WASHINGTON COUNTY TRANSIT STUDY

Final Report

April 2024 - FINAL

WASHINGTON COUNTY TRANSIT STUDY

Department of Land Use & Transportation

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GLOSSARY

This glossary of transit terms defines terms used in Washington County's Transportation System Plan (TSP) as well as in the Vision for Transit.

- **Bicycle Transit Facility.** A Bicycle Transit Facility is an existing or planned location at or near a transit stop that provides secure, enclosed bicycle parking. The purpose of a Bicycle Transit Facility is to improve the viability and convenience of combining bicycle and transit modes for trips, and to link the first or last leg of the transit trip between transit stops and locations beyond a reasonable walking distance.
- **Bus Rapid Transit (BRT).** An enhanced bus system that operates in exclusive lanes, or in mixed traffic with bypassing capabilities, in order to combine the flexibility of buses with the efficiency of rail. By doing so, BRT generally operates at faster speeds, provides greater service reliability, and offers additional customer amenities compared to traditional bus service.
- **Business Access/Transit (BAT) Lane.** A roadway travel lane with the dual purpose of allowing all vehicles to make turns into adjacent properties or onto intersecting streets allowing transit vehicles—typically buses or BRT vehicles—to proceed in the forward direction along the roadway and bypass traffic queues at intersections.
- **Community Connector Service Area.** A Community Connector Service Area is an area that is currently served, or could potentially be served, by lower-cost fixed-route bus service or flexible-route shuttle service. These are areas where regular bus service may not be feasible due to lower densities and/or historically low transit ridership. Ride Connection shuttles are an example of a Community Connector service.
- **Frequent Bus Service.** Frequent Bus Service is fixed-route bus service with 15-minute or shorter headways (times between arriving buses in the same direction) all day, seven days a week, with the potential exception of longer headways during early morning and late night hours.
- **High Capacity Transit (HCT).** A form of public transit that carries high volumes of passengers quickly and efficiently from one place to another. Other defining characteristics of HCT service include the ability to bypass traffic and avoid delay by operating in exclusive or semi-exclusive rights-of-way, faster overall travel speeds due to wide station spacing, frequent service, transit priority street and signal treatments, and premium station and passenger amenities. The transit modes most commonly associated with high capacity transit include light rail transit, bus rapid transit, streetcar, and commuter rail.
- **Interregional Bus Service.** Interregional Bus Service (referred to as "regional inter-county services" in this plan) provides longer-distance transit service that connects into and between the urban areas of Washington County from locations such as the rural areas of Washington County, Wilsonville, Yamhill County, Columbia County, and the Oregon Coast and beyond. Interregional bus service also provides connections between public transit service providers.

- **Local Bus.** Local bus provides more limited bus service on weekdays or weekends. Limited bus service – meaning it operates during limited hours, only on weekdays, and/or ranging from every 20-30 minutes to hourly or longer.
- **Major Bus Stop.** Includes most Frequent Service bus stops, most transfer locations between bus lines (especially when at least one of the bus lines is a frequent service line), stops at major ridership generators (e.g., schools, hospitals, concentrations of shopping, high density employment or employment), and other high ridership bus stops. These stops may include shelters, lighting, seating, bicycle parking or other passenger amenities and are intended to be highly accessible to adjacent buildings while providing quick and efficient bus service.
- **Major Transit Stop.** Major transit stops include existing High Capacity Transit stations, Transit Centers, and bus stops on existing or planned Frequent Bus Service lines that are intended to provide a higher degree of passenger amenities. Major transit stops may include traveler amenities such as shelters, lighting, seating, bicycle parking real-time traveler information and/or other passenger amenities. Major transit stops are intended to be highly accessible and visible to adjacent buildings, while providing quick and efficient transit service.
- **Mobility Hub.** A transit stop or station area with access to a variety of transportation modes including pedestrian, bicycle, and shared mobility options. It is a safe, convenient, and attractive place that often includes commercial retail.
- **Mode Share.** The proportion of total trips people take that use each mode of transportation. For example, the number of commuters taking transit versus the number driving alone, bicycling, or other possible travel modes.
- **Paratransit**. A shared-ride service for those unable to use regular buses and trains due to a disability or disabling health condition.
- **Park-and-Ride**. A park-and-ride is a location where people are allowed to park private vehicles and access one or more transit services. A park-and-ride is typically a parking lot or parking structure adjacent to a transit stop. Most park-and-rides are on public property; however, they also exist on private properties that allow parking through a lease or other agreement with the appropriate transit agency.
- **Peak Period Bus Service.** Peak Period Bus Service is fixed-route bus service that operates during the weekday morning and evening peak periods only.
- **Public Transit Service Provider.** A mass transit district, transportation district, Indian Tribal government, city, county, special district, intergovernmental entity or any other political subdivision, municipal or public corporation, or non-profit entity that provides transit services and/or programs.
- **Regular Bus Service.** Regular Bus Service is fixed-route bus service that runs less frequently and/or with shorter service span than Frequent Bus Service. It can range from 15, 20, or 30-minute headways during weekday peak periods to 20, 30, or 60-minute headways at other times.
- **Service Span.** The span of hours over which transit service is operated, e.g., 6 a.m. to 10 p.m. Service span often varies by the day of the week (weekday, Saturday, or Sunday).

- **Shuttles.** Shuttles connect riders to frequent transit or employment sites using smaller vehicles either on a fixed or on-demand schedule. Shuttles are an important way to provide service to areas that don't have enough demand to justify more frequent service or to provide a last mile connection.
- **Statewide Transportation Improvement Fund (STIF).** A program established in Section 122 of House Bill 2017 to provide a dedicated source of funding for improving, maintaining, and expanding public transportation for all users. At its inception, the STIF program was funded solely by a state payroll tax equal to one-tenth of 1 percent. Effective July 1, 2023, the STIF program merged with the Special Transportation Fund (STF), which is funded by ID card fees, non-highway gas tax, and cigarette tax revenues. The total funding amount is estimated annually; actual revenues vary based on transit tax collections.
- **Transit**. Transportation services and programs that provide access and mobility to the general public on a regular and continuing basis including light rail, commuter rail, bus rapid transit, interregional bus, frequent service bus, regular bus, peak-period-only bus, paratransit, community connector service, park-and-rides, transit centers, bus terminals, major transit stops, and bicycle transit facilities.
- **Transit Center and Bus Terminal**. A Transit Center and/or Bus Terminal is a transit hub served by several bus routes and/or rail transit facilities. Transit Centers and Bus Terminals allow riders to transfer between different transit services and/or modes in a safe, comfortable environment. Typical features include shelters, benches, lighting, bicycle parking, traveler information and layover facilities for transit operators. Transit Centers and/or Bus Terminals may include automobile parking, drop-off zones and retail uses.
- **TriMet**. Tri-County Metropolitan Transportation District, which is the primary public transit service provider for most of the urban areas of Clackamas, Multnomah, and Washington counties.
- **Tri-County Public Transportation Improvement Plan**. A regional plan developed by TriMet and approved by the Oregon Transportation Commission in accordance with House Bill 2017 (Keep Oregon Moving Act) guiding five years of Statewide Transportation Improvement Fund (STIF) revenues towards future transit capital, operations, and program investments that increase service for low-income communities and improve connections between transit providers within Clackamas, Multnomah, and Washington counties.
- **Vanpools**. Vanpools are smaller, typically privately-operated vehicles, that can support commuters in lower density areas.
- **Washington County Transit Development Plan (TDP)**. The plan that functions as the guiding document for developing and providing public transit priorities serving rural and urban communities and job connector service areas in Washington County.

1 INTRODUCTION

The Washington County Transit Study provides a Vision for successful public transit in the county for the next 20 years. Based on the goals established for this study, a successful transit system helps more people get to more places and meet the needs of riders. In partnership with local jurisdictions, transit providers, and non-profit and private partners, the Vision for Transit identifies:

- Places where High Capacity Transit and frequent service should be a priority
- Opportunities to help people to connect to and from transit
- Enhancements to regional transit connections
- Opportunities to add new service or enhance existing service
- Recommendations to improve the speed and reliability of transit service
- Programs and policies that help transit to be a viable option for more people

Transit in Washington County is changing. Like many places, the number of people who ride transit has declined due to changing travel patterns exacerbated during the COVID-19 pandemic. The rise of remote and hybrid work has also made ridership more difficult to predict. At the same time, there is a need to better serve those who rely on transit, providing more frequency and better connections for those making long trips or traveling outside of traditional work hours.

The Washington County Vision for Transit builds on comprehensive planning work already happening in the region to create a set of priorities specific to Washington County. This plan considers Metro's 2023 Regional Transportation Plan and TriMet's Forward Together Plan as a foundation and recommends updated project phasing and targeted advocacy to move the County toward its transit goals. These recommendations provide a framework for how partners across the county and region can work together to deliver great service and ensure communities are designed and managed in a way that supports safe access to frequent, reliable transit options.

How does the Vision for Transit serve the people of Washington County?

The Vision for Transit serves the varying travel needs of people who live, work, and visit Washington County. Our county is expansive and transit needs vary widely depending on the person and the local context. The Vision for Transit responds to the diversity of needs across the county by recommending different levels of transit service and investments tailored to the local context.

Taylor is a shift worker who travels between home in South Beaverton and work in North Hillsboro. There are limited connections, especially in the early morning. **The Vision for Transit plans for improved connections to buses and shuttles.**

Paloma recently opened a small business in Cedar Hills but is finding it hard to recruit and retain employees because of the lack of transit service to lower-income areas where potential employees live. **The Vision for Transit identifies opportunities to enhance transit service to improve access to jobs.**

Hilda works the night shift and feels unsafe waiting at the Farmington bus stop that lacks lighting, continuous sidewalks, and bus stop amenities. **The Vision for Transit highlights strategies to improve personal safety and access.**

Sam needs to visit the Department of Veterans Affairs Clinic for monthly appointments but the bus to their house only arrives hourly, which does not line up with appointment times. **The Vision for Transit recommends changes to transit frequency to serve the changing needs of riders.**

Enrico lives in Portland and works at a major employer in Washington County. He drives to work because it is at least twice as fast as transit. **The Vision for Transit plans for reliable and frequent service across the region and recommends opportunities to enhance last mile connections.**

Nadia travels from Beaverton to Tigard for work. With her kids' after school activities, she can't rely on transit to get to and from work efficiently**. The Vision for Transit identifies areas to improve the speed and reliability of transit to make it more competitive to driving.**

Transit Planning 101

Transit service enhancements are not a one-size fits all approach. With limited resources, there are often tradeoffs in terms of where and what type of service or service improvements can be implemented. For example, some corridors have enough people, jobs and destinations to justify frequent service all day, while others may only warrant frequent service during peak hours. Transit agencies must often balance goals of coverage and frequency.

- **Coverage-focused design** makes transit widely available by ensuring access to some transit service, even if it means service doesn't run very often.
- **Frequency-focused design** gives more resources to areas with the greatest number of riders to serve as many riders as possible with more trips[1] which results in fewer routes and less coverage.

The Vision for Transit includes many different solutions that vary depending on the local context (Figure 1-1).

[1] Transit Existing Conditions Report. TriMet Forward Together. May 2022.

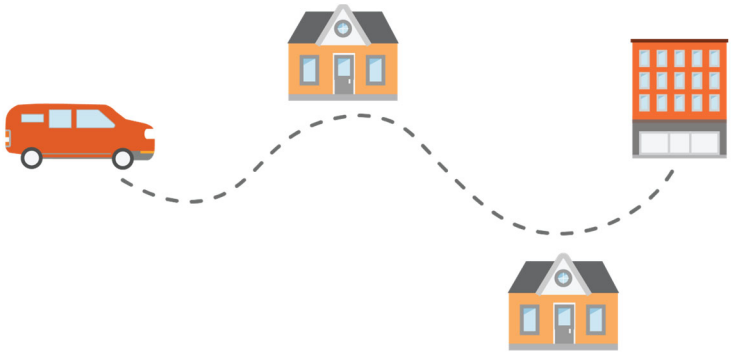
Figure 1-1 Vision for Transit Context

High-capacity transit like MAX serves the high-population areas in the county like Beaverton and Hillsboro.

Other services provide cross-regional connections like Forest Grove to Hillsboro or Beaverton to Tigard.

Frequent bus service fills in gaps in the high-capacity transit network, providing regional connections where HCT is not available.

Shuttles provide connections to the light rail and major transit hubs to offer service to lower density areas that can't support fixed-route transit.



Rideshare (vanpools & carpools) can support access for lower density areas like Banks and North Plains.

Why a Vision for Transit Now

The Washington County Vision for Transit supports the County's climate and equity goals, responds to emerging policies at the state and regional levels, and establishes clear roles and responsibilities for partners across the county and region to make transit a preferred way of travel. A shared Vision for Transit is needed because:

- **Transit remains a lifeline for many.** Despite declines in transit ridership in recent years, many people who live and work in Washington County still rely on transit to get to work, school, medical appointments, and other key destinations. These residents and workers need transportation options that are affordable and reliable.
- **The County's population and employment growth is expected to increase.** Washington County's population is expected to increase between 41-55% by 2055. It's also expected that there will be at least twice as many jobs in the county. More people will need to shift from single-occupant vehicles to transit or other modes to make more efficient use of our limited roadway space.
- **Local and regional climate and equity goals demand action now.** Our communities must act now to encourage more people to take transit for more trips to support the region's climate, equity, and mode share goals. The 2023 Regional Transportation Plan sets an aggressive target to triple the transit mode share for all trips from 4.1% in 2020 to 12.2% by 2045.[2]
- **New state and regional policies are elevating the need to identify the County's priorities and invest in transit.** The Oregon Department of Land Conservation Climate-Friendly and Equitable Communities (CFEC) Rulemaking requires jurisdictions to limit parking requirements and better manage parking – two strategies that will

Washington County's Equity and Climate Goals

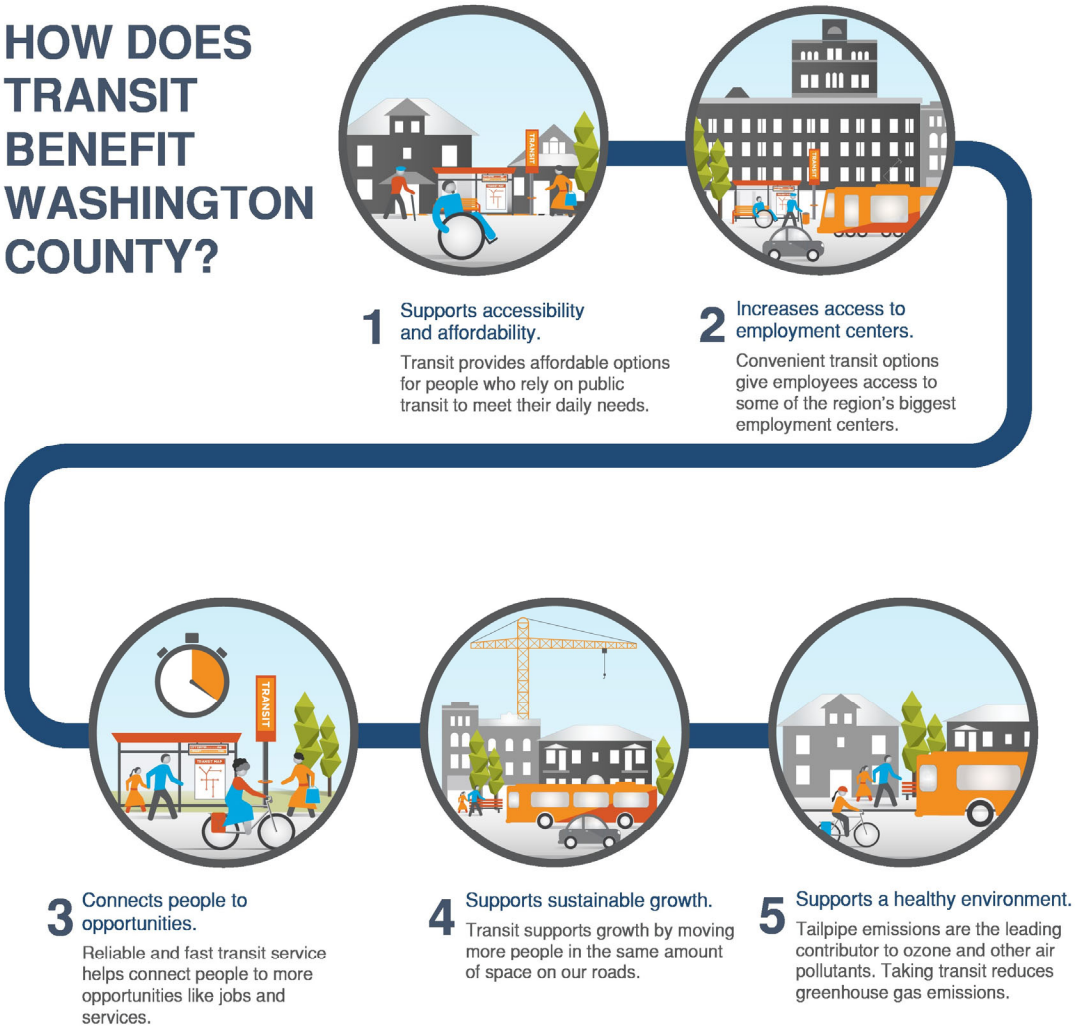
In 2020 the Washington County Board of Commissioners adopted the Racial Equity Resolution as County policy. This resolution outlines the County's commitment to supporting and strengthening equity and inclusion in programs, practices, and policies, and ensuring that public dollars are spent in a way that maximizes benefit for the community- prioritizing opportunities and strategies with the most potential benefit for marginalized groups.

The County's Office of Sustainability also works to reduce the County's footprint, including supporting transportation programs and infrastructure that address capacity, multimodal options, trip reduction and the use of public transportation and carpooling.

[2] Draft Metro Regional Transportation Plan (2023). Table 7.2: Summary of draft system analysis results and Table 7.3: 2023 RTP transit performance results.

require enhanced transit options. Although the Governor's March 11, 2024 direction leaves an uncertain future for the Oregon Department of Transportation (ODOT) Oregon Tolling Program, it is anticipated that tolling will be collected on freeways over the Vision's time horizon. A prioritized list of transit projects is needed to provide viable travel options for those potentially impacted by tolling.

Strong partnerships with the County, local jurisdictions, transit providers, and private partners will play an essential role in preparing the County to meet the moment.



A Pathway Through Partnership

Washington County is comprised of diverse communities with different needs and abilities to support transit, but many partners have a role in delivering a great transit experience. Cities and the County are critical partners in ensuring transit is given priority and can operate efficiently, there are safe and accessible ways to connect to transit, and land use patterns and policies are designed to support transit. Transit agency partners play a critical role in operating and delivering transit. And non-profit and private sector partners play a critical role in promoting, funding, and sometimes delivering transit.

Figure 1-2 and Figure 1-3 demonstrate the various roles and responsibilities to implement a high-quality transit experience in the county.

Figure 1-2 Illustration of Transit Delivery Roles and Responsibilities

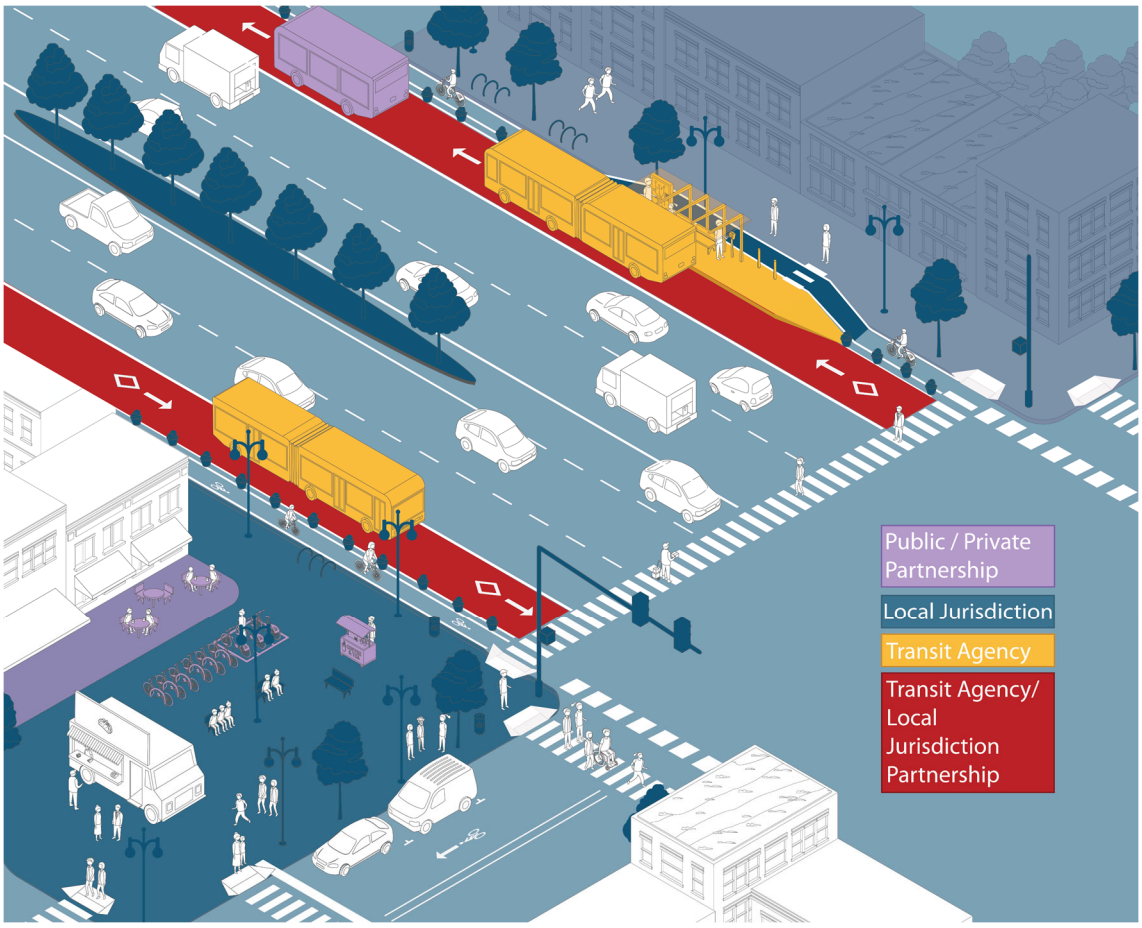


Figure 1-3 Transit Partner Primary Roles and Responsibilities

Transit Element	Washington County	Transit Service Providers[1]	Cities	Metro	Community Based Organizations[2]	Private Sector[3]
Transit service	✓	✓				
Land use	✓		✓	✓		
Transit-supportive street design	✓		✓			
Bus stops and stations	✓	✓	✓			✓
Transit priority treatments	✓	✓	✓			
Pedestrian and bicycle network connections and parking	✓	✓	✓			✓
Shared mobility	✓		✓			✓
Shuttles	✓	✓	✓			✓
Transportation demand management programs and policies	✓	✓	✓	✓	✓	✓
Transit affordability and fare programs	✓	✓	✓		✓	✓

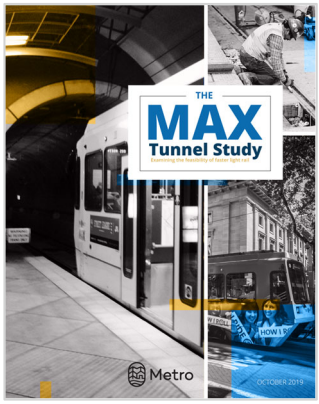
Notes: 1. Transit service providers include TriMet and Ride Connection, as well as other transit agencies that operate services in Washington County (e.g., POINT, SMART, Tillamook County Transportation District, Yamhill County Transit). 2. Community-based organizations include Westside Transportation Alliance (WTA). 3. Private sector includes employers and schools/universities.

