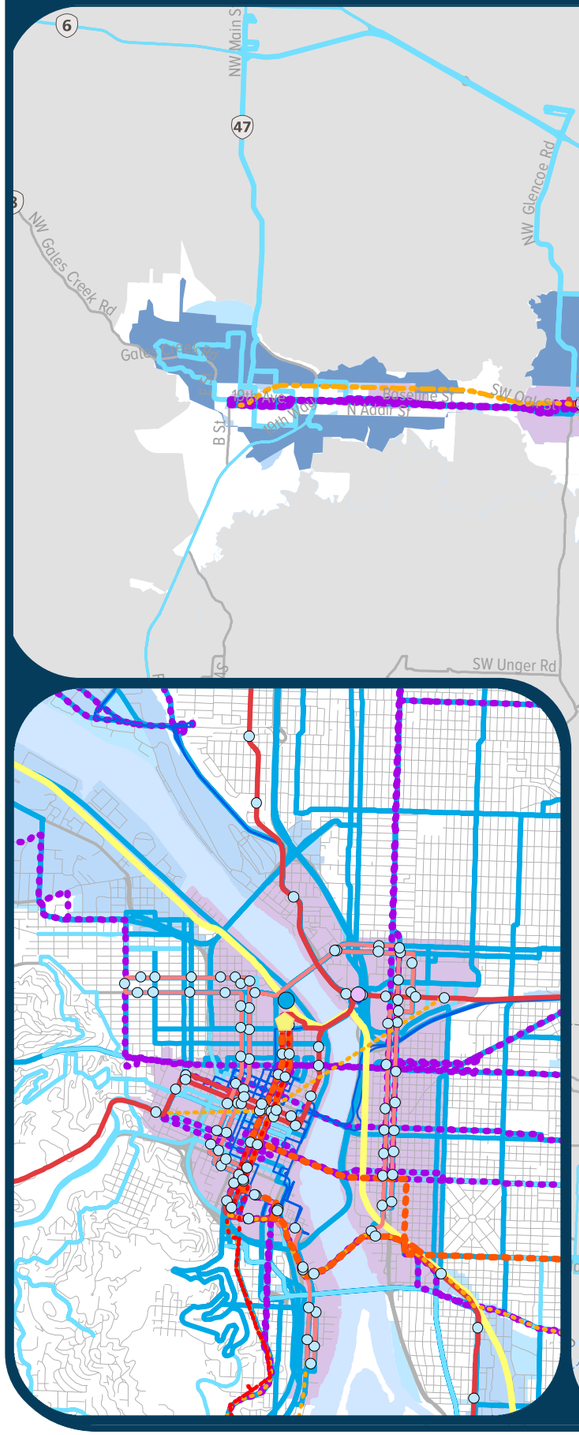
Our existing and planned system includes a variety of transit modes, each with a special function in the overall system. Local, regional and frequent service bus lines are the backbone of our transit system. The transit providers plan for improving and expanding transit service through service enhancement plans, master plans and through annual service planning. Figure 4.5 presents the future transit vision.

Figure 4.2:

Regional Transit Network

- Intercity rail terminal
- Transit centers
- Air terminal
- Bus stations
- Existing light rail
- Commuter Rail
- Enhanced transit corridor
- Street Car
- HCT in progress
- Future HCT*
- Intercity high speed rail
- Frequent Bus
- Regional and local bus
- Bus service outside MPA
- Community/Jobs Connector
- Urban centers
- Employment land
- Industrial

* includes Bus Rapid Transit, Rapid Streetcar, Light Rail and Commuter Rail. Dotted lines represent future plans.



2018 REGIONAL TRANSPORTATION PLAN

Metro

0 2.5 5 Miles

Date: 6/12/2018

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4.2.1.1 Transit Service improvements

Our bus system operates in mixed traffic and provides service across the region. Local and regional bus service connect people to and from home to work, play and other daily needs.

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

4.2.1.2 Enhanced Transit Concept

The Enhanced Transit Concept (ETC) is a new concept the transit network. The purpose of ETC is to improve transit speed and reliability on our most congested existing and planned frequent service bus or streetcar lines. Potential corridors were evaluated based on reliability, dwell and ridership per mile. Corridors that had the highest reliability issues (difference in travel times between free flow and peak period conditions) in addition to areas experiencing significant dwell and have high ridership were identified as ETC corridors.

4.2.1.3 High Capacity Transit

Our high capacity transit (HCT) system operates with the majority or all of the service in exclusive guideway. The high capacity transit system is meant to connect to regional centers and carry more transit riders than the local, regional and frequent service transit lines. HCT could include rapid streetcar, corridor-based bus rapid transit, bus rapid transit, light rail or commuter rail. Future planning studies are required to determine the specific mode. The Regional Transit Network map has been updated to include the 2009 HCT lines, with updates. These updates include:

- Moving the I-5 HCT corridor from under development to a future HCT project;
- Moving the Portland to Lake Oswego Streetcar project from under development to a future HCT project;
- Portland to Gresham in the vicinity of Powell Corridor remains a future HCT project, while the Portland to Gresham in the vicinity on SE Division St is an HCT project under development;
- Moved Portland to Sherwood in the vicinity of Barbur/Highway 99 Corridor from from a future HCT to project under development; and
- Modified the Clackamas Town Center to Damascus to connect to Happy Valley via the Columbia to Clackamas Corridor as a future HCT project.

4.2.1.4 Intercity Rail

Intercity passenger rail provides high quality rail service to communities outside of the region provides an important connection to our region. Intercity rail can connect regions and even states. This type of service goes beyond our regional boundaries and serves people traveling to destination in and out of our region.

4.3 Regional Transit Policies

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

Eight policies form the foundation of this vision:

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

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

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

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

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

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

Policy 7: Use emerging technology to provide better, more efficient transit service – focusing on meeting the needs of people for whom conventional transit is not an option.

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

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

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

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

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

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

Technology also provides tools to actively manage the Portland metropolitan region's transit system. This can involve using intelligent transportation systems and services to help improve the speed and reliability of transit, or taking advantage of smart phones and other personal technology to efficiently communicate information about transit options.

Microtransit can differ from conventional transit service in several different ways:

- Some operate on flexible routes to pick up and drop off riders nearer to their origins and destinations.
- Instead of operating on a fixed schedule, microtransit services may allow riders to request a ride when they need it.
- Services often use vans or small buses instead of 40-passenger buses.
- Many services are privately operated or operated through partnerships between public agencies and private companies.

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

While our transit system is still relatively new, it will become increasingly important to invest in upkeep as the system ages. It is critical to ensure that it is well-maintained and to replace or improve outdated parts of our transit system to preserve its efficiency. In addition, the Federal Transit Administration's State of Good Repair program is dedicated maintenance of our transit system includes incorporating industry best practices and recommendations related to reliability and safety and supporting TriMet's implementation of its Service Enhancement Plans to help transit agencies maintain bus and rail systems as part of the Moving Ahead for Progress in the 21st Century (MAP-21) Act. These grants are distributed to state and local governments to repair and upgrade rail and bus rapid transit systems that are at least seven years old.

Following the Great Recession of 2008, TriMet delayed new bus purchases for four years because of the resulting decrease in income from taxes. Starting in 2012, TriMet began to replace buses on an accelerated schedule and has since moved away from having one of the oldest fleets in the country to an industry-standard average age of eight years. According to the FTA, the average useful life of a bus is 12 years, or 500,000 miles. Another area of

investment for TriMet is the MAX system, parts of which are more than 30 years old. While the FTA's assigned life expectancy for rail cars is 25 years, industry experience reports a 30-35 year lifespan in reality. Nevertheless, the TriMet light rail system will soon be in need of repairs and upgrades.

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

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

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

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

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

4.3.3.1 Expand regional and local frequent service transit

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

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

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

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

Types of frequent transit services and facilities include:

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

Transit service improvements and expansion should be prioritized, with an emphasis on congested transit lines that serve historically marginalized communities. Decisions about transit investments should be assessed with an equity lens to ensure transit access for our most vulnerable communities.

4.3.3.2 Improve local service transit

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

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

Providing local bus service increases the convenience of transit, particularly for areas without frequent service transit or where traditional transit service is not viable. Local transit service also expands community and regional transit service across the region that improves access to jobs and community places and can help facilitate that first/last mile

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

Types of local transit services include:

- Local Bus
- Para-Transit
- Deviated "On-Demand" routes
- Community and job connector shuttles
- Employer Shuttle Service
- Community Event Shuttles
- Tram

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

4.3.3.4 Demand response services

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

Additionally, Metro's considers transit service as part of the analysis of urban reserve areas for possible inclusion in the UGB, as directed by Statewide Planning Goal 14 Urbanization which includes a requirement to analyze the orderly and economic provision of public facilities and services. Public facilities and services is defined as sanitary sewer, water, storm water management and transportation, including the provision of public transit services. TriMet and SMART complete the public transit service analysis on behalf of Metro for the urban reserve areas in their respective service districts. This analysis is used to compare the relative costs, advantages and disadvantages of providing public transit service to the different urban reserve areas.

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

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

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

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

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

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

- Light Rail Transit (MAX)
- Rapid Streetcar (Streetcars running in mostly exclusive right-of-way so that they are able to travel faster safely)
- Bus Rapid Transit (majority of service operates in separate and dedicated right of way, defined stations, transit signal priority, short headways).
- On-Street Bus Rapid Transit (substantial transit investment, some separate or dedicated right of way, defined stations, transit signal priority, short headways).
- Commuter Rail (WES)
- Interurban Passenger Rail (e.g., Amtrak or regional rail systems in other regions)
- Intermodal Passenger Facilities (e.g., Union Station and Greyhound)
- Secure bicycle parking (Bicycle stations or Bike & Rides
- Park & Ride lots

- Transit Centers
- Transit Stations

Major infrastructure investments have implications within the communities they are located. Historic data shows that a major HCT investment contributes to both positive and negative outcomes for the communities they serve. It is critical that during the planning for a new HCT investment, a strategy should be developed that considers both the positive and negative impacts of the investment, particularly as it applies to the most at-risk populations. These tend to be people of color, low income, low English proficiency, seniors and youth. Additionally, these populations tend to be our most transit dependent. What this means is that their potential displacement from the economic pressures that the investment brings, ultimately leads to undermining the long-term effectiveness of the investment. By planning all new HCT lines through an Equitable Development Framework, we can attempt to lessen the negative impacts of the investment, while enhancing the opportunity that these transit-dependent populations benefit from it, by limiting residential and business displacements and gentrification.

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

4.3.4.2 Improve transit speed and reliability through the regional enhanced transit concept

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

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

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

ETC partnerships could also create more reliable, higher quality transit connections to connect low-income and transit-dependent riders to jobs, school and services. It would allow for a more fine-grained network of higher-quality transit service to complement our

high capacity transit investments, relieve transit congestion and grow ridership throughout the region.

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

Improving the speed and reliability of our frequent service network could be implemented at the regional scale, along corridors or at "hot spot" locations. Table 4.2 describes the different types of treatments that have the potential to improve reliability.

Table 4.2: Enhanced Transit treatments

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

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

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

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

Key findings from this analysis are summarized below:

- **Potential Intercity Corridor.** A potential future **commuter rail line to Newberg** may be feasible in the long term. Even though the riders per mile analysis looks favorable due to the relatively short distance of the line, the overall population in the rail shed is very low compared to other corridors, and overall ridership is relatively low. Metro, regional partners and corridor communities should consider right of way preservation planning for this corridor and consider land use planning activities that focus on transit supportive development around potential future commuter rail station areas.
- **Promising Intercity Corridor**. **Salem/Keizer** is the most promising of the corridors evaluated. In addition to the highest market potential, this corridor has a number of favorable aspects: there is existing Amtrak passenger rail service in the corridor, this is a lightly used freight corridor that was evaluated in the 2001 Oregon Rail study as a potential commuter rail corridor, and an alignment could easily tie into the WES commuter rail service now operating to Wilsonville. If the region or state chose to focus on the development of inter-regional rail service, this alignment should take priority. After coming to a similar conclusion about this corridor, the Oregon State Legislature passed House Bill 2408, which directs ODOT to study the possible extension of commuter rail service from Wilsonville to Salem, which is currently serviced by SMART today.

In addition, the Pacific Northwest Corridor is one of ten corridors identified for potential high-speed rail investments to better connect communities across America. Shown in Figure 4.5, this corridor provides an important intercity rail connection between Eugene, Oregon and Vancouver, British Columbia. More work is needed to determine what partnerships, infrastructure investments and finance strategies are needed to support this level of service.

Figure 4.5: U.S. High Speed Intercity Passenger Rail Network

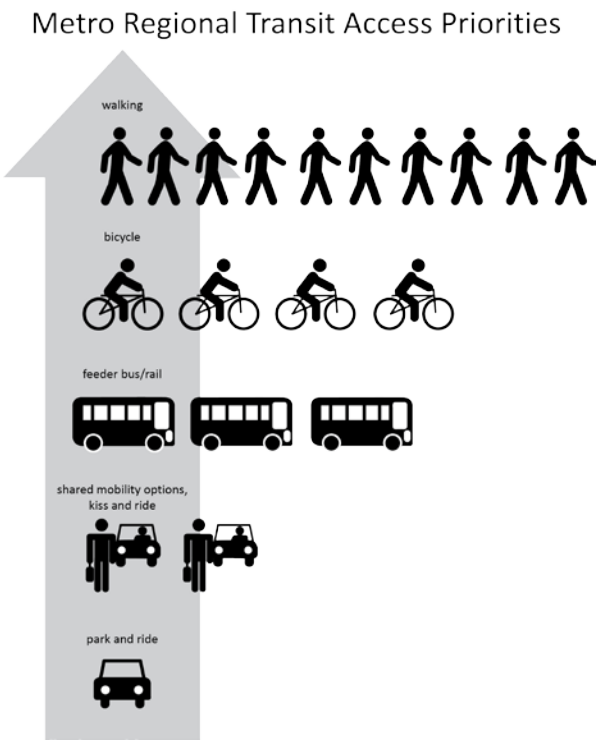
Source: U.S. Department of Transportation (April 2016)

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

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

Providing safe and direct walking and biking routes and crossings that connect to transit stops ensures that transit services are fully accessible to people of all ages and abilities. At some point in their trip, all transit riders are pedestrians. The environment where people walk to and from transit facilities is a significant part of the overall transit experience. An unattractive or unsafe walking environment discourages people from using transit, while a safer and more appealing pedestrian environment may increase ridership. Likewise, high quality local and regional bicycle infrastructure extends the reach of the transit network, allowing more people to access transit from longer distances. Figure 10 depicts the Metro region's priorities for providing multi-modal access to the region's transit service. It prioritizes walking and biking to transit and deemphasizes driving to transit.

Figure 4.6. Regional Transit Access Priorities



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

Improving pedestrian and bicycle access to transit is accomplished through:

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

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

4.3.6.2 Explore new ways to improve connections to high frequency transit

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

- In the city of Portland, transportation network companies (TNCs) Uber and Lyft provided an estimated 7 million rides in 2017. We do not know how many of these were first/last mile connections to transit.
- Car sharing services operate over 1,000 vehicles in the region, and though some of these services have been around for a decade, new models have sprung up, including free-floating car sharing companies like ReachNow and Car2Go that allow people to pick up and drop off a car anywhere within a defined service area.
- The City of Portland's bike share system, BIKETOWN, launched in July 2016, and carried over 300,000 trips in its first year. Many of the bikeshare stations are purposefully co-located at transit stations.

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

- Shared electric bikes or scooters allow riders to take easier or longer-distance trips than they could on a conventional bicycle.
- Microtransit, which refers to services that use smart phones to allow riders to book trips, collect data to tailor routes that meet riders' needs and serve these routes with vehicles that are smaller than conventional buses, can be a viable model for communities that don't have high enough ridership for conventional transit to pencil to be cost effective.

These new options, along with conventional shared modes like transit, carpools, and vanpools, are often referred to collectively as "shared mobility." Combining transit and other shared modes can provide better service for travelers while creating better environments around stations. People who might otherwise need to drive to can instead

use a combination of shared mobility and transit. In these situations, shared mobility provides more convenient connections to stations, but taking transit for the bulk of the trip keeps the journey more affordable. If more people use shared modes to get to transit rather than driving, it can free up space that might otherwise be used for parking for public spaces, bicycle and pedestrian facilities or development. In order to deliver on this potential, Metro and our partners need to improve connections between shared mobility and transit. There are several actions we can take.

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

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

The second is maintaining access for the many people who can't access apps or make online payments, which can include low-income people, undocumented people, people with disabilities, or people with limited English proficiency—in other words, many of the same travelers who rely on transit. Phone-based concierge services or cash-based

payment services at convenient locations, as well as traditional fare media and schedules, can help these people continue to access transit.

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

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

Emerging technology is a highly advancing field that can provide opportunities to improve transit service and efficiency. The region should incorporate emerging technologies to achieve our regional goals. One key way to do this is through the application of technology to serve areas that are more difficult to serve by traditional transit service.

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

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

Transit is a critical option for those in need, the most efficient way to move people along crowded streets, and the backbone of many communities. It is difficult to imagine positive future for the region without it. In order to make sure that transit thrives, we need to enhance service on high-ridership lines while experimenting with 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 fixed routes.

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

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

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

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

Expanded payment options

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

Reduced Fare Program

TriMet has already implemented several programs in order to make transit affordable. Reduced fares are available to youths ages 7-17 and students in high school or pursuing a GED, and children 6 and under ride for free with a paying passenger. High school students in the Portland Public School District can ride for free during the school year as well by showing their student ID. Honored citizens, which include those over 65, those on Medicare, or those with disabilities are also eligible for reduced fares. Access Transit fare

programs help low-income riders, including low-income seniors and riders with disabilities. These programs provide fares to non-profit and community-based organizations at lower to no cost, which are then distributed to clients.

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

Partnerships and advocacy

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

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CHAPTER 5: STRATEGIES AND ACTIONS

5.1 Strategies

This section describes the current transit strategies that relate to how we are implement transit service, guiding our capital investments and supporting our transit system.

5.1.2 Climate Smart Strategy

In 2014 Metro released its Climate Smart Strategy, a state mandated strategy to implement changes that reduced per capita greenhouse gas emissions from cars and smalls trucks by 2035. Metro engaged communities, business, public health and elected leaders to shape a strategy that supports local plans for downtowns, main streets and employment areas; protect farms, forestland, and natural areas; creates healthy and equitable communities; increases travel options; and grow the economy while recuing greenhouse gas emissions.

Since its adoption in December of 2014 Metro and the region as a whole have already taken action to meet the goals of the strategy. Some of the places we have already began working include:

- Working with ODOT on updating the Oregon Public Transportation Plan
- Increasing state funding for transit service (House Bill 2017)
- Making funding for access to transit a priority through RTP
- Working with elected officials, community, and business leaders at local, regional and state levels to make transit more accessible
- Researching and developing best practices that support equitable growth and development near transit without displacement
- Developing a Regional Transit System Plan
- Supporting reduced fares and service improvement for low-income families, youth, older adults, and people with disabilities
- Partnering with transit providers and school districts to seek resources to support youth pass programs
- Expansion of transit payment options (Hop Fastpass)

As the list above highlights our region is making real strides towards using transit as a tool to reach our climate smart objectives. Our region's ability to successfully implement these strategies and actively improve the areas we are lacking demonstrates leadership and real dedication to the reduction of greenhouse gas emission in our region.

5.1.2 Focusing on racial equity

In June 2016, Metro adopted the Strategic Plan to Advance Racial Equity, Diversity, and Inclusion (Strategic Plan). The Strategic Plan's purpose is to provide clarity as to how Metro looks to achieves equity, one of the six desired outcomes for the region. The Strategic Plan to Advance Racial Equity,

Diversity, and Inclusion emerged as a need to provide greater direction to Metro's different lines of business and better integrating and approaching social 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. The Strategic Plan identifies specific objectives and implementation actions associated to each goal some of which are internally focused on Metro practices and some of which are externally focused to how Metro considers and serves the needs of communities of color. The Strategic Plan also builds on the extensive equity work that Metro departments and venues have been conducting for a number of years. In developing the 2018 RTP, the region looks to opportunities to align the goals areas of the Strategic Plan with the policies, strategies, and actions of the region's long-range transportation blueprint.

In previously adopted Regional Transportation Plans, the focus on equity has looked at whether future transportation investments will serve a broad spectrum of historically marginalized communities. Moving forward, the Strategic Plan provides unified strategic direction to have an additional focus on race for the crucial equity work currently underway at Metro, including the development of the region's long-range transportation blueprint. The RTP equity analyzes all projects with an equity lens and an overlap of transit investments and communities of color.

5.1.3 Collaboration between transit providers in transit planning and service operations

Transit riders are not particularly concerned with who the transit provider is, they just want to get to the places they are traveling to. Therefore, in order to improve transit services for the entire region, we need to increase the degree of collaboration between transit service providers. As mentioned in Chapter 2, there are transit options within our regional and transit options that operate outside our region but provide for critical connections. Collaboration between transit providers and services are critical to improving the experiences of transit riders who transfer from one to the other and to plan for improvements that will benefit both agencies in the future.

With improvement, expansion, and capital investments in transit service, transit providers should be coordinating to ensure that seamless connections between transit providers is maintained and or improved. Transit providers should explore ways to improve the connections between transit providers (e.g. payment options, marketing or information sharing) that improve the transit rider's experience.

5.1.4 Enhanced Transit Concept

A consistent theme of our public and partner outreach is that transit needs to be more reliable if want people to ride it. Light rail and commuter rail operate in exclusive guideway, so reliability is not necessarily a big issue. But as our region grows and congestion worsens, the reliability of our bus system which operates in mixed traffic is going to become more and more important.

Through a Transportation Growth Management (TGM) grant, from the Oregon Department of Transportation (ODOT), TriMet and the City of Portland developed an Enhanced Transit Corridors Plan and a toolbox of potential improvements that could apply to congested transit corridors that could increase capacity and reliability with moderate capital and operational investments and

could be deployed quickly. The City of Portland and TriMet developed this approach specifically for transit service within the City of Portland. As this was being developed, Metro, TriMet and local jurisdictions sought to adapt this approach to the rest of the region to develop enhanced transit corridors that can move forward towards implementation and construction.

Through the RTS, the region developed a policy framework (see Chapter 3: Vision and Policies) and criteria to identify enhanced transit candidate corridors, as well as identify opportunities for service improvements, capital investments and policy commitments to enhance transit service in the corridors that need it most. The Regional ETC Pilot Work Plan goals are to:

- Increase transit ridership to level sufficient to meet regional and local mode split goals by improving transit reliability, speed, and capacity through hotspot bottleneck locations in congested corridors and throughout the region through moderate capital and operational investments from both local jurisdictions and transit agencies.
- Identify, design and build a set of Enhanced Transit projects, either as hotspot bottlenecks or across whole congested corridors or, in partnership with local jurisdictions and facility owners where improvements are most needed and can be deployed quickly to produce immediate results.
- Develop a pipeline of Enhanced Transit projects so they are ready to advance for to construction as funding is identified.

5.1.5 Role of Technology

Metro's Emerging Technology Strategy, included as part of the 2018 update to the Regional Transportation Plan, lays out a plan to harness innovations like automated vehicles and shared mobility to create a more equitable and livable Portland region. These technologies have the potential to transform how we travel, but much uncertainty remains about when they will reach maturity and how they will affect communities. The Emerging Technology Strategy forecasts when and how technology will likely impact our region and identifies policies and actions for Metro and our partners to guide the region toward positive outcomes.

Emerging technologies have the potential to support transit, but also present new challenges. Shared mobility services like car share and bike share to provide new opportunities to connect people who aren't within walking or bicycling distance of transit to stops and stations, but there is growing evidence that some of these services draw riders away from transit and make it harder for buses to operate efficiently by producing conflicts and congestion. Advances in automated vehicles and dynamic routing could help make transit more efficient and bring service to areas that are hard to serve with fixed routes, but automated passenger vehicles could make driving much more convenient, dramatically reducing transit ridership. The Emerging Technology Strategy includes policies and actions to ensure that technology supports transit, and these policies and actions are incorporated into the Regional Transit Strategy.

5.1.6 Growing Transit communities

The Growing Transit Communities Plan (a TGM funded project by the state) is an effort led by the City of Portland's Bureau of Transportation to identify and prioritize the most beneficial

improvements that would make getting to the bus and using the bus a safer and more convenient option, with a particular plan focus along sections of bus lines 87, 77, and 20. The purpose of the Growing Transit Communities Plan is to identify a methodology for determine a package of transportation investments on a corridor level that would best create transit-oriented neighborhoods, places where transit (along with walking and bicycling for short trips) is truly the mode of choice for getting to and from work, school, shops, or other destinations.

Frequent transit service is one essential component of a transit-oriented community, but other components include safe access to transit, bus stop quality, sidewalk and bikeway network connections, crossings of busy streets, and the overall built environment. Deficiencies in these other factors often lead to lower ridership, and make frequent service less viable to implement. Conversely, as these transit-supportive elements are put into place at a corridor and neighborhood level, transit demand is likely to increase, making increasing transit frequency more cost-effective, creating a virtuous cycle of Growing Transit Communities.

While this was developed by the City of Portland, the methodology to develop the concept can be applied to the rest of the region. As population increases throughout the region, increasing transit service frequency and targeted investments in access to transit are ways to increase transit ridership, meet our regional transit mode share targets and support the region's overall desired outcomes. As communities are thinking about additional service or expanding to frequent service, local jurisdictions should work with the transit provider to identify local actions that could be taken to improve ridership and justify additional service in corridors.

5.1.7 First and last mile connections

Another key transit-supportive element is ensuring safe, convenient and attractive access to the transit system for those who connect by walking, rolling and riding a bike. Given diverse facility ownership, it is imperative for transit operators in the region work closely with local and state partners to focus on strategic investments in improving access to transit on the roadway, cycling, pedestrian and other rights of way they own and operate but that are served by transit.

Pedestrian Access to Transit: Working with cities and counties across the region, as well as ODOT, TriMet's Pedestrian Network Analysis Project developed a data-driven system to prioritize places around the region where sidewalk and crosswalk investments will provide a safer and more comfortable walking experience and better access to transit.

This effort guides current and future investments in access, both from TriMet and from our partners in the region, and includes recent competitive grant awards for access improvements on corridors such as SW Barbur Blvd., SE Powell Blvd. and Tualatin Valley Hwy/Oregon Hwy 8.