Planning Context

Many recent related plans, as well as upcoming plans and projects, have informed the Vision for Transit through program and policy identification, trend analysis, funding resources, and strategies to plan for a growing future. Metro's 2023 Regional Transportation Plan (the High Capacity Transit Plan) and TriMet's Forward Together plan provided an important basis for the Vision's final recommendations.

Completed Plans

Washington County and TriMet completed five plans between 2019 and 2022 that directly influence the actions and strategies of the Vision for Transit.



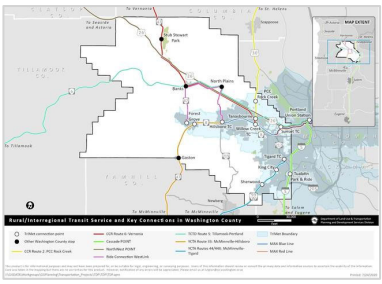
Central City Tunnel Planning: Examining the Feasibility of Faster Light Rail (2019)

Metro, TriMet, and city and county partners led the MAX Tunnel study to improve transit in the Portland region and plan for transit demand and growth. The potential benefits identified by this study align with the messaging of the County's Vision for Transit.

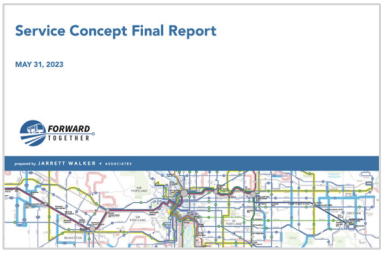
Washington County Transportation System Plan (TSP) Transit Element (2019)

The transit element of the TSP recommends several near-term and future High-Capacity Transit corridors including Portland to Sherwood via OR 99W; Sunset TC to Hillsboro via US 26; and Beaverton to Hillsboro via Tualatin Valley Highway (OR 8).

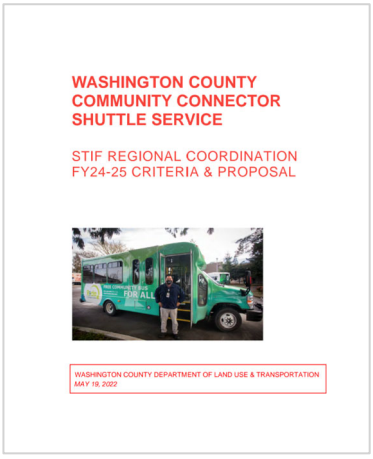
Washington County First Last Mile Study (2020)
The First Mile/Last Mile Plan identifies a suite of policy and program actions to improve transit access, close gaps, and advance emerging first/last mile technologies, including proactive policies to encourage mixed-use, transit-oriented development.



Washington County Transit Development Plan (2021)
The purpose of the TDP is to identify public transit investments in areas outside of the TriMet and SMART transit districts, as well as first-last mile connections within the transit districts. The plan prioritizes these investments for Statewide Transportation Improvement Fund (STIF) funding based on how well they improve service to low-income communities and students and reduce service fragmentation between transit providers.



TriMet Forward Together (2022)
Responding to lower ridership, redundant service, and driver shortages as the Portland Metro region recovered from the COVID-19 pandemic, Forward Together presents TriMet's recovery and expansion service concept.



Washington County Shuttle Plan (2022)

The Shuttle Service proposal is an addendum to the TDP that identifies the top ten candidate areas for additional Community Connector shuttle service.

Plans Underway

Metro Regional Transportation Plan – Metro High-Capacity Transit (HCT) Strategy

The HCT Strategy was updated concurrent with the Washington County Transit Study, as part of the 2023 Regional Transportation Plan (RTP); the Metro Council adopted the RTP on November 30, 2023. The Strategy provides the region's vision for investing in high capacity transit, which is the backbone of the regional transit system. As envisioned in the region's 2040 Growth Concept, HCT plays a key role in connecting regional and town centers. The HCT Strategy provides guidelines on how to provide reliable, frequent transit to a growing population. Both the HCT Strategy and the County's Vision for Transit stress the importance of improving transit reliability.

Westside Multimodal Study

ODOT, Metro, and local agencies are studying barriers and opportunities to multimodal travel options through the westside corridor. The study is recommending ways to address these challenges over the next 20 years. The Westside Multimodal Study and the County's Vision for Transit look to expand transit facilities and connections.

Regional Mobility Pricing Project

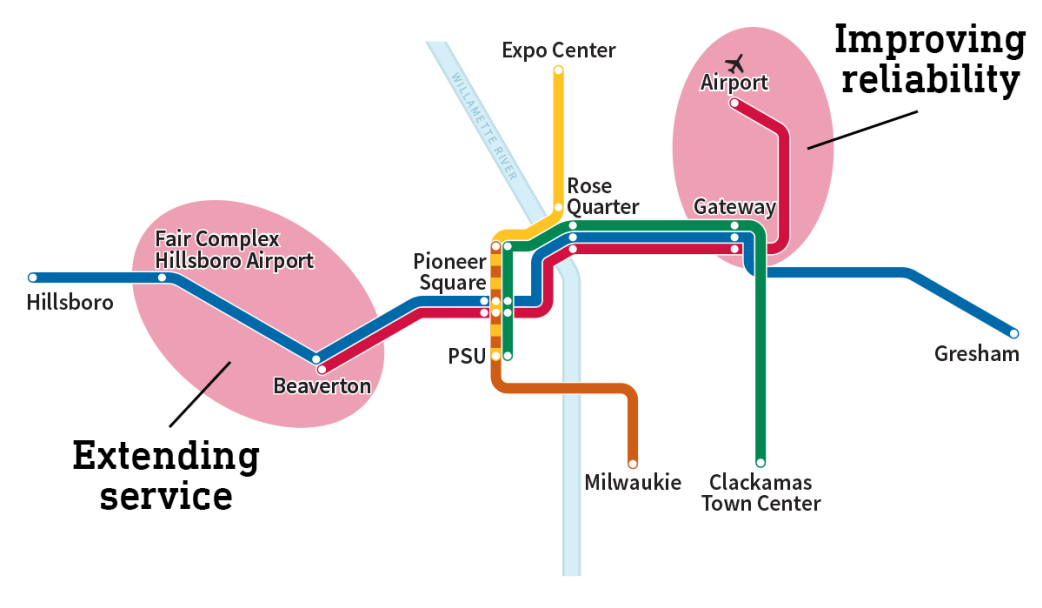
The Regional Mobility Pricing Project seeks to reduce congestion on I-5 and I-205 throughout the Portland metropolitan area by implementing variable-rate tolls. Pricing on freeways will bring revenue that potentially will be invested in transit-supportive projects prioritized by the County.

Better Bus Planning

Better Bus is the Portland Metro region's program for investing in transit priority treatments, such as transit signal priority, transit-only lanes, queue jumps, and bus stop optimization, that make transit faster and more reliable. The Better Bus program is a partnership between Metro, TriMet, and local jurisdictions. The program will identify and prioritize projects to help improve transit speed and reliability in Washington County and the rest of the region.

A Better Red

A Better Red is the result of over $200 million in federal funding to serve 10 more MAX stations and improve transit reliability for the entire MAX system. This project will extend Red Line service from Beaverton to the Fair Complex/Hillsboro Airport Station, which will increase MAX frequency between Beaverton and Hillsboro and provide direct service to Portland Airport for Washington County riders. The Gateway-PDX part of the project opens in early 2024 and extends to new stations in Washington County in late 2024.



Source: TriMet

Major Upcoming Projects

The following upcoming projects are integral to meeting the Vision for Transit's goals.

TV Highway Transit Project

This project is funded by a Federal Transit Administration HOPE grant to improve safety for pedestrians and transit users, connect communities to destinations, and enhance transit travel along Tualatin Valley Highway between Beaverton, Aloha, Hillsboro, Cornelius, and Forest Grove. TV Highway is currently served by TriMet Line 57, which has the 6th highest ridership among all TriMet bus routes systemwide.[3] This project will prioritize improving transit travel time and reliability along with access and safety.

[3] As of Spring 2023.

Southwest Corridor

TriMet, Metro, and other regional partners proposed a MAX light rail line to decrease travel time from Downtown Portland and Tualatin to 30-minutes. The project was paused due to voter rejection of Measure 26-218, but Metro recently completed a Final Environmental Impact Statement to allow future eligibility for federal transit funding. This partnership will build out transit travel connections between Washington County and the region.

Major Upcoming Plans

These two upcoming plans will further develop Vision for Transit strategies.

TriMet MAX System Planning

TriMet is restoring service cut back during the COVID-19 pandemic through near- and long-term service enhancements to follow the implementation of the Forward Together plan. MAX enhancements are critical for transit connections in Washington County.

TriMet Annual Service Plans

TriMet develops an Annual Service Plan each year to identify expected changes in service as allowable within each year's budget and operating resources. Each year's Annual Service Plan is guided by Forward Together and informed by two public outreach periods. The formal decision on adoption by ordinance rests with the TriMet Board of Directors.

TriMet Forward Together 2.0

TriMet anticipates completion of a long-range strategic vision for transit service in calendar year 2024. This plan will build upon the service improvements identified in Forward Together. Forward Together 2.0 will not be financially constrained and will be used to potentially seek new operating revenue for TriMet. It will be informed by the recommendations in this plan.

Our Timeline and Process

The Washington County Transit Study was led by three key groups: the Project Management Team, the Technical Work Group, and the Stakeholder group.

Project Management Team

The Project Management Team (PMT) included staff from Washington County and the lead consultant, Nelson\Nygaard. The PMT facilitated the vision process and provided briefings to elected bodies including the Board of County Commissioners, City Councils, and the Washington County Coordinating Committee at key decision points.

Technical Work Group

The Technical Working Group (TWG) included staff from cities, agencies, Metro, and transit providers (see Figure 1-4 below). This group reviewed deliverables and acted as a sounding board to advise the PMT. The TWG convened at five project milestones: goals setting, needs identification, draft recommendations, policies and programs, and final Vision for Transit.

Figure 1-4 Technical Work Group Participants

County & Jurisdiction	Transit Agency	State & Regional
City of Banks	Ride Connection	Metro
City of Beaverton	SMART	ODOT Transit Region 1
City of Cornelius	Tillamook County Transit	
City of Forest Grove	TriMet	
City of Hillsboro	Yamhill County Transit	
City of North Plains		
City of Sherwood		
City of Tigard		
City of Tualatin		

Stakeholder Workshops

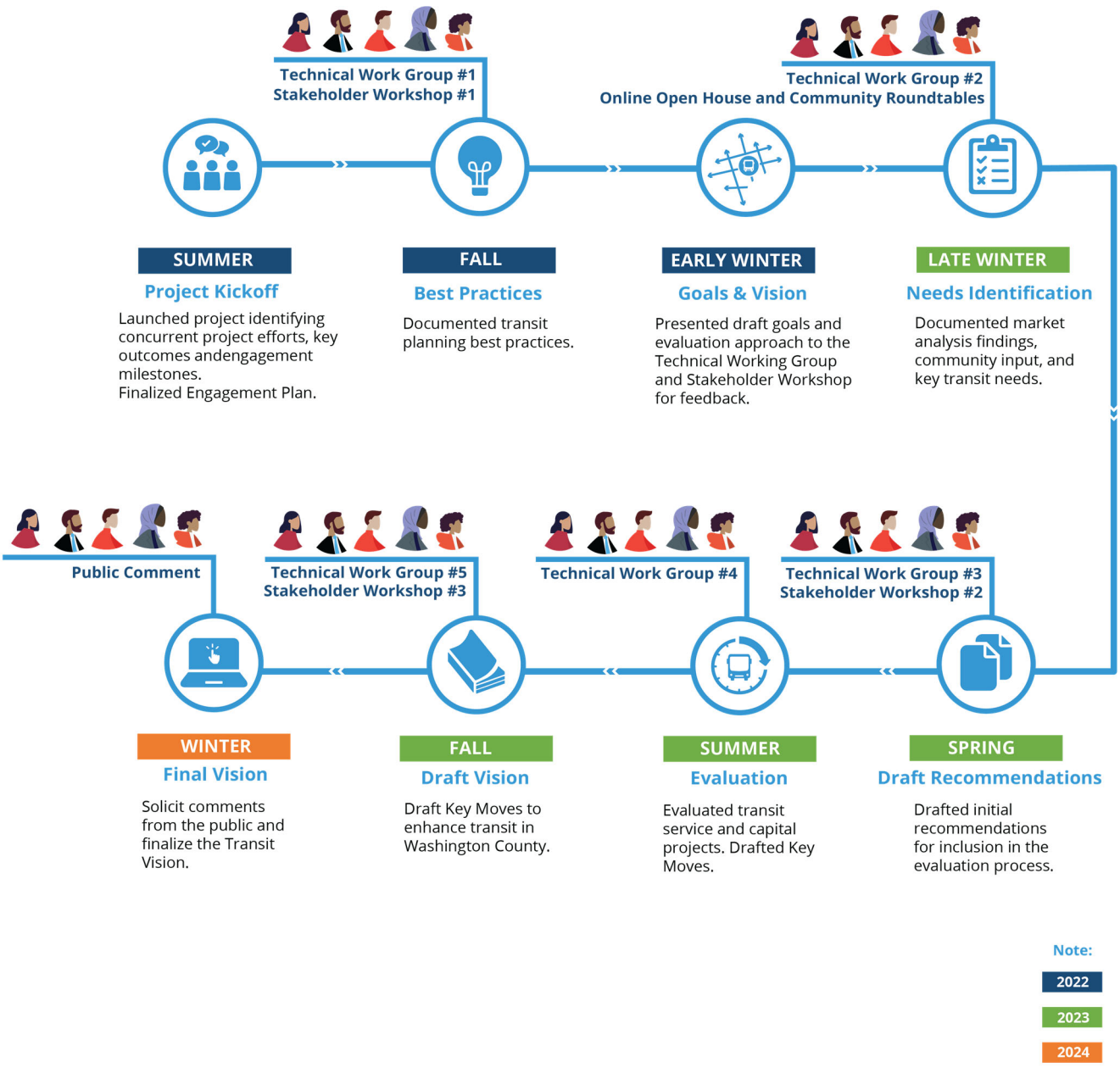
Stakeholders acted as a sounding board to advise the PMT and TWG and provided overall guidance on study recommendations. Stakeholders were invited to three workshops to guide the development of the Vision for Transit, including participants from community-based organizations, chambers of commerce, and advocacy groups who were offered a stipend to participate (Figure 1-5).

Figure 1-5 Stakeholder Workshop Participants

Organization		
1000 Friends of Oregon	Tualatin Aging Task Force	Washington County Visitors Association
Adelante Mujeres Civic Leaders Project	Virginia Garcia Health Center	Westside Economic Alliance
Getting There Together	Washington County Disability, Aging, and Veterans Service	Westside Transportation Alliance
The Street Trust	Washington County Public Health	

Figure 1-6 illustrates the Transit Study's key milestones and what was accomplished during each stage of the project.

Figure 1-6 Project Timeline



2 OUTREACH AND ENGAGEMENT

The Project Management Team created an equitable engagement approach that was far-reaching and geographically and culturally diverse to highlight and validate community needs and aspirations regarding transit service and access, and to provide clear, easy to understand information.

How We Reached People

Engagement centered around several key groups and activities are outlined below.

Community Roundtables

Four virtual community Roundtable Discussions were held targeting different groups with unique transit needs. These discussions identified key needs for the Vision for Transit to consider. Roundtables included representation from:

- Affordable housing partners
- Employers
- People with disabilities and older adults

In-Person Engagement

Community Engagement Liaisons (CELS) engaged with both people who ride transit and people who do not ride transit in community spaces and at transit stops throughout the county. Several languages and ethnicities were represented through CELS outreach which included Arabic, Mandarin Chinese, Cantonese, and Spanish speakers, as well as a tribal liaison. CELS spoke with nearly 300 people across the county, including people who rode transit frequently and people who did not ride transit at all. Riders who frequently take transit and people who take transit infrequently or not all identified transit improvements in Figure 2-1 and Figure 2-2.

Figure 2-1 In-Person Engagement Results: Identified Improvements from Respondents Who Frequently Take Transit

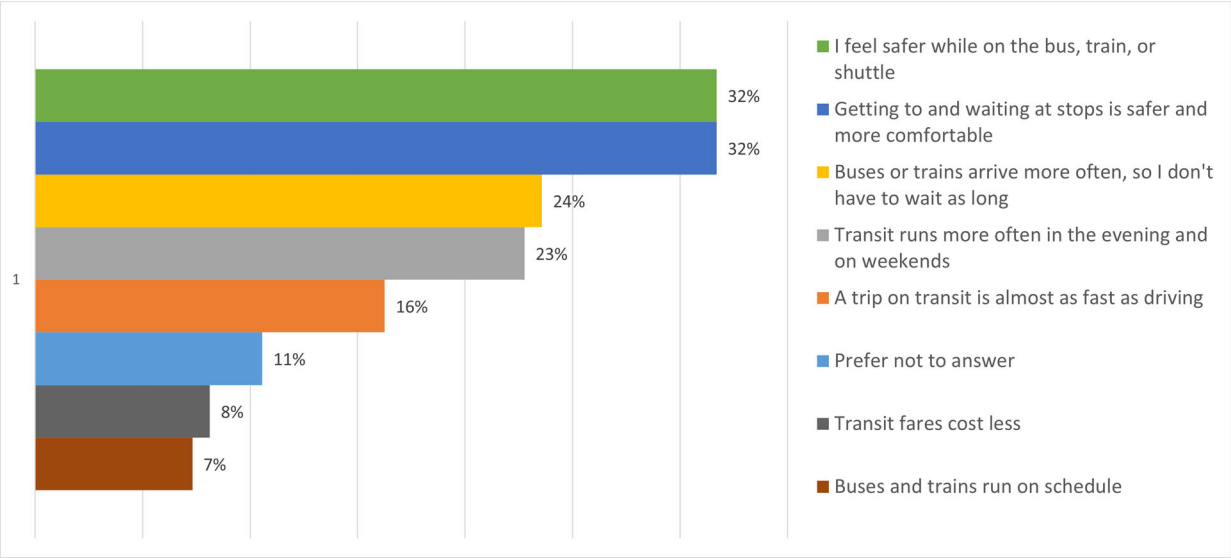
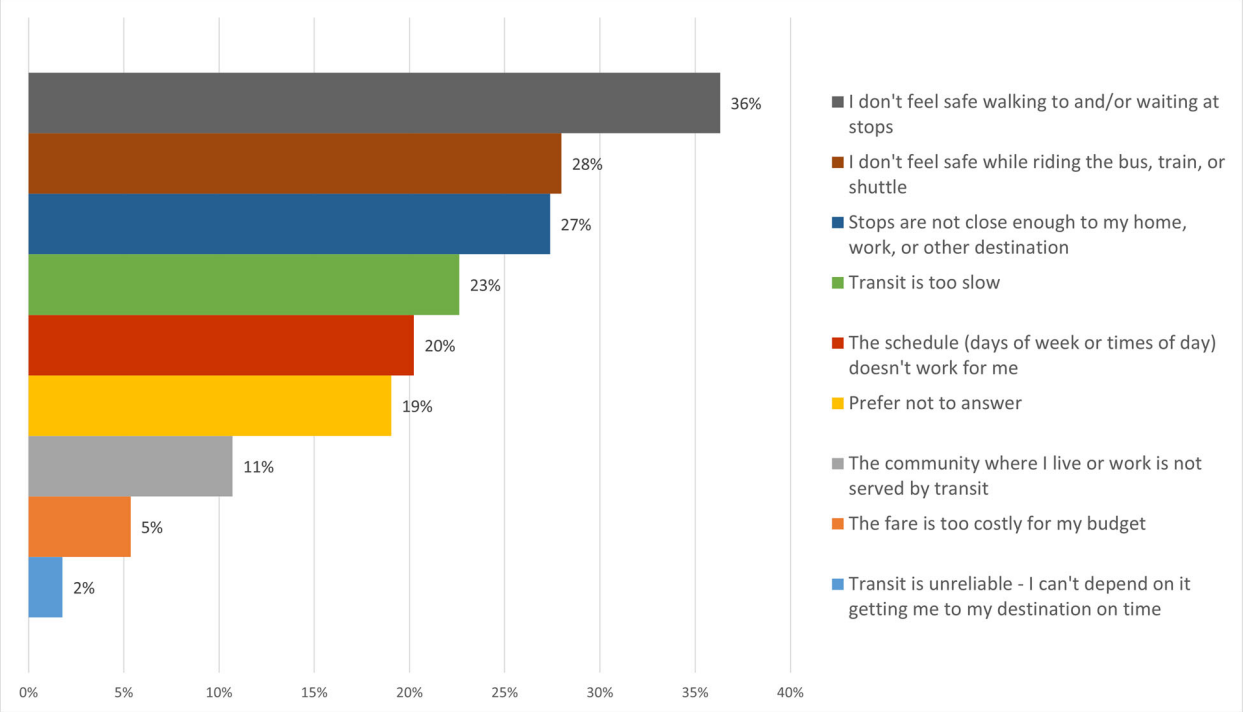