Bicycle Access to Transit: With support from the state's Transportation Growth Management grant program, TriMet recently developed its first-ever Bike Plan to help improve bike access to transit, and help guide investments in biking infrastructure and amenities by TriMet and its local and state jurisdictional partners. This includes improving bicycle facilities in the vicinity of transit service, expanding bike parking options at stations and stops and accommodating bikes on buses,

MAX and WES trains. After a period of public outreach and working with stakeholders, the final plan was adopted by the TriMet Board of Directors in July 2016.

Improvements in bike parking facilities throughout the system are made as needed, and as funding allows, each year. These improvements may include new or additional basic bike racks, covered bike parking, bike locker upgrades, or secure and enclosed Bike & Ride facilities.

Transit operators also regularly seek grant awards for key bike parking improvements at strategic access points in the system. One recent highlight of a grant award is the current Westside Bike & Rides: Access to Employment project, largely funded through a ConnectOregon V grant from the State of Oregon, with local match money from Washington County and TriMet. TriMet is using this funding to make enhanced bike parking improvements at the Goose Hollow/SW Jefferson St and Beaverton Creek MAX stations. This will allow cyclists to park their bikes at secure locations before traveling through the Westside tunnel, which is one of the most congested parts of the MAX system for bike access.

5.1.8 Seniors and people with disabilities

Decisions we make today on how best to invest in transportation options for seniors and persons with disabilities will affect the future quality of life for thousands of tri-county residents. By 2040, there is expected to be approximately 230,000 more people 65 years and older in the tri-county area, growing from a 13.2 percent share of the population today to a 20.0 percent share in 2040. According to the 2010 US Census, over 10 percent of the region's population reported that they had a disability. Seniors will represent the fastest growing segment of population in years to come, far outpacing the rate of population growth. As the Portland metro region is projected to become proportionally older, many seniors are likely to become disabled due to physical frailty caused by the effects of aging. Existing resources are inadequate to meet the growing demand for services for these populations.

Transportation is a key determinant of health. The World Health Organization has developed a "Checklist of Essential Features of Age-friendly Cities" (2007) as a tool for a city's assessment and map for charting progress. All of the data indicates that 80-90% of individuals want to stay in their home as long as possible. One of the key elements of a Livable Community is adequate transportation to access medical care and other essential services. The concept of Age-friendly Communities or Livable Communities is being actively promoted by AARP, The National Council on Aging and the National Association of Area Agencies on Aging. The Institute on Aging at PSU is a leading expert in Age-friendly Communities.

These changing demographics challenge the conventional solutions of more buses, light rail service, and paratransit vans. While such traditional modes of transportation will surely be needed, there is a limit to how much the region can afford. Improved coordination among existing services, innovative collaboration to deliver new types of services and a regional commitment to placing public facilities and social services at locations served by public transit will also be needed.

5.2 Regional Transit Strategy Actions

The Regional Transit Strategy Vision is to make transit more frequent, convenient, accessible and affordable for everyone. The following table describes the actions we can take to move our transit system towards our vision.

- **Frequent:** Align frequency and type of transit service to meet existing and projected demand in support of adopted local and regional land use and transportation plans.
- **Convenient:** Make transit more convenient and competitive with driving by improving transit speed and reliability through priority treatments (e.g., signal priority, bus lanes, queue jumps, etc.) and other strategies. Improve customer experience by ensuring seamless connections between various transit providers, including transfers, route and schedule information and payment options.
- **Accessible:** Provide safe and direct biking and walking routes and crossings that connect to transit stops to ensure transit services are fully accessible to people of all ages and abilities. Expand community and regional transit service across the region to improve access to jobs and Community places.
- **Affordable:** Ensure transit remains affordable, especially for those dependent upon it the most.

Table 5.1: Regional Transit Strategy Actions

FREQUENT	CONVENIENT	ACCESSIBLE	AFFORDABLE
ACTIONS: • Implement TriMet's Future of Transit Service Enhancement Plans. • Implement the SMART Master Plan. • Implement the Portland Streetcar Strategic Plan and expansion. • Implement and coordinate with C-TRAN's Transit Development Plan. • Implement and coordinate with state, regional, neighboring cities and rural transit provider's future service plans. • Implement the Regional Enhanced Transit Concept Pilot Program. • Invest in Enhanced Transit Concept improvements. • Invest in High Capacity Transit corridors. • Implement TriMet's Coordinated Transportation Plan for Seniors and Persons with Disabilities, in conjunction with Special Transportation Fund Advisory	**ACTIONS:** • Implement TriMet's Future of Transit Service Enhancement Plans. • Implement the SMART Master Plan. • Implement the Portland Streetcar Strategic Plan and expansion. • Implement and coordinate with C-TRAN's Transit Development Plan. • Implement and coordinate with state, regional, neighboring cities and rural transit provider's future service plans. • Invest in Enhanced Transit Concept improvements. • Invest in High Capacity Transit corridors. • Invest in repair and maintenance and critical transit bottleneck improvements to ensure the existing system functions effectively and efficiently. • Facilitate service connections between transit modes and transit providers at transit centers and hubs. • Implement and coordinate the HOP Fastpass program across multiple service providers.	**ACTIONS:** • Coordinate transit investments with improvements to pedestrian and bicycling infrastructure that provide access to transit as service improvements are prioritized, in line with Regional Active Transportation Plan and TriMet's Coordinated Transportation Plan for Seniors and Persons with Disabilities. • Provide new community and regional transit connections to improve access to jobs and community services and make it easier to complete some trips without multiple transfers. • Enhance transit access to jobs and other daily needs, especially for historically marginalized communities[1], youth, older adults and persons living with disabilities. • Provide biking, walking, shared ride and park-and-ride facilities that help people access the transit system. • Test and evaluate new mobility services like microtransit, TNCs and car/bike sharing to improve	**ACTIONS:** • Expand existing reduced fare program to low-income families and individuals in line with Metro/TriMet Low Income Fare Task Force recommendations. • Integrate transit payment options (e.g., electronic e-fare cards) to increase affordability and convenience. • Expand student pass program

[1] Historically marginalized communities areas with high concentrations (compared to regional average) of people of color, people with low-incomes, people with limited English proficiency, older adults and/or young people.

FREQUENT	CONVENIENT	ACCESSIBLE	AFFORDABLE
Committee (STFAC) and service providers. • Coordinate transit investments with local and regional land use and transportation visions as service improvements are prioritized • Test and deploy connected vehicle technologies that help transit operate more efficiently, such as transit signal priority. • Design transit streets to prioritize curb access for transit vehicles and minimize conflicts with other modes.	• Implement the TriMet Regional Transit Signal Priority Study recommendations, especially in congested corridors to improve on-time performance and reliability. • Provide programs and adopt policies that help increase transit usage and reduce drive alone trips, such as travel options information and support tools (e.g., trip planning services, wayfinding signage, bike racks at transit stops), individualized marketing, commuter programs (e.g., transit pass programs), and actively managing travel in downtowns and other mixed-use areas. • Improve the availability of transit route and schedule information and integrate information on first and last-mile transportation options. • Coordinate efforts between transportation providers to increase information sharing and ease of use (e.g., transfers and payment integration).	connections to high-frequency transit when walking, bicycling, or local bus service isn't an option. • Coordinate and link transit-oriented development strategies with transit investments. • Coordinate transit investments with the regional Equitable Housing Initiative. • Coordinate and link transit investments with local and regional land use and transportation visions as service improvements are prioritized. • Explore and pilot test technologies such as automated vehicles and dynamic routing to provide better transit in communities that currently lack frequent service. • Explore and pilot test the potential of new mobility services to provide more convenient and cost-effective paratransit and human service transportation.	

CHAPTER 6: TRANSIT INVESTMENTS

The Regional Transit Strategy and the RTP respond to the 2040 Growth Concept through an approach that views the transportation system as an integrated and interconnected system, shifting the emphasis from simply moving vehicles to moving people and goods, providing access, and helping to create and connect places.

During the update of the RTP, regional investment priorities were identified to address the challenges listed in the section above. These regional transportation investment priorities are described below, and guided the development and refinement of the 2018 RTP projects and programs.

Building off the Regional Transit Vision, a set of investments have been developed by the local, regional and state agencies within our Metropolitan Planning Area (MPA). These investments are identified in the 2018 Regional Transportation Plan (RTP).

Major trends and shifts

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 of the RTP seek to inform these major shifts and trends in order to achieve the region's six desired outcomes, while acknowledging that many forces and influences are at play and there are more unknowns than

Implementing the 2040 Growth Concept is one of the main roles of the transit strategy, recongnizing 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 be occurring.

- City center, regional centers and town centers
- Station communities
- Main streets
- Corridors
- Industrial and employment 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 1 for more information on the 2040 Growth Concept.

Investing in transit is a key tool for implementing the 2040 Growth Concept visions as well as the adopted Climate Smart Strategy and achieving a new 2040 target adopted by the Land Conservation and Development Commission in 2017. The RTP and the transit strategy recognize the importance of prioritizing transportation investments that help reduce greenhouse gas emissions from cars and small trucks while making our transportation system safe, reliable, healthy and affordable.

6.1 2018 RTP Transportation Investment Priorities

The 2018 RTP comprises two main parts: the policy sections and the project lists. The policy sections, sets the vision, the project lists, are priority projects from local, regional or state planning efforts.

To develop the RTP lists of projects and programs, Metro issued a call for projects to its regional partners to begin updating the region's transportation investment priorities into three separate funding scenarios.

The **2027 Constrained funding scenario** identifies the highest priority projects and programs that the greater Portland region can reasonably expect to fund in the first 10-years of the plan.

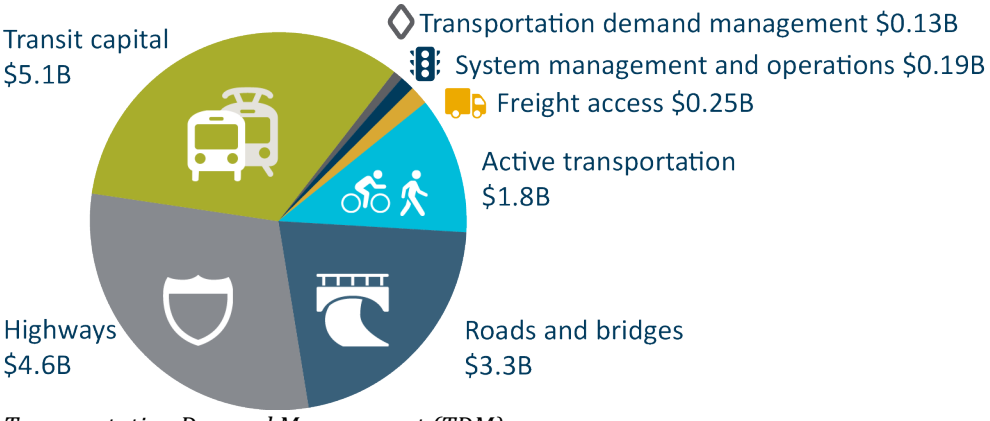
The **2040 Constrained funding scenario** includes all of the projects and programs that fit within a constrained budget of federal, state and local funds the greater Portland region can reasonably expect through 2040 under current funding trends. In order to be eligible for federal or state transportation funding, a project must be included on the 2040 Constrained list.

The **2040 Strategic** includes additional strategic priority investments (not constrained to the budget based on current funding trends) that could be built with additional resources. This is referred to as the 2040 Strategic and are not anticipated to be completed unless new, as of yet identified funding becomes available.

Working with a constrained budget and funding targets, Clackamas, Multnomah and Washington counties and 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; and the City of Portland recommended projects after reviewing priorities with its community advisory committees. These projects were provided to Metro to build the draft project lists.

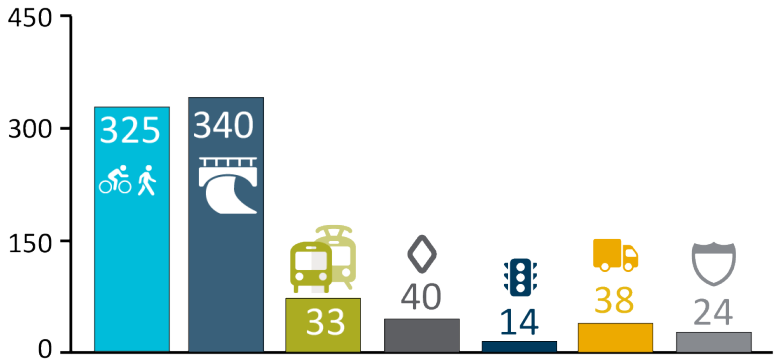
Figure 6.1 and 6.2 show the cost and number of capital project costs by investment category. The transit projects identified in the RTP are estimated at $5.1B and include a variety of projects such as light rail expansion, the region's first bus rapid transit project, safety, access and maintenance and operational improvements.

Figure 6.1: 2040 Constrained RTP: Cost of capital projects by investment category



Transportation Demand Management (TDM)
Transportation System Management and Operations (TSMO)
Note: Road and transit operations and maintenance costs are not included in the project list or information presented here.

Figure 6.2: Greater Portland region 2040 Constrained RTP: Number of capital projects by investment category



The regional transit strategy priorities in the RTP include high capacity transit (HCT), enhanced transit concept (ETC) improvements, safety and access, and operational capital projects. The 2027 and 2040 constrained project lists are shown in Figures 6.3 and 6.4, respectively.

Figure 6.3: 2027 Constrained Projects

2027 constrained projects – this map will be added to the final strategy.

Map 6.4: 2040 Constrained Projects

2040 constrained projects – this map will be added to the final strategy.

6.2 Regional Transit Investment Priorities

Improving and expanding our transit service network is key to meeting our regional 2040 Growth Concept Land Use and our Climate Smart Strategy goals. Table 6.1 describes some of the key elements associated with the transit investments identified in the RTP. As shown in table 6.1, the RTP 2018 – 2040 financially constrained investment strategy exceeds the Climate Smart Strategy estimates.

Table 6.1: Transit service provided by Investment Strategy

	Climate Smart Strategy 2010-2035	RTP Financially Constrained 2018-2027	RTP Financially Constrained 2028-2040	RTP Strategic 2018-2040
Daily revenue hours	9,400	8,880	10,290	12,470
Service expansion	44% increase from 2015	38% increase from 2015	60% increase from 2015	94% increase from 2015
Rush hour frequency	32 routes with 10-minute service 75 routes with 15-minute service	21 routes with 10-minute service 33 routes with 15-minute service	32 routes with 10-minute service 31 routes with 15-minute service	36 routes with 10-minute service 42 routes with 15-minute service
Daytime and evening (off-peak) frequency	12 routes with 10-minute service 43 routes with 15-minute service	1 routes with 10-minute service 31 routes with 15-minute service	19 routes with 10-minute service 22 routes with 15-minute service	24 routes with 10-minute service 31 routes with 15-minute service
New high capacity transit (HCT) connections	MAX extension to Vancouver, Wash., WES operates all day with 15-minute service and bus rapid transit in five corridors: Southwest Corridor, Division Street, I-205 South, Tualatin Valley Highway to Forest Grove, and McLoughlin Boulevard to Oregon City	4 HCT projects, including Division Transit, Southwest Corridor, Red Line extension and the Central City Capacity Analysis	2 additional HCT projects (from 2027 Financially Constrained): HCT connecting Portland to Vancouver, WA, improvements on the Steel Bridge	6 additional HCT projects (from over the 2040 Financially Constrained): including WES all day service, HCT along Sunset Highway and I-205, HCT extensions to Oregon City and Forest Grove, and WES extension to Salem.
Other service enhancements	4 new streetcar connections, further implementation of locally-developed SMART and TriMet service enhancement plans	9 enhanced transit projects and 1 streetcar extension to Montgomery Park	10 additional enhanced transit projects and 1 streetcar extension to Hollywood (from 2027 Financially Constrained)	3 additional enhanced transit projects and 3 streetcar projects: Amber Glen, extension on MLK Boulevard, to Johns Landing (from 2040 Financially Constrained)
Public and private shuttles	More major employers and some community-based organizations work with TriMet to operate shuttles	More major employers and some community-based organizations work with TriMet to operate shuttles	More major employers and some community-based organizations work with TriMet to operate shuttles	More major employers and some community-based organizations work with TriMet to operate shuttles

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	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
Estimated capital cost (2016$)	$4.7 billion	$3.2 billion	$5.1 billion	$6.2 billion
Estimated service operating costs* (2016$)	$8.5 billion	$5.7 billion	$13.7 billion	$16.7 billion

*Operations and maintenance costs are preliminary and will be further updated as plan is finalized. Operating costs for TriMet service were calculated by annualizing the daily revenue hours proposed for each scenario and applying TriMet's average operating cost per revenue hour, with cost by mode weighted by the proportion of service provided on each mode. SMART and Portland Streetcar operating costs were calculated by applying each agency's FY17 annual operating costs.

The following table describes the high capacity transit and enhanced transit projects identified in the RTP. In the first 10 years of the RTP, the region is following through on the commitments to build the Division Transit Project and the Southwest Corridor Transit Project. The Red Line extension to Hillsboro is another HCT investment proposed for the first 10 year period of the plan. The first 10 years also includes several ETC improvements and two streetcar extensions.

Table 6.2: Transit capital improvements by RTP Investment Strategy

RTP Financially Constrained 2018-2027	RTP Financially Constrained 2028-2040 *(2027 Constrained investments, plus)*	RTP Strategic 2028-2040 *(2018-2040 Constrained investments, plus)*
High Capacity Transit	**High Capacity Transit**	**High Capacity Transit**
• Southwest Corridor Project • Division Transit Project • Red Line Improvements Project • Central City Transit Capacity Analysis	• Portland to Vancouver HCT • Steel Bridge Transit Bottleneck	• HCT extension to Oregon City via McLoughlin • HCT on I-205 (Clackamas to Bridgeport) • Expansion of WES to all-day service • WES extension to Salem • Sunset Highway HCT (Sunset transit center to Hillsboro Fairplex • HCT extension to Forest Grove
Enhanced transit concept	**Enhanced transit concept**	**Enhanced transit concept**
• Streetcar upgrades on Grand Avenue in Portland • Central City Portals (downtown Portland bridges) • 82nd Avenue ETC (NE Killingsworth Street to SE Clatsop Street) • Powell Boulevard ETC (SE Portland to I-205) • 122nd Avenue ETC (Lents to Parkrose transit center) • Martin Luther King Jr. Boulevard ETC (Portland Central City to N Vancouver Boulevard) • Sandy Boulevard ETC (Portland Central City to Parkrose TC) • 82nd Avenue ETC (Swan Island to Clackamas town center) • Hawthorne Boulevard/Foster Road ETC (downtown Portland to Lents town center) • Streetcar to Montgomery Park in NW Portland	• Inner North Portland ETC (Portland Central City to N Lombard Street) • Caesar Chavez ETC (Sandy to Powell) • Lombard Street ETC (St. Johns to MLK Jr. Boulevard) • SE Hawthorne/50th Avenue ETC (Willamette River to SE Powell) • Tualatin Valley Highway multimodal project (Maple Street to 160th Avenue) • E. Burnside/SE Stark Street ETC (Portland to Gresham) • Tualatin Valley Highway ETC from Beaverton to Forest Grove • Beaverton-Hillsdale Highway ETC from Portland to Washington Square • Cornell/Barnes ETC (Sunset transit center to Hillsboro TC) • 185th/Farmington Road ETC (PCC Rock Creek to Beaverton transit center) • Streetcar on NE Broadway to Hollywood town center	• SE Powell Boulevard ETC (Portland to extent TBD) • Lombard/Caesar Chavez ETC (St. Johns to Milwaukie town center) • Belmont Street ETC (Portland to Gateway transit center) • Streetcar on Martin Luther King Jr. Boulevard in NE Portland • Streetcar in AmberGlen in Hillsboro • Streetcar to Johns Landing in SW Portland •

As shown in Table 6.2, the region is committed to completing the Division and Southwest Corridor Transit Projects. The project list above, both HCT and enhanced transit, show that the region is looking to make transit investments that help improve speed and reliability on our bus and rail system.

Table 6.3, presents the transit operating capital improvements identified. Operating capital improvements are designed to improve the reliability and efficiency of the transit system.

Table 6.3: Transit Operating Capital Improvements by RTP Investment Strategy

RTP Financially Constrained 2018-2027	RTP Financially Constrained 2028-2040 (2027 Constrained investments, plus)	RTP Strategic 2028-2040 (2018-2040 Constrained investments, plus)
Operating Capital Improvements	**Operating Capital Improvements**	**Operating Capital Improvements**
• Center Street bus garage expansion • North Downtown Transit Mall Terminal • Powell Garage expansion • SMART bus replacement (including alternative fuel vehicles) • SMART Fleet Service Facility Phase II • SMART vanpool services • TriMet 4th bus base • TriMet electrification of bus fleet Phase I • TriMet equipment and facilities, Phase I • TriMet Low-No Zero Emission Bust Project • TriMet fleet vehicle replacements, Phase I • TriMet Information Technology, Phase I	• TriMet equipment and facilities, Phase II • TriMet fleet vehicle replacements, Phase II • TriMet Information Technology, Phase II	• HCT optimization, operations and reliability improvements • Merlo bus garage expansion • PDX light rail station/track realignment • SMART Central Informational Center at Wilsonville Station • SMART property acquisition • Transit priority on frequent service routes (Washington County) • TriMet electrification of bus fleet Phase II • TriMet Park& Ride facilities, Phase II

As service increases, so does the need to store and maintain the buses we do have plus the additional buses that will be needed for the increase in service. A majority of the investments are identified for the first 10 years of the plan. It's important to be able to make those upfront costs needed to increase transit service as soon as possible. The investments shown in table x are focused on:

- Expanding the bus maintenance facilities and garages to keep up with the increase in service;

- Replacing and expanding the bus and rail vehicle fleet to keep with increased service, as well as, pursuing alternative fuel sources like low-no emissions or electrification; and

- Advancing information technology investments to improve transit operations.

Table 6.4 shows the safety and access improvements identified in the RTP to improve safety and security, access and stop/station locations.

Table 6.4: Transit Safety and Access Improvements by RTP Investment Strategy

RTP Financially Constrained 2018-2027	RTP Financially Constrained 2028-2040 (2027 Constrained investments, plus)	RTP Strategic 2028-2040 (2018-2040 Constrained investments, plus)
Safety and access improvements	**Safety and access improvements**	**Safety and access improvements**
• 60th MAX station area improvements • 82nd Ave MAX station area improvements • E Burnside safety and access to transit • Halsey/Weidler safety and access to transit • SMART bus stop access improvements • TriMet bike and ride facilities, Phase I TriMet bus stop amenities, Phase I • TriMet pedestrian access improvements, Phase I • TriMet safety and security improvements, Phase I • TV Highway safety and access to transit • TriMet park& ride facilities, Phase I	• Cornelius Park& Ride • Eastside MAX station pedestrian improvements • Sunset TC Station Community pedestrian improvements • Transit stop enhancements (Hillsboro) • TriMet safety and security improvements, Phase II • TriMet transit access and signal priority improvements (Tigard) •	• Downtown Milwaukie Transit Center improvements • Gresham Transit Center access & design enhancements • TriMet bike and ride facilities, Phase II • TriMet bus stop amenities, Phase II • TriMet pedestrian access improvements, Phase II • Union Station, Phase III

Note: This list represents the projects identified in the RTP as transit operating capital or access to transit, as a primary purpose, and does not represent all the safety, pedestrian and bicycle projects identified in the RTP.

As shown in table 6.4, the majority of the bus stop, pedestrian and bicycle access and safety and security projects are prioritized for the first 10 year period of the plan.

CHAPTER 7: MONITORING AND MEASURING PROGRESS

The Regional Transit Strategy (RTS), as part of the 2018 Regional Transportation Plan (RTP) update, purposefully lays out a set of policies, projects, and strategies intended to achieve the region's vision for an integrated land use and transportation system. Performance evaluation of the planned transportation system provides valuable information for establishing transportation policy and planning objectives, and for informing transportation investment actions and priorities. The RTS and RTP take a performance based planning approach to evaluating and informing our transportation investments.

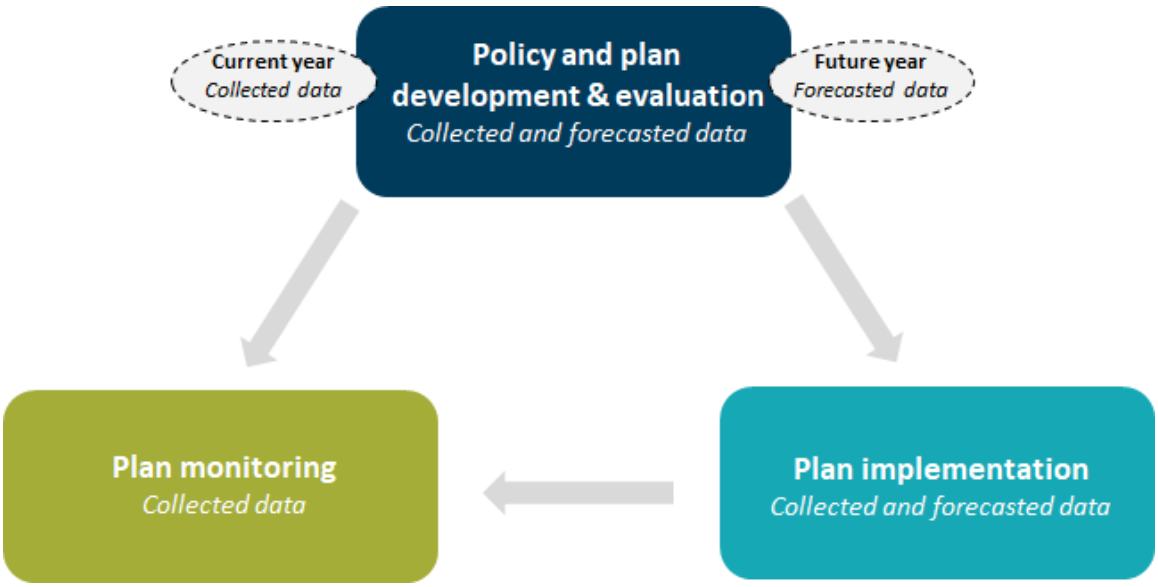
Performance-based planning requires system evaluation of desired outcomes to ensure that incremental land use decisions and transportation project development are consistent with the plan vision. Evaluating the future effectiveness of transportation investments is challenging. How well the transportation system functions results from a combination of multiple factors, including land use, land supply, cost of travel, availability of capacity, availability of transportation options, and demands for travel. Informed decision-making;

7.1 Performance-Based Planning

System performance measures serve as the dynamic link between the region's goals and plan implementation by formalizing the process of evaluation to ensure the advancement towards achieving of the region's transportation, land use, economic, and environmental goals and targets.