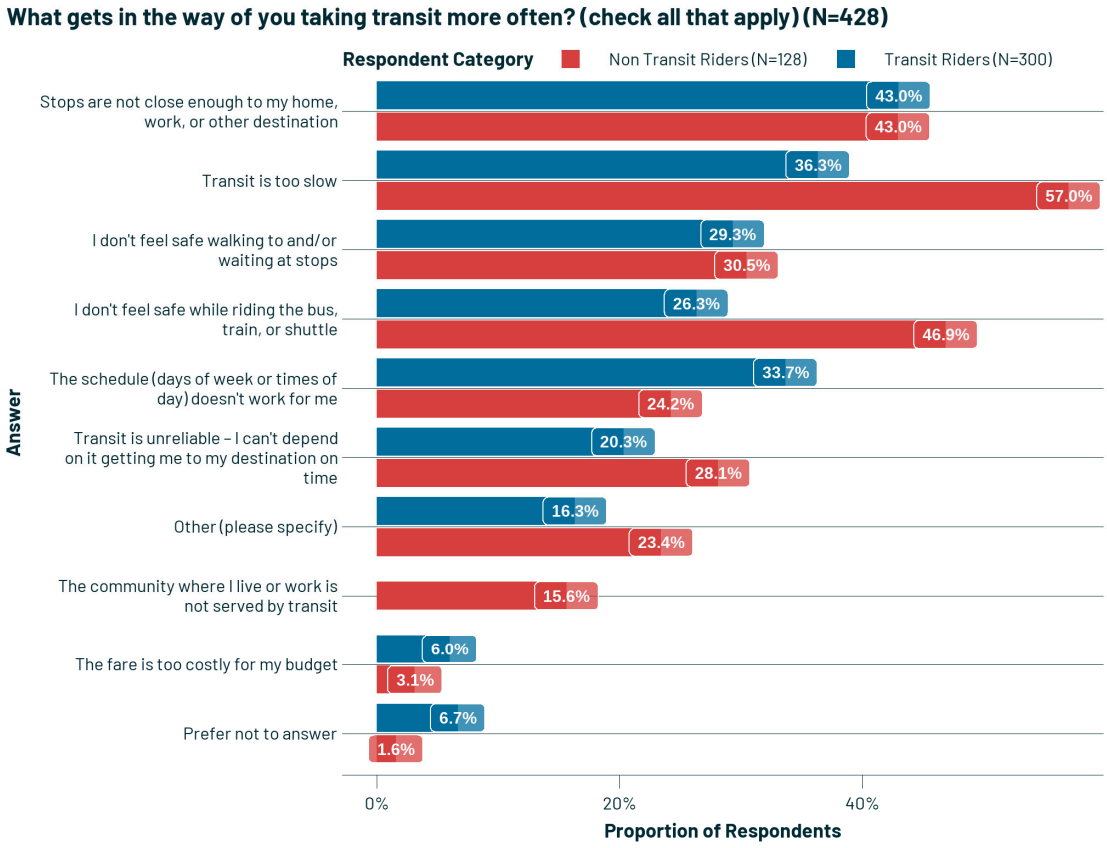
Figure 2-2 In-Person Engagement Results: Identified Improvements from Respondents Who Do Not Take Transit or Infrequently Take Transit



Online Open House and Survey

An Online Open House was posted on the County's website from February 10, 2023 to March 12, 2023. The survey was announced and promoted throughout the survey period on the County, local jurisdictions', and stakeholders' web pages, mailing lists, and newsletters. Four hundred and twenty-eight (428) people responded to the survey. Participants noted that travel time, safety, and frequency were key challenges to riding transit today. Key barriers to taking transit are documented in Figure 2-3 below.

Figure 2-3 Online Survey Results: Barriers to Taking Transit



Other Committees and Community Groups

The project team presented to committees, councils, and community groups across Washington County at key milestones, including:

- Washington County Board of County Commissioners
- Washington County Coordinating Committee
- Washington County Coordinating Committee Transportation Advisory Committee
- Washington County Planning Directors
- Hillsboro Transportation Advisory Committee
- Washington County Chamber of Commerce
- Cornelius City Council
- Forest Grove City Council
- Tigard Transportation Advisory Committee
- Tigard Youth Advisory Council
- Beaverton Mayor's Youth Advisory Board
- Tualatin Youth Advisory Council
- Tualatin City Council
- Tigard City Council

Final Vision for Transit Community Outreach

Washington County hosted an online open house with the draft Vision for Transit between January 19 and March 1, 2024. Over 900 people visited the online open house and 167 people submitted a survey response. A summary of responses is provided below. Respondents were largely in support of the recommendations (Figure 2-4) and people wanted to see speed and reliability, high-capacity transit, frequent transit service, and improved bicycle and pedestrian access to transit prioritized (Figure 2-5).

Figure 2-4 Vision for Transit Level of Support

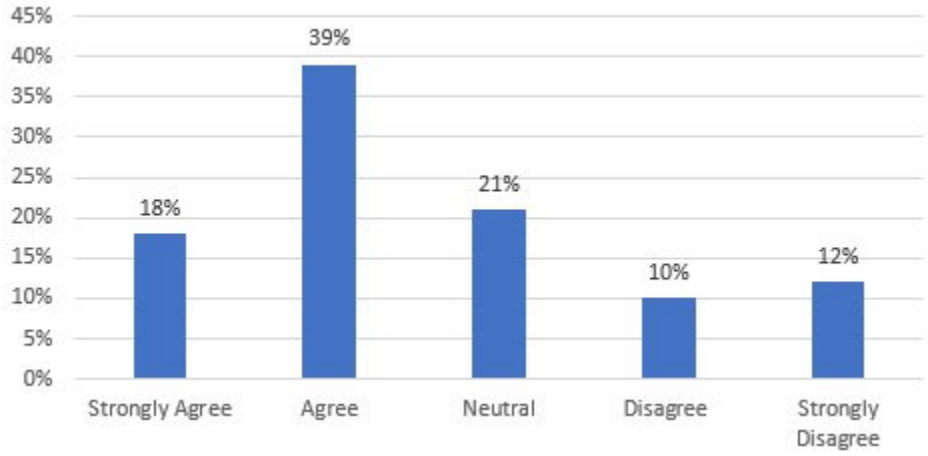
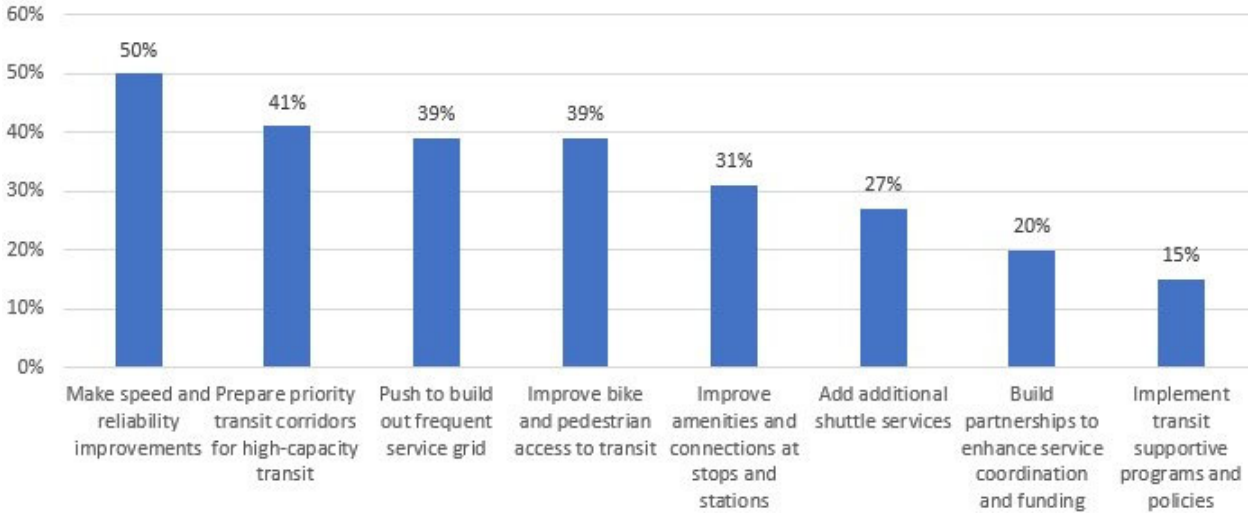


Figure 2-5 Prioritized Vision for Transit Recommendations



Who We Heard From

We heard from people representing many different parts of Washington County and neighboring communities (Figure 2-6). We designed our in-person engagement to reach people in communities of color who are typically underrepresented in community engagement efforts. Figure 2-7 provides the demographic breakdown of who we heard from compared to the county's demographics overall.

Figure 2-6 Home Zip Codes of Online and In-Person Respondents

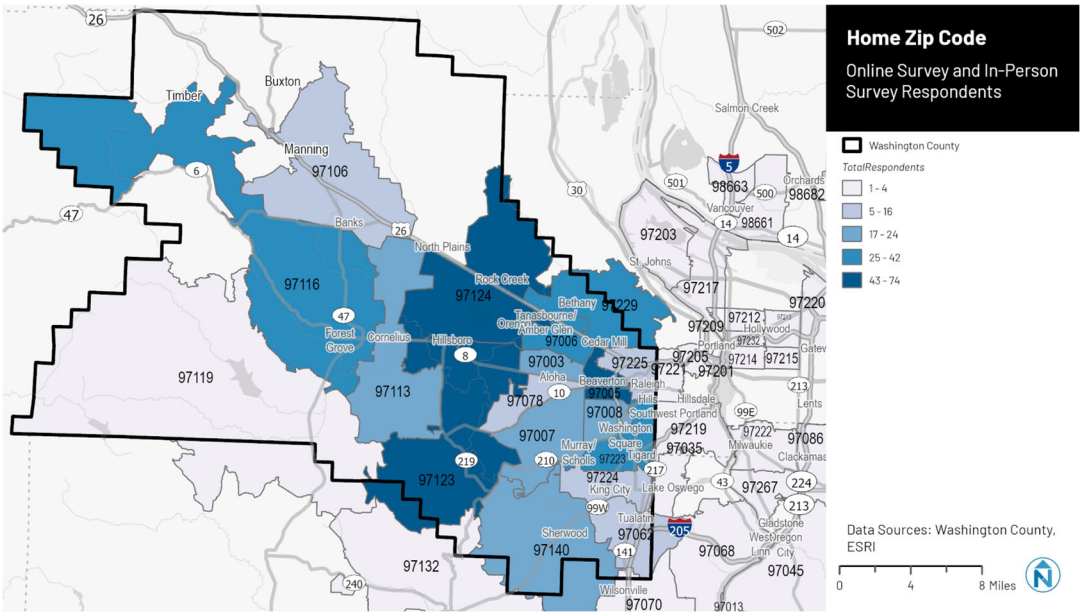


Figure 2-7 Demographic Breakdown of Who We Heard From

Category	In-Person Engagement	Online Engagement	County Population
People of Color[1]	84%	34%	39%
Hispanic/Latino	28%	10%	18%
Youth (under 18)	4%	1.4%	23%
Older adults (65+)	5%	10%	13%
People with incomes < 75k	Not asked	35%	54%

1. People of color includes everyone who identifies as a race other than white, and/or as Hispanic/Latino.

Summary of What We Heard

The community roundtables, in-person engagement, and the online open house and survey identified five key questions about the current conditions of transit now and the barriers and opportunities for improving transit in the future. Results demonstrated that while there were aspects of the transit system that are working well, such as Ride Connection and the MAX, and that there are still many barriers that prevent people from riding transit, such as:

- Service is concentrated in high-density areas; people who rely on transit increasingly live further out on the edges of TriMet's service area.
- Personal safety waiting for and riding transit is a concern.
- Some bus shelters are poorly lit, unsanitary, or damaged.
- Stops are located too far from some important destinations (e.g., employers, senior centers, social services).
- Some stops are not ADA accessible and sidewalk gaps and lack of safe crossings present major barriers for accessing transit.
- Transit passes can be cost-prohibitive for people with no or very low incomes.
- Transit service is lacking early in the morning and later in the evening.

The following opportunities were documented from the outreach process:

- Expand coverage of transit in less-dense areas.
- Build on success of Ride Connection.
- Provide more frequent and reliable service with fewer transfers, especially in South County.
- Improve connections from Hillsboro, Cornelius, and Forest Grove to South County.
- Provide more service early mornings, later evenings, and weekends.
- Improve sidewalks, crossings, and stops/stations.
- Increase education and information, especially for people with disabilities and people who speak different languages.

See Appendix A: Engagement Summary for more information on outreach and engagement.

3 OUR GOALS & METRICS

The goals of the Vision for Transit were developed with input from the PMT, the TWG, stakeholder workshops, and roundtable discussions. These goals were also informed by the Washington County Transportation System Plan and the Westside Multimodal Study.

Vision for Transit Goals

Equity

Improve access to opportunities with more equitable and affordable options for transit.

How do we get there?

- Design a transit network that supports access to jobs, education, daily needs, and services.
- Provide affordable transit options, particularly for people with lower incomes.

Economic Vitality

Better connect people and places to transit.

How do we get there?

- Strengthen regional and neighborhood connections.
- Provide effective transit services on which employers, businesses, and the development community can depend.
- Pursue transit-supportive land use policies and development.

Environmental Health

Reduce greenhouse gas emissions and improve environmental health.

How do we get there?

- Increase the number of people who ride transit.
- Reduce per capita vehicle miles traveled to address climate change.
- Consider opportunities, including grants, to move towards a low/no emission transit vehicle fleet.

Customer Experience

Make transit easier to use.

How do we get there?

- Improve transit reliability and competitiveness compared to driving a car.
- Improve rider experience with better stops, universally accessible information, and expanded educational programs.
- Improve connections to and from transit with better walking and biking access.
- Consider new technologies to improve transit access and use.

We need printed transit schedules and maps in different languages.

Partnerships

Support a transit system in Washington County that will be successful long-term.

How do we get there?

- Continue to build and strengthen partnerships among regional transit providers to improve transit investments in the county.
- Pursue sustainable funding sources.
- Develop measurable goals and track progress.

See Appendix B: Goals & Evaluation Approach for more details.

4 OUR NEEDS

This section provides an overview of key trends from the Study's Market Analysis Report including the key challenges and barriers people face in taking transit more often.

Accommodate a Growing Washington County

Population and employment are concentrated in the county's central cities and along major corridors, including US 26 and OR 217. Washington County is projected to grow by 165,000 people and 100,000 jobs by 2040. Employment growth is mostly projected to occur along these major corridors. The county has approximately a third of the region's people and jobs, both now and in the future. Transit service is needed to accommodate more people to maximize the utility of our existing and planned roadways.

Address the Lasting Ridership Impacts from the Pandemic

The COVID-19 pandemic has had a lasting effect on where people work and how they travel. More people in Washington County work from home, and travel has shifted away from "typical" commute patterns; however, many people in the county cannot or do not work from home. Ridership patterns have changed. Since 2019, ridership in Washington County has notably decreased on major commuter routes like the MAX and WES. Ridership held relatively steady on TV Highway with trips throughout the day instead of at peaks. Service and access enhancements are needed to bring people back to transit.

Expand Frequent Service

Today, frequent transit service (arriving every 15 minutes or better) is limited to a few major corridors: the MAX, Tualatin Valley Highway, and parallel to OR 217. TriMet Forward Together has added or will add frequency to a few additional routes, notably SW 185th Avenue, Beaverton-Hillsdale Highway, and Cornell Road, but large parts of the urbanized area of the county remain unserved by frequent transit. From many places, bus and shuttle connections to frequent transit are long and inconvenient. TriMet's Forward Together service recovery plan is currently being implemented, and it will continue to guide annual service improvements over the next 2–3 years. Service improvements in Washington County include adding new bus service in Hillsboro, Beaverton, Tigard and Tualatin as well as more frequent service on Lines 48, 52, 54, and 57, while also reducing or eliminating service on some lines due to low ridership. Other service improvements funded in part by Washington County in partnership with Ride Connection includes new and expanded services in Banks, Bethany, Cornelius, Hillsboro, King City, North Plains, and Tualatin. More frequent service is needed in key areas to serve the people of Washington County.

Serve People Who Depend on Transit

Some areas of Washington County with higher concentrations of people who rely on transit have lower levels of service. Southwest Beaverton, Tanasbourne, parts of Aloha, Forest Grove, Cornelius, Murray Scholls, King City, and neighborhoods north of US 26 are underserved by transit and warrant more service based on community characteristics that tend to support ridership growth. While the pandemic has changed where some employees work, 85% of employees who live in Washington County still commute to work. Areas of Tanasbourne, South Hillsboro, Forest Grove, and central Beaverton have the highest numbers of employees travelling to workplaces outside the home. People also continue to make trips for shopping, medical appointments, socializing and other personal needs.

Improve Access to Transit

Missing sidewalks, difficult crossings, and a disconnected street grid with long block lengths make taking transit harder. Many locations in Garden Home, Metzger and Tigard lack sidewalks near transit stops. In addition to missing sidewalks, a lack of safe crossings make it challenging and/or unsafe to access transit in many parts of the county. Enhanced crossings and filling missing sidewalk gaps should be prioritized around the high-capacity transit and frequent transit network.

43% of survey respondents said that stops that are not close enough to their homes, work, or other destinations is a significant barrier to using public transportation more frequently.

Make Transit Competitive to Driving

Transit takes much longer than driving for many trips. Taking transit between most communities in southern Washington County and between Washington and Clackamas counties typically takes up to three times longer than driving. Connecting to employment areas in the north part of the county takes at least twice as long as driving. Travel between destinations on the MAX line and at certain times of day taking transit between Tigard to Wilsonville are competitive with driving.

Building out a network of transit priority corridors will support reliable transit that is competitive with driving to better serve riders.

Improve Employee Access to Transit

In 2021 Washington County conducted a first mile-last mile study that outlined strategies to make transit safe, accessible, and practical for everyone living, working, and visiting the County. The plan included recommended priority locations to implement first and last mile transit access projects,

programs and partnerships and identified policy considerations to improve transit access especially in relation to emerging on-demand and shared mobility transportation options.

Large employers and employment areas need good access to transit in Washington County. Yet some major employers are still not served by transit. Employers that are closer to transit stops tend to have a higher transit mode share. Employees of businesses in southwest Beaverton and south Hillsboro could benefit from improved connections to existing buses and shuttles.

See the following Appendices for more information:
Appendix C: Market Analysis
Appendix D: Transit Gaps and Vision Evaluation Details
Appendix E: Transit Best Practices

5 THE VISION FOR TRANSIT

The Vision for Transit is the roadmap for Washington County and its partners to meaningfully improve the transit experience – and ridership – in the county in the next 20 years. To successfully achieve the Vision, there are eight Key Moves detailed in the following pages.

VISION FOR TRANSIT EVALUATION

The Vision for Transit is intended to provide the County with a long-term roadmap for transit service, facility, and access priorities. This section provides an overview of the timeframe for the Vision, the types of services considered, and a snapshot of how the transit service elements were evaluated.

Vision Time Frame

The Vision has a long-term horizon of 2050. The Vision considered the likely implementation timeframe of other regional plans that affect delivery of transit service and capital projects in Washington County, including TriMet's Forward Together plan, which is a fiscally-constrained plan with an up to 5-year time horizon; the 2023 Metro High Capacity Transit (HCT) Strategy Update; and the Regional Mobility Pricing Plan (RMPP) Public Transportation Strategy, which was being developed concurrently with the County's plan. It identifies the following implementation phases:

- **Existing:** Transit network as of Fall 2022
- **Baseline:** Planned network, including near-term, funded changes identified in Forward Together that would be implemented by the end of 2023 or in early 2024 (as identified based on information available in Summer/Fall 2023 when the Vision for Transit was developed). Forward Together will take up to 5 years to fully implement.
- **Near-Term** (2024-2030) including RTP near-term projects (2024-2030) and regional HCT Strategy Tier 1 (Near-Term Corridors).
- **Mid-Term** (2031-2040) including regional HCT Strategy Tiers 2 and 3 (Next Phase and Developing Corridors, respectively).
- **Long-Term** (2041-2050) including projects identified in the 2023 HCT Strategy Update as Tier 4 (Vision corridors).

Types of Transit Service Considered

Washington County is made up of communities large and small –that can support different levels of transit service. As such, transit service in Washington County is not a one-size fits all approach. There are many types of services, including:

- **High-Capacity Transit (HCT)** moves a lot of people quickly on high volume corridors. It includes Light Rail (LRT) such as the MAX Blue and Red lines, Bus Rapid Transit (BRT), and RapidBus. To receive federal funding, BRT must have at least 50% exclusive lanes; this requirement is relaxed for RapidBus. The Frequent Express (FX2) Division line in Portland is an example of this type of service (see sidebar below). The County also has one Commuter Rail line—the Westside Express Service (WES)—that runs during weekday peak periods between Beaverton and Wilsonville.
- **Frequent Bus Service** provides service along key corridors every 15 minutes or better. Frequent service improves reliability, making it easier to take transit at more times during the day, on both weekdays and weekends.
- **Local Bus** provides more limited bus service on weekdays or weekends. Limited bus service – meaning it operates during limited hours, only on weekdays, and/or ranging from every 20-30 minutes to hourly or longer. This means that from many places in the county, bus connections to frequent transit or key destinations are long and inconvenient.
- **Shuttles** connect riders to frequent transit or employment sites using smaller vehicles either on a fixed or on-demand schedule. Shuttles are an important way to provide service to areas that don't have enough demand to justify more frequent service or to provide a last mile connection.
- **Vanpools** are smaller, typically privately-operated vehicles, that can support commuters in lower density areas.
- The graphic below (Figure 5-1) describes these types of transit service that would operate in Washington County given the different last use contexts, including an illustration of different service types and the typical land use, service characteristics, and amenities associated with them.