This is a cyclical process of plan development and evaluation, plan implementation and monitoring as the Performance Measurement System that extends beyond the RTP updates, as shown in Figure 7.1.

Figure 7.1: RTP and RTS Performance Measurement System



Through a system evaluation approach, the region can better understand the extent to which investments in the transportation system will achieve desired outcomes and provide the best return on public investments. The RTP Performance Measurement System also satisfies benchmarks mandated by the Oregon Transportation Planning Rule (TPR) and federal requirements to assess potential environmental impacts.

The policy and plan development and evaluation element of the performance measurement system applies during periodic plan updates, which occur approximately every five years. During these updates, the region revisits its goals and objectives for the transportation system and develops and refines an investment strategy comprised of infrastructure projects and programs submitted by ODOT, TriMet and the local agencies that together help achieve the plan goals.

7.1.1 Transit Targets

The policy and plan development and evaluation has two levels: performance targets and system performance evaluation. The performance targets are the highest order evaluation measures in the outcomes-based policy framework. The performance targets set quantifiable goals for the achieving the region's desired policy outcomes (not all goals have targets). In comparison, system evaluation measures evaluates changes between current conditions (in 2015) and the set of transportation investments the region has chosen to pursue (the funding investment scenarios). There is some overlap between the targets and the measures but they serve different functions.

Transit Target
The target for the transit element of the RTP is triple the transit mode share of the region's overall trips.

7.1.2 Transit Performance Measures

Through an evaluation of performance of the transportation system the region can better understand the extent to which investments in the transportation system will achieve desired outcomes and provide the best return on public investments.

Table 7.1 lists the RTP performance measures used for plan evaluation, linking them to the RTP goals they support.

Table7.1 RTP System Evaluation Measures and RTP Goals

	RTP Performance Measures ●= measure highly correlated with achieving goal ◒= measure somewhat correlated with achieving goal ○= measure partially supports achieving goal	RTP Goals										
		Vibrant Communities	Shared Prosperity	Transportation Choices	Reliability and Efficiency	Safety and Security	Healthy Environment	Healthy People	Climate Protection	Equitable Transportation	Fiscal Stewardship	Transparency and Accountability
	How much do households spend on housing and transportation in our region? (*Evaluation measures under development for next RTP.*)											
n/a	Affordability*	●	●	◒	◒	○	○	●	○	●		
	How safe is travel in our region? (*Evaluation measures under development for next RTP.*)											
n/a	Safety*	●	◒	●	●	●	◒	●	◒	●		
	How much do people and goods travel in our region?											
1	Multimodal Travel	●	◒	●	●	◒	●	●	●	●		
2	Active Transportation and Transit Mode Share	●	◒	●	●	◒	●	●	●	●		
	How easily, comfortably and directly can we access jobs and destinations in our region?											
3	Access to Travel Options – system completeness *	●	◒	●	●	●	●	●	●	●		
4	Access to Jobs*	●	●	●	○	○	○	◒	◒	●		
5	Access to Community Places*	●	◒	●	○	○	●	●	◒	●		
6	Access to Bicycle and Pedestrian Parkways	●	●	●	○	●	●	●	●	●		
7	Access to Transit	●	●	●	◒	○	●	◒	●	●		
8	Access to Industry and Freight Intermodal Facilities	○	●	○	○	○	○	○	○	○		
	How efficient is travel in our region?											
9	Multimodal Travel Times	●	●	●	●	○	○	○	○	○		
10	Congestion	◒	●	○	●	●	◒	◒	◒	○		
11	Transit Efficiency and Ridership	●	○	●	●	○	◒	○	○	○		
	How will transportation impact climate change, air quality and the environment?											
12	Climate Change	○	●	●	○	○	●	●	●	○		
13	Clean Air	○	●	●	○	○	●	●	◒	●		
14	Potential habitat Impact	◒	○	○	○	○	●	●	◒	●		
15	Potential historical, cultural and Tribal Lands impact	●	◒	○	○	○	○	◒	○	○		
16	Public health	◒	◒	○	○	○	●	○	○	○		

There are no system evaluation measures for the Ensure Fiscal Stewardship and Deliver Accountability goals.

Performance measures with an asterix (*) reflects the transportation priorities identified by historically marginalized communities and serve as the basis for the federally-required Title VI Benefits and Burdens analysis.

7.1.2.3 Transit Performance monitoring

Plan monitoring supports the region's federally-required Congestion Management Process reporting between the RTP update cycles. Some of the plan monitoring measures overlap with the performance targets and system evaluation measures, but rely on collected (observed) data rather than forecasted data.

7.2 Measuring Transportation Equity

As part of the 2018 RTP, Metro conducted a transportation equity evaluation of the financially constrained 2018 RTP investment strategy. The equity evaluation addresses federal requirements for Environmental Justice Impact Analysis and is part of Metro's adopted Regional Strategy for Diversity, Equity and Inclusion.

The purpose of the transportation equity evaluation was to look at how well the region's planned long-range transportation investments performed relative to transportation priorities identified by historically marginalized communities. These identified transportation priorities subsequently shaped transportation-related equity goals, objectives, and performance measures in the Plan.

The transportation equity evaluation takes a system-wide look at the region's long-term investment strategy, to determine whether: 1) progress is being made towards transportation priorities expressed by historically marginalized communities; 2) to determine whether the financially constrained long-range transportation investment strategy, in totality, is disproportionately impacting historically marginalized communities and if mitigation measures are necessary; and 3) continue to learn from the assessment to propose technical refinements for future transportation equity evaluations.

The 2018 RTP transportation equity evaluation worked to incorporate and reflect previous recommendations from the 2014 Civil Right Assessment, other agency strategic direction, federal corrective actions, as well as the latest research and best practices – drawing from national experts, think tanks, engagement, and academic partnerships. These different sources shaped and informed further how to measure equity within the context of the transportation system.

Through engagement with historically marginalized communities, the outcomes historically marginalized communities identified as priorities for the transportation system include (not in order): [2]

- accessibility
- affordability
- safety

[2] Due to capacity constraints and additional resource needs, the affordability system evaluation measure was deferred and recommended for development prior to the 2023 RTP.

- environmental health

These topic areas were translated into system performance measures, which were guided by the input of a technical work group, comprised of community-based organizations, social justice advocates, public health agencies, and jurisdictional partners. A foundational element of the transportation equity evaluation of the 2018 RTP investment strategy was based on defining equity focus areas, which served as the main geography of comparisons of performance relative to the region and the non-equity focus areas. The equity focus areas identify census tracts where there is a significant residential presence of three historically marginalized demographic groups: people of color, people in poverty/with lower-incomes, and English language learners.

Lastly, as an entity utilizing federal funds, Metro is responsible for successful integration of environmental justice (EJ) and civil rights (Title VI) standards into its transportation program and planning activities. Any program or activity receiving federal financial assistance cannot discriminate against people based on race, color, national origin, age, sex, disability, religion or income status nor prohibit a person from participating in regional activities. The programmatic evaluation of the 2018 RTP investments serves as part of demonstrating the planning of federal investments into the regional transportation system complies with federal non-discriminatory and disproportionate impact regulations.

Further detail about the equity system evaluation can found in Chapter 7 and Appendix E of the 2018 RTP.

7.2 Regional Transportation performance and findings

This section provides a snapshot of the various performance measures used to assess the performance of the RTP – some of the measures are included in the system evaluation**,** others are not, because there is no method yet to forecast outcomes, but they are reported on here based on observed data.

7.2.1 Evaluation geographies

The primary geographic area for the evaluation. Refer to Chapter 1 for a map and definition of the Metropolitan Planning Area (MPA) boundary. Within the MPA some measures were analyzed for the following sub-geographies.

Figure 7.2: Metropolitan Planning Area (MPA) Boundary Map

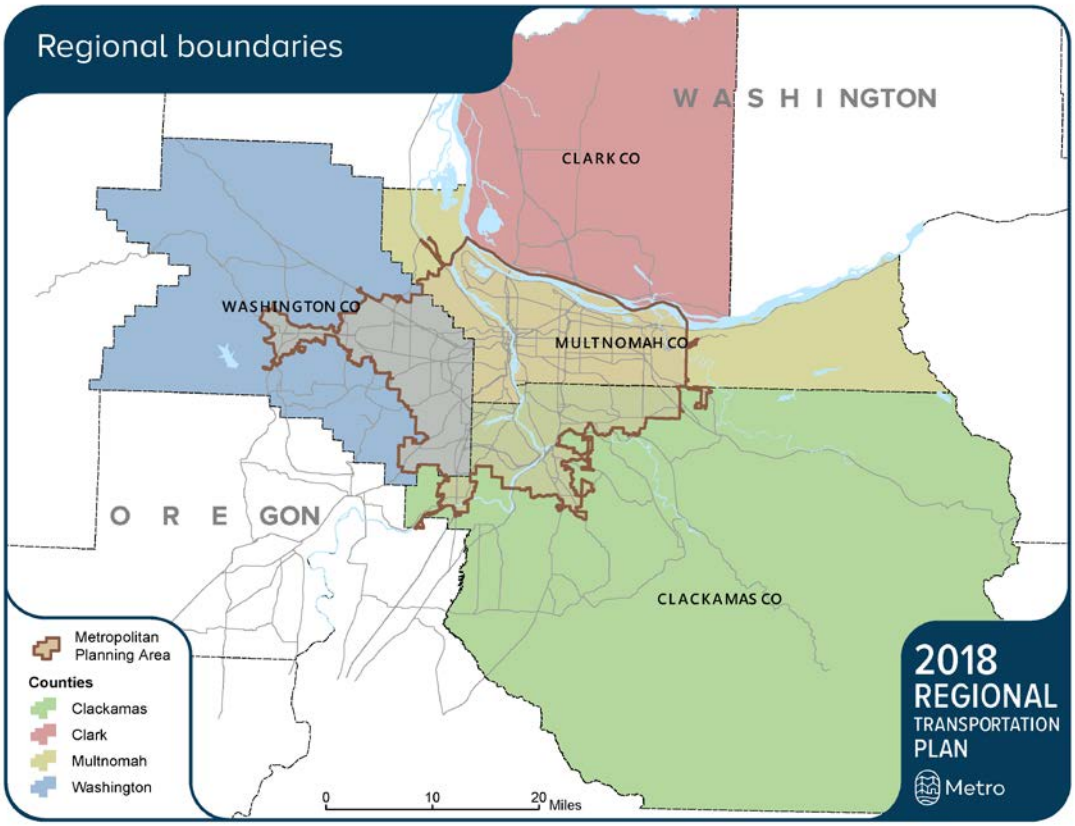
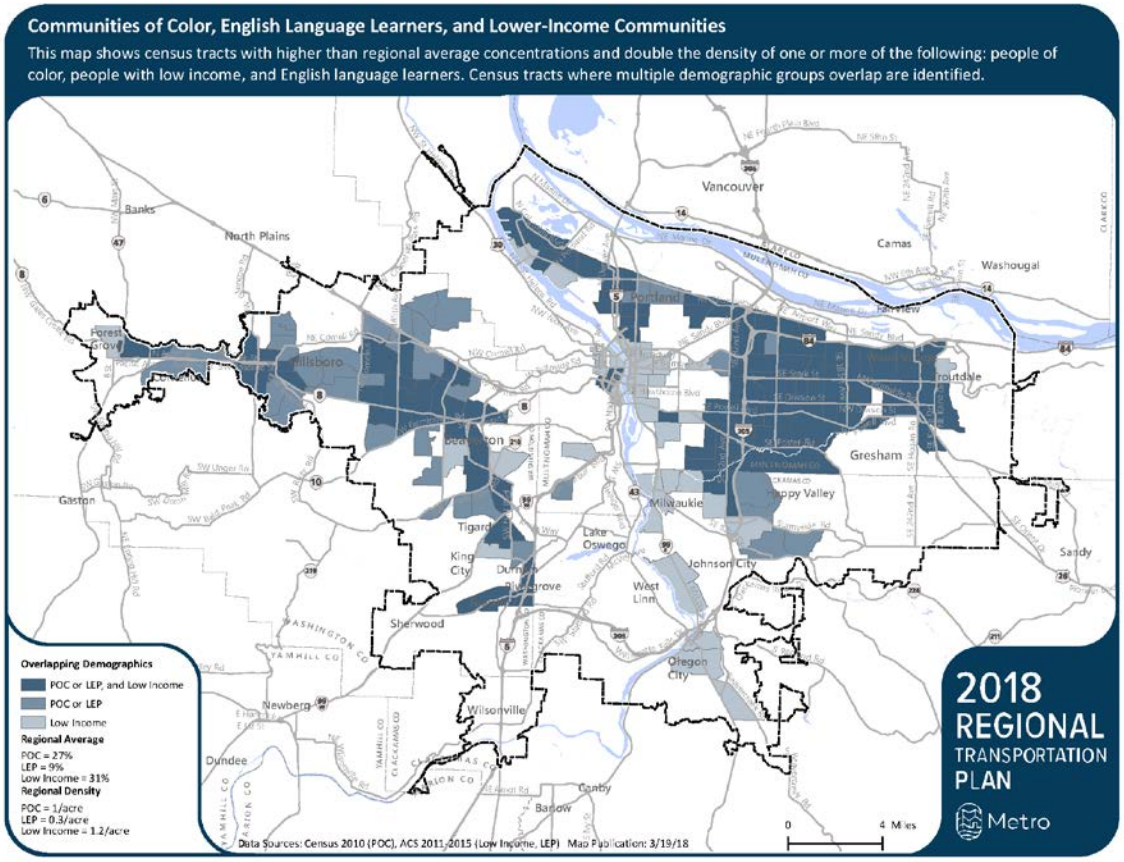


Figure 7.2 presents the Regional Equity Focus Area Map. The map shows census tracts with higher than regional average concentrations and double the density of the following: people of color, people with low income, and English language learners. Census tracts where multiple demographic groups overlap are identified.

Figure 7.3: Regional Equity Focus Area Map



7.2.2 System performance investment scenarios

Metro evaluated the performance of the transportation system for six different investment scenarios.

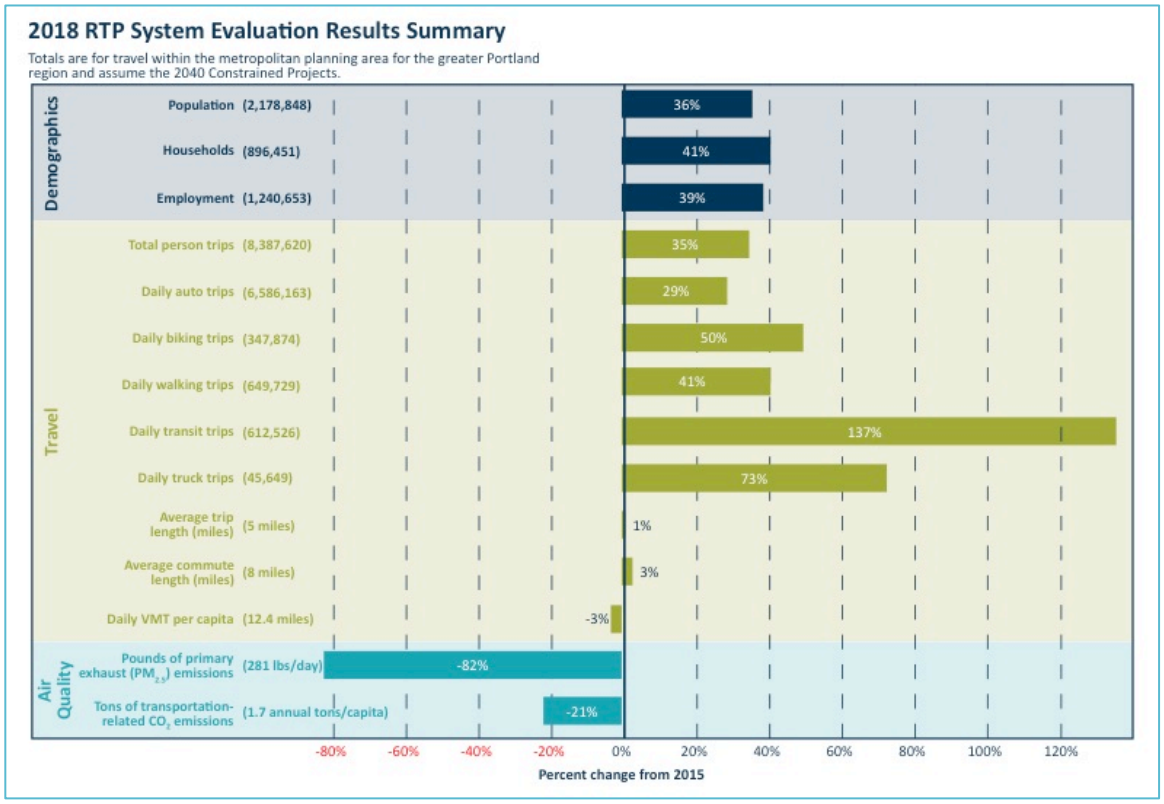
- **2015 Base Year –** This is the "existing conditions" scenario against which the other funding assumptions are compared, and uses 2015 population and employment numbers. All transportation projects completed by 2015 are included in the Base Year.
- **2027 No Build** – This scenario assumes only projects with committed funding are built by 2027 and uses 2027 projected population and employment numbers.
- **2027 Constrained** - This scenario assumes that all projects and programs identified in the first ten years of the Regional Transportation Plan are completed by 2027 and uses 2027 projected population and employment numbers.
- **2040 No Build**– This scenario assumes only projects with committed funding are built by 2040 and uses 2040 projected population and employment numbers.
- **2040 Constrained**– This scenario assumes that all projects and programs on the full Constrained list are completed by the year 2040 and uses projected 2040 population and employment numbers.

- **2040 Strategic** – This scenario assumes that all projects on the full Constrained list and all of the projects on the full Strategic list are completed by 2040 and uses projected 2040 population and employment numbers. Findings have been identified in some cases for the projects on the Strategic list. The Strategic project list and findings represent vision greater than what is predicted to be achievable given our current funding projections.
- **2035 Climate Smart Strategy** – For purposes of comparison the Climate Smart Strategy scenario is included when data is available. This scenario reflects 2014 RTP constrained projects and programs plus additional transit service and system and demand management investments. This scenario uses projected 2035 population and employment numbers assumed in the 2014 RTP.

7.2.3 Regional system performance

Figure 7.2 RTP System Evaluation Results Summary provides a summary of projected changes in demographic, travel and air quality in 2040within the Metropolitan Planning Area. For more information on the system evaluation, see Chapter 7 of the 2018 Regional Transportation Plan (RTP).

Figure 7.4: RTP System Evaluation Results Summary.



Source: Metro Travel Demand Model

7.3 Regional transit performance and findings

Performances measures were refined and developed as part of the 2018 RTP update and development on the RTS. The following 6 questions and performance measures help frame the current status of transit in our region:

- How much do people and goods travel in our region?
    - **Measures:** Multimodal travel, Transit ridership, and Active transportation and transit mode share
- How much do households spend on housing and transportation in our region?
    - **Measures:** Affordability
- How safe is travel in our region?
    - **Measures:** Safety
- How easily, comfortable and directly can we access jobs and destinations in our region?
    - **Measures:** Access to transit – system completeness, Access to jobs, and Access to community places
- How efficient is travel in our region?
    - **Measures:** Multimodal travel times, Congestion, and Transit efficiency
- How will transportation impact climate change, air quality and the environment?
    - **Measures:** Climate change, Air quality, Potential habitat impact, and Potential historical, cultural and Tribal Lands impact

Answering these questions help paint a clearer picture of whether or not the region is meeting its transit goals. For more detail on the transportation system performance measure, see Chapter 7 of the 2018 Regional Transportation Plan.

7.3.2 How much do people and goods travel in our region?

The following section measures how much do people and goods travel in our region focused on transit travel and transit demand. For more information regarding the transportation system performance measure, see the Chapter 7 of the 2018 RTP.

7.3.2.1 Multimodal travel

While it's no surprise that as the region's population increases the amount of daily vehicle trips will also. As a result, the total daily vehicle miles traveled (VMT) in our region is expected to grow by 30 percent between 2015 and 2040. Although increases in population typically bring increased total VMT, our region is unique in expecting a decrease in the per capita VMT by five percent between 2015 and the 2040 constrained scenario – making progress towards our regional target (to reduce vehicle miles traveled per person by 10% compared by 2040) but not reaching it. That means that other modes such as transit are

increasing. In the 2040 constrained scenario transit miles traveled per person increases by 82% from 1.1 to 2.0 between 2015 and 2040.

Table 7.2: Daily person miles traveled per person

Person Miles Traveled	2015 Base Year	2027 No Build	2027 Constrained	2040 No Build	2040 Constrained	2040 Strategic
Total	30,403,023	36,272,364	36,639,935	41,359,645	30,403,023	
Per Person	18.9	19.0	19.2	19.0	19.3	

Source: Metro Travel Demand Model

Table 7.3: Daily vehicle miles traveled per person

Vehicle Miles Traveled	2015 Base Year	2027 No Build	2027 Constrained	2040 No Build	2040 Constrained	2040 Strategic
Total VMT	20,798,618	24,534,300	24,128,244	27,879,927	27,080,813	
Per person	12.7	12.9	12.7	12.8	12.4	
Per employee	23	23	23	23	22	

Source: Metro Travel Demand Model

Table 7.4. Daily transit miles traveled per person

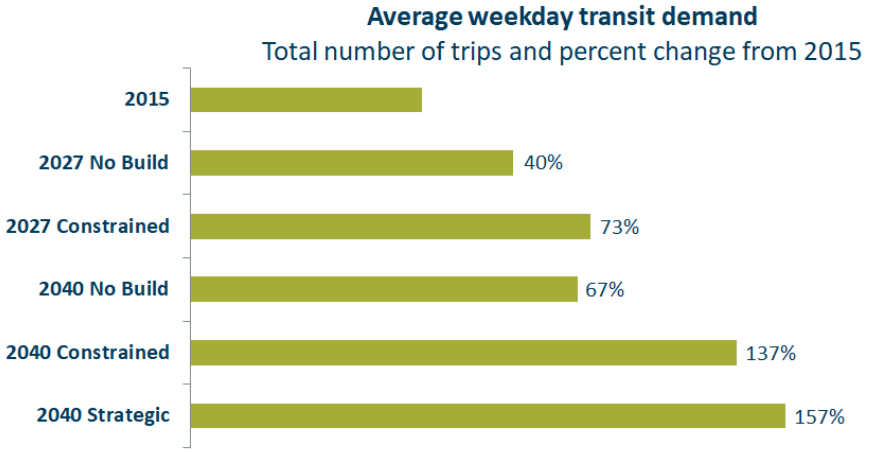
Transit Miles Traveled	2015 Base Year	2027 No Build	2027 Constrained	2040 No Build	2040 Constrained	2040 Strategic
Total	1,814,208	2,537,005	3,212,334	3,033,836	4,449,821	
Per person	1.1	1.3	1.7	1.4	2.0	
Per employee	2.0	2.4	3.0	2.4	3.6	

Source: Metro Travel Demand Model

7.3.2.2 Transit Demand

Concurrent with reduced VMT the region is expected to see a substantial increase in transit usage. The 2040 constrained model estimates the number of weekday transit trips to increase from 259,000 (2015) to 612,500 (2040) a staggering 137 percent increase. There is a even a significant increase, 73%, in transit demand projected between 2015 and the 2027 constrained scenario (as shown in Figure 7.4). In addition to transit the region is expected to see increases in walking, and biking as well.

Figure 7.5: Regional Transit Demand



Source: Metro Travel Demand Model

The following figures show where that travel demand is for each of the investment scenarios.

Figure 7.6: 2015 Regional Transit Demand map

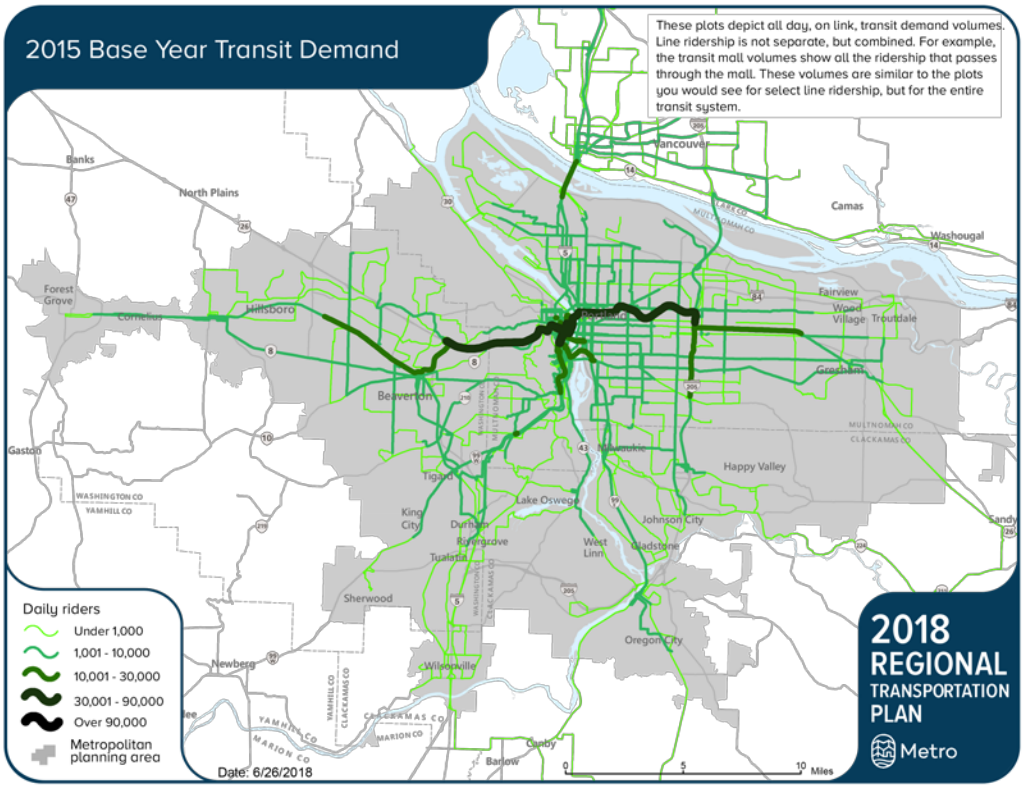
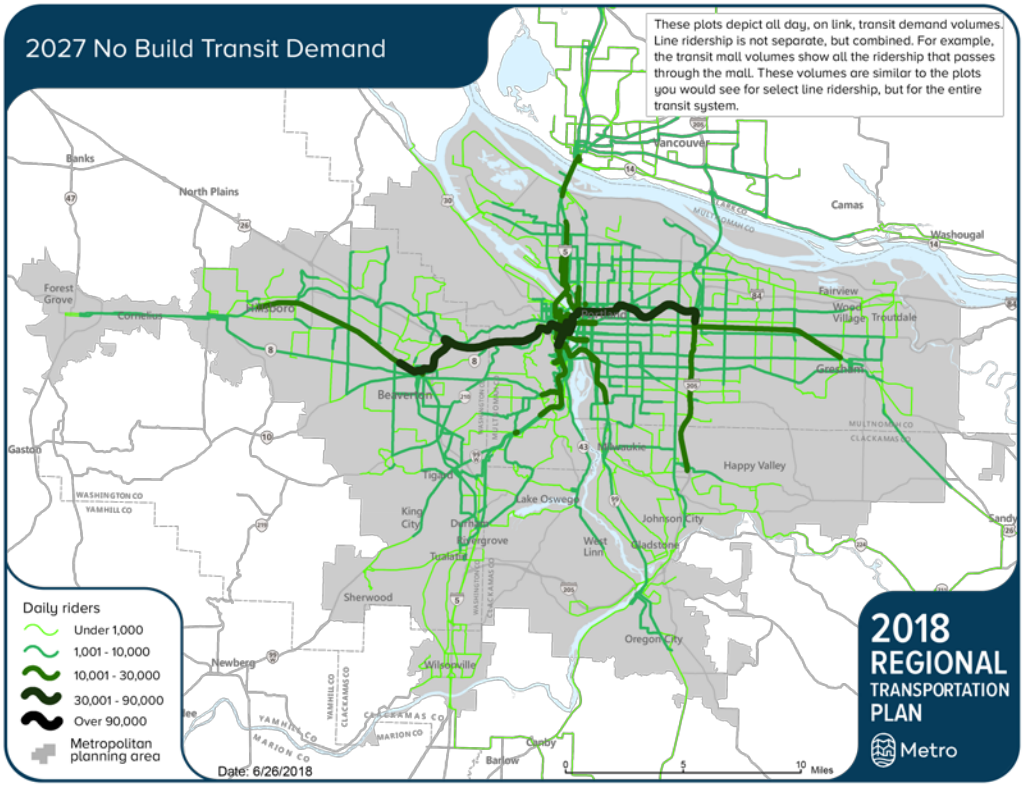


Figure 7.7: 2027 No Build Regional Transit Demand map and Figure 7.8: 2027 Constrained Regional Transit Demand map



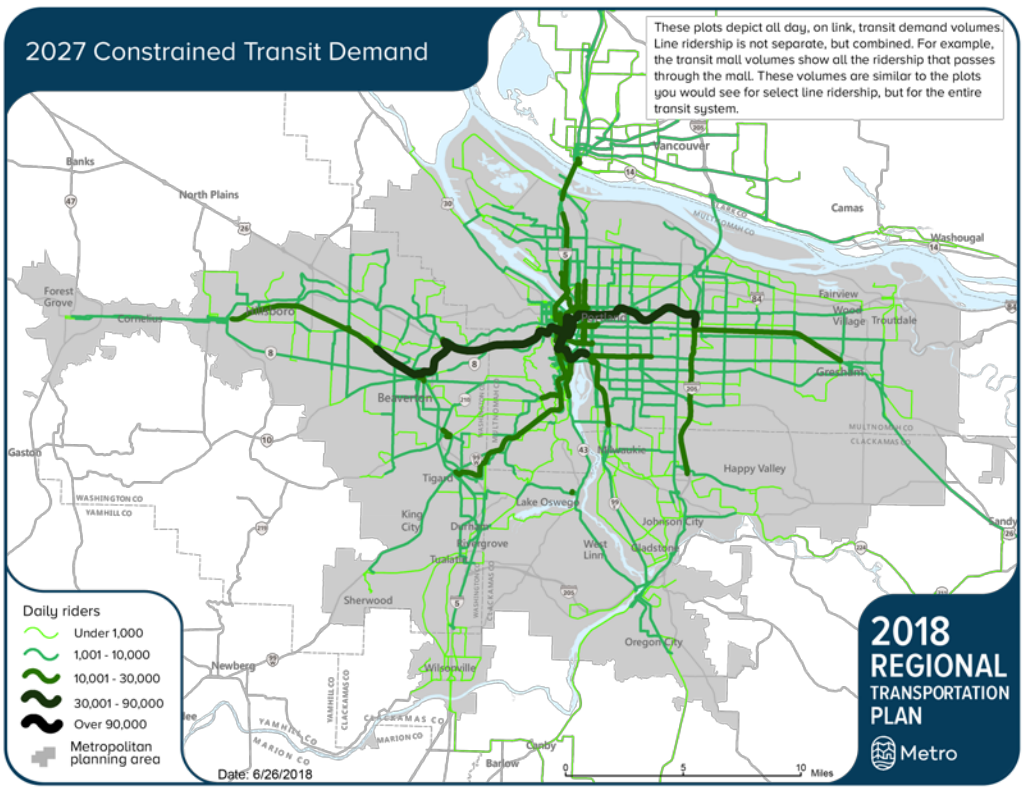
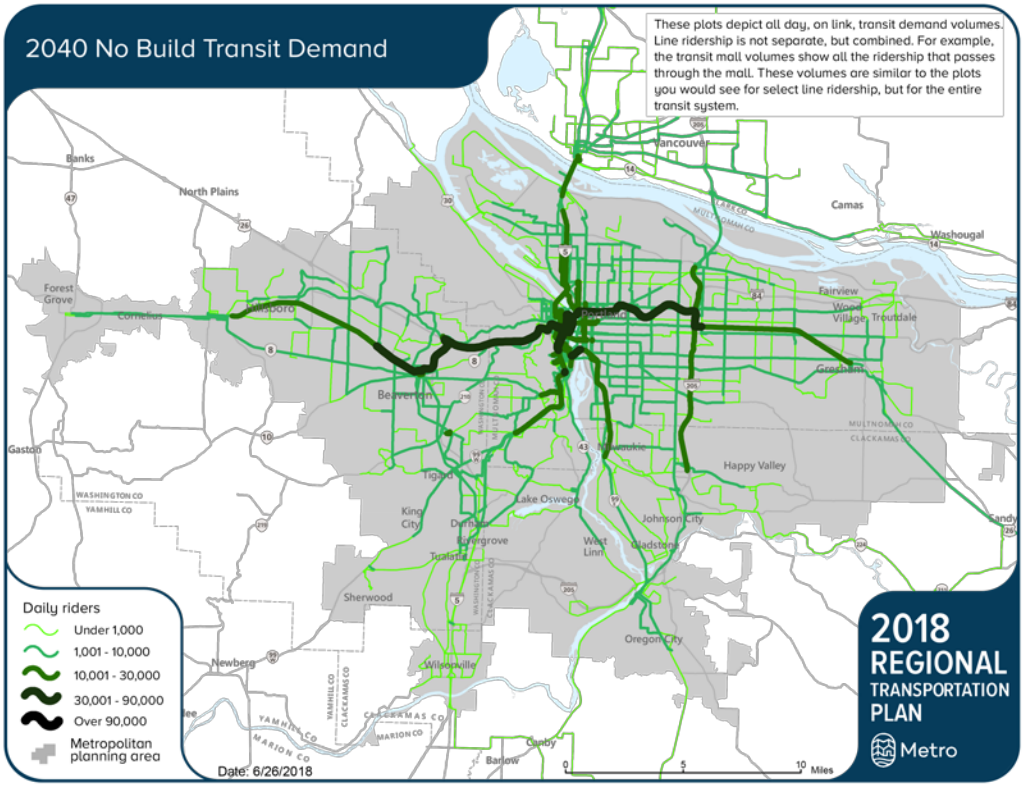


Figure 7.9: 2040 No Build Regional Transit Demand map and Figure 7.10: 2040 Constrained Regional Transit Demand map



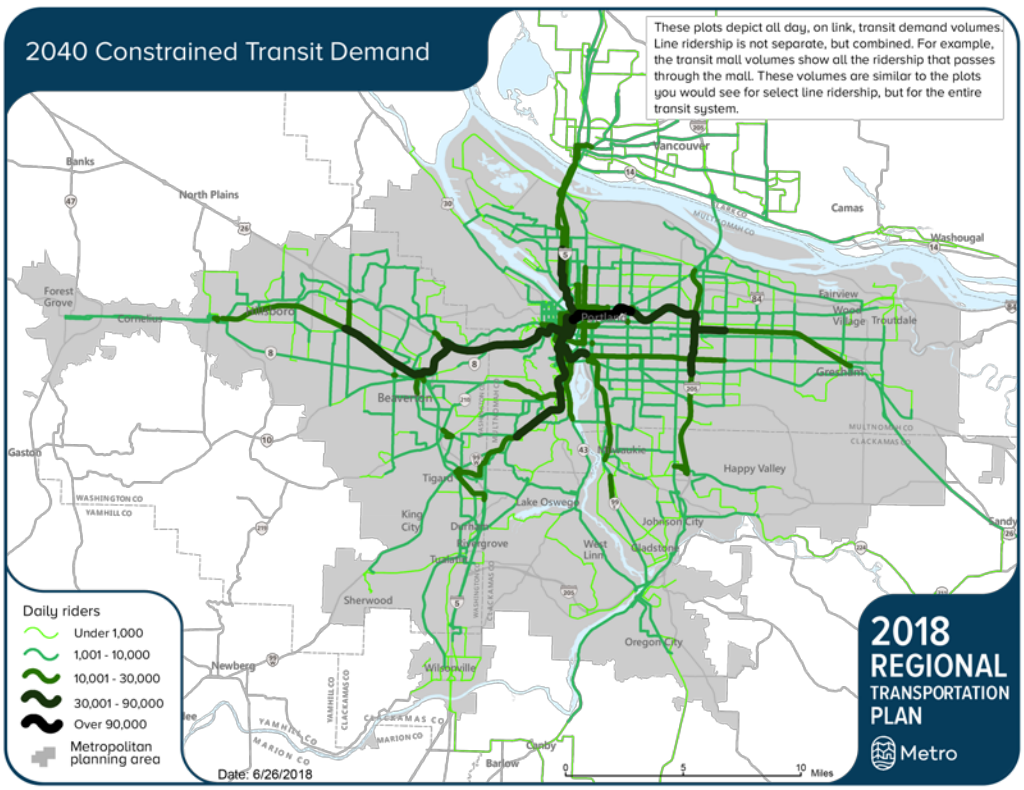
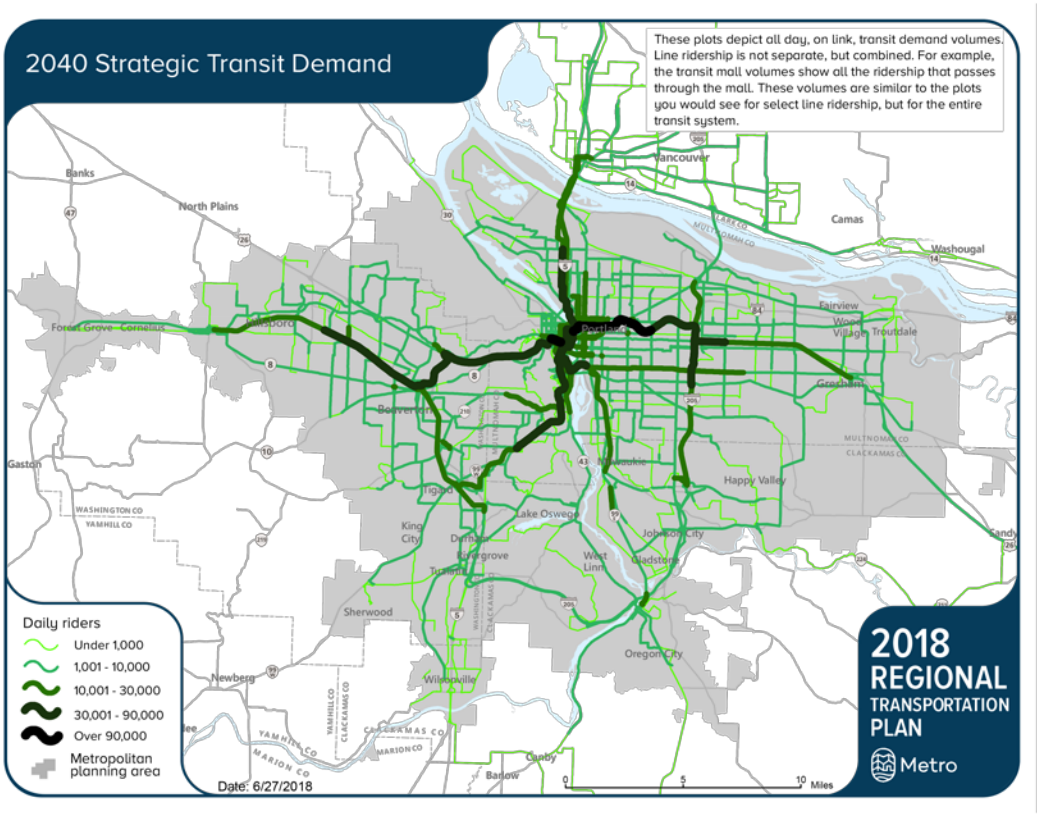


Figure 7.11: 2040 Strategic Regional Transit Demand map



The movement of people and goods through the network are great indicators of economic activity and as a region strategic efforts must be made to maintain and expand the effectiveness of our transit systems to ensure they remain viable transportation options as the region's population continues to increase.

The data above indicates that, as a region, we're ahead of our peers when it comes to growth in transit usage but, there is always room to improve. Metro, with the help of partners around the region, need to continue exploring the barriers to transit use in our region. Meaningful engagement will lead us to strategies that break down barriers to transit use and improve the overall quality of life of everyone that calls the Portland metropolitan region home.

7.3.2.3 Active transportation and transit mode share

Another indicator of transit performance is the percent of trips taken by transit. The RTP sets a target to t Increase non-driving mode share and triple walking, biking and transit region wide by 2040 compared to 2015 levels. Based on this evaluation, the region does not meet target of tripling transit, walking, and biking mode share region-wide (within the MPA) between 2015 and 2014.

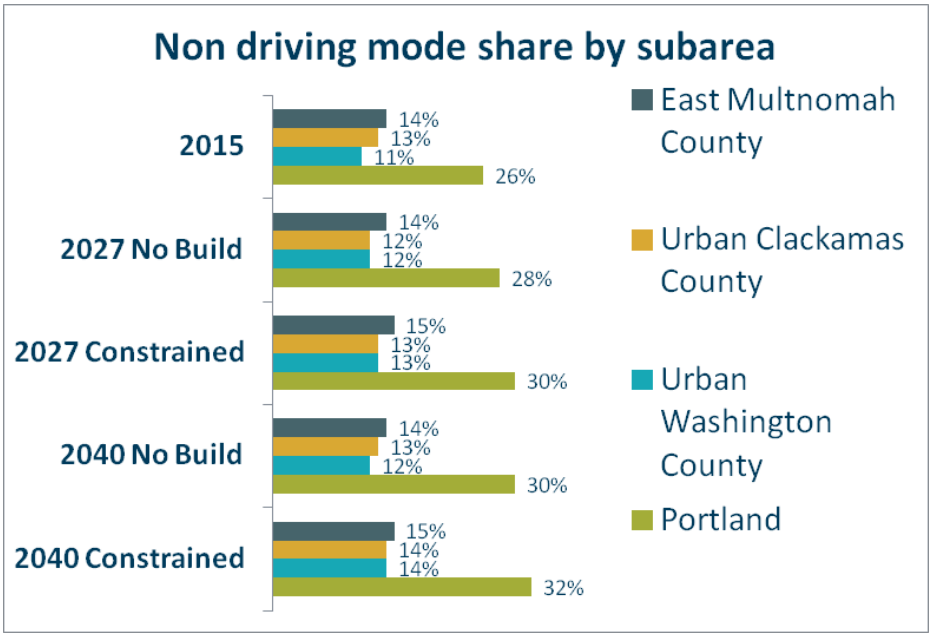
Table 7.5: Active transportation mode share within the region

Active transportation mode share	2015 Base Year	2027 No Build	2027 Constrained	2040 No Build	2040 Constrained	2040 Strategic
Walk	7.4%	7.4%	7.6%	7.5%	7.7%	
Bike	3.7%	3.9%	4.0%	4.1%	4.1%	
Transit	4.2%	4.9%	6.1%	5.2%	7.3%	

Source: Metro Travel Demand Model

As the figure below shows, there are relatively large increase from 2015 to 2040 Constrained for travel within the City of Portland (from 26% to 32%) and urban Washington County (11% to 14%), with more moderate increases within other sub-regions. However, non-driving modes do not triple, either.

Figure 7.12: Non driving mode share by sub-region



Source: Metro Travel Demand Model

7.3.2 How safe is travel in our region?

Regionally we've placed high value on transit as an alternative transportation method to automobile travel as such; we must think critically regarding the safety of our transit system. Transit safety analysis is more complex than automobile due to the fact that in most scenarios transit users are pedestrians first.

Taking a transit user's unique position into consideration offers two primary ways to approach safety:

- Physical Safety: This type of safety is concerned with the likelihood of an individual sustaining serious injury or death during the course of their trip.
- Security: This type of safety is more difficult to measure and is concerned with the opinions of potential transit riders. Emotional safety usually considers the non-transportation based "dangers" of transit usage, such as the fear of discrimination, concerns with the complexity of trip planning, or even the fear of being harmed by people you encounter along the way.

Physical safety concerns can typically be addressed by investments along the transit network that reduce the risk of serious death or injury for potential riders. From sidewalks, to stoplights – busses to bike lanes, projects that support safety support regional transit use. Across the constrained and strategic project lists the RTP identifies 382 projects aimed at increasing safety across the region.

While the transit ride may be safer than its automobile counterpart, the entire trip may not be. Recalling that transit riders are pedestrians first it is critical we take into consideration their entire trip. High Injury Corridors (HIC) are places along a transportation network where there are disproportionate amounts of vehicular related deaths and injuries. The map below highlights the intersection of transit routes and high injury corridors.

Figure 7.13: Comparison of HIC corridors and transit investments

Figure 7.13: Map comparing the HIC corridors and transit investments – this map will be added to the final strategy.

Many of the high crash corridors are along transit routes. This means, that in order to develop a safe and user friendly transit system, we must also invest in infrastructure that makes accessing transit safe, easy, and reliable.

7.3.3 How much do households spend on housing and transportation in our region?

For the average resident in our region housing and transportation consumes about 48% of their yearly income. The general rule of thumb is that no more than 28% of a person's income should go toward housing; currently our regional average is 27%. Potentially more so than housing, transportation expenditures can vary greatly, most sources suggest that a reasonable transportation cost lies somewhere between 15% – 20% of an individual's total income. Our region reports an average of 20% compared to the National average of 22%.

Transit use has the ability to significantly impact where our money is going. In 2016, the American Public Transportation Association (APTA) released its Transit Savings report which compared the average monthly expenditures for automobile ownership compared to transit use. On average, individuals in Portland were expected to spend $9,778 less per year by using transit. With similar savings reflected in 2018, $9,800 would represent approximately 15% of the regional average income. This means that the average driver in our region with viable access to transit could see their transportation expenditures fall to as low as 5% of their total income by switching modes of travel.

High housing costs are at the center of many conversations around the region. Investment and maintenance of a safe and accessible transit system has the ability to mitigate some of the financial impacts of increased housing costs in our region.

7.3.4 How easily, comfortably and directly can we access jobs and destinations in our region?

How easily, comfortable and directly we can access jobs and destinations in our region by transit plays a key role in transit as modal choice. If is easy and comfortable to take transit to work, to play or to school, the more likely we are to take transit.

7.3.4.1 Access to transit – system completeness

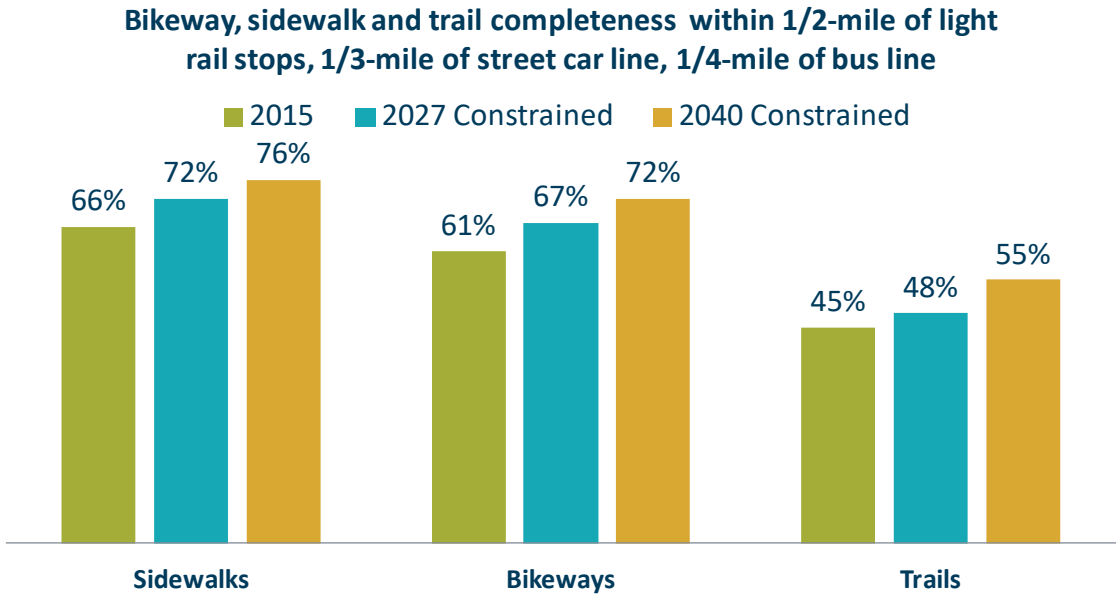
While progress is made in filling gaps in sidewalks, bikeways and trails to access transit, not all gaps are filled. By 2040, 76 percent of sidewalks are completed, 72 percent of all bikeways are completed and 55 percent of regional trails are completed within ½-mile from light rail stops, 1/3-mile from street car stops, and ¼-mile from bus stops.

Greater progress is made in increasing access to transit compared to region-wide. For example, while 76% of sidewalks are completed near transit, only 62 percent of sidewalks on arterial roadways are completed. This indicates that policies prioritizing access to transit are working.

Table 7.6: Access to travel options – access to transit

Access to transit	2015 Base Year	2027 No Build	2027 Constrained	2040 No Build	2040 Constrained	2040 Strategic
Percent sidewalks completed within ½ mile from light rail stops, 1/3 mile from street car stops, and ¼ mile from bus stops	66%	66%	72%	66%	76%	
Percent bikeways completed within ½ mile from light rail stops, 1/3 mile from street car stops, and ¼ mile from bus stops	61%	61%	67%	61%	72%	
Percent trails completed within ½ mile from light rail stops, 1/3 mile from street car stops, and ¼ mile from bus stops	45%	45%	48%	45%	55%	

Figure 7.14. Access to transit



7.3.4.2 Transit access to jobs and community places

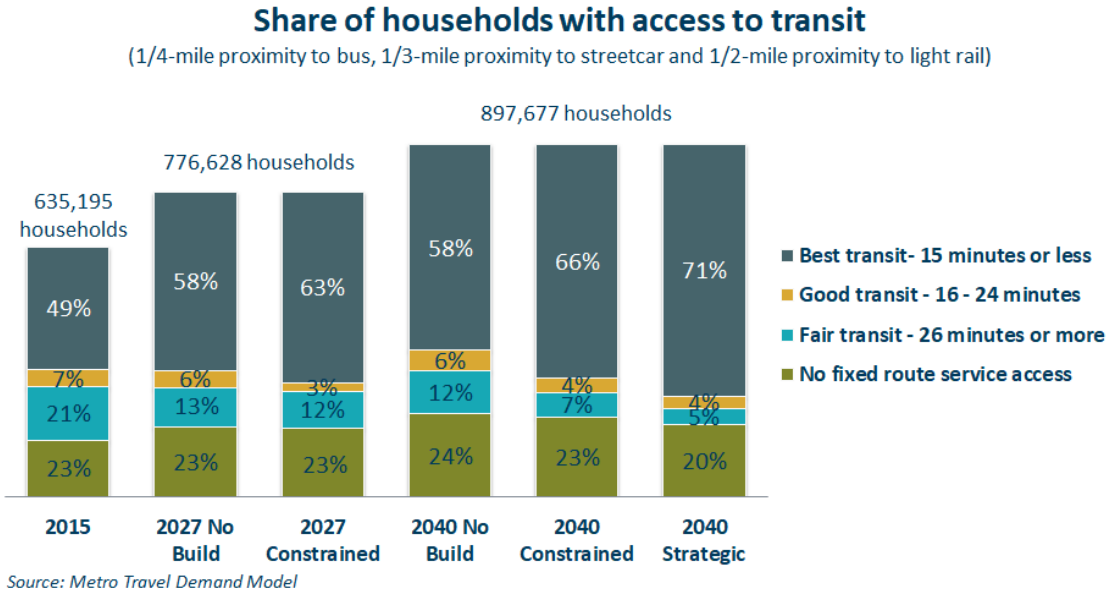
When exploring transit access there are two primary things to consider:

- Proximity to Station: This considers the distance people live from transit stations.
- Time to Destination: This considers whether or not transit use gets people where they need to go in a reasonable amount of time.

Proximity to stations: There is no motivation to use transit if it's geographically inaccessible, and even if it's geographically accessible there's no point in using it if it doesn't take you where you want to go. Good transit planning considers these concepts of access concurrently. The good news is that the future looks bright for both qualifiers of access. As the graph below highlights we can expect more than 3/4th of the region's households to have access (proximity) to transit by 2040, the majority being classified as "best transit" operating at 15 minute or better intervals. Additionally, 90 percent of the jobs in the region are accessible by transit. Figure 7.10 and 7.11 shows the percentages of households and jobs with access and frequencies to transit. Figures 7.12 through 7.17 present the access and frequencies for jobs, households, low-income households and low-income households in communities of color for various timeframes analyzed.