Figure 5-1 Regional Transit Service Types

Source: Adapted from Regional Transit Service Types, Metro HCT Strategy, 2023

Evaluation of Transit Service Elements

Individual service elements considered for the Vision were evaluated using a set of measures to help the project team and the TWG understand the relative strengths of each element and how each element could contribute to the overall Vision for Transit. The table below (Figure 5-2) summarizes the measures that were considered. (These measures are in addition to the measures used to evaluate the Vision for Transit, as described in Chapter 6.)

Figure 5-2 Measures Used to Evaluate Transit Service Elements for Vision

Evaluation Criteria	Evaluation Measures	Applied to Following Service Improvement Types	
		HCT and Fixed-Route	Shuttles
Ridership Potential	Existing Boardings	X	
	Transit Propensity Score	X	X
Serving Current and Future Growth	Current and Future Population Density	X	X
	Current and Future Job Density	X	X
	Service to Metro-designated Growth Centers	X	X
Connecting ped/bike network gaps	Stations Near Missing Sidewalks	X	-
Equity	Priority populations within ½-mile	X	X
Transit delay	Bus segment and passenger delay	X	X

Appendix D: Transit Gaps and Vision Evaluation Details includes additional information on evaluation metrics and results.

KEY MOVES

The Key Moves outlined on the following pages provide a shared vision and are the guiding framework for implementation. They help focus Washington County and its jurisdictional partners and define clear roles and responsibilities to improve the transit offerings and experience in the county. Each key move includes an overview of why it is important, grounded in input from the community and key stakeholders and a list of key actions the County and its partners can take. All key actions are framed around the perspective of what the County and its jurisdictional partners can do, with implementation support from the transit agencies, Metro, ODOT, and private sector and non-profit partners.

Key Move 1: Prepare Priority Transit Corridors for High Capacity Transit (HCT)

HCT serves as the backbone of the regional transportation system, connecting regional centers and major town centers identified in the Metro 2040 Growth Concept with high quality transit that is fast, frequent, and reliable. HCT provides the capacity needed to serve the highest demand corridors.

Existing HCT in the County includes the MAX Blue and Red Lines:

- MAX Blue Line runs between Hillsboro, Beaverton, Portland, and Gresham.
- MAX Red Line runs between Beaverton and the Portland Airport (PDX). The Better Red Project (see sidebar on 1-12) is currently underway to extend MAX Red Line service from Beaverton to the Fair Complex/Hillsboro Airport Station, which will increase frequency and provide a direct connection to the Portland Airport at ten MAX stations when it opens in 2024.

Metro's regional transportation plan (RTP) identifies regional priorities for HCT, classified into four priority tiers (see Figure 5-3). The regional priorities are based on evaluation criteria including existing ridership, existing transit travel times, projected travel demand, and current and projected land use density. The priorities also consider "readiness" for implementation including factors such as physical conditions in the corridor including sidewalks, crossings, and bicycle facilities that are known to contribute to successful HCT projects. Many of the criteria are also considered in awarding federal funding, which has historically been a major component of how HCT projects are built in our region. Priorities can be re-evaluated when the RTP is updated every five years.

Two planned HCT projects serving Washington County are identified as Tier 1: Near-Term priorities in regional planning, meaning a locally preferred alternative (LPA)[4] has been selected or active planning is underway:

- **Tualatin Valley (TV) Highway** (#1 on map) between Beaverton, Hillsboro, and Forest Grove. Studies have identified RapidBus as the transit mode and design is currently underway.
- **Southwest Corridor** (#2 on map), connecting Tualatin, Tigard, Southwest Portland, and Downtown Portland. Studies selected light rail as the transit mode, so this project would connect more of Washington County to the MAX system.

Two corridors in Washington County are identified as Tier 2: Next-Phase, along with the Central City Tunnel (which would improve the MAX system). Tier 2 priorities scored well on the evaluation and readiness criteria and could be ready for implementation in the next five to fifteen years.

- **Beaverton to Bethany** (#3 on map) via SW Farmington Rd and SW 185th Ave, currently served by TriMet Line 52 which is slated to be upgraded to a frequent bus line.

[4] A locally preferred alternative or LPA means that a specific transit mode and alignment have been selected for a corridor through a planning process. This is an important milestone in making a transportation project eligible for federal funds.

- **Beaverton to Portland** (#4 on map) via Highway 10, connecting Washington County and Multnomah County. The corridor is served by Line 54 as well as 56.
- The **Central City Tunnel** project, though not within Washington County, would make trips on the MAX Blue and Red line faster through downtown Portland for trips that go across the region.

Six other Washington County corridors were prioritized as Tier 3: Developing or Tier 4: Vision through the regional evaluation process. These tiers indicate more work is needed to make corridors ready for HCT investments, because they did not score as well on the evaluation or readiness criteria. The Key Moves below identify actions for local jurisdiction to help important corridors perform better in the future.

Washington County and Local Jurisdiction Roles in Advancing HCT

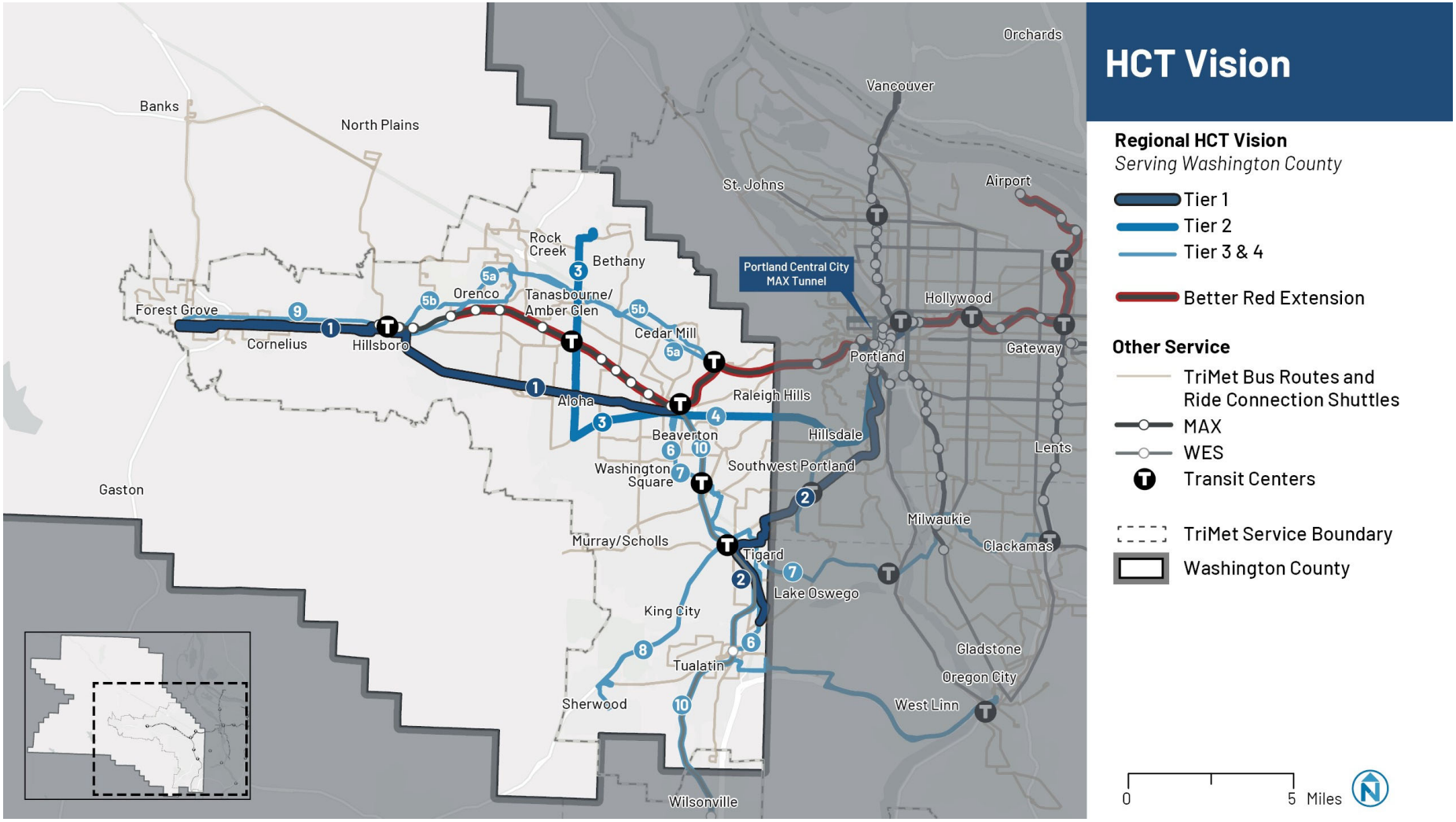
Several of the County's major transportation corridors have land uses that are not sufficiently dense or well-connected for people to easily access transit stops on the corridors, which results in lower ridership on existing services. The Vision for Transit identifies actions that Washington County and local jurisdictions can take to make these high priority corridors more competitive for HCT, so that they can be advanced through future regional planning processes led by Metro and TriMet. These actions include making street improvements that allow transit to run faster and more reliably and help people more easily access transit stops by bicycling and walking. Figure 5-3 identifies the importance of each corridor and recommends top priorities for the County and local jurisdictions to advance among the current Tier 3 and Tier 4 regional priorities.

Figure 5-3 High Capacity Transit Investments

Regional HCT Priority Tier [1]	Map ID #	Corridor Description[2]	Top Priorities for County and Local Jurisdiction Actions	Why is it important?	Prior/Active Planning in the Corridor
Tier 1: Near-Term Corridors	1	Beaverton-Forest Grove RapidBus via TV Hwy - Line 57 (C7)	Existing Tier 1 and Tier 2 regional priorities	▪ Connects five town and regional centers. ▪ Line 57 has the 6th highest ridership among TriMet bus routes systemwide in Spring 2023.	TV Highway Transit Project is currently completing planning and design.
	2	Tualatin-Portland - Southwest Corridor LRT (C29)		▪ Connects south/central Washington County to the regional light rail system, including two town centers.	Southwest Corridor Light Rail Project completed conceptual design and environmental planning in Sept 2020; project currently paused.
Tier 2: Next Phase Corridors	3	Beaverton-Bethany via Farmington/185th - Line 52 (C23)		Important bus corridor with moderate-high ridership providing a secondary connection between three regional or town centers.	-
	Not labeled	Central City MAX Tunnel (C14)		Would save over 10 minutes for a trip through Portland Central City and increase future capacity crossing the Willamette River, which is limited by the Steel Bridge.	Feasibility study completed in 2019.
	4	Beaverton-Portland HCT via Hwy 10 (BH Hwy) - Line 54 (C25)		Important bus corridor with moderate-high ridership providing secondary connections between three regional or town centers.	-
Tier 3: Developing Corridors	5a	Sunset TC-Hillsboro HCT via US 26/Evergreen (C5)	X	Corridor serves employment sites that are not easily accessible from existing HCT lines, resulting in long transit travel times. Corridor provides a secondary connection between five regional and town centers.	Westside Multimodal Study is currently being led by Metro and ODOT and may include recommendations for HCT or other solutions.
	5b	Sunset TC-Hillsboro HCT via US 26/Evergreen (Alternative Alignment)			
	6	Beaverton-Tigard-Tualatin-Oregon City HCT - Line 76 (C6)	X	Connects four town and regional centers along Hwy 217 corridor, with possible connection to Oregon City. This corridor parallels the current WES alignment, between Beaverton and Tigard (see Map ID #10).	-
	7	Beaverton-Tigard-Lake Oswego-Milwaukie-Clackamas Town Center HCT - (C4)	-	Provides a connection to Clackamas County, which currently has limited/indirect connections from south/central Washington County.	-
Tier 4: Vision Corridors	8	Sherwood-Tigard HCT via Hwy 99W (C3)	X	Extends the HCT system to two additional town centers. Corridor also served by Yamhill County Transit.	-
	9	Hillsboro-Forest Grove - LRT Extension (C9)	-	Extends the HCT system to two additional town centers, utilizing the Council Creek Regional Trail railroad right-of-way.	The TV Hwy Transit Project is currently advancing BRT on a parallel corridor.
	10	Beaverton-Wilsonville in vicinity of WES (with 15 minute headways all-day)	X	Existing WES Commuter Rail line only operates during peak periods on weekdays; serves same general corridor within Washington County as Map ID #5 but connects to Wilsonville.	-

Notes: 1. Regional HCT Priorities from Metro Regional Transportation Plan, High Capacity Transit Strategy Update, July 2023. 2. Includes Representative Alignment and/or Mode (alignments and modes are determined through corridor-specific planning studies) and Regional HCT Plan ID.

Figure 5-4 High Capacity Transit Investments Map



What are the recommendations?

Metro and TriMet lead regional planning efforts to identify HCT corridors. Local jurisdictions and Washington County can take the following actions to help advance priority corridors. Transit supportive programs and policies outlined in Key Move 7 below are an important complement to these recommendations.

Strategy	Map #	What's the Action	Why is it Important?	Implementation Support
1.1	5 and/or 6	Initiate a planning study to recommend a short- to- mid-term transit solution connecting Beaverton, Tigard, and Tualatin along the Highway 217 and I-5 corridors through Washington County; Line 76 currently provides frequent service between Beaverton and Tualatin. This study should also identify whether Wilsonville should be directly served by this transit line and how it should be funded and could also study needs for connections to Clackamas County that are related to this corridor.	This is a significant north-south transportation corridor that lacks all-day, frequent HCT service and could benefit from short-term improvements connecting to the MAX Blue and Red lines and further Southwest Corridor service.	Local jurisdictions (Beaverton, Clackamas County, Tigard, Tualatin, Washington County and Wilsonville) TriMet Metro ODOT
1.2	4	Design, fund, and implement employer shuttles to/from the US 26 corridor (see Key Move 3). Support service recommendations from the Westside Multimodal Study being led by Metro and ODOT, including a possible HCT alignment along the US 26 corridor.	Significant employment sites are inconvenient to access from the current transit system; providing frequent shuttle service would increase utilization of current HCT and frequent bus lines and build ridership to support future HCT service.	Local jurisdictions (Beaverton, Hillsboro and Washington County) Ride Connection Major Employers WTA TriMet Metro ODOT
1.3	8	Build ridership along the Hwy 99W corridor between Sherwood and Tigard, in support of frequent service and a future HCT line: Develop shuttle service in communities including King City, Sherwood, South Cooper Mountain, and River Terrace connecting to the corridor (see Key Move 3). Improve bicycle and pedestrian infrastructure and mobility hubs supporting access to transit along the corridor (see Key Move 6). Support an upgrade of TriMet Line 94 to frequent service (see Key Move 2). Implement interim transit priority improvements at delay hot spots along Hwy 99W (see Key Move 4).	Frequent service and an eventual HCT line require increasing transit ridership along Hwy 99W. These actions would make it easier for people to access transit service. Transit priority would benefit TriMet, Ride Connection, and/or Yamhill County Transit services.	Local jurisdictions (Tigard, King City, Sherwood and Washington County) Ride Connection TriMet Metro ODOT
1.4	10	Coordinate with Metro, TriMet, and ODOT to define a long-term vision for the Westside Express Service (WES) corridor, addressing the feasibility of upgrading it to all-day service and the potential to integrate it with a broader commuter rail service in the I-5 corridor to Salem.	Current WES service does not meet all-day travel needs.	Local jurisdictions (Beaverton, Tigard, Tualatin, Washington County, Wilsonville) TriMet Metro

Strategy	Map #	What's the Action	Why is it Important?	Implementation Support
				ODOT
1.5	-	Increase land use supportiveness including by ensuring that local comprehensive plan designations direct density into HCT corridors and centers, updating zoning regulations to encourage a dense mix of uses, and supporting transit use through policies such as removing parking mandates. Support community resilience through targeted affordable housing strategies and business stability programs. This action aligns with elements of other Key Move 7: Implement Transit Supportive Programs and Policies. Update local Transportation System Plans to support improving existing transit travel time and reliability (see Key Move 4: Implement Speed and Reliability Improvements) and safety and accessibility of future HCT corridors (see Key Move 6: Improve Bike and Pedestrian Access to Transit). The Metro HCT Strategy will be also developing a checklist to identify actions for local plans. These actions include updating street classification cross-sections and design standards to be transit-supportive and allow for transit priority, prioritize transit-supportive project investments, etc.	Land use regulations and policies support density, which is a key factor in making a corridor able to support a high-capacity transit investment. Community resilience strategies help ensure that current residents and businesses benefit from the corridor investment.	Local Jurisdictions

Division Frequent Express (FX) (Portland, OR)

TriMet's FX2-Division rapid bus line, which opened in 2022, provides a faster, more comfortable experience for riders, with seating, weather protection, and real-time bus arrival information at every station. Prior to the COVID-19 pandemic, TriMet buses carried more than 10,000 daily riders along Division and buses were frequently overcrowded during peak hours. The new FX buses are longer and accommodate 60% more riders with multi-door boarding.[1] With transit ridership still lower post-pandemic, the FX2 line carries over 6,500 riders as of Spring 2023.

The Division FX line addressed travel time and reliability using a mix of Business Access & Transit (BAT) lanes at key locations and a next-generation transit signal priority (TSP) system. Travel times between 7 AM and 7 PM were 17% faster through inner southeast Portland, 20% faster through outer southeast Portland, and 14% faster through Gresham. TriMet conducted a before-after test with the TSP system turned off in late Spring 2023 to further understand the benefits of the system. With TSP turned on, the line was over four minutes faster (average of both directions).[1]

Sources: 1. https://trimet.org/division/ and https://trimet.org/fx. 2. https://news.trimet.org/2023/04/trimet-to-temporarily-turn-off-fx2s-traffic-signal-priority-for-time-savings-test/. https://news.trimet.org/2023/09/trimets-first-fx-frequent-express-bus-line-speeds-up-trips-and-increases-ridership-by-half-a-million-rides-in-first-year/.

Enhancing the Westside Express Service

The Westside Express Service (WES) provides a fast transit link connecting Beaverton, Tigard, Tualatin, and Wilsonville, during weekday commute hours only. TriMet Line 76 is the other significant north-south transit service along the Hwy 217 corridor, between Beaverton and Tualatin. SMART Route 2X connects Tualatin and Wilsonville.

The map at right highlights the density of people and jobs along the WES corridor. A thin dashed line illustrates a ½-mile walking distance around WES stations relative to a one-mile area; this shows particular access limitations around the Hall and Nimbus station located near Washington Square.

The table below provides the number of people and jobs within ½ mile walk of stations along with the density, which is relatively low for rail service. Population and jobs directly around the stations are projected to increase and become more dense in the future, but the table and map also show that there are concentrations of people and jobs located in the broader one-mile area around each station. This includes an additional 23 ECO employers within a mile of stations, beyond the seven ECO employers located within ½-mile.

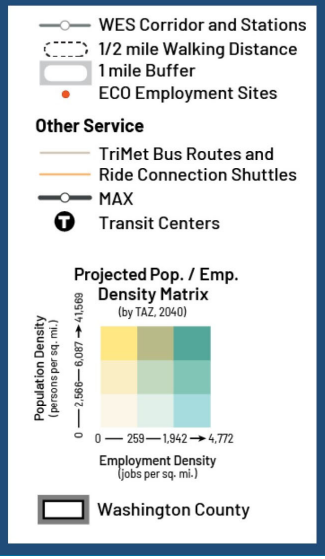
Local jurisdictions can support service through land use policies to increase density along the corridor, through investments in bicycle and pedestrian access to transit, and frequent shuttle service that would expand access. TDM services could also help attract riders, such as through emergency ride home programs.

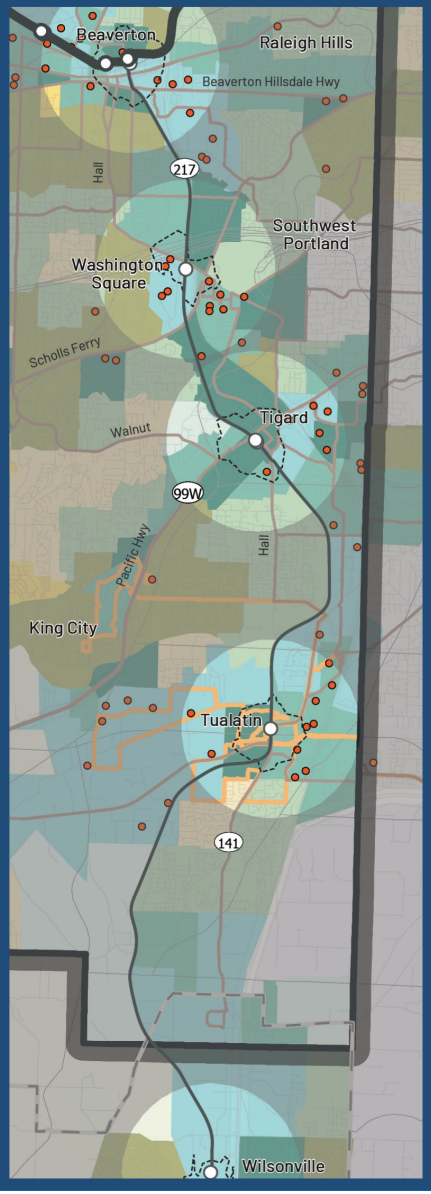
People and Jobs along the WES Corridor, Total and Density (Sq. Mi.)

	Existing		Future	
	Total	Density	Total	Density
People within:				
½ mile of stops	7,000	3,500	13,000	7,000
1 mile of corridor	60,200	3,800	78,000	5,000
Jobs within:				
½ mile of stops	13,000	6,700	18,000	9,500
1 mile of corridor	66,000	4,200	95,000	6,100

Notes: 1/2 mile walking access of existing WES stations and 1-mile straight-line distance from corridor.

Sources: Existing population: American Community Survey, 2018-2022 5-Year Estimate. Existing jobs: US Census Longitudinal Employer Household Dynamics (LEHD), 2021. Future population and jobs: Metro projections, 2040.