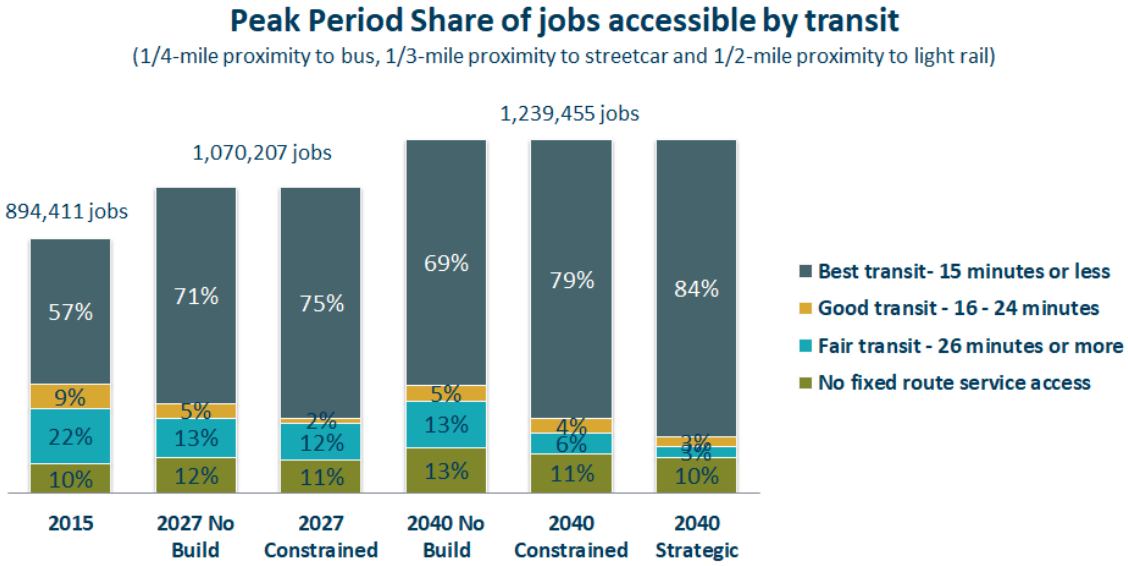
Approximately 90 percent of the jobs in the region are located near transit. As shown in Figure 7.3, the number of jobs accessible by 15 minute or better transit service increases significantly between today and the 2040 financially constrained investment scenario. The increase in transit service and frequencies means that more people are able to access job opportunities.

Figure 7.15: Number of households with access to transit during the Rush Hour



More than ¾ of the households in the region would see an increase to higher frequency transit. The number of households with 15 minutes or better transit service increases significantly between today and the future 2040 financially constrained investment scenario. The jobs in our region see even higher rates of transit access.

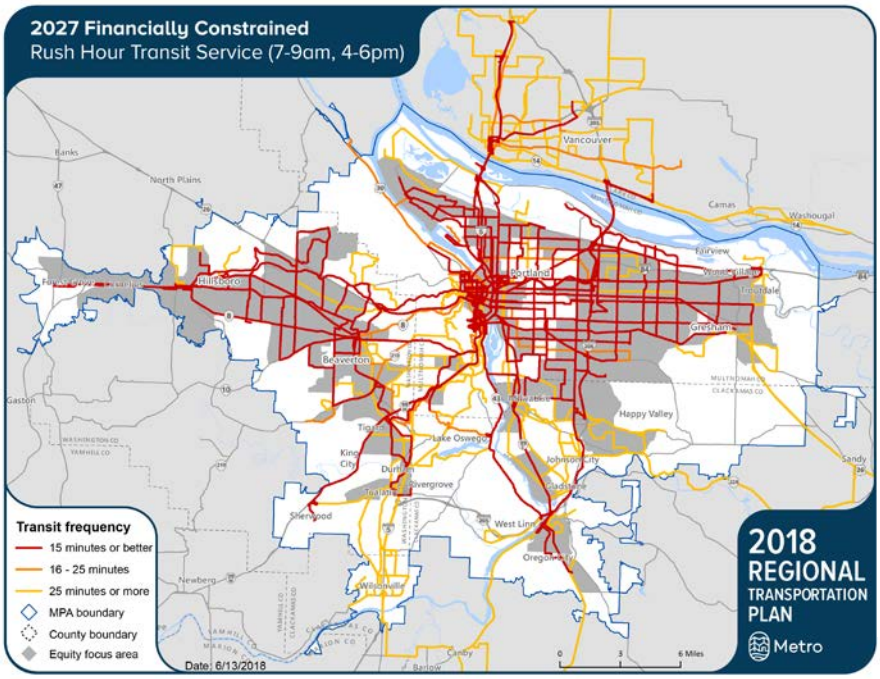
Figure 7.16: Number of jobs with access to transit during the Rush Hour



Source: Metro Travel Demand Model

The following figures show the jobs and households with access to transit by Investment Strategy.

Figure 7.17 and 7.18: 2027 Financially Constrained transit service for Rush Hour and Off-peak, respectively



10-year constrained

Results of projects scheduled in the first 10 years of the draft constrained list

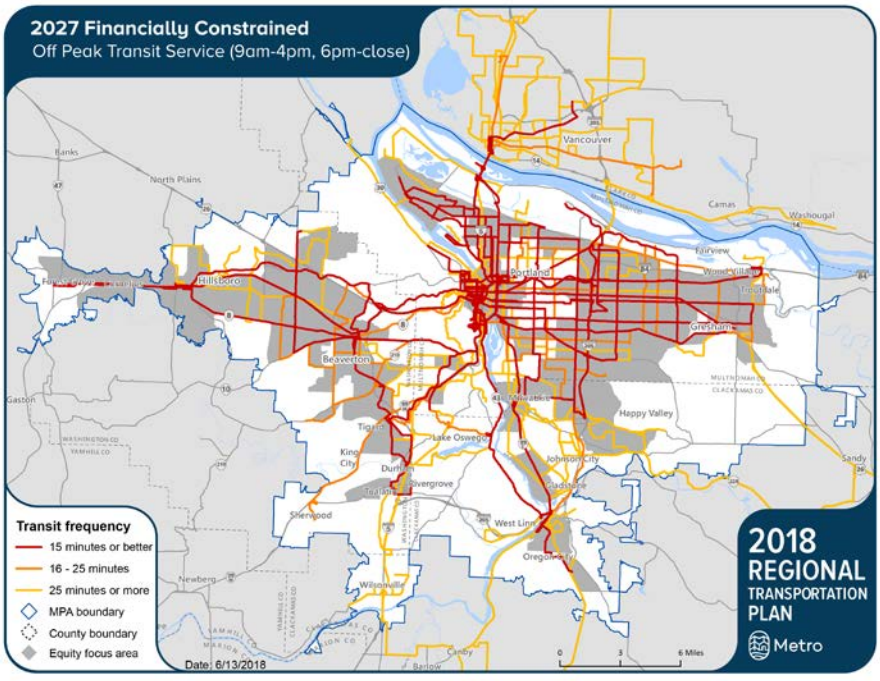
Estimated jobs and households near 15-minute or better rush hour service by 2027:

75% jobs

63% households

72% low-income households

82% low-income households in the equity focus areas



10-year constrained

Results of projects scheduled in the first 10 years of the draft constrained list

Estimated jobs and households near 15-minute or better daytime and evening service by 2027:

67% jobs

53% households

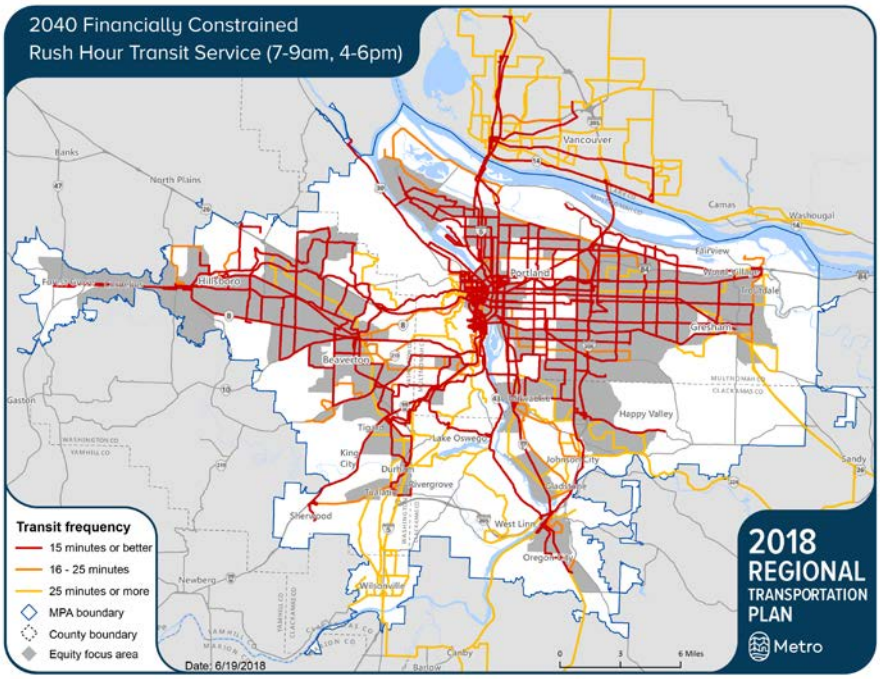
63% low-income households

72% low-income households in the equity focus areas

Source: Metro Travel Demand Model

Note: These maps are for research purposes and do not reflect current or future policy decisions of the Metro

Figure 7.19 and 7.20: 2040 Financially Constrained transit service for Rush Hour and Off-peak, respectively



2040 constrained

Results of projects in the full draft constrained list

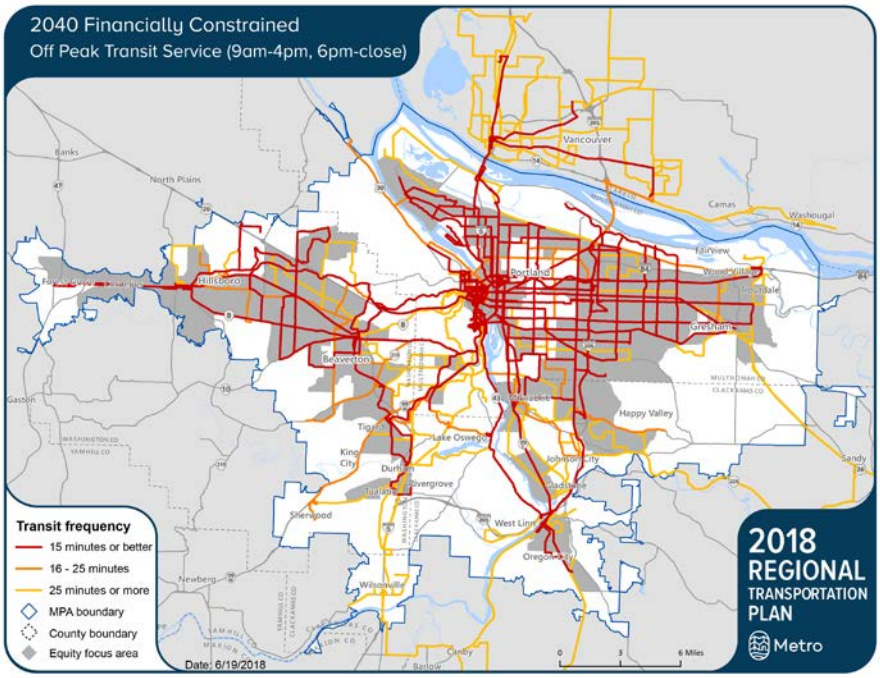
Estimated jobs and households near 15-minute or better rush hour service by 2040:

79% jobs

66% households

75% low-income households

85% low-income households in the equity focused areas



2040 constrained

Results of projects in the full draft constrained list

Estimated jobs and households near 15-minute or better daytime and evening service by 2040:

72% jobs

58% households

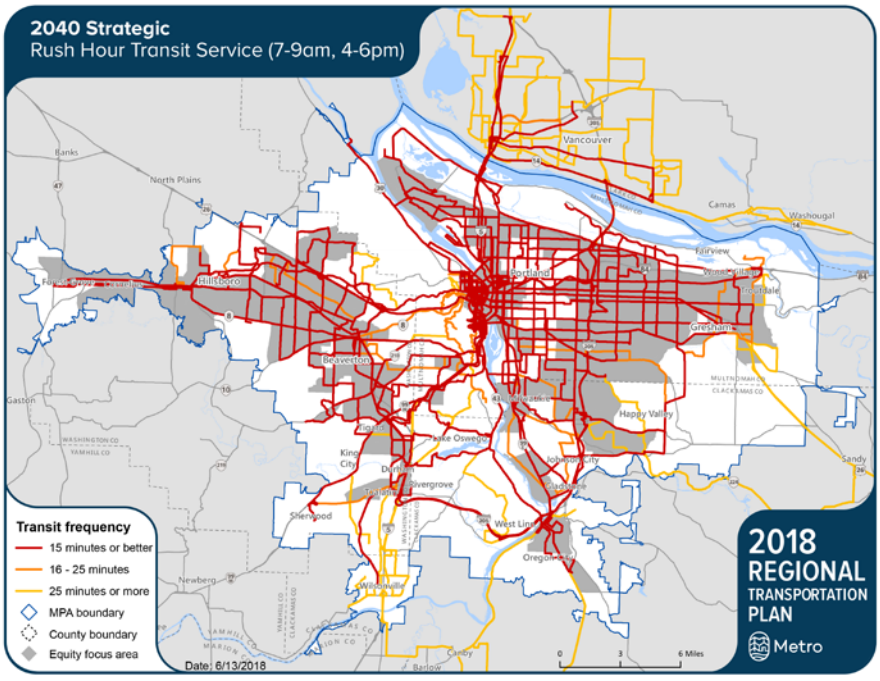
69% low-income households

79% low-income households in the equity focus areas

Source: Metro Travel Demand Model

Note: These maps are for research purposes and do not reflect current or future policy decisions of the Metro

Figure 7.21 and 7.22: 2027 Strategic transit service for Rush Hour and Off-peak, respectively



2040 strategic

Results of projects in the full draft constrained list and additional strategic priority investments

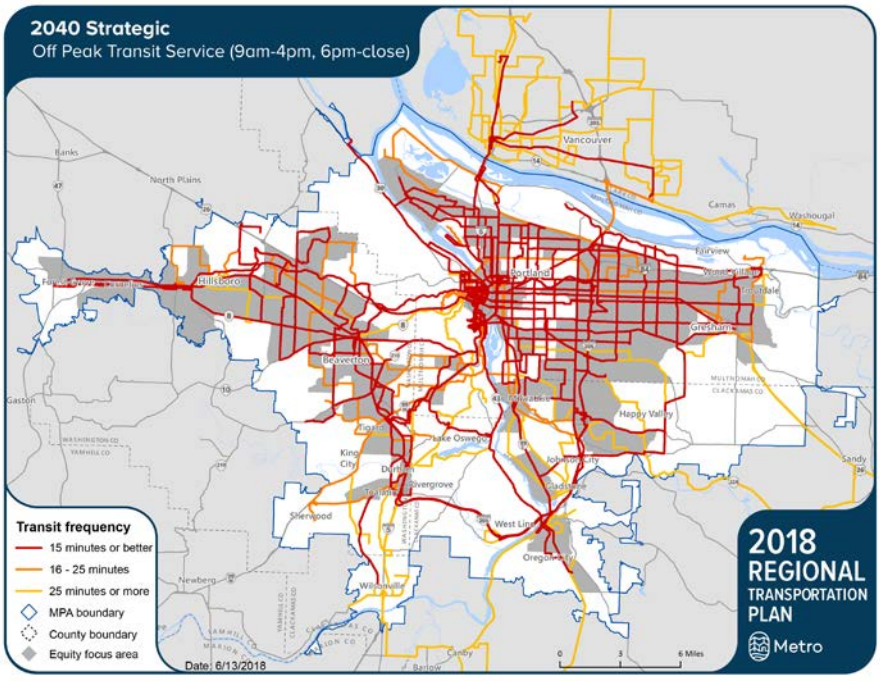
Estimated jobs and households near 15-minute or better rush hour service by 2040:

84% jobs

71% households

79% low-income households

88% low-income households in the equity focus areas



2040 strategic

Results of projects in the full draft constrained list and additional strategic priority investments

Estimated jobs and households near 15-minute or better daytime and evening service by 2040:

78% jobs

65% households

74% low-income households

85% low-income households in the equity focus areas

Source: Metro Travel Demand Model

Note: These maps are for research purposes and do not reflect current or future policy decisions of the Metro

Increasing transit service and frequencies is a priority for the region. Under each of the investment scenarios, the majority of the households and jobs have access to 15 minute better transit service. Somewhere between 70-85 percent of the jobs in the region would be accessible by frequent service transit. The majority of the households, 60 – 70 percent, in the region would also have access to frequent service transit. The low-income households and low-income households in the equity focus areas would have greater percentage of households with access to frequent service compared to the region as a whole.

Determining the ease, comfortably, and directness of our transit system is no easy task, but our models show that at the very least we are headed in the right direction. Due to social preferences there will always be a percentage of people who purposefully distance themselves from the transit network.

Travel time access to jobs and community places

Table 7.7 shows the change in the number of jobs (by wage profile) accessible within a 45-minute commute time region-wide for the 2027 and the 2040 constrained investment scenarios, compared to the 2027 and 2040 no build scenarios.

Table 7.7: Change in Total Number of Jobs Accessible by transit for the 2027 and 2040 Constrained Scenarios

	2027 Constrained		2040 Constrained	
	Transit – Rush Hour	Transit – Off Peak	*Transit – Rush Hour*	Transit – Off Peak
All Jobs	21,448	19,371	40,694	40,185
Low Wage Jobs	10,197	9,192	18,671	18,452
Middle Wage Jobs	5,883	5,322	10,929	10,829
High Wage Jobs	5,368	4,857	10,065	9,960

Source: Metro Regional Travel Demand model

In general, the 2027 and 2040 constrained investment strategy increases the number of jobs the average household can reach within a 45-minute commute time. With the first ten years of investment, the average household will a little more than 21,000 more jobs by transit accessible due to the investment strategy. The investment in transit in the 2018 RTP show larger gains in the number of jobs accessible, where nearly 25% more jobs become accessible to the average household within a 45 minute transit trip.

For the average household within an equity focus area, the number of jobs accessible within a typical commute time by different forms of travel is expected to increase. The average household in an equity focus area will see over 24,000 more jobs in 45 minute transit trip due to the 2027 constrained investment strategy.

With the addition of investments beyond 2027 to 2040, the increase in the number of jobs accessible for the average household in equity focus areas goes up to over 44,000 more jobs in a 45 minute transit trip. When looking more specifically at low-wage and middle-wage jobs, as a result of the 2018 RTP investment strategy the average household in equity focus areas see the number of middle and low wage jobs accessible in a 45 minute transit commute increase 42% by 2040.

The positive take away from the 2027 and 2040 constrained investment strategies is there is an increase in the number of jobs accessible to the average household in the equity focus areas within a typical 45 minute transit commute trip. This pattern hold true regardless of the time of day (e.g. rush hour travel, where typically more transit service is out on the streets, or non-rush hour travel which is any other time of day).

Home and work are important, but they aren't the only places we go. Access to community places like grocery stores and medical service locations are things that should also be served by the regional transit system. Across the 10-year, constrained, and strategic models transit access is expected to increase, further, access for historically marginalized communities and communities of color are expected to outperform the region as a whole, something that puts us one step closer to establishing a more equitable transit system.

The 2018 RTP transportation equity evaluation also measured two other dimensions of accessibility: access to jobs and access to community places by different form of travel (e.g. driving, transit, bicycling, and walking) in a reasonable travel time. When looking at the RTP investment strategy's effect on whether the average household in historically marginalized communities are able to get to a greater number of jobs and community places (e.g. libraries, grocery stores, credit unions, medical facilities) in general accessibility will increase. In particular, the 2018 RTP investment strategy will provide significant benefit and increase the number of jobs (regardless of wage profile – low, middle, high) and community places accessible within a reasonable transit commute for historically marginalized communities. The transit result is significant and positive in light of knowing from survey data historically marginalized communities use transit for more trips and upwards 42 percent of transit trips are taken by people of color and people in poverty for commuting to work or school purposes. The increased number of jobs and community places accessible within reasonable transit trip will provide significant benefits to historically marginalized communities in the near and long-term.

Additional analysis will be included in the final transit strategy. For more detailed information see the Regional Transportation Plan Appendix E, Transportation Equity Analysis Report.

7.3.5 How efficient is travel in our region?

Transit productivity is measured by boardings per revenue hour which represents the total riders boarding a transit vehicle on a route divided by the in-service time.

7.3.5.1 Transit travel times

This section is under development and will be added to the final strategy.

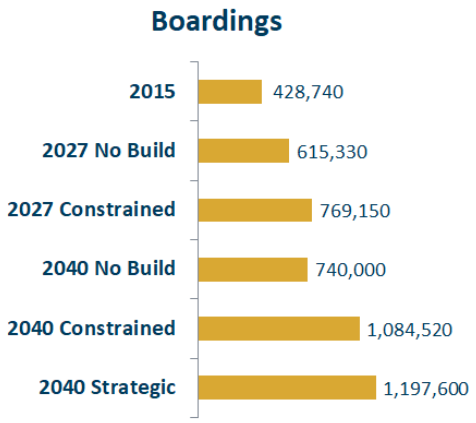
7.3.5.2 Congestion

This section is under development and will be added to the final strategy.

7.3.5.3 Transit efficiency and productivity

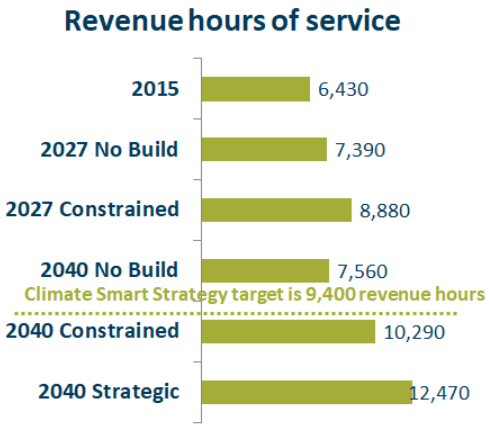
Total boardings and revenue hours of transit service both increase dramatically between 2015 and 2040 for all investment strategies. The 2040 Financially Constrained and Strategic Investment Scenarios show significant increase in total boardings and revenue hours of service over the 2040 No Build reflecting the increase in high capacity transit and increase in transit service expected.

Figure 7.23: Average weekday boardings



Source: Metro Travel Demand Model

Figure 7.24: Revenue hours of service

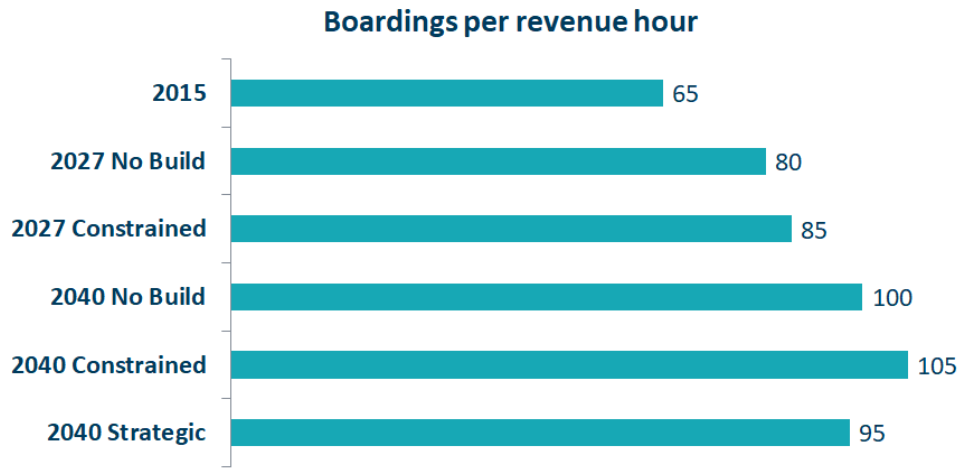


Source: Metro Travel Demand Model

The 2040 Constrained includes C-TRAN revenue hours (approximately 700 hours), which were not included in the Climate Smart Strategy revenue hours.

As the region grows and transit services increase, the transit demand and number of boardings increase as well. Figure 7.20 illustrates the average weekday boardings per revenue for each investment scenario. As shown in the figure below, the 2040 constrained scenario has the highest boardings per revenue hour.

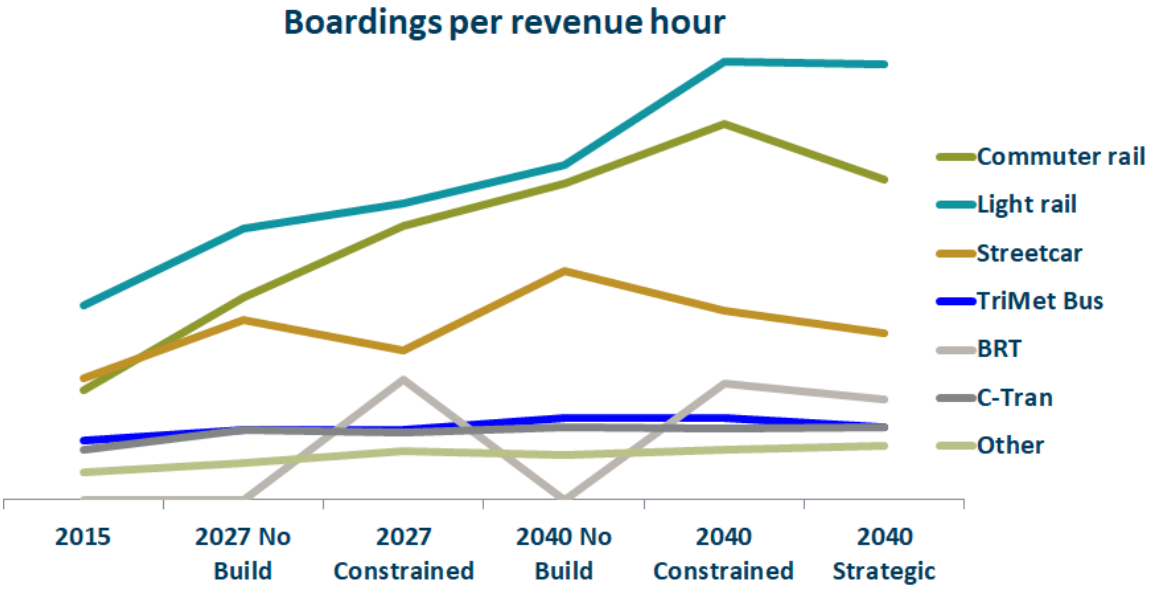
Figure 7.25: Average Weekday Boardings per Revenue Hour



Source: Metro Travel Demand Model

Figure 7.21 shows the boardings per revenue hour by mode. As shown in the figure, rail is the most productive with light rail, commuter rail and streetcar would have the highest boardings per revenue hour.

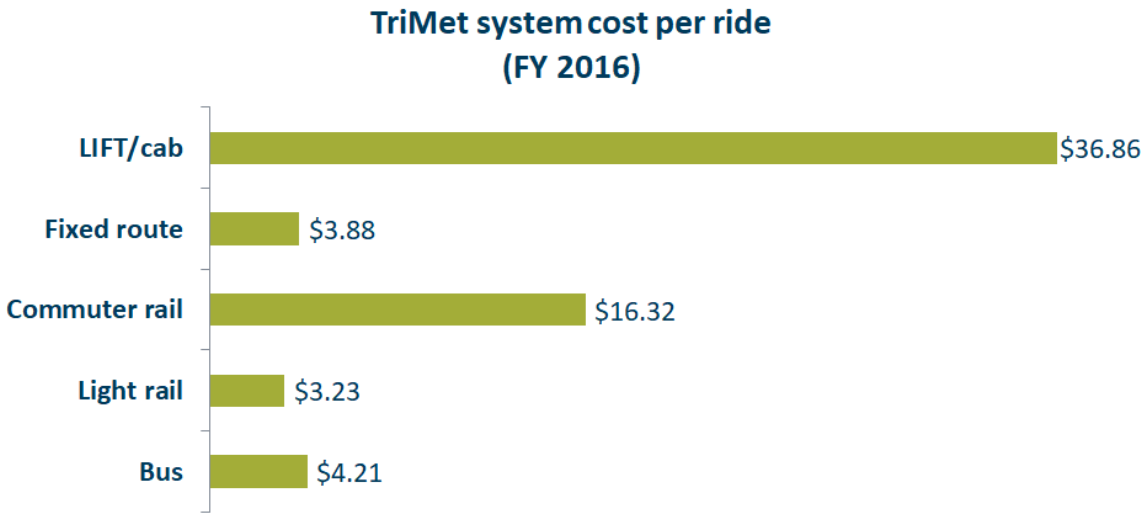
Figure 7.26. Boardings per revenue hour by mode



Source: Metro Travel Demand Model

Figure 7.22 presents the TriMet system cost per ride to operate by mode. Light rail costs least to operate, closely followed by fixed rout service. Paratransit is the most expensive service to provide.

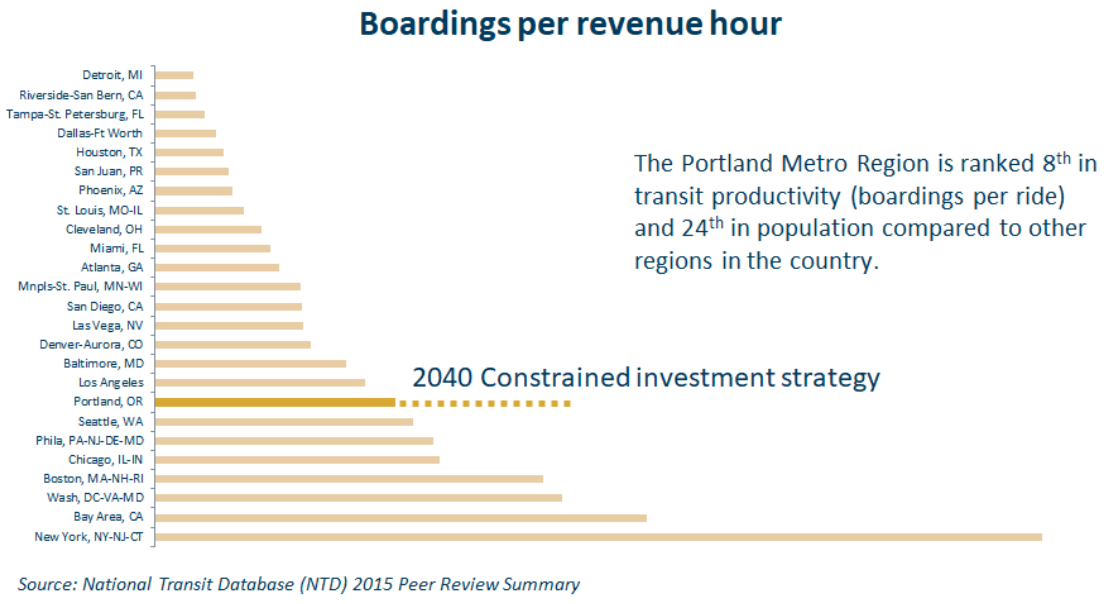
Figure 7.27: TriMet system cost per ride



Source: TriMet

Transit is productive and figure 7.23 shows how the Portland Metro Region compares nationally in productivity.

Figure 7.28: Boardings per Revenue Hour National Trends



Source: National Transit Database (NTD) 2015 Peer Review Summary

The Portland Metro region boardings per revenue hour to other regions around the country. The Portland Metro region is ranked 8th in transit productivity (boardings per ride) and 24th in population. The 2040 financially constrained investment scenario boardings per ride is estimated to be equal to the boardings per ride to Washington DC transit service today.

7.3.6 How will transportation impact climate change, air quality and the environment?

Increasing transit use reduces the number of cars on the road and overall vehicle emissions in the region. Air quality is frequently the lowest in urban areas where traffic congestion is the worst which also means that individuals living in close proximity to major thoroughfares or highways sustain much higher health risks associated with poor air quality.

As mentioned in earlier sections, the Climate Smart Strategy identified key targets to achieving our regions goals of reducing carbon emissions. As we continue to pursue our environmental objectives it will be important to keep the Climate Smart performance measures in mind. Table 7.2 compares the Climate Smart monitoring targets to investments strategies.

Table 7.8: Draft Comparison of Climate Smart monitoring targets by Investment Strategy

Measure	2015 Baseline	2035 Monitoring target	2027 Constrained	2040 Constrained	2040 Strategic
Daily transit service revenue hours	6430	**9,400**	8,880	10,290	12,470
Share of households within ¼ mile all day frequent service*	38%	**37%**	53%	58%	65%
Share of low-income households with ¼ mile of all day frequent transit *	46%	**49%**	63%	69%	74%
Share of employment within ¼ mile of all day frequent service*	68%	**52%**	67%	72%	78%

*Climate Smart Strategy calculated the access to transit as a ¼ mile from any transit stop or station, the RTP analysis was more tailored and calculated the access for a ¼ mile from bus stop, 1/3 mile from streetcar station and ½ mile from light rail station

Source: Metro Travel Demand Model

Investment in transit projects can also support higher density land development which reduces the distance and time people need to travel from place to place. Less distance means fewer emissions and cleaner air. Transit-oriented development also preserves land for other uses like parks, wildlife preserves, or agriculture.

If preserving the region's natural beauty for generations to come is a shared objective, reducing negative environmental impacts must be collaborative effort. Transit use is a tool

proven to work. There is still a lot of work to do if we want to reach our goals but a region wide effort makes the task less daunting.

7.4 High Capacity Transit (HCT) Assessment and Readiness Criteria

This section is under development and will be added to the final strategy.

The HCT Assessment and Readiness Criteria is an update to the Transit System Expansion Policy, adopted in 2009, as part of the Regional High Capacity Transit Plan. The HCT assessment and readiness criteria f provides a framework for the region to screen and prioritize major capital investments in transit. This concept was originally developed in 2009 as part of the Regional High Capacity Transit System Plan.

This framework aims to identify transit corridor capital projects that best meet regional outcomes and position projects for potential federal and other funding opportunities. The outputs of this assessment can help illustrate the strengths and weaknesses of each project and will allow project sponsors to understand opportunities to enhance how a given project will score in future evaluations.

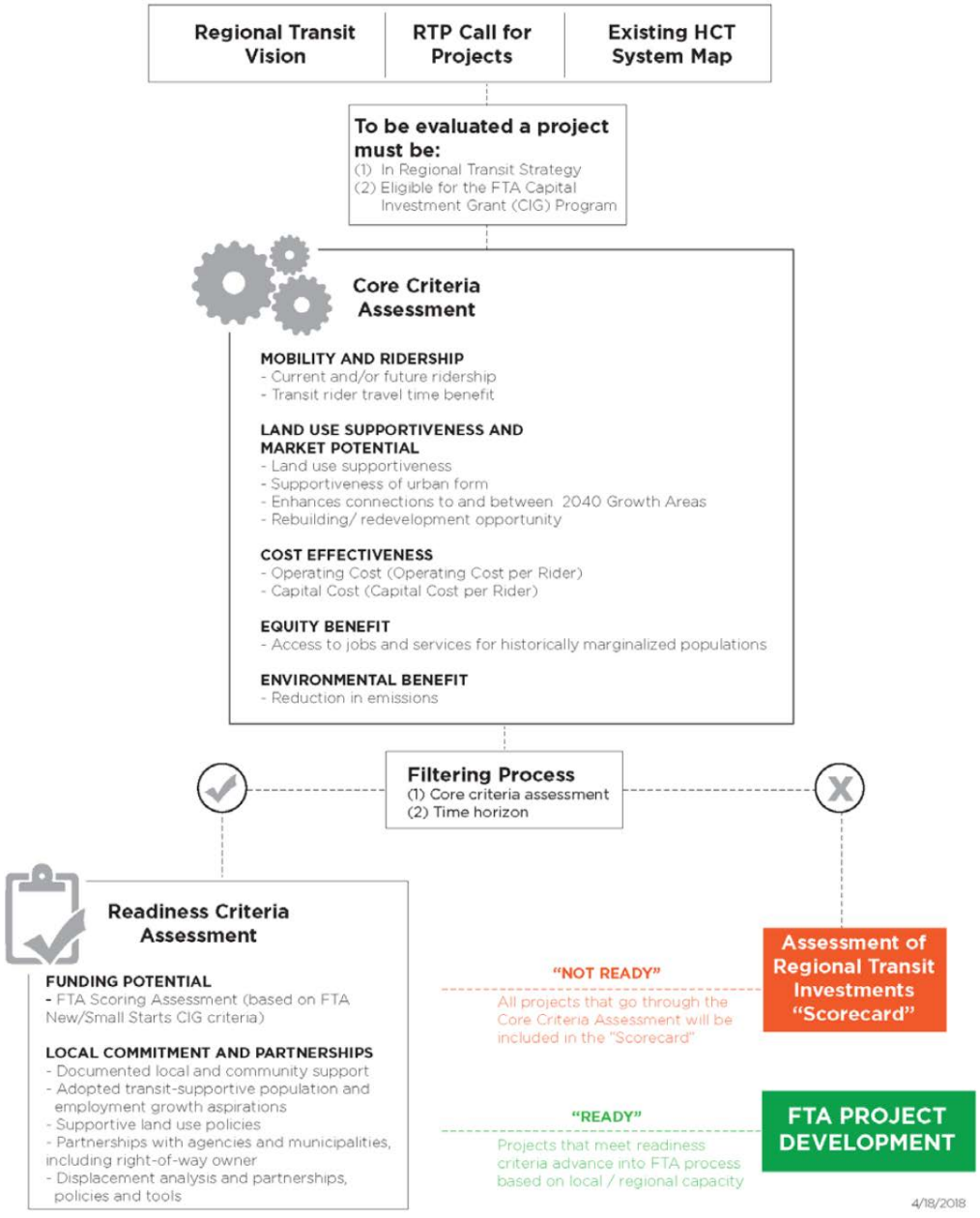
The HCT assessment and readiness criteria includes a multi-phased evaluation that includes core criteria as well as readiness criteria. The Core Criteria is comprised of measures that describe the benefit of the projects, consistent with regional values, as well as assess the competitiveness of projects for funding through the FTA CIG program. The Readiness Criteria is the second filter and is evaluated separately from the core criteria when a project is better positioned for implementation. Project readiness factors include funding potential (a simulated scoring based on the FTA CIG program criteria) and local aspirations (measure of local commitment and established agency partnerships to ensure successful project delivery).

The HCT assessment and evaluation criteria align with recent regional priorities including the six desired outcomes for the Portland metropolitan region, the Climate Smart Strategy outcomes related to transit and the RTP System Performance Measures. It also aligns with the FTA Capital Investment Grant (CIG) program, which provides capital funding for high-capacity transit projects.

This process applies to any projects that are seeking Federal funding through the FTA Capital Investment Grant Program. This information along with local support is meant to help guide the regional decision making process to advance HCT investments. This additional assessment would only apply to those investments seeking FTA Capital Investment Grant (CIG) program funding (e.g. New Starts, Small Starts or Core Capacity).

Figure 7.24 below identifies the process, including how projects are defined (e.g., which projects are run through this process), the criteria, and the outcomes of the process.

Figure 7.28: HCT Assessment and Readiness Criteria Process



Source: Nelson\Nygaard Consulting Associates, Inc.

Regional Transit Investments Assessment and Readiness criteria

Table 7.3 describes the proposed evaluation criteria and identifies the rationale and other notes related to the proposed analytical methods.

Table 7.9: High Capacity Transit (HCT) Assessment and Readiness Criteria

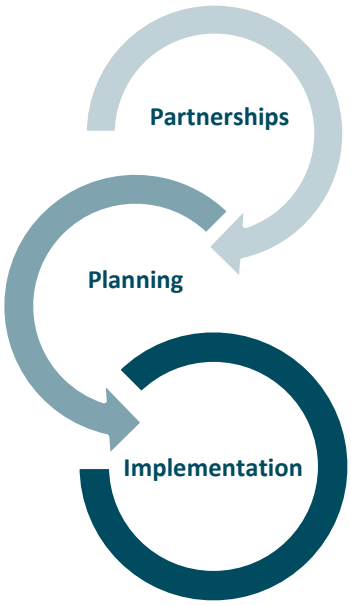
Criteria	Measures
Mobility and Ridership	▪ Current and/or future ridership ▪ Transit rider travel time benefit
Land Use Supportiveness and Market Potential	▪ Land use supportiveness ▪ Supportiveness of urban form ▪ Enhances connections to, within, and between 2040 Growth Areas ▪ Rebuilding/ redevelopment opportunity
Cost Effectiveness	▪ Operating Cost (Operating Cost per Rider) ▪ Capital Cost (Capital Cost per Rider)
Equity Benefit	▪ Access to jobs and services for historically marginalized populations ▪ Reduction in emissions
Funding Commitment/ Partnerships/Local Support (Readiness Phase)	▪ Local Commitment and Partnerships ▪ Funding Potential

Source: Nelson\Nygaard Consulting Associates, Inc

This analysis helps inform the conversations regarding advancing a project forward towards implementation. This process is not meant to represent a detailed corridor analysis, but rather a high level assessment of the project based on benefits and readiness. Individual corridor modeling and analysis typically happens when a corridor is defined and there is a planning process for that specific corridor. During the project planning phase, the regional travel demand model, as well as other planning tools, can be utilized at a corridor level to identify specific benefits and tradeoffs.

CHAPTER 8: IMPLEMENTATION

Metro worked with federal, state and local government partners as well as residents, community groups, and businesses to develop the Regional Transit Strategy as part of the 2018 Regional Transportation Plan.



The result of that collaboration is a set of regionally identified values and policies that guide our transportation planning and investment decisions, strategies to help meet our regional transit vision, and a shared understanding about existing financial resources. This strategy and collection of projects aim at addressing our growing transit needs and challenges and our regional transit vision **to make transit more frequent, convenient, accessible and affordable for everyone**.

This chapter has four parts to it:

1. Transit funding
2. Transit plans and programs
3. Major transit projects
4. Next steps

8.1 Transit funding

Transit service is funded through federal, state and local sources.

8.1.1 Federal funding

Since December 2015 and through fiscal year 2020, the Fixing America's Surface Transportation (FAST) Act has authorized several Federal Transit Administration (FTA) programs to improve public transportation across the United States. Programs established by the Act vary in purpose and competiveness.

FTA Formula, or non-competitive, funds are designated to the region and allocated amongst TriMet, SMART, and C-Tran. These funds are marked as Section 5307 for transit capital, planning, and job commute programs, Section 5339 for bus and bus facilities programs, and 5310 to improve mobility for seniors and individuals with disabilities.

Competitive FTA funding sources include the Low or No Emission Vehicle Program, of which both SMART and TriMet have both been successful. Other competitive funding opportunities include the **Better Utilizing Transportation Investment to Leverage**

Development (BUILD) Program for multi-modal and multi-jurisdictional transit projects that will enhance the economy and the Public Transportation Innovation grant for innovative products that assist the transit agency with better meeting customer needs.

FTA's Capital Investment Grant (CIG) Program is FTA's discretionary funding source for funding major transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. It is a discretionary grant program unlike most others in government. Instead of an annual call for applications and selection of awardees by the FTA, the law requires that projects seeking CIG funding complete a series of steps over several years to be eligible for funding. For New Starts and Core Capacity projects, the law requires completion of two phases in advance of receipt of a construction grant agreement – Project Development and Engineering. For Small Starts projects, the law requires completion of one phase in advance of receipt of a construction grant agreement – Project Development. The law also requires projects to be rated by FTA at various points in the process according to statutory criteria evaluating project justification and local financial commitment. A project can receive up to 50% of federal funding under the FTA Capital Investment Grant Program.

FTA's Capital Investment Grant Program is the primary funding source used by our region in developing our commuter rail, light rail, streetcar and bus rapid transit projects. We have been extremely successful in the past in receiving federal funding through this program. Because of this success, it is not unrealistic that this trend would continue. As previous mentioned, this is a discretionary and competitive grant program and includes projects to be rated at various points.

8.1.2 State funding

Oregon Department of Transportation provides several funding opportunities to support public transportation throughout the state. State funding comes by way of the Special Transportation Fund (STF), the *ConnectOregon* program, planning grants, the statewide transportation improvement fund (STIF) and more. The STF provides revenue in support of transportation need for seniors and people with disabilities. This program is funded through a combination of non-highway use gas tax, cigarette tax, and general funds. The *ConnectOregon* program is a grant initiative funded by lottery-based bonds to promote stronger, more diverse and efficient transportation options throughout Oregon.

Keep Oregon Moving, House Bill 2017 (HB2017) provides a huge boost for transit services and programs across Oregon. Oregon lawmakers passed House Bill 2017(Section 122) the first comprehensive transportation package to receive legislative approval since 2009. At $5.3 billion, the package makes significant investments in transit and many other transportation initiatives across the state. The measure creates a statewide employee payroll tax dedicated to transit improvements.

It is expected to generate $35-$40 million in additional annual revenue for TriMet. An Advisory Committee is guiding TriMet on how to allocate the additional funds.

SMART is expecting receive an additional $1 million in annual revenue to increase transit coverage, increase transit service to weekends, convert their entire fleet to electric vehicles and to eliminate transit fares entirely.

In addition, 9% of the total House Bill revenues will be open to all transit agencies in Oregon in the form of competitive grants for a variety of projects; such as, to promote intercommunity services, enhance technology, and use as a match to obtain other grants.

8.1.3 Regional funding

The **Metropolitan Transportation Improvement Program (MTIP)** serves as the federally required schedule of transportation investments administered by Metro, ODOT, TriMet and SMART. The MTIP also monitors implementation of federal and regional policies for the Portland metropolitan region during a four-year cycle. The MTIP is comprised of three major components: the transportation funding allocations administered by the state department of transportation (ODOT), transit agencies (SMART and TriMet), and the metropolitan planning organization (Metro). Additionally, the MTIP also includes state and local transportation programming which affects the regional transportation system.

Metro's transportation funding process is known as the **Regional Flexible Funds Allocation (RFFA)**. Metro takes a collaborative approach to allocating regional flexible funds to support transportation investments that achieve the region's vision and goals for the transportation system, as defined by the Regional Transportation Plan. The Plan's vision and goals include reducing the region's greenhouse gas emissions, keeping neighborhoods safe, supporting sustainable economic growth, and making the most of the existing investments our region has already made in public infrastructure.

8.1.4 Local funding

A predominant source of funding for both TriMet and SMART are local payroll taxes levied on businesses performing work in their respective transit districts assessed on gross payroll and/or self-employment earnings. SMART utilizes this source of revenue to run operations and leverage state and federal grants. This section is underdevelopment.

8.2 Transit planning and programs

This section summarizes local, regional and state transit planning and programs that advance implementation of the Regional Transit Strategy (RTS). The Regional Transportation Plan (RTP) includes a more comprehensive discussion of the planning and programs that advance implementation of the transportation system as a whole.

8.2.1 Local Implementation

Local planning efforts which help implement the regional transit vision, include updates to the transit providers service plans, local transportation system plans, concept plans for designated urban reserves and topical, modal or subarea plans needed for consistency

with the regional transit vision and the RTP or to address specific local or subarea transit needs or emerging issues.

The Transportation Planning Rule (TPR) includes provisions for local TSPs to be updated within one year of adoption of the updated RTP, but allows for the RTP to determine a schedule for local plan compliance. A schedule for local transportation system plan updates is available at **www.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. The schedule will be updated following adoption of the Regional Transportation Plan.

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, and 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's Regional Programs

Metro is responsible for several on-going regional programs that provide a combination of grants, technical assistance and planning support 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, Intelligent Transportation Systems (ITS) and operations planning, and topic experts provide support on climate change, equity, safety, emerging technology, shared mobility, connected and automated vehicles, 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 are identified in the Unified Planning Work Program, adopted annually by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council, include:

- Regional Transportation Safety Program,
- Regional Active Transportation Program,
- Regional Freight Program,
- Regional Travel Options (RTO) and Safe Routes to School Programs,
- Air Quality and Climate Change Monitoring,
- Complete Streets Program,

- Regional Transit-Oriented Development Program, and
- Investment Areas Program.

8.2.3 Region-wide planning efforts

This section summarizes near-term region-wide planning efforts at the regional-scale to advance implementation of the plan. Each planning effort is needed to address regional transportation policy or planning issues that could not be resolved during or continues on beyond the plan update. This work will be completed by multiple partners as resources are available and pending future Metro Council and JPACT policy direction.

The following sections describe the region-wide planning efforts that relate to implementing the regional transit vision. The transit specific planning efforts are described here. For other planning efforts see the 2018 RTP, Implementation Chapter 8 for more detail.

8.2.3.1 Transit Planning

The TriMet and SMART (South Metro Area Regional Transit) conduct annual transit service planning in coordination with Metro, cities, counties and other transit providers to implement the RTP, Regional Transit Strategy, Coordinated Transportation Plan for Seniors and People with Disabilities, TriMet Service Enhancement Plans and the SMART Master Plan. One of the key themes of this RTP is the need for more transit capital investment and service, in order to provide more of our region with safe, convenient, reliable, and affordable transit options and prioritize roadway capacity for freight mobility and trips that do not have functional alternatives.

This section will describe how transit service improvements and expansions are implemented by transit provider. This section will also address how to advance ETC and HCT investments in the future.

TriMet's Service Enhancement Plans

This section is under development. This section will summarize the process that TriMet prioritizes transit service improvements and expansions annually.

Wilsonville's SMART Transit Service Improvements

In order to make positive and impactful changes to the transit system, SMART conducts an annual rider survey to determine current travel trends and demographics of customers. The collected information provides a base for SMART staff to review current services and make adjustments or re-prioritize service improvements on an annual basis.

Long-term service improvements are developed through the transit master planning process. The City of Wilsonville City Council adopted the 2017 Transit Master Plan (TMP) after an extensive, two-year, public involvement process. The TMP highlights future investments, service changes and agency goals for the next four to seven years.

Upon further public outreach, SMART will create an amendment to the TMP to include projects that qualify for House Bill 2017 funding. SMART aligns its service planning with the City fiscal year (July 1-June 30) in order to budget accordingly.

This section is under development. This section will summarize the process that SMART prioritizes transit service improvements and expansions annually.

8.2.3.2 Enhanced Transit Concept (ETC) Pilot Program

This is a critical time in our region to consider how transit fits into our larger regional goals. As our region deals with significant population and employment growth, we must turn to more efficient modes of moving people around in order to ensure that our freeway system meets a basic level of mobility necessary for freight movement. The Climate Smart Strategy, adopted by JPACT and the Metro Council in 2014, provided clear direction to invest more in our transit system in order to meet regional goals and objectives related to sustainability and carbon emissions.

Recent, current and future growth rates require us to expand transit service to provide people with attractive transportation options while minimizing congestion. Significant and coordinated investment is needed to continue providing today's level of transit service as our region grows. Increasing transit service will require dedicated funding, policies, and coordination from all jurisdictions. Improving transit also helps the region meet its equity and access goals as it is a primary mode of transportation for the elderly, people with disabilities, and youth, providing them with a way to get to work, school, and attain access to daily needs. Transit will become even more critical as our region's population ages. In order to make transit a more attractive mode in a quick timeframe with limited financial resources, the region is rolling out a new tool box of "enhanced transit concepts" which are implemented quickly and lead to faster, more reliable transit service.

To meet the greater Portland region's environmental, economic, livability and equity goals today and as we grow over the next several decades, new partnerships are needed to deliver transit service that provides increased capacity and reliability yet is relatively low-cost to construct, context-sensitive, and able to be deployed quickly throughout the region where needed. Producing "Enhanced Transit," through the co-investment of multiple partners could be a major improvement over existing service such as our region's existing and future Frequent Service bus lines, but less capital-intensive and more quickly implemented than larger scale high capacity transit projects the region has built to date. Investments serve our many rapidly growing mixed-use centers and corridors and employment areas that demand a higher level of transit service but may not be good candidates for light rail, or bus rapid transit with fully dedicated lanes at this time.

Goals of the ETC pilot program are:

- Increase transit ridership to a level that will be sufficient to meet regional and local mode split goals by improving transit reliability, speed, and capacity through hotspot bottleneck locations in congested corridors and throughout the region. This will be

accomplished through moderate capital and operational investments from both local jurisdictions and transit agencies.