Improving Service on Highway 99W

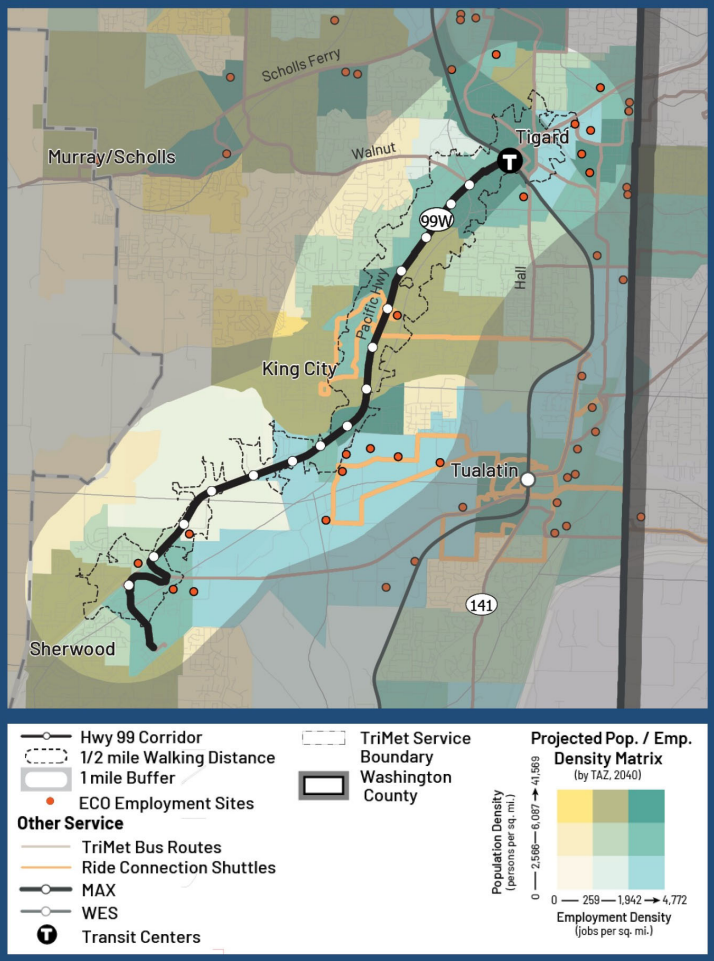
Improving transit on the Pacific Highway (99W) corridor between Sherwood and Tigard is an important priority for Washington County jurisdictions. The corridor is currently served primarily by TriMet Line 94, which runs up to every 20 minutes between Sherwood and Tigard.

Existing transit serves only a fraction of the population and jobs along the corridor. The map at right highlights the density of people and jobs within a mile distance on either side of Hwy 99W. A thin dashed line illustrates a ½-mile walking distance from Line 94 stops.

The table below the map provides the number and density of people and jobs within ½ mile walk of existing transit, which is relatively low even to support a frequent bus route. Population is projected to increase and become more dense, although jobs density would remain relatively low. The table and map also show that there are concentrations of people and jobs, including ECO employers, within a mile of the corridor (there are five ECO employers within 1/2-mile of stops but 19 within a mile of the corridor).

To reach more riders—and support a future HCT investment—the County's Vision would increase investments in shuttle service to enable people to access frequent service routes such as along OR 99W. The Vision includes investments in transit facilities that would help make transit connections comfortable, safe, and convenient.

Local jurisdictions can also support more frequent transit service through land use policies to increase density along the corridor and through investments in bicycle and pedestrian access to transit.



People and Jobs in the Hwy 99W Corridor, Total and Density (Sq. Mi.)

	Existing		Future	
	Total	Density	Total	Density
People within:				
½ mile of stops	13,000	3,900	21,000	6,300
1 mile of corridor	54,100	3,400	74,000	4,600
Jobs within:				
½ mile of stops	8,000	2,300	11,000	3,400
1 mile of corridor	36,000	2,200	49,000	3,100

Notes: 1/2 mile walking access of existing Line 94 stops and 1-mile straight-line distance from corridor.

Sources: Existing population: American Community Survey, 2018-2022 5-Year Estimate. Existing jobs: US Census Longitudinal Employer Household Dynamics (LEHD), 2021. Future population and jobs: Metro projections, 2040.

Key Move 2: Advocate to Build Out the Frequent Service Grid

People are more likely to use transit when service operates frequently throughout the day and into the evening. Frequent service that operates reliably every 15 minutes or better throughout the day significantly reduces the wait time for transit, making it possible to rely on transit without consulting a schedule and transfer conveniently between routes. A network of frequent service is needed to make transit a first choice for many people.

"From Tualatin to anywhere except Tigard and Beaverton / Hillsdale, buses don't run often enough outside of main commute times. Doesn't work for swing/night shift."

Today, frequent service is limited to a few major corridors in the county: the MAX, Barnes Road (Line 20), Pacific Highway north of Tigard (Line 12), Tualatin Valley Highway (Line 57), and parallel to OR 217 (Line 76). TriMet's Forward Together plan has taken steps to focus service on fewer corridors and added frequency on Beaverton-Hillsdale Highway (Line 54). Forward Together will add frequency to a few additional routes notably SW 185th Avenue (Line 52), NW Cornell Road (Line 48), and SW 72nd Ave (reroute of Line 76), with Line 12 proposed to be extended to Tualatin Park-and-Ride along the current Line 76 route on SW Hall Boulevard. However, large parts of the urbanized area of the county remain unserved by frequent transit.

Washington County and its partners can advocate to build out the frequent service grid over the next twenty years in phases.

The table below shows existing, funded, and recommended frequent service priorities. The priorities for future expansion are based on the evaluation criteria described above, the incremental cost to implement the enhancements based on existing service levels, and considerations for the transit grid. Among near-term service priorities, expanding Line 94 to frequent service requires a relatively small investment since it already operates at 20-minute headways.

Figure 5-5 Frequent Service Route Recommendations by Time Period

Existing	Near-Term (Funded)	Near-Term (Priority)	Mid- to Longer-Term
12 Barbur / Sandy Blvd 20 Burnside / Stark 54 Beaverton-Hillsdale Hwy 57 TV Hwy / Forest Grove 76 Beaverton - Tualatin (76SL)	12 Barbur / Sandy Blvd *with Tualatin Extension* 48 Cornell* 52 Farmington / 185th 66-Intel with Jones Farm Extension*	94 Pacific Hwy 62 Murray Blvd 56 Scholls Ferry / Marquam Hill 65 Cornelius Pass*	67 Bethany / 158th 56 with extension* 78 Denney / Kerr Pkwy 97 Tualatin-Sherwood Rd

Notes: * 48: Upgraded in December 2023. 56: Future extension as far west as Tile Flat Road. 66: Initial implementation planned to be frequent during peak periods (previously referenced as Line 115). 65: Previously referenced as Line 113.

Increasing Access to Frequent Transit

Today, just under **20%** of Washington County residents live within a ½ mile walk of frequent service, based on 2020 population data.

Implementing frequent service on these corridors would put over **50%** of residents within a ½ mile walk of frequent service, based on 2040 population projections.

Cost of the County's Vision for Frequent Transit Service

Building on planned service improvements in Forward Together, including the "Near-Term (Funded)" category, the table below provides an estimate for costs to implement the additional frequent service priorities identified above. Costs include an annual cost to operate service and an initial capital cost for additional buses to operate the increase service frequency.

Figure 5-6 Estimated Incremental Cost to Implement Frequent Service Vision

Frequent Service Expansion Phase	Additional Annual Revenue Hours	Additional Annual Vehicle Hours	Additional Peak Fleet	Annual O&M Cost	Initial Capital Cost (Buses)
Near-Term Priority	71,000	97,000	13	$13,300,000	$14,300,000
Mid to Longer-Term	91,000	125,000	14	$17,200,000	$15,400,000
Total	**162,000**	**222,000**	**27**	**$30,500,000**	**$29,700,000**

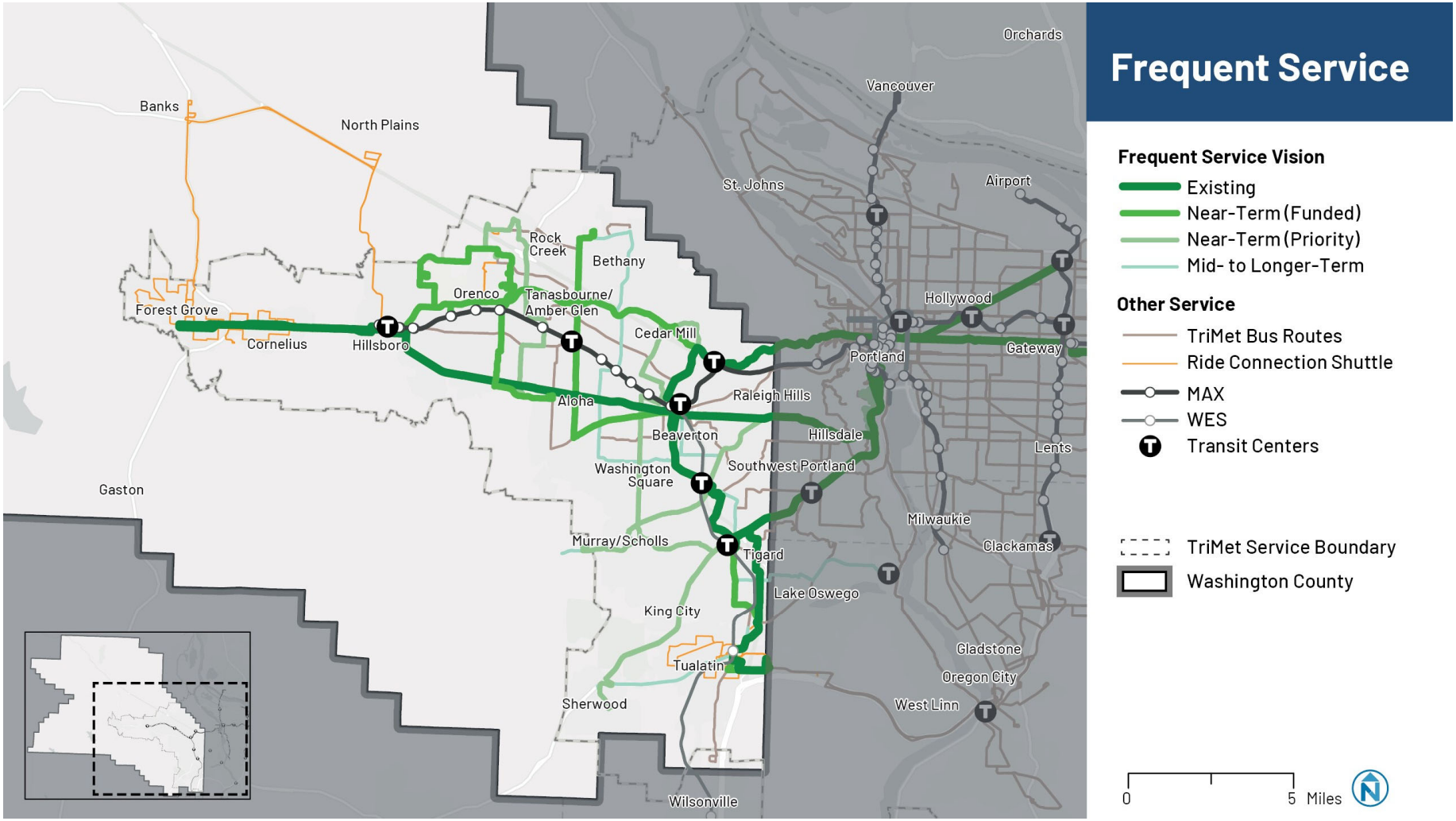
Costs are in 2023 dollars, relative to planned investment through Forward Together. Assumes an hourly operating and maintenance cost of $137.30 per vehicle hour (TriMet Ridership Report, FY 2023, Bus. Revenue hours converted to vehicle hours based on a systemwide ratio for buses). Assumes a capital cost of $1.1 million per bus (TriMet, 2025 electric bus cost).

Bus Fleet Sustainability

TriMet has a goal of a zero-emission bus fleet by 2040, to reduce emissions of greenhouse gases and other air pollutants. TriMet uses renewable diesel and particulate traps on its buses. TriMet uses renewable diesel fuel and particulate traps on its buses. TriMet is transitioning to battery-electric buses for some trips/routes. Where a longer range is needed, TriMet is planning to convert to fuel-cell electric buses powered by "green" hydrogen produced from renewable energy sources, like hydro, wind-, or solar- power. In Washington County, TriMet is planning to add battery chargers at its Merlo Operations Facility and at Beaverton Transit Center. Washington County routes that would have the greatest air quality benefits include Line 12 Barbur/Sandy, Line 20 Burnside/Stark, Line 52 Farmington/185th, Line 57 TV-Highway Washington County routes that would have the greatest air quality benefits include Line 12-Barbur/Sandy, Line 20-Burnside/Stark, Line 52-Farmington/185th, and Line 57-TV-Highway.

More information: https://trimet.org/bettertransit/greenbusfleet.htm and Clean Corridors Plan. More information: https://trimet.org/bettertransit/greenbusfleet.htm

Figure 5-7 Frequent Service Vision



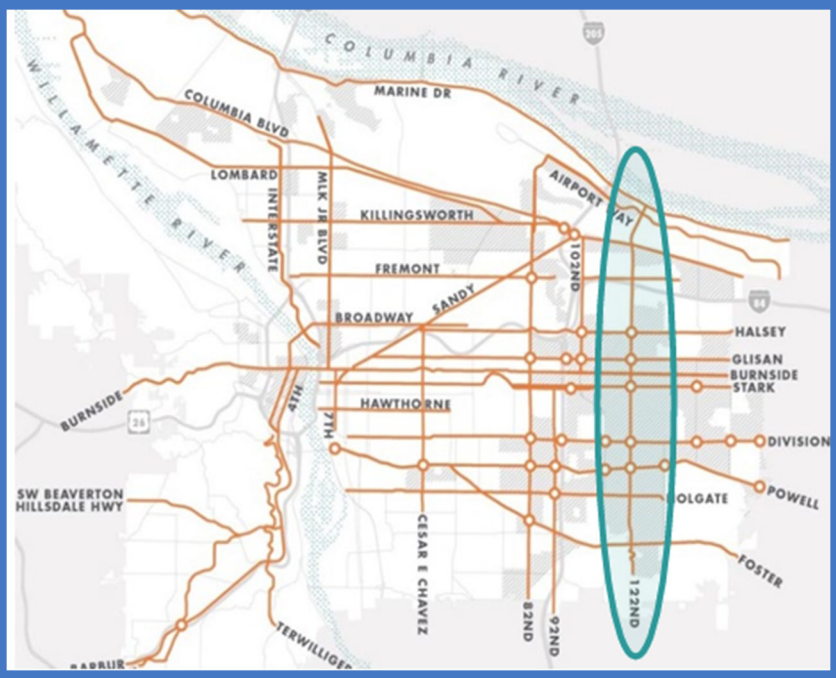
What are the recommendations?

Washington County and other local jurisdictions can advocate to build out the frequent service grid by facilitating and coordinating investments that support frequent service, including making speed and reliability improvements, building out sidewalks, adding safe crossings, and improving stop amenities.

Strategy	What's the Action	Why is it Important?	Implementation Support
2.1	Coordinate transit service with shuttles, transfers to rail or other HCT service, and riders' schedules to serve key employment shift times.	Ensuring that connecting transit and shuttle service are well-timed with rail and other HCT service makes transit a more attractive and feasible option for riders.	Ride Connection TriMet Employers WTA (consolidate shift times)
2.2	Implement near-term frequent service routes or extensions consistent with Forward Together.	Service improvements on these corridors are funded as part of the Forward Together service concept.	TriMet
2.3	Identify, prioritize and integrate stop enhancements, pedestrian access and other roadway improvements through capital investments on routes identified for frequent service. Note: see also Moves 4, 5, and 6.	Physical improvements that increase access and make transit more comfortable, faster and more efficient help attract riders. Investments in these corridors will support frequent service investments that are already in the works and will be needed to support service investments on corridors prioritized for future frequent service.	Local jurisdictions TriMet Metro ODOT
2.4	Implement future frequent service improvements prioritized in the Vision for Transit, including refinements based on future Annual Service Plans as well as Forward Together 2.0.	Service improvements on these corridors will help create a network of frequent service corridors that will make it possible to travel conveniently on transit throughout Washington County.	TriMet

The City of Portland's Role in Readying 122nd Avenue for Frequent Transit Service

TriMet and the City of Portland developed an informal agreement where TriMet provided frequent service to Line 73 after the City made pedestrian access and roadway improvements along NE/SE 122nd Avenue. The City's improvements included new sidewalks at six segments along the corridor, sidewalk repair, and implementation of two rapid rectangular flashing beacons, two pedestrian islands, one HAWK signal, and one pedestrian crossing between NE Prescott Street and SE Foster Road. In 2018, TriMet made Line 73 one of its Frequent Service bus lines, which provide 15 minute or more frequent bus departures. Since the frequency has been changed, ridership for Line 73 has also increased. In Fall 2017, there were 4,140 boarding rides each weekday; In Fall 2019, there were nearly 4,400 boardings each weekday. (With transit ridership still lower post-pandemic, current ridership is 3,400 weekday boardings as of Spring 2023.)



Source: PBOT 122nd Ave Fact Sheet, 2018

Key Move 3: Implement Additional Shuttle Service

Shuttles and frequent circulators currently supplement fixed-route service to increase the reach of the transit system in Washington County. These types of shuttle services often use smaller-capacity vehicles, such as 14 to 25 passenger mini-buses or small vans, to provide local transit service in lower-density residential neighborhoods, areas of challenging topography, or employment areas that are more difficult to serve with conventional fixed-route transit service.

Washington County contracts with Ride Connection to provide shuttle services using funds from the Statewide Transportation Improvement Fund (STIF). Ride Connection also uses other funding sources, such as grants, to support trips provided on some of these services.

The Vision for Transit can build on the successful partnerships between Washington County, TriMet, and Ride Connection to expand this model to additional service areas. Potential applications include providing local circulation; providing access to HCT and frequent service networks from areas with limited fixed-route service like Cornelius and growing areas like South Cooper Mountain; and helping provide access to/from employment areas. The graphics below illustrate two conceptual use cases that show how shuttles can make transit work for people who live and work in Washington County.

Figure 5-8 illustrates specific shuttle zones, including existing services, funded services that will be implemented within the next two years, and additional recommendations. Figure 5-9 provides a table describing existing and future shuttle service areas, including potential stations served.

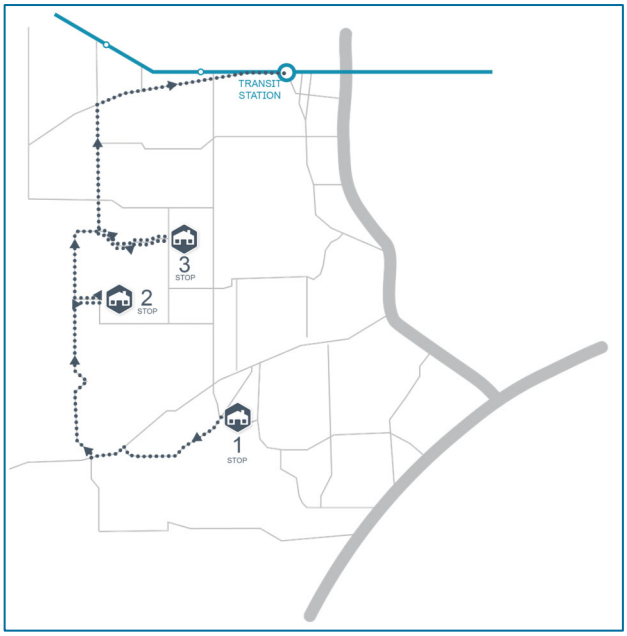
Existing Employer-Funded Shuttles

Intel Shuttle: Intel provides shuttles between MAX and its three main campuses during peak commute hours (7:00 a.m. to 10:00 a.m. and 4:00 p.m. to 7:00 p.m.). Intel also operates a shuttle from their campuses to the Hillsboro Airport for employees to connect to Intel's headquarters in Santa Clara, California.

Nike Shuttle: Nike operates five shuttle routes that connect employees internally between campus buildings and externally to nearby MAX stations, such as the Beaverton Creek and Merlo/SW 158th Street stations. Nike supplements the shuttles with a taxi program which provides on-demand transportation service and provides bikes for employees at MAX stations and on campus.

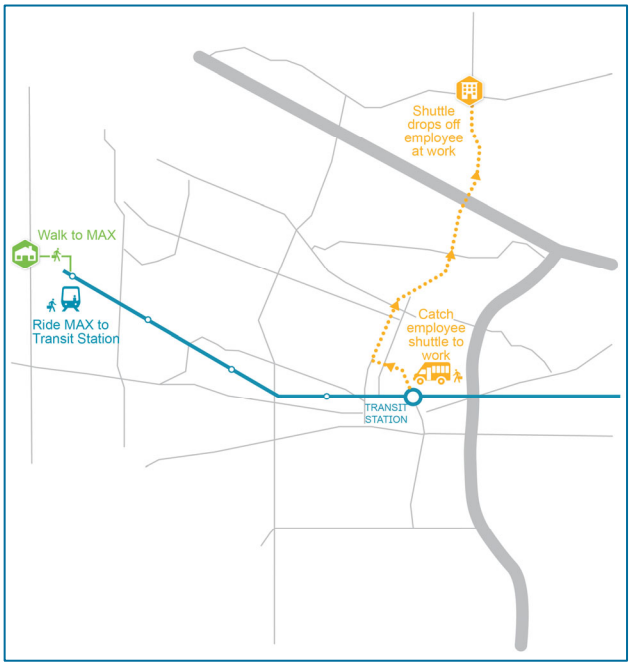
Source: Washington County Transit Development Plan, 2022 (page 8)

1. On-Demand Ride Services in Low-Density Residential Areas: Some neighborhoods in the county lack sufficient density or demand to make it cost-effective to provide frequent service and/or local service but still have important transit needs. On-demand or deviated-route services can provide cost-effective shared ride service in these areas. They can also help connect people to frequent rail or bus service, including outside of local transit operating hours. Using shared ride shuttles to provide these connections reduces traffic, is better for air quality, and reduces demand for spaces in park-and-ride lots.



The Ride Connection shuttle helps me travel to the MAX station so I can take the train to Hillsboro.

2. Employer-Oriented Service: Employers beyond the reach of transit in employment areas can fund a shared shuttle service from transit centers to help retain and attract employees. Partnerships across multiple employers can be particularly cost-effective.



My business partnered with TriMet to provide shuttle services from the MAX station to my workplace. The bus didn't come very often before.