- Identify, design and build a set of Enhanced Transit projects, either to relieve hotspot bottlenecks or across whole congested corridors or in partnership with local jurisdictions and facility owners where improvements are most needed and can be deployed quickly to produce immediate results.
- Develop a pipeline of Enhanced Transit projects so they are ready to advance forward to construction as jurisdictions identify funding.

On October 2017, JPACT authorized utilization of bond proceed revenue of $5 million to support the funding of the Enhanced Transit Concept Pilot Program. The program will support the development of ETC projects and build partnerships between transit agencies and jurisdictions to implement improvements quickly.

ETC can include regional scale, corridor scale, and/or spot-specific improvements that enhance the speed and reliability for buses or streetcar. The table below lists the different types of treatments appropriate for each scale.

Enhanced Transit Concept Workshops

The ETC Pilot Program is focusing on hotspot improvements that can be implemented quickly on frequent service lines that are experiencing the most reliability issues. As part of the pilot program, Metro and TriMet held a series of 14 workshops, between January and April 2018, to identify where and what kind of ETC treatments could be implemented. Each workshop looked at 3-5 roadway segments or hotspots across the region where existing and future frequent service bus lines have the highest ridership and are experiencing the most congestion and reliability issues. These hotspots were reviewed with local partners and potential ETC treatments were recommended to understand feasibility and project readiness based on context and local jurisdictional partner input.

Metro issued the Request for Interest (RFI) in May of 2018 and received a total of 38 ETC applications, demonstrating significant interest from regional partners. The applications built upon the series of workshops conducted with regional partners earlier in the year. Within the ETC applications, 49 individual projects were identified. While the pilot program has $5 million to spend, the total value of requested design services is estimated to be between $15 million and $20 million.

Projects received through the RFI process will be evaluated based on their readiness, transit need and potential benefit. ETC projects will include concept design, traffic and transit benefit analysis depending on the transit need and potential improvement. A portion of these projects will continue through project development, design and construction.

Metro, TriMet and regional partners will continue to implement the ETC Pilot Program by developing and implementing ETC projects as well as a pipeline of ETC projects to advance in the future. The following table describes the ETC needs identified in the RTP.

Table 8.1: Enhanced Transit Concept (ETC) projects

2018 – 2027 Fincancially Constrained	2028 – 2040 Financially Constrained	2028 – 2040 Strategic
• Streetcar upgrades on Grand Avenue in Portland • Central City Portals (downtown Portland bridges) • 82nd Avenue ETC (NE Killingsworth Street to SE Clatsop Street) • Powell Boulevard ETC (SE Portland to I-205) • 122nd Avenue ETC (Lents to Parkrose transit center) • Martin Luther King Jr. Boulevard ETC (Portland Central City to N Vancouver Boulevard) • Sandy Boulevard ETC (Portland Central City to Parkrose TC) • 82nd Avenue ETC (Swan Island to Clackamas town center) • Hawthorne Boulevard/Foster Road ETC (downtown Portland to Lents town center) • Streetcar to Montgomery Park in NW Portland	• Inner North Portland ETC (Portland Central City to N Lombard Street) • Caesar Chavez ETC (Sandy to Powell) • Lombard Street ETC (St. Johns to MLK Jr. Boulevard) • SE Hawthorne/50th Avenue ETC (Willamette River to SE Powell) • Tualatin Valley Highway multimodal project (Maple Street to 160th Avenue) • E. Burnside/SE Stark Street ETC (Portland to Gresham) • Tualatin Valley Highway ETC from Beaverton to Forest Grove • Beaverton-Hillsdale Highway ETC from Portland to Washington Square • Cornell/Barnes ETC (Sunset transit center to Hillsboro TC) • 185th/Farmington Road ETC (PCC Rock Creek to Beaverton transit center) • Streetcar on NE Broadway to Hollywood town center	• SE Powell Boulevard ETC (Portland to extent TBD) • Lombard/Caesar Chavez ETC (St. Johns to Milwaukie town center) • Belmont Street ETC (Portland to Gateway transit center) • Streetcar on Martin Luther King Jr. Boulevard in NE Portland • Streetcar in AmberGlen in Hillsboro • Streetcar to Johns Landing in SW Portland

8.2.3.3 Central City Transit Capacity Analysis and Steel Bridge Transit Bottleneck Analysis

This study would explore ways to alleviate transit operational issues caused by the Steel Bridge. As the critical link between downtown Portland and the east side of the greater Portland region for the Blue, Green, Red, and Yellow MAX Lines, as well as for several bus routes, the 106 year old bridge constrains light rail throughput, requires frequent maintenance that impacts system-wide light rail reliability, and presents structural risks. The Steel Bridge with its current two-track configuration cannot reliably accommodate anticipated growth in service.

Preliminary analysis by TriMet identified more than 20 concepts that were consolidated into representative alternatives and evaluated to understand the potential benefits and drawbacks, While TriMet will consider a full range of options at the start of any formal project, the initial study suggests that two concepts appear most promising:

- a new transit bridge south of and parallel to the Steel Bridge
- a transit tunnel between Lloyd Center station and Goose Hollow station

Current issues

Capacity and travel time: Today, transit on-time performance around the Steel Bridge does not meet TriMet's 90 percent target. TriMet is in the process of making a $12 million investment in the Steel Bridge to improve travel times and address system reliability issues. Some projects have already been completed resulting in fewer delays for TriMet riders. However, with the tight headways required to accommodate additional trains, on-time performance could fall to 55 percent in 2040 and minor delays could impact the entire system.

Conflicting Train and Traffic Movements: The ability to get trains across the Steel Bridge is about more than just capacity on the bridge itself. The traffic signal on the bridge's east side at North Interstate Avenue impacts light rail operations. Though light rail trains can preempt vehicular traffic at the signal, trains often must wait while the pedestrian cycle clears. At both the bridge's west and east approaches, signals are located at the same place as track switches leading to delay from conflicting train movements as well as vehicles.

Operational and Structural Risks: Light rail operations on the Steel Bridge are complex and pose risks to TriMet. The bridge, built in 1912, would not likely survive a major earthquake. Even without a natural disaster, the bridge requires maintenance as it ages and bridge loads increase. The bridge is a unique link for all light rail lines and if the bridge is closed for any reason it would create system-wide operational challenges. Further, the bridge is owned by Union Pacific Railroad and any structural or seismic changes to the bridge would need to be approved by Union Pacific Railroad.

Long-Term Improvement Concepts

A new transit bridge option: A new transit bridge south of the Steel Bridge would include four light rail tracks. Station locations would remain as they are today. It would increase system ridership by 3,000 riders and decrease travel time by approximately two minutes. Planning of a new bridge would need to consider navigational clearance, structure type, and approach locations and bridge uses. The bridge would cost an estimated $300-650 million ($2017) without right-of-way or utility relocation.

A new tunnel option: A tunnel would extend from the vicinity of the Lloyd Center Station to the Goose Hollow Station, with approximately four underground stations in between. TriMet would retain some service on the existing surface alignment to continue to serve all stations. The tunnel would increase system ridership by 7,500 to 15,200 riders and decrease travel time by approximately 15 minutes between Lloyd Center and Goose

Hollow, while improving system resiliency and redundancy. Planning of a tunnel would need to evaluate the locations of portals and determine the optimal number and locations of stations. Estimated cost is $900 million to 1.94 billion($2017) without right-of-way or utility relocation.

With either project, reconfiguration at the Rose Quarter and the west approaches to the Steel Bridge could create opportunities to support redevelopment in concert with other anticipated projects in the area. Either concept would represent a long-term project requiring a formal planning and impact assessment compliant with the National Environmental Policy Act (NEPA). Such assessment would include a funding strategy, development on a timeline for implementation, stakeholder engagement and coordination and study of alternatives.

8.2.3.5 Regional Congestion Pricing Technical Analysis

Growing congestion on the greater Portland area's throughways is increasing travel delays and unpredictability. This congestion affects quality of life as travelers sit in cars or on the bus, and impacts the economy through delayed movement of merchandise and lost productivity.

Ongoing efforts to address congestion in the region include investments in system and demand management strategies, improving transit service and reliability, increasing bicycle and pedestrian access and adding highway capacity in targeted ways. But it is clear that these strategies are not sufficient, and will result in continued congestion in our region. We cannot address congestion through supply alone, we must also manage demand.

Through the end of 2018, ODOT is conducting a feasibility analysis to explore the options available and determine how value pricing, also known as congestion pricing, could help ease congestion in the greater Portland area.

Oregon's House Bill 2017, also known as Keep Oregon Moving, directs the Oregon Transportation Commission to develop a proposal for value pricing on I-5 and I-205 from the state line to the junction of the two freeways just south of Tualatin, to reduce congestion. The State Legislature directed the OTC to seek approval from the Federal Highway Administration no later than December 31, 2018. If FHWA approves the proposal, the OTC is required to implement value pricing.

The OTC formed a policy advisory committee in fall 2017 to provide a recommendation after considering technical findings, likely effects (traffic operations, diversion, equity, environmental and air quality, and others), mitigation opportunities and public input.

This work is focused on identifying potential strategies to manage demand on I-205 and I-5. In its early stages, it has focused attention on the need to price comprehensively, rather than High Occupancy Toll lanes and to identify key mitigation strategies, such as increased transit service. The project's limited scope has raised larger questions about how demand management pricing strategies could be implemented throughout the region; further

study is needed in this area and should be undertaken to better understand different ways that pricing could work regionally and the different policy outcomes each scenario would create. A comprehensive, regional study should be undertaken before the update of the next RTP in order to provide policy guidance as to how to most effectively implement pricing to reduce congestion and improve the overall function of the transportation system. As a part of this study, there should be consideration to change in transit service due to mode shifts from single occupancy vehicles to transit.

8.2.3.6 Transportation System Management and Operations Strategy Update

The region's Transportation System Management and Operations (TSMO) program follows a 10-year plan that ends in 2020. Consequently, the region is undertaking an update of the TSMO plan, in order to have it updated before it expires, and to reflect the changing transportation technology landscape.

While the current TSMO plan continues to serve the region, an update is needed to formalize new concepts among regional TSMO partners including connected and automated vehicles as defined in the region's Emerging Technology Strategy, shared-use mobility, integrated corridor management, Next Generation Transit Signal Priority, decision support systems, cloud-based analytics and "Smart City" urban applications of the Internet-of-Things (IoT).

The update will result in an updated set of policies, projects and toolbox of actions to guide TSMO investments and activities in the greater Portland region and further implement the Regional Transportation Plan.

8.2.3.7 Transportation Equity Analysis and Monitoring

The 2018 RTP transportation equity analysis identified the need for improved data to inform future planning and decision-making. The improved data will help develop a disparities baseline of communities of color and lower-income communities in terms of access, affordability, safety, and environmental health outcomes. Information about the disparities these communities experience will help to facilitate ongoing monitoring and evaluation of how transportation projects are making progress towards implementing regional goals and objectives regarding transportation equity, accessibility, affordability, and safety.

The disparities baseline should include an in-depth existing conditions analysis which would be broken up by demographic characteristics, with a particular focus on different dimensions of accessibility, affordability (see H + T expenditure tool described in section 5 – Data and Research), safety, and environmental health outcomes, such as localized air pollution exposure.

While this is not a transit specific planning effort, transit plays a key role in providing transportation options, particularly for people who depend on it the most. Additionally, transit can help alleviate the need for a private automobile and lower the transportation

expenditure. For more information about this project, see the *2018 Regional Transportation Plan Update, Chapter 8 Implementation.*

8.2.3.8 Funding Strategy for Regional Bridges

The region continues to struggle with a long-term strategy for maintaining major bridges that serve regional travel, particularly local bridges spanning the Willamette River. Currently, Multnomah County has primary responsibility for five of the ten bridges. Within 20 years, four of Multnomah County's five Willamette River Bridges will be 100 years old. The county's capital program for these bridges is estimated to cost $450 million, yet only $144 million in federal, state and county revenues has been identified. All the region's bridges face maintenance challenges that come from age and use.

More collaboration and work is needed to develop a financial plan for ensuring ongoing operations and maintenance and other transportation, including transit, needs of regional bridges, given the regional economic importance of keeping the Willamette River Bridges and other regional bridges fully functional in the long-term.

This is not a transit specific planning effort, but it would have a direct impact on transit service and operations. For more information about this project, see the *2018 Regional Transportation Plan Update, Chapter 8 Implementation.*

8.2.3.9 Emergency Transportation Routes Project

Natural disaster can happen anytime, and the transportation system needs to be prepared to withstand them and to provide needed transport for fuel, essential supplies, and medical transport. The Emergency Transportation Routes (ETRs) project will aim to update the existing ETRs and MOU for the 5-county region in partnership with the Regional Disaster Preparedness Organization (RPDO). This project would apply a seismic resilience lens to update existing designated routes. The purpose of revisiting the existing ETR routes with a seismic lens is to evaluate whether the routes have a high likelihood of being damaged or cut-off during an earthquake and determine whether other routes may be better suited to prioritize as ETRs as a result.

This is not a transit specific planning effort, Transit will play a key role in the ETR planning efforts. For more information about this project, see the *2018 Regional Transportation Plan Update, Chapter 8 Implementation.*

8.3 Transit Projects and Project Development

Major transit projects have been identified through the 2009 HCT Plan and local and regional planning efforts. Major transit projects, refers to project that may go through the FTA Capital Investment Grant (CIG) Program for funding. Project planning and project development is completed jointly by Metro, the transit agency and the local governing jurisdictions. Major projects typically have a high level of public and require an environmental analysis through the National Environmental Protection Act (NEPA).

8.3.1 Transit Projects underway

The HCT Plan identified the near term HCT priorities to move forward, including the Division Transit Project and the Southwest Corridor Project. The region is committed to advancing and continues to implement these two regionally significant transit projects. Another project that is currently underway is the MAX Red Line Improvement Project, to improve the capacity and reliability of the light rail system through the Gateway Transit Center as well as extending the Red Line to Hillsboro.

8.3.1.1 Division Transit Project

The Division Transit Project will improve travel between Downtown Portland, Southeast and East Portland and Gresham with easier, faster and more reliable bus service. The Steering Committee recommended a Locally Preferred Alternative (LPA) in November and the LPA was adopted by the local jurisdictions in December 2016. The Locally Preferred Alternative (LPA) for the transit project includes the transit mode (bus rapid transit), the route (from downtown Portland on the transit mall to Southeast Division Street to the Gresham Transit Center), and the general stop locations (approximately 1/3 mile apart). The project began the NEPA process by documenting potential impacts and benefits in accordance with federal requirements. With local adoption of the LPA, TriMet is leading the design, traffic analysis, and outreach with support from Metro and other project partners. In June 2017, the Metro Council adopted the LPA by Resolution No. 17-4776 at the same time the Council amended the 2014 Regional Transportation Plan by Ordinance No. 17-1396 to include the LPA in the plan.

TriMet is working with partners to finalize the project's design, and Metro is leading the NEPA process by conducting a Documented Categorical Exclusion. The land use investment strategy pieces are being led by Portland and Gresham, moving forward on their locally adopted Local Action Plans. The Local Actions Plans outline their vision for implementing land use and economic development that complements the transit investment. Construction is anticipated to begin in 2019 with a targeted opening date of fall 2021.

Additional project information is available at: www.trimet.org/division.

8.3.1.2 Southwest Corridor Transit Project

The Southwest Corridor Plan is a comprehensive effort focused on supporting community-based development and placemaking that targets, coordinates and leverages public investments to make efficient use of public and private resources. The work has been guided by a Steering Committee comprised of representatives from the cities of Beaverton, Durham, King City, Portland, Sherwood, Tigard and Tualatin; Washington County; and TriMet, ODOT and Metro. Steering Committee members agreed to use a collaborative approach to develop the Southwest Corridor Plan and a Shared Implementation Strategy to align local, regional, and state policies and investments in the corridor. In August 2011, the Metro Council adopted Resolution 11-4278 that appointed the Southwest Corridor

Steering Committee, and a charter defining how the partners will work together was adopted by the Steering Committee in December 2011.

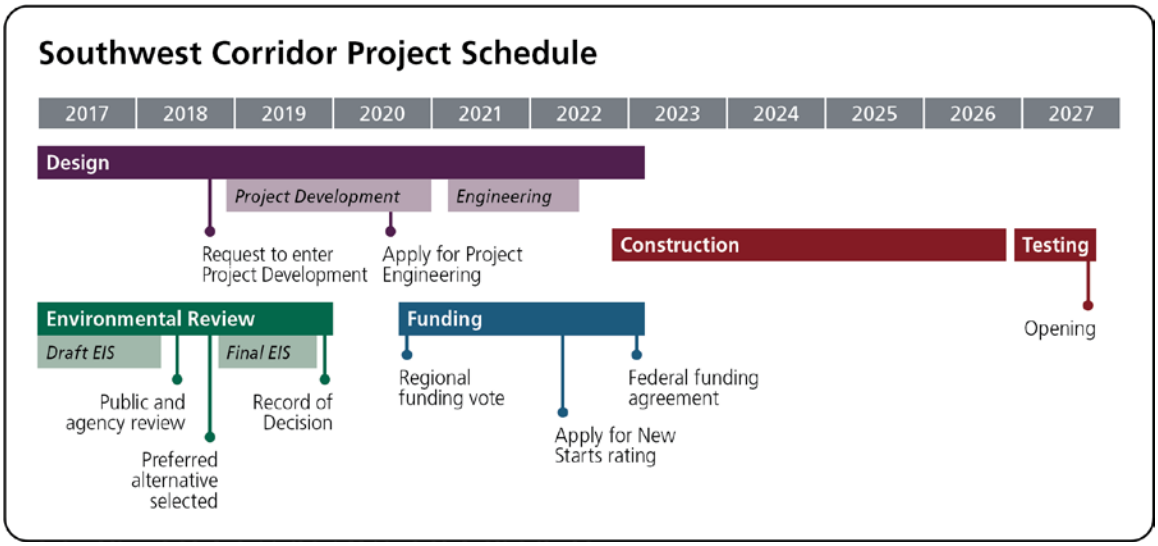
In October 2013, the Metro Council adopted Resolution No. 13-4468A, endorsing the Southwest Corridor Shared Investment Strategy and directing staff to coordinate and collaborate with project partners on refinement and analysis of high capacity transit (HCT) alternatives and local connections in the Southwest Corridor, along with associated roadway, active transportation and parks/natural resource projects that support the land use vision for the corridor. This resolution also directed staff to work with project partners to involve stakeholders at key points in the process and seek input from the public.

In June 2014, the Metro Council adopted Resolution No. 14-4540, which included direction to staff to study the Southwest Corridor Transit Design Options under the National Environmental Policy Act in collaboration with the Southwest Corridor Plan project partners and with the involvement of stakeholders and public, pending Steering Committee direction on the results of the focused refinement analysis

The Southwest Corridor Light Rail Project has emerged as the preferred high capacity transit investment of the Southwest Corridor Shared Investment Strategy. The project is a proposed 12-mile MAX light rail line serving SW Portland, Tigard, Tualatin and the surrounding communities. The proposed project also includes bicycle, pedestrian and roadway projects to improve access to light rail stations. In compliance with the National Environmental Policy Act (NEPA), and at the direction of the Metro Council, an Environmental Impact Statement (EIS) will be prepared by Metro, TriMet and the Federal Transit Agency (FTA) to identify the significant positive and negative impacts the project could have on the built and natural environment and to determine options to avoid, minimize or mitigate those impacts. The Draft EIS, released in summer 2018, assessed the project alternatives remaining from over three years of analysis refinement and suggest ways to avoid, minimize or mitigate significant adverse impacts. The information disclosed in the Draft EIS, and public and agency comments on the Draft EIS, informed the Southwest Corridor Steering Committee in its recommendation of a Locally Preferred Alternative (LPA).

TriMet anticipates requesting entry in Project Development with FTA late in 2018. TriMet will be furthering the transit project design while Metro completes the final EIS. The final EIS will analyze and disclose the benefits and the adverse impacts of the preferred alternative, including the effects of mitigation measures identified in the Draft EIS and selected for inclusion in the project. Upon completion of the final EIS, TriMet will request a Record of Decision (ROD) from FTA, which authorizes the lead agencies to proceed with design, land acquisition, and construction based on the availability of funds. The general schedule for the Southwest Corridor Light Rail Project is shown below, with anticipated opening in fall 2027.

Figure 8.1: Southwest Corridor Project Schedule



More information is available at www.oregonmetro.gov/public-projects/southwest-corridor-plan.

8.3.1.3 MAX Red Line Improvements Project

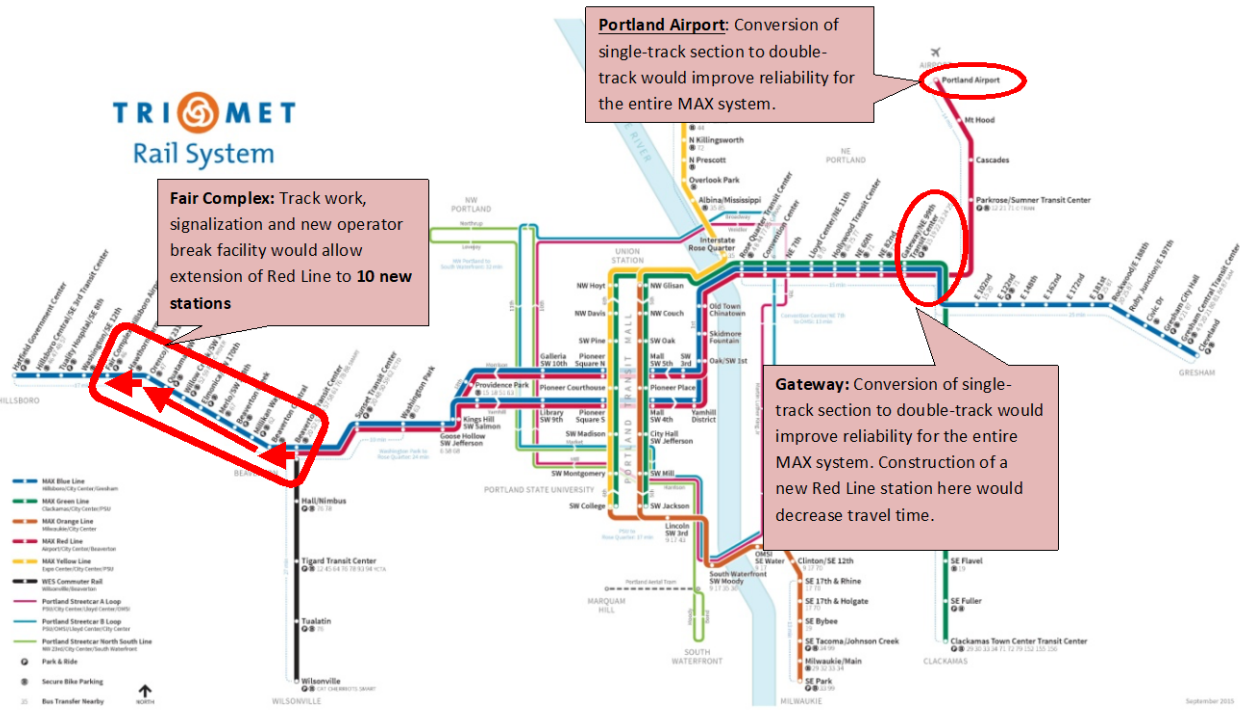
The MAX light rail system provides high capacity transit connecting the major centers of our region. The MAX Red Line has connected the City of Beaverton, downtown Portland, Gateway Regional Center, and Portland International Airport since 2001. Since its opening, there has been substantial growth in the corridor and more demand for reliable transit connecting these important centers. Currently, the Red Line has two single-track sections near Gateway/99th Ave and Portland International Airport, which result in inbound and outbound trains having to wait for each other. If a train is off schedule, these wait times can impact the entire MAX System as trains rely on the same tracks to serve different parts of the region. Adding a second set of tracks in these areas will reduce delays for riders on all five lines. In addition, MAX riders west of Beaverton Transit Center have been requesting Red Line service to better connect a growing part of the region.

The Red Line improvements west of the Beaverton Transit Center include improving track and switches and adding signals and a new operator break facility at the Fair complex/ Hillsboro Airport MAX Station allowing Red Line trains to serve ten more west side stations. These stations are currently served by the Blue Line, which is often overcrowded. Improvements will allow TriMet to increase train frequency to better meet rider demand. Improved transit will support anticipated redevelopment at the Port of Portland such as the expansion of the Portland International Airport and potential redevelopment at the Gateway Regional Center.

This project will complete a 2-year design process for the MAX Red Line double tracking and other improvements to increase light rail reliability on all five MAX lines and to improve carrying capacity to meet transit demand west of the Beaverton Transit Center. TriMet and Metro will work with the local jurisdictions and the Port of Portland to scope

the project to improve access to major transit origins and destinations, improve reliability of the entire MAX system, and support future redevelopment at the Gateway Regional Center, the Port of Portland properties, and within Beaverton and Hillsboro. TriMet and Metro will also consult with the federal agencies during the scoping phase. TriMet is coordinating with local jurisdictions to avoid and minimize any potential impacts associated with improving the Red Line. NEPA is expected to be complete in 2019 with construction of improvements in the 2021-2022 timeframe. Opening is targeted for 2022. This work will improve mobility and transit performance throughout the region.

Figure 8.2: MAX Red Line Improvement Project Area Map



More information is available at: www.trimet.org/redlineimprovements.

8.3.2 Other Major Project Development underway

The 2018 RTP identifies other major project development projects underway. These projects are not transit specific but may have an important transit component or consideration. For more information about this project, see the *2018 Regional Transportation Plan Update, Chapter 8 Implementation.*

8.3.2.1 I-5/Rose Quarter Project

ODOT and the City of Portland are ongoing partners on the I-5 Rose Quarter Improvement Project, which implements the recommendations of the I-5 Broadway-Weidler Facility Plan and the N/NE Quadrant Plan. The purpose of the I-5 Rose Quarter Improvement Project is to improve the safety and operations on I-5 between I-84 and I-405, the Broadway/Weidler interchanges, and adjacent surface streets in the vicinity of the interchange. In achieving the purpose, the Project also supports improved connectivity and multimodal access in the vicinity of the interchange.

Figure 8.3: I-5/Rose Quarter Project Area

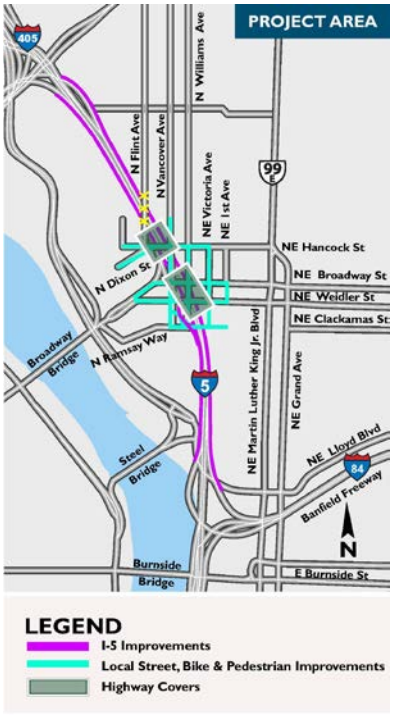


Figure 8.3 shows the project location and Figure 8.4 illustrates the project features.

The I-5 Rose Quarter Improvement Project is intended to make travel more convenient, reliable, and safe for people driving on I-5, or biking, walking, or taking public transit in the Rose Quarter area. The Project will add:

- One new auxiliary lane in each direction on I-5 between I-84 and I-405 to improve traffic weaves and reduce frequent crashes
- Full shoulders in each direction on I-5 between I-84 and I-405 to create space for disabled vehicles to move out of through traffic and allow emergency vehicles access
- Relocating the I-5 southbound on-ramp from NE Wheeler to NE Weidler
- Highway covers over I-5 at Broadway/Weidler and Vancouver/Hancock to provide space for wide sidewalks, separated bike lanes, roads, and new community spaces
- Bicycle- and pedestrian-only bridge over I-5 from NE Clackamas Street to the Rose Quarter
- New, direct road connection over I-5 between N Hancock Street and N Dixon Street
- New, upgraded pedestrian and bicycle paths in the area of the Broadway/Weidler interchange
- Improved pedestrian and bicycle access to transit, including Portland Streetcar and TriMet bus and MAX lines

More information is available at www.i5rosequarter.org.

Figure 8.4: I-5/Rose Quarter Project Features

ODOT initiated the federal environmental review process for the I-5 Rose Quarter Improvement Project in December 2016, with expected publication of an Environmental Assessment by the end of 2018. Project design is scheduled to begin in 2019, with construction beginning as early as 2023.

The I-5 Rose Quarter Improvement Project is one of the projects of statewide significance included in House Bill 2017, with the majority of Project funding provided by this Bill. Per House Bill 2017, ODOT will present a Cost to Complete Report to the State Legislature prior to the programming of State funding.

8.3.2.2 I-205 South Widening and Seismic Improvements Project

Preliminary design work is underway to widen I-205 between OR 213 and Stafford Road and improve the I-205/Abernethy Bridge to ensure it remains functional after a catastrophic earthquake. The design work was funded through HB 2017; however, construction funding for this project has not been identified.

The I-205 South project widens I-205 to add a third lane in each direction between Stafford Road and OR 213 and an auxiliary lane across the Abernethy Bridge in each direction. The I-205/Abernethy Bridge project provides for seismic upgrades of the Abernethy Bridge and includes seismic retrofit or replacement of eight additional bridges in the corridor. The project also adds Active Traffic Management System improvements, such as Traveler Information Signs, throughout the corridor.

The Oregon Transportation Commission approved a Cost to Complete Report for the project that was shared with the Oregon Legislature in January 2018, as mandated by HB 2017. The Cost to Complete Report defines the project scope and recommends a project delivery method and phasing plan to complete the project by 2025. Read the report and find more project information at www.i205corridor.org.

Figure 8.5: I-205 South Widening and Seismic Improvements Project Area Map

8.3.2 Other Transit needs

In addition to the projects that are underway, there are other transit needs and projects that are under consideration in the RTP. The following describes the transit project identified under the 2040 Financially Constrained Investment Scenario.

8.3.2.1 Portland to Vancouver project

This heavily traveled route is the main connection between Portland and Vancouver and identified as a need to address. In July 2008, the Metro Council approved a Locally Preferred Alternative for the Columbia River Crossing Project (CRC). It creates a multi-modal solution for the Interstate 5 corridor between Oregon and Washington to address the movement of people and freight across the Columbia River. The LPA includes a replacement bridge with three through lanes in each direction, reconstructed interchanges, tolls priced to manage travel demand as well as provide financing of the project construction, operation and maintenance, light rail transit to Vancouver, and bicycle and pedestrian investments have been identified for this corridor.

More generally in the I-5 corridor, the Portland Metro region should:

- Consider the potential adverse human health impacts related to the project and existing human health impacts in the project area, including community enhancement projects to address environmental justice.
- Consider managed lanes or pricing systems to help manage congestion.
- Maintain an acceptable level of access to the central city from Portland neighborhoods and Clark County.
- Maintain off-peak freight mobility, especially to numerous marine, rail and truck terminals in the area.
- Ensure that there is safe, reliable, affordable, and efficient transit connections between the growing downtown of Vancouver and key job sites in the Portland metropolitan region, including downtown Portland and Washington County.

- Consider new arterial connections for freight access between Highway 30, port terminals in Portland and port facilities in Vancouver, Washington.
- Maintain an acceptable level of access to freight intermodal facilities and to the Northeast Portland Highway.
- Address freight rail network needs.
- Develop actions to reduce through-traffic on MLK and Interstate to allow main street redevelopment.
- Explore opportunities to support economic and land use goals with the Columbia Connections Strategy.
- Inform and coordinate with the Regional Transportation Council (RTC) and the Bi-State Coordination Committee prior to JPACT and Metro Council consideration of projects that have bi-state significance.

8.3.2.2 Strategic needs

We have more transit needs than we can afford. The financially constrained investment scenario helps us achieve our Climate Smart Strategy goals. However, we still are able to implement our regional vision and meet all of our needs. The Strategic investment scenario include the largest number HCT projects. Table 8.2 highlights the transit projects that are identified in the RTP Strategic investment scenario.

Table 8.2: Transit projects in the RTP Strategic Investment Scenario

Safety and access improvements	Operating Capital Improvements	Enhanced transit concept	High Capacity Transit
• Downtown Milwaukie Transit Center improvements • Gresham Transit Center access & design enhancements • TriMet bike and ride facilities, Phase II • TriMet bus stop amenities, Phase II • TriMet pedestrian access improvements, Phase II • Union Station, Phase III	• HCT optimization, operations and reliability improvements • Merlo bus garage expansion • PDX light rail station/track realignment • SMART Central Informational Center at Wilsonville Station • SMART property acquisition • Transit priority on frequent service routes (Washington County) • TriMet electrification of bus fleet Phase II • TriMet Park& Ride facilities, Phase II	• SE Powell Boulevard ETC (Portland to extent TBD) • Lombard/Caesar Chavez ETC (St. Johns to Milwaukie town center) • Belmont Street ETC (Portland to Gateway transit center) • Streetcar on Martin Luther King Jr. Boulevard in NE Portland • Streetcar in AmberGlen in Hillsboro • Streetcar to Johns Landing in SW Portland •	• HCT extension to Oregon City via McLoughlin • HCT on I-205 (Clackamas to Bridgeport) • Expansion of WES to all-day service • WES extension to Salem • Sunset Highway HCT (Sunset transit center to Hillsboro Fairplex • HCT extension to Forest Grove

8.3.2.3 HCT needs not addressed

The projects in the RTP do not complete the transit system as envisioned by the 2027 constrained, 2040 constrained and 2040 strategic project lists in the RTP. The project list does not complete the adopted HCT Plan and does not include high speed rail. The Regional HCT System Plan was an extensive effort throughout the region to identify the HCT vision and we are continuing to implement the regional vision. The following projects are not in the RTP, but are still included in our transit vision:

- Transit needs on Powell Boulevard – The Powell ETC project is identified for the first 10 years of the RTP to address near term reliability issues on Powell Blvd between the Willamette River and I-205). Further study is needed to define the alignment, transit mode terminus. This should be done through a multi-modal transportation study of the corridor.
- Portland to Lake Oswego Transit Project – A Locally Preferred Alternative (LPA) has been adopted for this corridor, however, the project was placed on hold and has not been identified in this current RTP.
- HCT connection to Sherwood – The original project boundaries identified in the HCT System Plan was Portland to Sherwood in the vicinity of Barbur/Highway 99E. Through the Southwest Corridor Plan, it was concluded that the light rail project would extend to Tualatin. The connection to Sherwood is a future consideration.
- Connection between CTC and Washington Square, connecting Milwaukie and Lake Oswego – An HCT connection on I-205 between Clackamas Town Center and Bridgeport is identified in the RTP Strategic Investment Scenario, which may provide a similar travel market. Further study is needed to identify the right alignment, transit mode and terminus is needed.
- Tanasborne HCT extension
- Connection to Troutdale

8.4 Next Steps

This section is under development.

While our region continues to be leader in the world of transit planning, there are always opportunities to grow, improve, and innovate. If our objective is to continuously improve the quality of life for the wonderful people that call this region home – thoughtful consideration must be placed on our transit system. Exceptional transit planning and investment are critical to a safer, healthier, and happier future.

Successful regional planning requires dedicated effort from a wide range of actors. The region, as a whole needs to come together to help turn our dreams into reality. From community members to elected officials and cyclist to freight truck drivers, a holistic approach must be taken if we hope to see real change.

This strategy offers a great starting point and highlights where the region is doing well and more importantly, several opportunities we have to improve. As a region we have continuously proved our dedication to positive change, a united regional effort toward the continued growth of our transit system and services is an opportunity to continue our legacy of leadership and ingenuity.

The road will certainly prove challenging, but the challenge is well worth the result – a better region for today, tomorrow, and one-hundred years down the dedicated bus lane.

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PUBLIC REVIEW DRAFT

2018 Regional Transportation Plan

Regional Transit Strategy Appendices

June 29, 2018

APPENDIX A: GETTING THERE BY TRANSIT SERIES

In the fall of 2017, Metro News launched a limited ongoing series called, "Getting there by transit," which explored what other transit providers work in greater Portland in addition to TriMet, who rides and how are they served. Large and small, transit takes many forms. Three stories below:

Smaller transit agencies are a lifeline for many older adults and people with disabilities

By Russ Doubleday
Nov. 16, 2017

Driving, walking or riding a bicycle can become more difficult as people age. Transit agencies in greater Portland are working together to help older adults and the disabled get to where they need to go.

Darian Fleming rolls her walker onto the wheelchair lift of the TriMet LIFT bus. The driver cinches a strap behind her to protect her from falling off the ramp. With the push of a button, the lift slowly rises, carrying Fleming and her walker.

Fleming, 61, is a self-employed therapist who lives in Gresham. She cannot drive nor take the bus or MAX on her own because she has cerebral palsy and an impaired vision.

She's one of more than 8,500 people in greater Portland eligible for TriMet's LIFT rides.

The Americans with Disabilities Act of 1990 requires public transit agencies to provide service for people with disabilities who live within three-quarters of a mile of a bus stop or train station. LIFT is TriMet's paratransit program.

Regional leaders also aspire to provide universal access to safe and reliable transportation, as outlined in Metro's 2014 Regional Transportation Plan.

> The regional transportation plan is updated every four years to keep up with changing demographics and new developments in state and federal regulations. An update is

Fleming relishes traveling on her own, with help from TriMet. She estimates that she takes about 10 one-way LIFT rides a week.

"I can come and go when I want, not when one of my friends or family feels like driving me or has time," Fleming said while on her way home from a job training in downtown. "It means that I don't stay home and isolate. I'm happy when I can be social and work."

A growing need

Fleming is fortunate enough to have a network of family and friends, but that's not the case for some people.

"There are a lot of people… who have literally no one they can call at all to give them a ride," said Mary Graham, a development specialist at Ride Connection, a nonprofit that provides transportation services. "You don't realize it's happening, but it is in this city that is so big and has so many transit options."

Ride Connection, which has partnered with TriMet for nearly three decades, complements TriMet's LIFT program. Paratransit is strictly offered to people with disabilities. Age is not a factor.

The region will face a growing need to provide Baby Boomers with transit service outside of the existing bus and rail network as this generation reaches retirement age.

Paratransit cannot meet this demand, so organizations like Ride Connection are picking up the slack.

Oregonians are aging faster than the national average. Recent Census data shows that the state's 65 and over population grew 18 percent between 2010 and 2014, compared to just 14.2

Ride Connection offers free door-to-door rides to anyone over the age of 60 or with a disability, as well as people with low incomes. It also runs free buses in smaller communities around the region to serve people with limited transportation options in the Portland tri-county area.

In Forest Grove, for example, its GroveLink bus makes a loop through town each hour, linking residents to a TriMet bus line in downtown Forest Grove.

"Some people have lost their license or made the decision to stop driving," said Sarah Morrill, Ride Connection's lead counselor for travel options. "Some folks maybe relied on a family member and they're moving away. They're limited in their resources."

Ride Connection has seen a 28 percent increase in rides from 2014 to 2016. Several factors may have driven that increase. Ride Connection has looser eligibility requirements than LIFT does, and all of their services are free for users.

"I think people would just quit riding, some of them, if it was going to cost them $9 a day instead of $5 a day to use transit," said Cora Potter, the grants and outreach manager at Ride Connection.

“They’re already probably paying for a TriMet trip once they get into town, so adding another cost on top of that, it didn’t really make any sense,” she said.

Ride Connection, in coordination with TriMet, also informs people about transportation options beyond its own services through their RideWise program.

“Not everybody needs to take the door-to-door transportation,” Graham said. “Some people just need to be taught how to use the bus and it’s that simple, and once they have a couple training sessions, they’re good to go.”

TriMet has a thorough evaluation process to determine eligibility for its LIFT service, due to strict ADA requirements and limited funding.

Applicants have to navigate a mock-up setup of ramps, gravel, stoplights, and more at its Transit Mobility Center.

In some cases, these assessments reveal that all people need is to learn how to take the bus and the MAX.

“There’s a good share of people here have never used transit,” said Kathy Miller, who manages LIFT’s eligibility and community relations. “They’ve driven all their life. Now they can’t drive. For people that have never been on the transit system before, it’s a big deal.”

As real estate becomes more expensive around Portland’s central core, more people who use TriMet’s LIFT service are moving farther away from downtown.

"Our customer base is shifting," said Margo Moore, director of TriMet's Accessible Transportation Programs. "They're moving farther out into the Southwest Corridor, Estacada, Oregon City. Our garages are not located in these [new] areas where we have these high demands."

And it is costly to run paratransit service. Recent figures show that an individual TriMet LIFT ride costs the agency $35.

"People sometimes talk about unfunded mandates, and I would say paratransit is one of those," said Eric Hesse, TriMet's strategic planning coordinator.

He underscores how challenging it is to meet a federal requirement with no federal funding.

"That's a big issue for the industry as a whole, and folks are trying to grapple with that," he said.

Who's eligible for paratransit service?

According to the ADA, people need to meet the following three conditions to be eligible for paratransit service:

–Inability to ride transit independently due to a disability or disabling health condition.

–Inability to travel on transit without an accessible vehicle.

–Inability to reach the closest transit stop.

All transit agencies, big or small, use these conditions to

Planning into the future

For TriMet, Ride Connection and other transit agencies, the future will continue to be about getting more people to use buses and trains.

That not only helps the region work toward reducing its carbon footprint, but it also helps these existing door-to-door services work better.

Fleming said TriMet's LIFT service isn't perfect, but she's grateful for it. "It's just an excellent service if you want to keep having a life," she said.

TriMet officials plan to look into keeping more LIFT vehicles available in the suburban communities where many of their users live. Doing so will save the agency money and improve service.

The agency hopes to launch a pilot program with a ridesharing company to carry LIFT passengers in the coming years to better respond to same-day or real-time requests.

It's also studying emerging technologies that could improve same-day requests for rides.

These initiatives may still be a ways away, but it's all part of ensuring safe and reliable transportation choices for everyone who lives in greater Portland.

In rural and suburban greater Portland, public transit offers important connections

By Russ Doubleday
Dec. 28, 2017

People in greater Portland's outlying communities need transportation options, too. Here's how transit agencies are helping.

Sandra Wiley lives in a low-income retirement community in Sandy, about 20 miles east of Gresham. She lost the family car five years ago when her husband died, so she needed to find a way to get around town.

Wiley had long heard about Sandy Area Metro, the city's transit system.

"I didn't know how to do it," Wiley said about taking the bus. So she called SAM to learn more about it, "and they said, 'We will pick you up.'"

SAM offers its paratransit service to anyone who lives in its service area. That's not the case with most other transit agencies.

Wiley's needs only grew when she broke her hip in April. She now needs a walker and help from her daughter Jill Watson to move around.

"SAM has really helped me," Wiley said. "Before Jill came down, before I hurt myself, it kept me as independent as possible… It's a joy to see that bus pull up."

Like many others living in rural areas with limited transportation choices, Wiley would not be able to get to where she needs to go without the SAM.

"We look very different than an urban system," said Andi Howell, SAM's transit director.

According to a survey of its transit users, 45 percent of SAM riders earn less than $10,000 a year. An additional 26 percent said they earned between $10,000 and $20,000 a year. And 78 percent said that they did not have a vehicle that they could use for the trip they were taking.

“We are a very important link to the rural communities between eastern Clackamas County and the mountain communities with Portland – and vice versa,” Howell said.

The state and Metro are giving a boost to small transit agencies, such as SAM, so that people like Wiley can continue to have options for how to move around.

Payroll taxes in the Portland metropolitan region have historically funded transit. The $5.3 billion state transportation package created a new statewide employee payroll tax to improve public transportation in both rural and urban areas.

As greater Portland grows, local and regional leaders want to improve and grow transit networks into a fast, reliable and better-connected system for everyone.

The regional transportation plan is updated every four years to keep up with changing demographics and new developments in state and federal regulations. An update is

Metro is updating its Regional Transit Strategy for the 2018 Regional Transportation Plan to guide that work.

Building transit networks

TriMet provides transit service for most of the greater Portland area with an annual ridership of 99 million. But several communities in the Willamette Valley chose to separate from TriMet to form their own transit districts and provide more dedicated transit service in their area.

Since separating, these local transit agencies have built networks that link up with TriMet’s system.

SAM, for example, runs buses every half hour between Sandy and Gresham on weekdays, with limited service on weekends. It also added routes between Sandy and Estacada, and even offers a free shopping shuttle around Sandy.

Timeline

In 1987, the state Legislature allowed cities to withdraw from TriMet and run their own transit services. Here’s a timeline of when cities withdrew:

1987: Mollala
1988: Wilsonville

“Living here in Sandy now with the transit options that we have, it’s fabulous,” said Heather Michet, 61, who has lived in the Sandy area for 30 years.

In Wilsonville, the city’s transit agency South Metro Area Regional Transit provides more bus services throughout Wilsonville than TriMet could provide in the past.

SMART runs seven bus lines around Wilsonville and beyond, reaching Barbur Transit Center, Tualatin Park and Ride, Canby and Salem. Bus riders pay nothing on trips that stay within Wilsonville’s city limits.

"The mayor and city council are totally supportive of SMART," said Dwight Brashear, SMART's transit director. "They are making sure that SMART provides quality service that the city of Wilsonville deserves."

"Our customers are basically everyone," said Eric Loomis, SMART's operations manager. "They are people commuting to and from work… going shopping."

Some smaller communities have struggled to keep transit thriving.

The Great Recession hit Canby Area Transit hard. The transit agency cut service in 2011 and added a bus fare for the first time in 2012. Fewer people have been riding ever since.

The agency's one remaining bus line runs through parts of Canby and far enough to reach Woodburn and Oregon City, where people can connect to Cherriots and TriMet buses.

Wehling said bus route changes in Oregon City and CAT's small operating budget contributed to the transit agency's 15 percent ridership decline last year.

"We've been working with a flat budget," she said. "We want to improve the regional connections and, then as revenue allows, bring back a local connector."

The city's draft Transit Master Plan outlines plans to add a local circulator and Saturday service, and more frequent service on the bus line to Woodburn and Oregon City.

"There's always a competition between providing local circulation and regional routes," Wehling said. "Balancing those needs is a big challenge."

Ridership

The number of people riding transit in these suburban and rural communities varies from place to place. Data below from July 2016 through June 2017:

Canby Area Transit: 76,294
Sandy Area Metro: 121,227
South Metro Area Regional

A brighter future

The state's $5.3 billion transportation package, signed into law in August, includes more than $1 billion for bus transit improvements across the state.

In Canby, more funding likely means the city could add back transit services more quickly.

The package will also have a significant impact in Sandy, where SAM is struggling with budget cuts.

In Wilsonville, more funding would help SMART establish new service in developing areas of the city. The agency also has its eye on improving intercity service.

SMART would like to add more service to Salem, Portland and Canby as well as new service to Oregon City, Sherwood, Woodburn and other surrounding communities.

Brashear said small transit providers in Clackamas County have already met to discuss how to achieve that goal together.

Money from the state transportation package would also help TriMet improve service and create a low-income fare program for riders throughout its transit district.

> "As regional transit partners, we all work together to provide the best transit service for communities within our service areas as well as connections to those outside of our district boundaries," said TriMet general

TriMet also plans to help relieve traffic by increasing service in the region's busiest corridors, and add service by extending bus routes, improving connections and increasing frequency to underserved communities.

Over the river and through the gridlock: I-5 by bus

By Russ Doubleday

Feb. 27, 2018

A look at the reality many people face taking the bus between big cities during rush hour and how the region is working to alleviate these traffic problems.

Vancouver resident Perry Casper describes his commute to work in Portland as long and unreliable.

"You don't know when to take an earlier bus or when to take your normal bus because you have no idea what the traffic's going to do," said Casper, a federal employee who works in downtown Portland.

Sometimes his 50-minute bus ride from the Salmon Creek park-and-ride north of Vancouver can take an hour and a half.

"I'm going to have to start taking an earlier bus because I have to take leave for being late," said his colleague Laura Walters, who also commutes from Vancouver to Portland. "Don't have a big drink of water before you get on the bus."

Many people around the region between Portland, Vancouver and Salem. Transit agencies run buses between these cities, but these buses are often stuck in traffic, a problem transit agencies find difficult to solve.

Several programs are working to make these trips on the bus faster and more reliable. Metro's Regional Transit Strategy – within the 2018 Regional Transportation Plan – will guide decisionmakers about where to make investments as they develop projects to expand the transit system.

> The regional transportation plan is updated every four years to keep up with changing demographics and new developments in state and federal regulations. An update is

They're working to make transit more frequent, convenient, accessible and affordable for everyone across greater Portland.

In addition, the $5.3 billion state transportation package passed by the Legislature last year will help agencies increase intercity transit service in Oregon.

More people, more traffic

Clark County, across the Columbia River in Washington, has grown as rapidly as the rest of the region. The county added 122,000 residents between 2000 and 2016, according to the U.S. Census Bureau, and its population is approaching 500,000. And more residents in the region means more cars on the road.

"The traffic is just insane between Portland and Clark County," said Chris Selk, public affairs manager at C-TRAN, Clark County's public transit agency.

C-TRAN runs seven bus routes between Clark County and Portland. "They are among our highest ridership routes," reported Selk.

People are increasingly taking the bus to work in Portland for several reasons, she said. The costs for gas and parking quickly add up. People are taking advantage of subsidized bus passes offered through their employers. And many find Portland a stressful place to drive.

The two bridges over the Columbia River are major traffic chokepoints.

"The slowest part is getting across the bridge," Casper said.

In the short term, the existing infrastructure between Portland and Vancouver will not change in any significant way to ease traffic. Plans to replace the 100-year-old I-5 bridge have been shelved. MAX light rail likely won't reach Vancouver anytime soon. ODOT has a bridge replacement penciled in for the 2028-2040 time frame – but isn't eager to re-start the politically fraught project.

C-TRAN officials recognize that there are no quick solutions to traffic. In the meantime, the agency is looking at creative ways to keep their buses moving. In partnership with Washington State Department of Transportation, it's piloting a project to run buses along the shoulder of Highway 14 to the east of Interstate 205 to help speed up bus service.

"If that's successful, I'd like to see us expand that beyond just Highway 14," Selk said.

Commuting from Portland into Vancouver presents its own challenges – there are fewer options and buses don't run as often. Sonja Steinbach lives in inner Southeast Portland. She used to work at the Washington State School for the Blind in Vancouver, but "changed jobs because I got tired of the commute," she said. "Often times, I was late."

The quickest way for Steinbach to get to work was to take one TriMet bus and two C-TRAN buses. That's a commute against traffic, but it still took a long time during rush hour.

Salem: A different story

Commuting by bus between Salem and Portland is much faster and predictable. The traffic that plagues Portland doesn't often extend to Wilsonville, nor impact bus service to and from Salem.

Wilsonville resident Bernard Maurer has a reliable one-hour commute to work at Salem Hospital.

"I've considered working in Portland, but that would not be any easier for me as transportation goes," he said.

Ridership

C-TRAN (2016): 5.9 million
Cherriots (July 2016 - June 2017): 3.2 million
South Metro Area Regional Transit (July 2016 - June 2017): 278,707

Maurer takes one bus and uses his bike to complete his trip on either end. He enjoys relaxing on the bus and doing whatever he wants with his commute time.

In 2003, transit service between Salem and Portland also improved as a result of agency partnerships that focus on serving commuters traveling both ways.

Cherriots, the transit agency serving the Salem-Keizer region, and South Metro Area Regional Transit, which serves the Wilsonville area, share buses for one busy route, the 1X, between Salem and Wilsonville.

The partnership was a natural fit.

"SMART realized that a lot of people are coming from the region to work for the state," said Steve Dickey, Cherriots' transportation development director. "But

we also realized that a lot of people were commuting north."

The bus runs 30 miles, from downtown Salem to the Wilsonville station of TriMet's WES commuter rail line.

Before they partnered, the agencies would often have empty buses traveling back in one direction. But the partnership allowed them to build ridership in both directions.

Ridership is so strong that overcrowding is a challenge.

"On the busiest trips, people show up 15-30 minutes early to make sure that they have a seat," Dickey said. "Before we added trips, we had between 10-15 people standing with every single trip."

The state transportation package signed into law last summer will help boost bus transit statewide. Dickey hopes that some of this money will go toward adding more buses to the popular route that Cherriots and SMART share.

Learn more

The regional transportation plan is updated every four years to keep up with changing demographics and new developments in state and federal regulations. An update is underway for 2018. Learn more.

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.

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June 29, 2018

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