Increasing Access to Transit

Today, just over **60%** of Washington County residents live within a ½ mile walk of a transit stop. The Vision would put over **70%** of future residents within a ½ mile walk of a transit stop. The ability of shuttles to deviate from a defined route can further increase access to transit to nearly **80%** of residents (assuming shuttles deviated up to ¾ of a mile from their route).

Figure 5-8 Existing, Funded, and Recommend Shuttle Service Areas

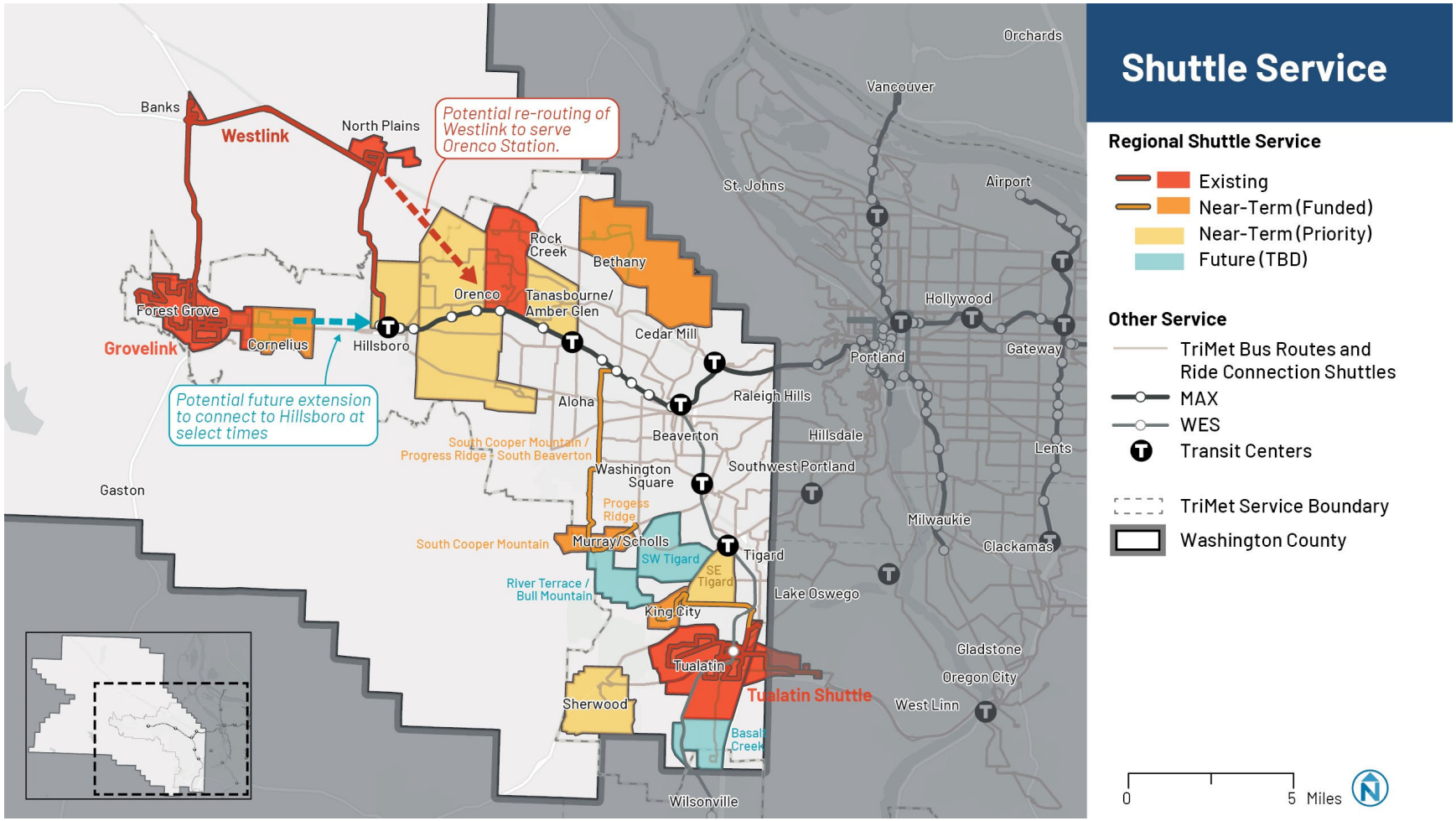


Figure 5-9 Table of Conceptual Shuttle Service Areas

Zone	Status	Existing Shuttle Service	Existing or Conceptual Route/Service Area	Potential Stations Served
Banks and North Plains	Existing	westLink	Banks and North Plains to Forest Grove and Hillsboro; possible reroute to Orenco Station	Hillsboro Central TC
Tualatin	Existing	Tualatin Shuttle	East (Green Line), South (Red Line), West (Blue Line)	Tualatin WES
Forest Grove	Existing	GroveLink	Forest Grove	-
Orenco	Existing	North Hillsboro Link	Orenco Station to Westmark Center (N. of US 26) via Cornell Rd, Shute Rd, Evergreen Pkwy, Brookwood Pkwy	Orenco
Cornelius	Near-Term (Funded)	GroveLink Cornelius Loop Saturday Service (Expansion to weekdays is funded)	Forest Grove / Cornelius	-
King City	Near-Term (Funded)	King City RideAbout Shuttle (Expansion is funded)	King City - Bridgeport Village	-
Progress Ridge South Cooper Mountain	Near-Term (Funded)	South Cooper Mountain - South Beaverton route is funded and will begin detailed planning	SW Scholls Ferry Rd, SW Barrows Rd, SW Horizon Blvd; west of Murray/Scholls	Merlo/SW 158th
			South Cooper Mountain Concept Plan Area (north of SW Tile Flat Road and SW Scholls Ferry Rd) - South Beaverton	
Bethany/Cedar Mill	Near-Term (Funded)	-	Cedar Mill - Bethany	Sunset TC
Fairgrounds-North Hillsboro Hillsboro TC-North Hillsboro	Near-Term (Priority)	North Hillsboro Links runs on western edge of conceptual zone	Approx. NE 15th Ave to NE Shute Rd/Brookwood Pkwy, MAX line to US 26	Fair Complex/Hillsboro Airport
		-	Approx NE 7th Ave to NE 15th Ave, MAX line to NE Evergreen Rd	Hillsboro Central TC, Fair Complex/Hillsboro Airport
Quatama/Willow Creek/Tanasbourne	Near-Term (Priority)	-	Approx NE Cornelius Pass Rd to NW 185th Ave, MAX line to US 26	Quatama, Willow Creek/185th TC
Sherwood	Near-Term (Priority)	-	Approx western city limits to SW Century Drive, south city limits to north city limits	-

Zone	Status	Existing Shuttle Service	Existing or Conceptual Route/Service Area	Potential Stations Served
Witch Hazel/Orenco	Near-Term (Priority)	-	Approx SE Minter Bridge Rd/SE 16th to SE Century Blvd, south City limits to MAX line	Orenco
Southeast Tigard	Near-Term (Priority)	-	Approx Hwy 99W to SW Hall, north of Durham Rd and south of SW Commercial St.	Tigard Transit Center / WES Station
Sunset TC	Mid- to Longer-Term	-	Approx NW Saltzman Rd to SW Leahy Rd, US 26 to NW Cornell Rd/SW Taylor St	Orenco
River Terrace/Bull Mountain	Mid- to Longer-Term	-	River Terrace / Bull Mountain Concept Plan Area (east of approx. SW Roy Rogers Rd and north of SW Beef Bend Road) to King City	-
Basalt Creek	Mid- to Longer-Term	-	Basalt Creek Concept Plan Area (approximately north of Commerce Circle and east of I-5)	-
Southwest Tigard	Mid- to Longer-Term	-	Approx SW Bull Mountain Rd to SW Scholls Ferry Rd / SW 121st Ave / and SW Walnut St; PGE right-of-way to Hwy 99W	Tigard Transit Center / WES Station

See Appendix D: Transit Gaps and Vision Evaluation Details

What are the recommendations?

Washington County can sustain existing services and implement additional shuttle services by facilitating and coordinating investments. The County can use existing funding sources and foster other public-private partnerships to leverage additional funds to implement shuttle service areas throughout the County.

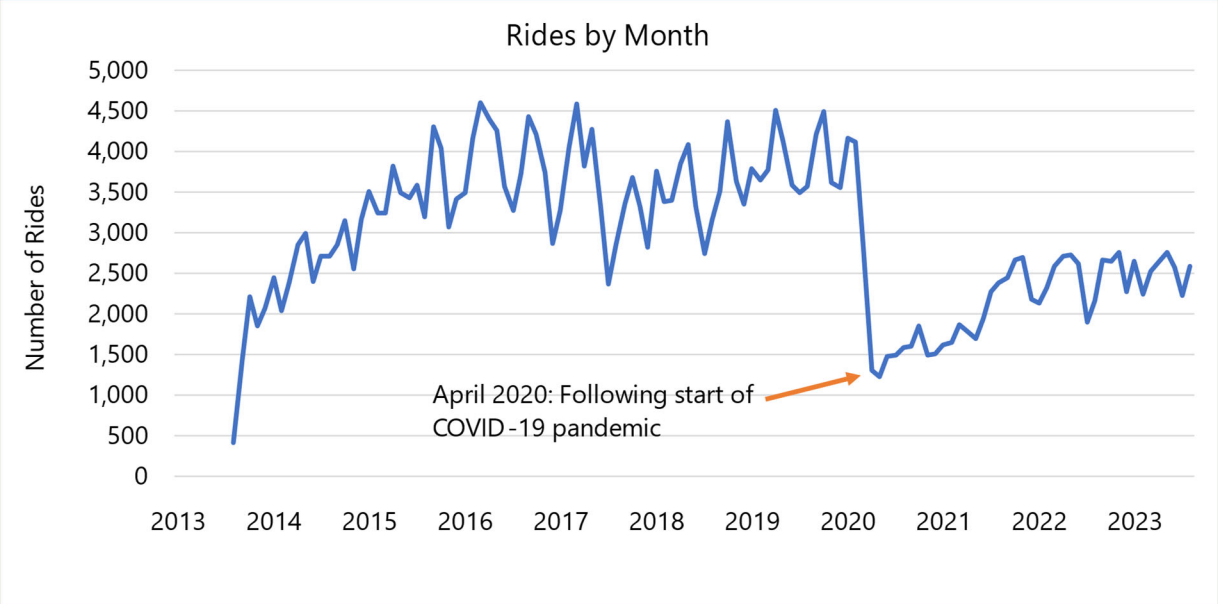
Strategy	What's the Action?	Why is it Important?	Implementation Support
3.1	Sustain existing shuttle services (which include GroveLink, North Hillsboro Link, Tualatin Shuttle, and westLink) by maintaining existing funding sources, advocating for additional funding to incrementally expand these services to increase frequency, service span, and coverage, including responding to future needs, e.g., population and employment growth. Opportunities that could be supported through employer funding include serving additional sites or meeting key shift times. Specific future needs include expanding westLink to better serve Banks and North Plains. The County TDP identifies adding additional early and/or later service as a near-term action and weekend service as a mid-term action.	These shuttle services already exist and are relied upon for service in areas where existing service is limited or where they support connections to existing transit routes and stations.	Washington County Employers Chambers of Commerce Local jurisdictions (e.g., Forest Grove, Hillsboro, Tualatin, Banks, North Plains) Ride Connection TriMet
3.2	Implement near-term funded services, including community outreach, detailed service planning including developing schedules and route maps, and coordinating with TriMet to align with schedules for connecting transit. The Washington County TDP identified funding to support these services through STIF Regional Coordination funds.	These areas have limited access to existing transit service. Shuttle services would expand access beyond existing stops and routes and help build transit ridership in the County, including on the frequent bus and rail services to which these shuttles would connect.	Washington County Ride Connection TriMet Local jurisdictions and other stakeholders as listed below
3.2a	GroveLink: Expand GroveLink service in Cornelius to weekdays.		Forest Grove Cornelius Hillsboro (optional)
3.2b	South Cooper Mountain-South Beaverton: Launch new flexible shuttle service, which is envisioned to serve the area between Progress Ridge/South Cooper Mountain and the Merlo/SW 158th MAX Station.		Beaverton Aloha Tigard
3.2c	King City: Implement enhanced service in King City, building upon the King City RideAbout Shuttle.		King City

Strategy	What's the Action?	Why is it Important?	Implementation Support
3.3	Plan, fund, and implement additional shuttle services. The Washington County TDP identified funding for additional shuttle services through STIF Regional Coordination funds for FY24-25. Initial actions to advance service to readiness for implementation include initial community outreach, conceptual service planning to identify routing options and service levels (frequency/service span).	Adding shuttle services are critical to increasing transit access for people and jobs in identified areas. Shuttle would offer local circulation, provide connections to frequent bus and rail lines, connect people to employment areas, and help serve future growth.	Washington County Ride Connection TriMet Employers Local jurisdictions and other stakeholders as listed below
3.3a	North Hillsboro: Conduct early planning for shuttles serving areas north of the Hillsboro Transit Center, Fair Complex/Airport, and Orenco MAX stations, including consideration of possible re-routing of westLink service to Orenco Station and possible changes to existing shuttles aligned with opening of the Better Red project extending MAX service to Fair Complex/Airport.		Hillsboro
3.3b	Witch Hazel/South Hillsboro: Conduct early planning for a shuttle route serving Orenco Station. The TDP identifies this as a FY2024-25 action.		Hillsboro
3.3c	Quatama/Tanasbourne/Amberglen: Conduct early planning for a shuttle route serving the Quatama and/or Willow Creek/185th TC stations.		Hillsboro Beaverton
3.3d	North Beaverton/Cedar Mill/Bethany areas. Conduct early planning for shuttle routes serving Bethany/Cedar Mill area. The TDP identifies this as a near-term action.		Washington County Beaverton
3.3e	River Terrace/Bull Mountain: Conduct early planning for shuttle routes. The TDP identifies this as a FY2024-25 action. Planning could be coordinated with the South Cooper Mountain-South Beaverton route which is identified as "Near-Term (Funded).		Beaverton Tigard
3.3f	Southwest/Southeast Tigard. Conduct early planning for shuttle routes serving identified zones, including confirming priorities and general service areas. The TDP identifies this as a near-term action.		Tigard Durham
3.3g	Sherwood. Conduct early planning for a shuttle route connecting to service along Hwy 99W, including a potential mobility hub (see Move 5). The TDP identifies this as an action for 2026+.		Sherwood

Strategy	What's the Action?	Why is it Important?	Implementation Support
3.3h	Basalt Creek. Conduct early planning for a shuttle route serving the concept plan area, slated for development over the next 20 years, that is mostly not served by existing transit. The TDP identifies this as a FY2024-25 action. Determine the likely provider for service in this area.		SMART City of Wilsonville Tualatin
3.4	Work with farmworker transportation liaisons from the Federal Department of Labor and Oregon Bureau of Labor and Industries to provide vanpools to rural areas and underserved communities in the County.	Agricultural workers in rural areas and underserved communities may lack access to transit service; vanpools are an effective strategy to help workers access rural employment sites.	Agricultural employers and community organizations, i.e., Centro Cultural
3.5	Monitor performance of shuttle services on an ongoing basis (e.g., annually or bi-annually) and consider upgrades to fixed-route service based on performance metrics including utilization and ridership per vehicle hour.	Shuttle services can be a flexible and cost-effective way to build ridership in growing areas and understand the travel needs for future fixed-route service.	Ride Connection TriMet

Forest Grove's GroveLink Supported by Local Funding

Ride Connection launched the GroveLink shuttle serving the City of Forest Grove in Fall 2013. TriMet and Ride Connection secured grant funds for capital and operating startup costs, with a local match provided by the City of Forest Grove. Ridership grew from an initial 402 to 2,700 total rides in the first month and hovered around 4,500 rides through March 2020. The yellow arrow on the graph below indicates the start of the COVID-19 Pandemic when rides decreased to numbers only seen at its inception. The number of rides averaged around 2,500 beginning March 2022 through Fall 2023, with a slight exception of a decrease in July 2022.



UTA On-Demand Shuttles Serve Transportation Hubs and Key Destinations

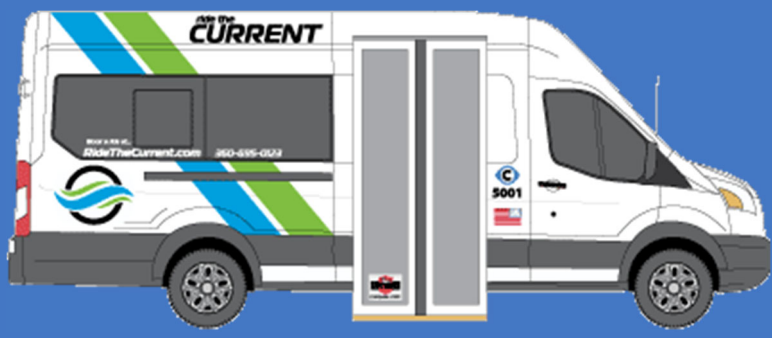
Utah Transit Authority currently operates four UTA On-Demand zone through a partnership with Via. On-demand services are one element of UTA's Innovative Mobility Solution Zones that can also include bike share and ride sharing. UTA plans to expand these zones to extend geographic and temporal coverage, such as serving areas that are growing or are challenging to serve with fixed-route transit and to provide service at lower-demand times such as nights and weekends.

For the first five months in 2021 when on-demand services began, ridership averaged 400 passengers. In 2022, ridership grew to 1,300 passengers. As of September 2023, there were roughly 1,600 passengers.[5]

Source: Utah Transit Authority Quarterly Microtransit Pilot Project Evaluation

C-TRAN's The Current Services in Five Key Zones

C-TRAN replaced Connector services with The Current to serve five transit service zones in the Vancouver, WA metropolitan area. The on-demand rideshare platform provides point-to-point service for the same cost as a bus ride. Riders can schedule The Current through a mobile app or by phone. This micro-transit service is especially popular near colleges. In 2022, The Current served an additional 61,000 riders equaling roughly 1.4 boardings per revenue hour.[6]



Source: C-TRAN, Introducing The Current

[5] https://data-rideuta.opendata.arcgis.com/apps/rideuta::uta-ridership-portal/explore

[6] https://www.clarkcountytoday.com/news/c-tran-2022-financial-results-show-improvement/

Cost of Implementing Shuttles

Building on existing shuttle services in Washington County, the table below provides a high-level estimate of costs to implement enhancements to existing shuttle services and implement the additional shuttle service priorities identified above. Costs include an annual cost to operate service and an initial capital cost for additional buses to operate the increased service frequency. The estimates assume all shuttles operate for a minimum of 14 hours on weekdays and 12 hours on Saturdays.

Figure 5-10 Estimated Incremental Cost to Implement Shuttle Vision (Beyond Existing and Committed Funding)

Shuttle Expansion Phase	Existing and Committed Annual Revenue Hours [1]	Additional Annual Revenue Hours	Annual Additional O&M Cost [2]	Additional Peak Fleet	Additional Initial Capital Cost (Buses) [3]
Enhancements to Existing Shuttles	35,300	11,300	$900,000	3	$600,000
Near-Term (Priority)	-	51,200	$4,100,000	12	$2,400,000
Mid- to Longer-Term	-	25,600	$2,100,000	6	$1,200,000
Total	**35,300**	**88,100**	**$7,100,000**	**21**	**$4,200,000**

Notes: [1] Includes Bethany to Sunset TC and King City to Bridgeport shuttles.
[2] Assumes an hourly operating and maintenance cost of $81 per revenue hour (including amortization for fleet replacement). Costs are in 2023 dollars. [3] An average cost of $200,000 per new bus is assumed, based on average Class C bus from State of Oregon Price Agreement, 2022, escalated to 2023 dollars at assumed 5% inflation.

Key Move 4: Implement Speed and Reliability Improvements

For people to rely on transit for their everyday trips - getting to work and school, running errands, and picking up kids from childcare - bus travel times need to be fast and reliable. In Washington County, travel between destinations served by MAX is most competitive with driving but bus routes in many parts of Washington County are not always fast and reliable:

Connecting to employment areas from MAX stations in the northern part of the county takes at least twice as long as driving.

Transit travel to West Portland from close-in communities, such as Aloha, Beaverton, and Tigard, takes about 1.5 times as long as driving.

Traveling by transit between most communities in southern Washington County and between Washington and Clackamas counties typically takes 2-3 times as long as driving.

As described in Chapter 1, cities play an important role in making improvements on streets that can help buses run faster and more reliably. The example of the City of Portland's partnership with TriMet to provide frequent service on Route 73 (see Key Move 2), provides an example of how cities can leverage investments to help transit providers deliver great transit. The Portland region is currently launching the Better Bus program (see below) to help facilitate and fund these partnerships. It is the second generation of the program, previously known as Regional Enhanced Transit Corridors (ETC).

Better Bus (Portland, OR)

The Portland Metro region's framework for speed and reliability spot improvements, known as the Better Bus program, partners with local jurisdictions to make capital investments. Improvements such as transit signal priority, transit-only lanes, queue jumps, and optimizing bus stops can reduce the amount of delay that transit vehicles experience and improve overall travel times. Better Bus illustrates how local partnerships are critical to transit investments, including the Enhanced Transit Toolbox describing many speed and reliability improvements that was developed in partnership with the City of Portland.

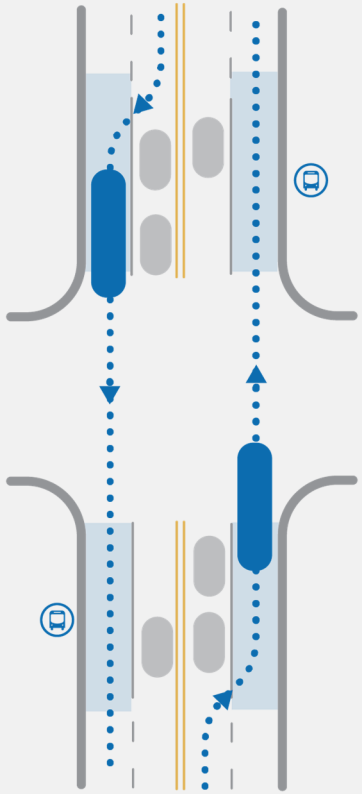
SW Capital Highway

Source: PBOT

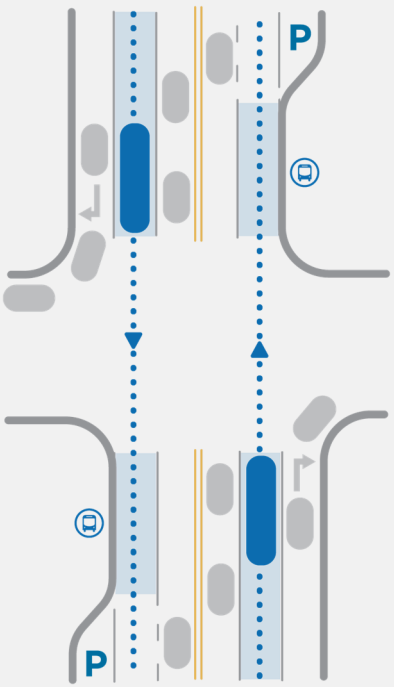
Speed & Reliability Toolkit

The following pages describe a toolkit of improvements that can be used to implement transit priority. Small improvements along a route can add up to travel time savings that can save riders time and in some cases translate into cost savings that can be used for more service.

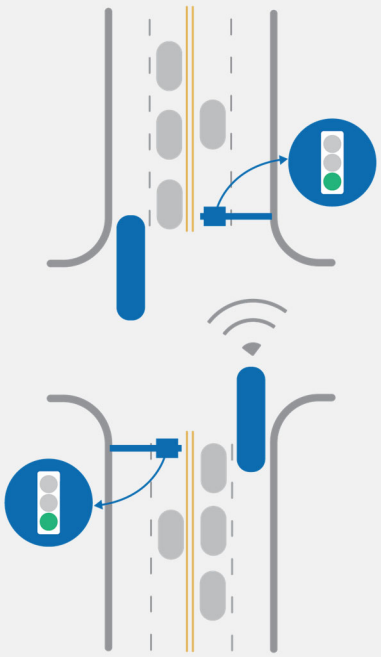
TREATMENTS AT INTERSECTIONS



Queue Jumps let buses use a right-turn lane shared with drivers to bypass traffic at an intersection.



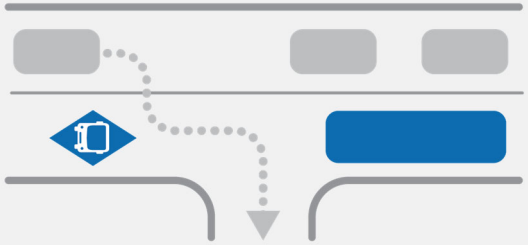
Queue Bypasses provide buses with their own through lane separate from drivers turning right.



Transit Signal Priority extends the green time at a traffic signal so buses can get through an intersection.

TREATMENTS ALONG THE STREET

Bus-Only Lanes are dedicated or exclusive lanes just for buses.

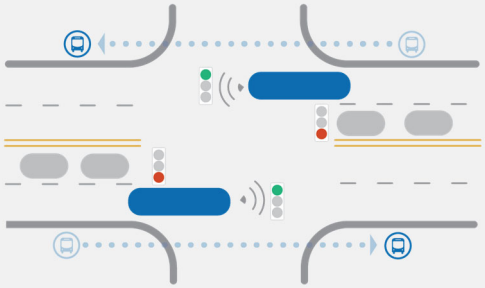


Business Access and Transit (BAT) Lanes are bus lanes that drivers can enter to make right turns. BAT lanes are similar to having multiple queue jumps at consecutive intersections along a street.

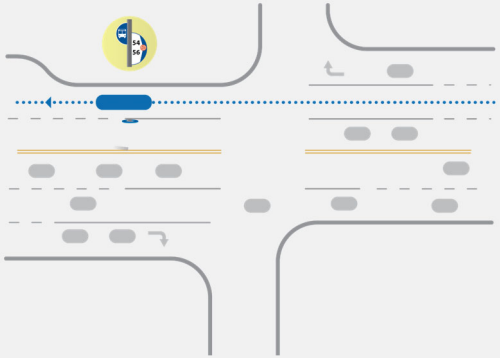
VEHICLES

Articulated Vehicles provide more space for passengers and let people get on and off buses more quickly on the busiest routes. They may be appropriate where buses are crowded and frequency is high.

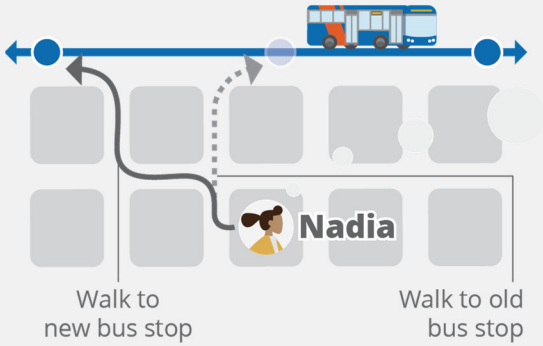
TREATMENTS FOR BUS STOPS



Far Side Bus Stops help buses get through a traffic signal before stopping on the far-side of an intersection. This works most effectively with transit signal priority.



In-Lane Bus Stops keep buses from having to merge back into traffic after stopping, on lower-speed roadways (e.g., posted speed of 35 mph or lower).



With fewer stops, buses are faster and more reliable. Nadia may need a couple more minutes to walk to her new stop, but has a shorter trip overall.

Figure 5-11 Transit Priority Toolkit Details

Where?	What is it	Description	What are the benefits?	Key Considerations	Typical Cost
At intersections	Queue jumps and queue bypasses	A queue jump is a short dedicated transit lane (also known as a queue bypass), or a shared right turn pocket paired with an early green signal or transit-only signal, that allows buses to proceed through the intersection before other traffic.	By jumping the queue, buses receive improved travel time at traffic signals and/or can enter the travel lane from the bus stop ahead of traffic. Queue jumps can reduce travel times approaching/traveling through an intersection by 5% to 15%. [1,3, 4]	High volumes of right turns and/or pedestrian crossings limit the effectiveness of queue jumps in a shared right-turn pocket. A queue jump lane must be long enough to enable buses to reach it. Queue jumps can be implemented at both near-side and far-side bus stops; signal treatments may be appropriate depending on stop placement and presence of a receiving lane.	$30,000 - $40,000 within existing right-of-way (based on type of detection deployed), or $1.5 to $2.3 M per intersection if widening is needed to add a turn-pocket and/or receiving lane (assumes total of approx. 800 linear feet).
	Transit signal priority (TSP)	TSP detects a bus approaching an intersection and adjusts signal timing to reduce the amount of time buses are delayed at intersections, such as by extending a green light until buses pass through an intersection. "Passive" TSP can include adjusting signal timing to allow buses and all vehicles to progress along a corridor.	Traditional TSP can save 3 to 5 seconds per intersection along a corridor on average, but the savings can be 60 seconds or more from each red light saved. Travel time savings from TSP can be in the range of 5% to 10% along a corridor as well as increased reliability and improved on-time performance. [1, 2, 3, 4] Next-generation TSP on a corridor, such as for the FX2-Division line, was shown to reduce signal delay by 70% and achieved 6 minutes of travel time savings over a 16-mile length of the route; travel times were 14% to 20% faster with TSP enabled. [4]	Can increase delays on cross streets. Requires a high level of coordination between traffic signal owners and transit agencies. Heavy traffic congestion can impede the efficiency of TSP by preventing transit from reaching/activating the signal.	$80,000 to $250,000 per intersection depending on upgrades to equipment and communications required.

Where?	What is it	Description	What are the benefits?	Key Considerations	Typical Cost
	Turn restrictions	Turn restrictions can limit left- or right-turns for general traffic while exempting buses from the restrictions. They enable travel lanes to be used more efficiently, and can limit access to corridors to reduce delay for transit vehicles.	Left-turning vehicles can cause delay to buses traveling straight or turning left. For buses traveling straight, a single motorist queuing in a general purpose lane to turn left can severely limit the flow of traffic through an intersection. Because left-turn signal phases are often very short, any queue of left-turning motorists reduces the likelihood of a left-turning bus getting through an intersection in a single signal cycle.	Each movement restriction can shift traffic elsewhere. For example, left-turn restrictions may increase capacity in general traffic lanes, but can also increase right-turn traffic. Additional analysis may be required to understand impacts. May require traffic enforcement.	< $5,000 per intersection (additional depending on specific treatment)
Along the street	Bus and BAT Lanes	Bus lanes separate transit from general traffic and congestion. They may be exclusively reserved for transit vehicles, allow vehicles to make turns (business access and transit or BAT lanes), or can be shared with cyclists (bus/bike lanes). Bus lanes are usually implemented on congested corridors with frequent bus service.	Bus lanes reduce conflicts, delays, and travel time, including from re-entering traffic after stopping. Typical improvements are 10-15% over the improvement area but have saved up to 50% in some cases. Benefits can be lower where there are many right-turning vehicles or driveways. [1, 3, 4]	Requires the conversion of existing lanes, which may reduce the space available for parking or other traffic, or require construction of additional lanes, which is not possible on many existing urban streets. Requires signage, markings, and enforcement to keep lanes clear from drivers and prevent lanes from being blocked by deliveries and pickups and drop-offs. Enforcement can be more challenging for peak-only lanes that are not used for parking at other times. Turning movements must be carefully managed to minimize conflicts with pedestrians, bicyclists, and other vehicle traffic.	$200,000 - $2,500,000 per lane mile (ranging from simple restriping to more extensive treatments including red guideway and signage)

Where?	What is it	Description	What are the benefits?	Key Considerations	Typical Cost
	Bus on Shoulder	Buses may be permitted to use highway and freeway shoulders in areas that are frequently congested. Pilot projects have been conducted in Oregon and rules were adopted in November 2023 [2a].	Bus-on-shoulder allows buses to bypass stopped or congested traffic, reducing bus delays. Benefits could be similar to BAT lane.	▪ Requires adequate width (typically at least 10 feet). [2b] ▪ May be allowed at some or all times of day. ▪ Bus speeds may be limited based on highway-specific conditions, such as to a maximum of 35 mph, or up to 15 mph faster than traffic in main lanes. [2c] Requires additional signage; may require relocating existing highway elements.	Approx $200,000 - $400,000 per mile including rebuilding drainage grates and overlay paving a 3- to 5-inch depth to ensure 7-inch base. [2d]
At bus stops	Bus stop placement	Bus stops may be located on the near-side or far-side of an intersection.	Far-side bus stops are generally preferred to get the bus through a traffic signal before stopping – and work even better with transit signal priority (TSP).	Bus stop placement can be complementary to other transit priority treatments. Adjusting bus stop locations along a corridor requires significant outreach and coordination with riders and other stakeholders. Bus zones must be designed with sufficient space to accommodate all routes and buses serving a corridor.	Approx $15,000 to $90,000 per stop to relocate and/or remove stops, depending on complexity (e.g., stop with basic amenities to stop with shelter and level of improvements needed); but corridor-wide bus stop adjustments also require significant staff time, e.g., community outreach
	Stop spacing	Bus stop spacing is a tradeoff between access and travel time for the route. Stops that are too closely spaced reduce efficiency and can negate the benefits of other transit priority treatments.	Each stop adds acceleration, deceleration, and dwell time, which can add at least 15 to 30 or more seconds per stop. For a conceptual bus trip of 3 miles reducing stops from every 600 feet to every ¼ mile could save a passenger 2 minutes of travel time, or nearly half of the previous time spent stopping (this assumes buses may stop more often when stops are spaced further apart). Although people need to walk longer, they save time on board the bus. It is also more feasible to provide better amenities if there are fewer stops. [1, 3, 4]		

Where?	What is it	Description	What are the benefits?	Key Considerations	Typical Cost
	In-Lane Stops	In-lane bus stops allow buses to stop directly in the travel lane in front of a bus stop. Transit lanes, curb extensions (with on-street parking), or island stops (with bike lanes) can be used to create in-lane stops.	In-lane stops prevent buses from having to merge back into traffic after stopping. This can save 10 seconds or more per stop, or approximately 5% of travel time when applied along a corridor [1, 3, 4]	In-lanes stops may not be possible on higher-speed roadways. Could be coordinated with safety and other projects.	Approx $170,000 to $190,000 to create a bus bulb stop (depends on scale of infrastructure required)

Notes: Planning-level cost ranges are based on unit costs for different types of improvements compiled by Nelson\Nygaard from other jurisdictions, with assumptions for construction costs including planning, design, and contingency. Updated local planning-level cost estimates are currently being developed under the TriMet Better Bus program using a similar methodology. Planning-level estimates of benefits are based on projects implemented in the Portland region or other regions, or ranges from national transportation research including [1] NRDC Transit Priority Toolkit, [2] TCRP Report 118, [3] TCRP Report 165. 4. https://news.trimet.org/2023/04/trimet-to-temporarily-turn-off-fx2s-traffic-signal-priority-for-time-savings-test/; https://news.trimet.org/2023/09/trimets-first-fx-frequent-express-bus-line-speeds-up-trips-and-increases-ridership-by-half-a-million-rides-in-first-year/.

5(a). ORS 734-020-0044: Bus Shoulder Lanes on Freeways. https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=307235. (b) Portland Department of Transportation (PBOT), Enhanced Transit Corridors Plan, p. 7. (c) ODOT I-5 Bus on Shoulder Fact Sheet, https://www.oregon.gov/odot/Projects/Project%20Documents/Fact-sheet-FAQ-i5BOS.pdf (d) Bus on Shoulder costs adapted from TCRP Report 151: A Guide for Implementing Bus on Shoulder Systems, based on Minneapolis example, and escalated to 2023 dollars.

Figure 5-13 illustrates opportunity areas for transit speed and reliability improvements related to the frequent service corridors in the Vision, highlighting both linear areas along corridors and intersections with high delay. The opportunities reflect areas of medium to high need for transit priority, based on a transit operations score that is currently being used by TriMet's Better Bus program to identify and prioritize improvement projects. The measure reflects bus delay and travel time.

The opportunities can be addressed by applying the speed and reliability toolkit described above.

Opportunities for Bus Stop Consolidation

Along with taking steps to ensure bus travel times are fast and reliable, providing appropriately spaced bus stops ensures buses don't stop overly frequently, which makes bus travel times longer—and crucially, feel longer for people on-board. Stopping too often can negate the benefits of transit priority improvements without appreciably increasing accessibility.

Guidance from NACTO suggests spacing stops 800 feet apart for local service and ¼ to ½ mile apart for rapid lines. (There are exceptions where closer spacing is warranted, such as due to access and safety considerations for pedestrians and people with different abilities.) Figure 5-12 summarizes the number of stops that fall into these two categories—nearly half of stops countywide.

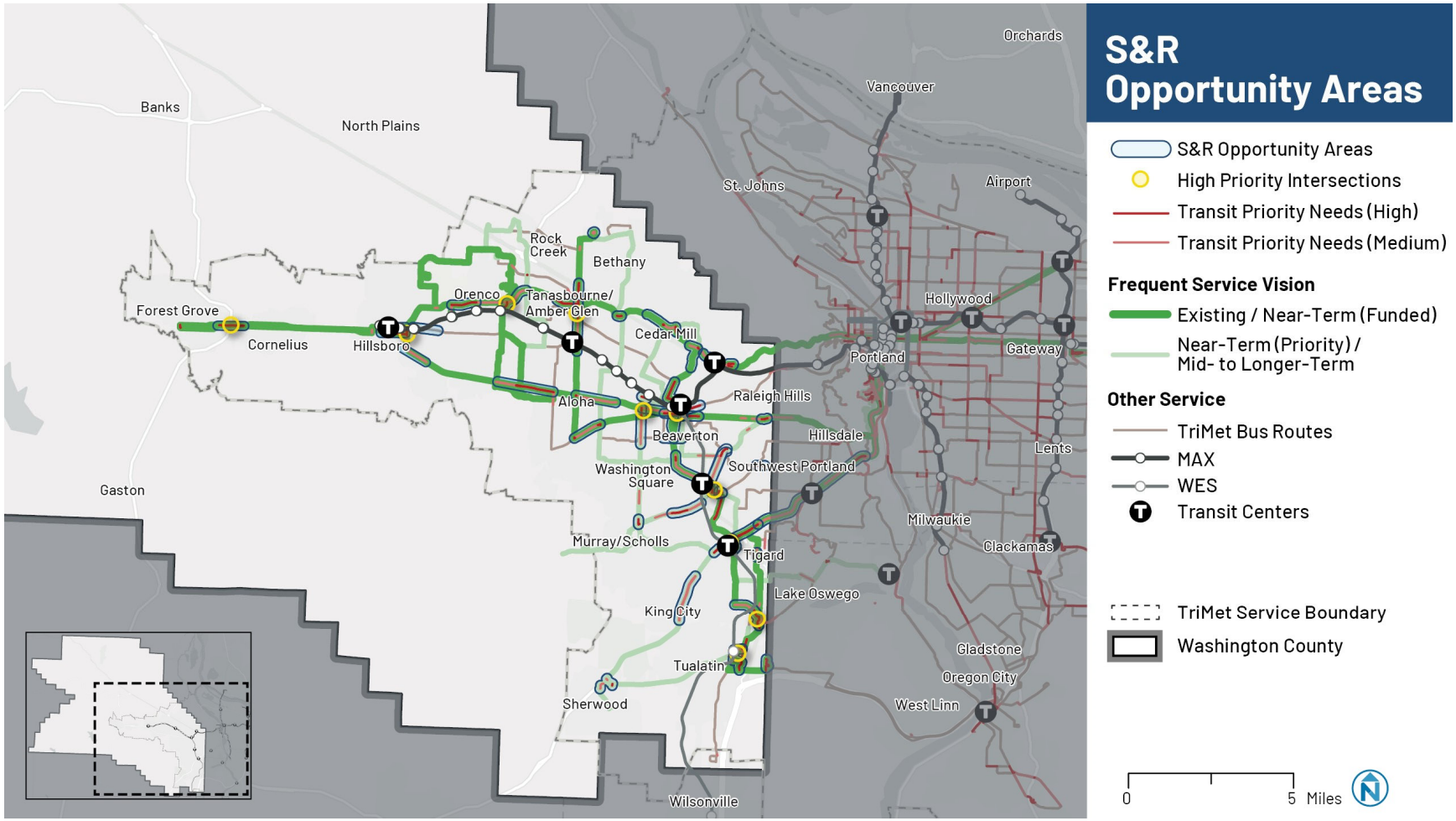
Approximately **25%** of stops countywide are less than 800 feet apart—nearly 400 stops—and may provide opportunities to right-size stop spacing. The share of stops in this category is similar between frequent routes and other routes.

Figure 5-12 Bus Stop Spacing on Washington County Bus Routes (within Washington County; both directions)

Route Type	Spacing below NACTO Guidelines (Potential Opportunities for Stop Balancing)		Spacing within NACTO Guidelines		Total Stop Pairs	% under 800 feet	% over 800 feet
	Less than 600 feet	600 to up to 800 feet	800 feet to ¼ mile	1/4 mile or more			
Frequent	60	77	340	88	565	24%	76%
Future Frequent	30	40	148	48	266	26%	74%
Local	75	105	409	105	694	26%	74%
Total	**165**	**222**	**897**	**241**	**1,525**	**25%**	**75%**

Source: Analysis of TriMet Bus Stop data as of Fall 2022

Figure 5-13 Speed and Reliability Priorities for Washington County



What are the recommendations?

Metro and TriMet lead regional planning efforts to identify speed and reliability improvements. Washington County and local road authorities (including ODOT) can integrate spot improvements into capital and routine road maintenance improvements on priority corridors.

Strategy	What's the Action?	Why is it Important?	Implementation Support
4.1	Improve transit speed & reliability (along with access and safety) on corridors prioritized for frequent service investments and with the greatest delay in regional prioritization of needs. Establish agreements with TriMet to make improvements in advance of service improvements.	Transit riders and providers benefit the most when priority measures are focused along a longer corridor or route, which can yield noticeable time savings for riders and in some cases reduce the number of buses required to operate a route.	Local applicable road authority TriMet
4.2	Prioritize speed and reliability projects, in partnership with local jurisdictions, for inclusion in local Transportation System Plan (TSP) updates.	TSPs identify the priority projects that are funded and built in the near term.	Local applicable road authority TriMet
4.3	Develop near-term plans for TSP implementation, including documenting operational benefit and need for each corridor; willingness to establish an IGA for 3rd-party equipment; and plans for upgrading controllers to support NextGen TSP.	These plans will inform and support coordination with regional implementation of NextGen TSP, including the TriMet NextGen TSP Program.	Local applicable road authority TriMet
4.4	Review capital improvements plans on an annual or bi-annual basis to identify opportunities to coordinate improvements in speed & reliability, safety, and access.	Integrating transit speed & reliability into street improvement projects can provide additional opportunities as well as be more cost effective.	Local applicable road authority TriMet
4.5	Preserve right-of-way for transit priority capital investments when designing new streets, planning maintenance or improvements for existing streets, and in local land use and transportation plans.	Integrating transit needs into local street design standards and land use/transportation plans is a cost-effective way to ensure that roadway space is available for transit priority when required.	Local applicable road authority

Metro Designing Livable Streets and Trails Guide

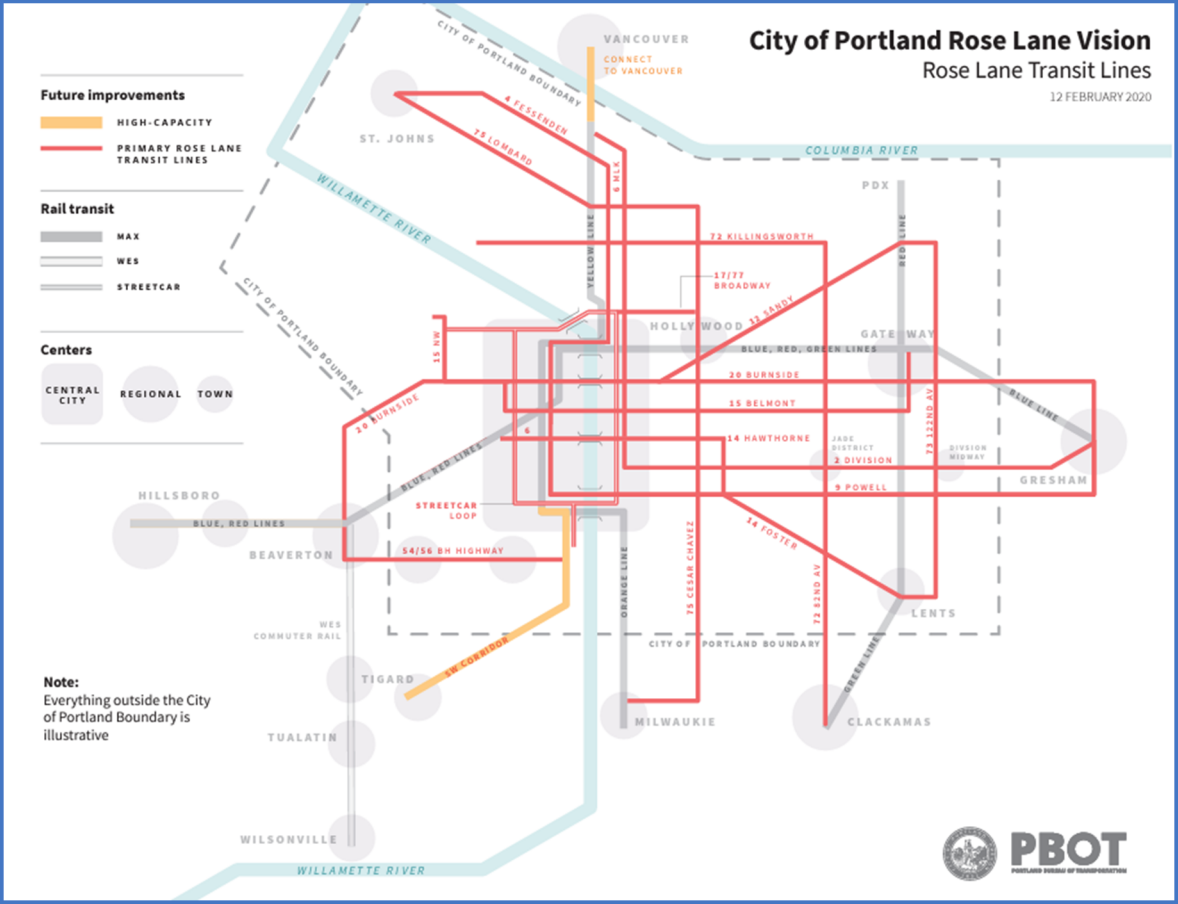
The Designing Livable Streets and Trails Guide provides resources for jurisdictions to use in planning and constructing transportation projects. It includes guidance for different regional street classifications and for specific types of transit priority investments, ranging from transit lanes to intersection improvements such as queue jumps, as pictured below.

Rendering of Bus Queue Jump Improvement

Source: Designing Livable Streets and Trails Guide. Metro, 2019

Portland Bureau of Transportation Rose Lanes (Portland, OR)

The City of Portland's Rose Lanes Vision identify the City's vision for providing bus and streetcar services with additional transit priority, in tandem with existing and future high-capacity transit, to help achieve goals including climate and transportation justice. PBOT's Rose Lanes emphasize the importance of transit to achieve city goals.



Source: City of Portland Rose Lane Vision, PBOT, 2020

Transit Signal Priority on FX2/Division Line

TriMet installed transit signal priority (TSP) with artificial intelligence, so buses hit more green lights and few red lights at 57 signals along 11 miles of the 15-mile route. Riders have been able to save roughly four minutes waiting at bus stops when traveling one way along the 11-mile line. Single priority along with in-lane bus stops helped the FX2 line achieve the speed and reliability improvements without continuous bus lanes along the constrained corridor.

Source: TriMet, 2023

Advancing NextGen Transit Signal Priority in Washington County

Washington County jurisdictions and ODOT could plan to enable every signal along FX and frequent transit lines for next-generation TSP, while prioritizing corridors with the highest potential for operational benefits for nearer-term implementation.

The following considerations can help signal owners plan for TSP:

- **A corridor's readiness for TSP depends on its communications and signal controller infrastructure.** A fiber connection to a centralized traffic control system is preferred, but copper wire or wireless connections may be possible. Advanced Traffic Controllers (ATCs) are often preferred but jurisdictions may be able to use older controllers in some cases.
- **Washington County is in the process of updating all signal controllers to ATCs** within approximately the next year. ODOT signals should already be upgraded within Region 1.
- **The signal agency will need to install a 3rd party device on their network** to communicate between the CAD/AVL system on the buses and the centralized signal system. This will require an Intergovernmental Agreement (IGA) between the signal agency and TriMet.
- **Some areas with existing or planned adaptive traffic signal systems may not be suitable for NextGen TSP**. Adaptive signals include SCATS in downtown Beaverton (existing) and Scholls Ferry Road (near-future). Washington County operates SCATS along parts of Tualatin-Sherwood Road and at some downtown Tualatin signals. A pilot project may be needed to assess interoperability between NextGen TSP and adaptive signals.
- **TSP can provide significant benefits, but it is not a one-time intervention.** It will require a partnership with the signal agency to program and monitor the signals to effectively handle NextGen TSP calls while balancing impacts to active transportation and critical vehicle movements.

TriMet will be developing a NextGen TSP Implementation Plan starting in Spring 2024, including guidance specific to Washington County.

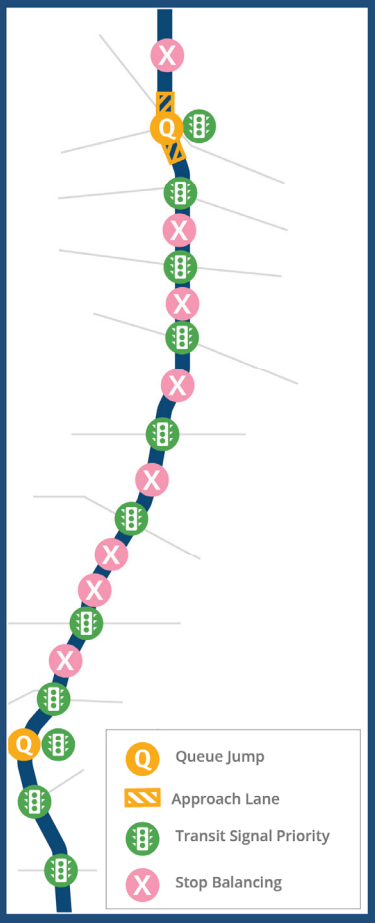
Source: Includes input from Randy Johnson, DKS Associates

Conceptual Speed & Reliability Improvements

The conceptual example below illustrates the potential speed and reliability benefits from applying the transit priority toolbox. It is based on actual transit data from an arterial street with a 35 mph speed limit, two travel lanes in each direction, and limited right-of-way in most locations. The example improvements could reduce typical travel time by an estimated 15%, approximately half from improvements along the roadway (like queue jumps and TSP) and half from optimizing the number and placement of bus stops.

Improvements like queue jumps and TSP help buses bypass delay at intersections. And when bus stops aren't too close together, buses spend less time slowing down, speeding up, and merging back into traffic after picking up passengers.

Making service faster and more reliable makes the bus *feel* even faster for riders, saves riders time in their day, and can attract new riders. For transit providers, consistent and reliable travel times provide operational savings when schedules can be adjusted to reduce the number of buses and operators (or avoid increased costs due to future delay). These savings can then be reinvested into more frequency or enhanced service.



Overview

Length	5 miles
Travel Time *Median (One-Way)*	16 minutes
Passenger Delay	85 hrs/day

Example Solutions

Queue Jump: *4 intersection approaches*	✓
Transit Signal Priority: *10 signals*	✓
Stop Balancing: *8 sets of stops balanced*	✓

Costs

Capital Cost *2023 dollars*	$2-3 million

Benefits

Travel time reduction *Combined savings in run time and dwell time (including avoided deceleration, acceleration, and merging time due to fewer stops)*	Approximately 15%

Assumed improvements include queue jumps at two sets of intersections, corridor-wide transit signal priority (10 signals), and corridor-wide bus stop balancing (8 sets of stops); given limited right-of-way, no new transit lanes were assumed. Average bus stop spacing was increased from approximately every 800 feet to every 1,200 feet.

Key Move 5: Improve Amenities and Connections at Stops and Stations

"We need more covered stops and more stops with time displays."

Transit facilities in Washington County currently include transit centers, transit stations, and bus stops. The Vision for Transit identifies opportunities to coordinate on transit stop improvements by leveraging local development and capital projects so all stops and stations are accessible, safe, and welcoming. The Vision for Transit also recommends the concept of a mobility hub, which connects transit riders to nearby neighborhoods and land uses through safe bicycle and pedestrian amenities, as well as other sustainable modes of transportation (see sidebar below for more details).

Implementing mobility hubs at major connection points supports seamless travel to and between transit services and other mobility solutions. Three types of mobility hubs are identified to support access to transit in Washington County.

Transit Centers: Major transit facility served by multiple bus or rail lines. Washington County has six transit centers that could be updated and modernized to include features such as real-time passenger information displays, multimodal wayfinding, integration with bicycle and pedestrian networks, and shared mobility such as bike share.

Station Mobility Hub. Major HCT (rail or BRT/RapidBus) station served by connecting routes, shared mobility services (e.g., shuttles, bike share), and/or infrastructure (e.g., bike & ride).

Local Mobility Hub: Major bus stop or community hub with generally smaller-scale shared mobility services and/or infrastructure compared to stations or transit centers. At minimum, conceptual locations would be aligned with each Metro 2040 Growth Concept town center and urban reserve area that is not served by an existing transit center or station; more detailed local planning would need to be done to identify specific locations.

An additional **Regional Mobility Hub** designation can be applied to locations that provide significant connections to regional providers. The designation indicates the need for physical or technology infrastructure at station mobility hubs or local mobility hubs to better support those connections; transit centers should already have this level of infrastructure. The designation identifies two transit stations (Fair Complex and the Tualatin Park-and-Ride) as potential focal points for regional and intercommunity transit connections in the northwest and southwest parts of the County, respectively.

What is a Mobility Hub?

The goal of a Mobility Hub is to fully integrate the transit network with multimodal access and connections along HCT and frequent service corridors. Mobility Hubs include pedestrian and bicycle improvements and other sustainable modes (e.g., car or bike sharing) designed to connect transit passengers to adjacent neighborhoods and nearby land uses. Key elements of a Mobility Hub include:

- Accessible, universal design allows people of all physical abilities to access transit stops/stations and nearby destinations.
- Shared mobility services—including bike share stations, car share vehicles, and loading space for other private or shared mobility services—enable access outside of the stop walkshed.
- Integrated mobility technology—including kiosks, reader boards with real-time information on transit and other modes, and shared payment interfaces—assists travelers with trip planning and arranging shared rides and provides opportunities for other evolving applications.
- Placemaking elements, such as public art and seating, active street environments with a mix of land uses, and strong land use anchors invite social interaction and vibrant business opportunity.
- Secure, covered bicycle parking and access to the surrounding bicycle transportation network
- Excellent pedestrian infrastructure within a quarter- to half-mile walkshed.
- Context-appropriate parking, including shared and/or paid on- and off-street parking.

Mobility hubs are not a new concept, but the Vision applies the mobility hub concept to both transform the County's existing transit center and station facilities and provide additional facilities that can facilitate more convenient and safe travel access and connections.

Role of Park-and-Rides

Mobility hubs can also include park-and-ride facilities where appropriate based on context; for example, to allow people to access transit in rural areas, other areas where there is no connecting service, or at end-of-line stations. Even before the pandemic, ridership from park-and-rides was a small share of TriMet's overall ridership (15%).. While park-and-rides are not as well-utilized since the pandemic, they still have an important role in attracting riders who need to drive to bus or train stations and facilitating carsharing and vanpools. In particular, park-and-ride spaces at local mobility hubs can be an important means of serving people in rural areas who need to drive to access transit, a vanpool, or other shared rides.

TriMet is planning to conduct a Park-and-Ride utilization study, which could identify opportunities such as repurposing some existing Park-and-Ride capacity into transit supportive development and/or shared micromobility hubs.[7] Washington County can support and coordinate with this effort.

Types of Transit Facilities and Typical Amenities

The table below (Figure 5-14) describes the general types of amenities that could be provided at each type of transit facility in Washington County, which include transit centers, mobility hubs, transit stations, and bus stops. The elements identified in the table can be applied based on the context and scale of individual locations.

Figure 5-15 illustrates the location of existing and recommended transit facilities serving Washington County.

Figure 5-16 provides a table of the locations along with existing amenities, a summary of regional connections provided, and recommended Vision improvements at each facility.

Figure 5-17 identifies considerations that could be helpful in siting Local Mobility Hubs, including how they relate to existing or planned transit service, facilities, connections, and major activity centers. The locations cover all Metro 2040 Growth Concept town center or urban reserve area that are not already served by a Transit Center or HCT station.

[7] Micromobility includes small, low-speed, human or electric-powered transportation devices such as bicycles, scooters, electric-assist bicycles (e-bikes), and electric scooters (e-scooters). For example, see https://www.fhwa.dot.gov/livability/fact_sheets/mm_fact_sheet.pdf

Figure 5-14 Transit Facility Amenities

Element	Transit Facility Type		
	Mobility Hubs		Bus Stop
	Transit Center	Transit Station	
Transit System Role	**Facility serving as major hub for multiple bus and/or rail lines**	**Facility with higher level of amenities and typically HCT services (rail or BRT)**	**Generally on-street facility for one or more frequent and local bus routes**
Landscaping, Trees, Art	Landscaped stormwater treatments Art features	Landscaped stormwater treatments	Existing street trees or planting areas
Passenger Information	Printed schedule information Real-time information display	Printed schedule information Real-time information display	Printed schedule on sign post
Shelter Design	Vertical panels to provide weather protection and separation from vehicle traffic Ample seating, including benches and lean bars	Vertical panels to provide weather protection and separation from vehicle traffic Ample seating, including benches and lean bars	Shelter Bench or seat on sign post
Safety and Security	Lighting and security features	Lighting and security features	Lighting
Fare Payment	Full ticket vending machines (TVMs) Hop card reader	▪ Hop card reader May include full TVM	
Wayfinding	Wayfinding signs connect to nearby destinations Interactive/digital wayfinding	Wayfinding signs connect to nearby destinations Interactive/digital wayfinding	-
Universal Design	Tactile treatments Curb ramps Accessible to mobility devices Accessible parking spaces for disabled riders	Tactile treatments Curb ramps Accessible to mobility devices Accessible parking spaces for disabled riders	Tactile treatments Curb ramps Accessible to mobility devices
Other Amenities	Bike share stations Car share parking On-demand ride services pickup/drop-off Secure, covered bike parking Park-and-Ride Well-marked pedestrian crossings	Bike share stations Car share parking On-demand ride services pickup/drop-off Secure, covered bike parking Park-and-Ride Well-marked pedestrian crossings	Bike parking Well-marked pedestrian crossings

Figure 5-15 Transit Facilities Map

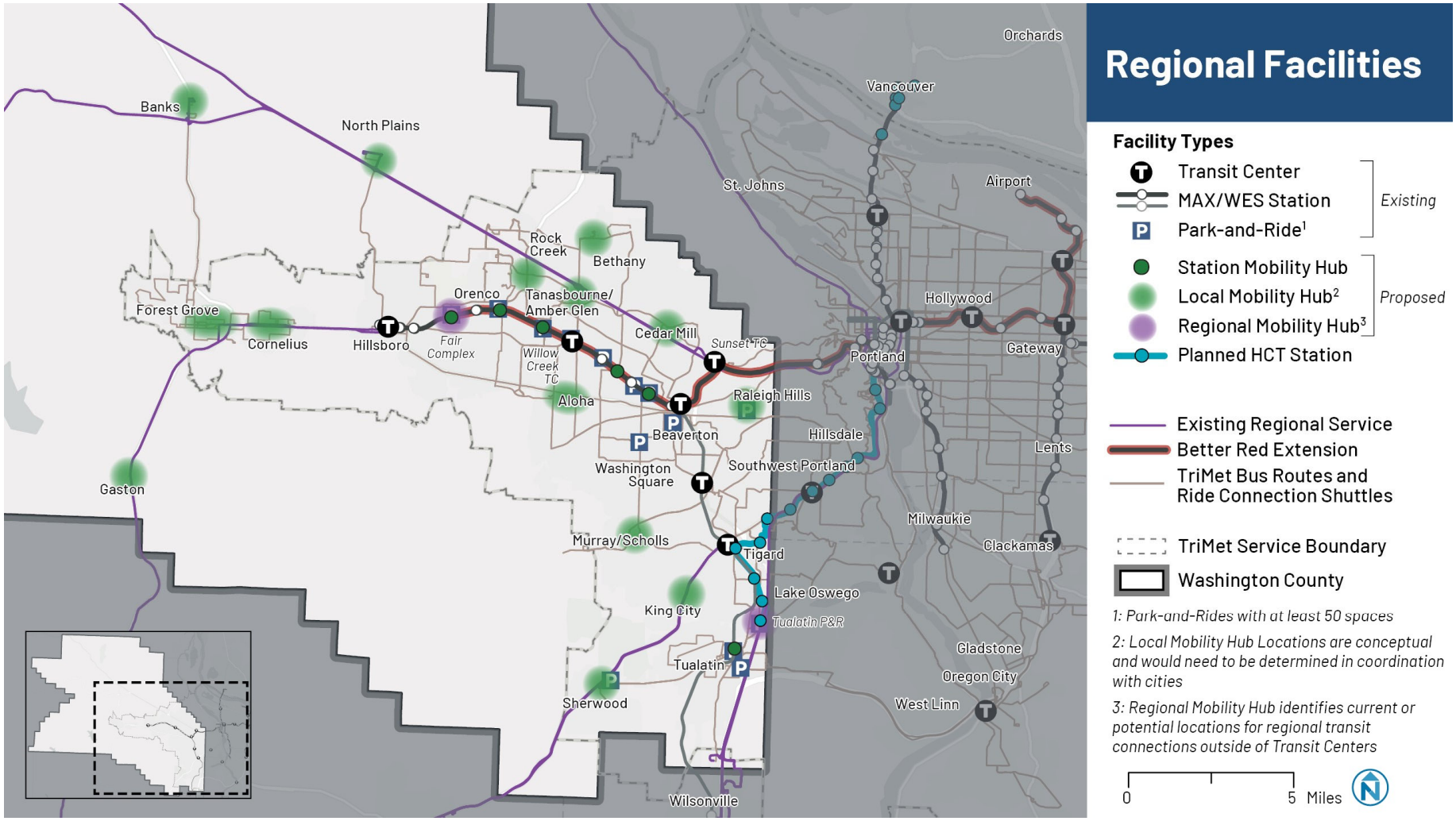


Figure 5-16 Types of Mobility Hubs and Recommended Vision Improvements

Type	Location	Existing or Proposed	Existing P&R	Existing Amenities	Regional Connections	Recommended Vision Improvements
Transit Center	Sunset TC	Existing	Yes	Carpool parking available by permit Bike & Ride Bike racks and lockers Ticket vending machine 15-minute parking spaces to load and unload passengers Real-time information sign with MAX arrival countdown Beverage vendor (weekday commute hours) Overflow parking at two nearby P&R	POINT, TCTD- *Existing*	Upgrade existing amenities to include: Real-time passenger information displays Multimodal wayfinding Bicycle and pedestrian network integration Shared mobility services
	Beaverton TC		No	Bike & Ride Carsharing Bike parking: 38 locker spaces, 48 rack spaces Ticket vending machine 15-minute parking spaces to load and unload passengers Real-time information sign with MAX and WES arrivals countdown Beverage vendor (weekday commute hours)	-	
	Willow Creek/SW 185th TC		Yes	Bike racks and lockers Ticket vending machine Beverage/food vendor	-	
	Hillsboro TC		Yes	Ticket vending machines Bike racks and lockers	RC, YCT- *Existing*	
	Washington Square TC		No*		-	
	Tigard TC		Yes	Real-time information sign with WES and bus arrivals Ticket vending machine	YCT, *SMART- Existing*	
Station Mobility Hub	Fair Complex/Hillsboro Airport (MAX)	Existing Station	Yes	Ticket vending machine Bike racks and lockers Hot dogs and beverages during Fair Complex events	*Proposed Regional Mobility Hub[1]:* *RC-Proposed* *YCT-Proposed*	

Type	Location	Existing or Proposed	Existing P&R	Existing Amenities	Regional Connections	Recommended Vision Improvements
	Quatama (MAX)	Existing Station	Yes	Ticket vending machine Bike racks and lockers available	-	In addition to typical existing HCT station amenities could include: Real-time information Shelter/layover facilities for new/existing shuttle services Drop-off and/or or park-and-ride as appropriate based on local context Shared mobility services
	Merlo/SW 158th (MAX)	Existing Station	No	Ticket vending machine Bike racks and lockers available	-	
	SW Millikan Way (MAX)	Existing Station	Yes	Ticket vending machine Bike racks and lockers available	-	
	Hall/Nimbus (WES)	Existing Station	Yes	Real-time information sign with WES and bus arrivals Ticket vending machine	-	
	Tualatin (WES)	Existing Station	Yes	Real-time information sign with WES and bus arrivals Ticket vending machine	-	
	Tualatin P&R	Existing P&R / Future Station	Yes	Bike racks and lockers	*Proposed Regional Mobility Hub*[1]: SMART-*Existing* *YCT-Proposed*	
	Southwest Corridor (HCT)	Future Station	TBD	TBD – Future Stations	TBD/Varies	
Local Mobility Hub	Various (see Figure 5-17)	Proposed	Varies	Varies/None	Varies	Amenities could include: Transit shelter Transit information/map; Real-time information Shared mobility services, drop-off, and/or or park-and-ride as appropriate based on local context

Notes: 1. Regional mobility hub designation identifies need for stop/layover facilities for regional providers including shelter(s), posted transit information/map, and real-time information for all providers supporting real-time GTFS standards. * Not officially designated as a Park-and-Ride. RC = Ride Connection, SMART = City of Wilsonville, TCTD = Tillamook County Transportation District, YCT = Yamhill County Transit, POINT = Oregon POINT.

Figure 5-17 Proposed Local Mobility Hub Conceptual Locations

Location	Considerations Related to Existing Stops/Stations	Existing P&R	Existing and Planned Local and Regional Connections that could be Served	Key Activity Centers
Aloha	High transfers between 185th and 198th	-	TriMet and future shuttle service	Intel Aloha Campus, Aloha Town Center
Banks	Existing westLink stop	-	Ride Connection and Tillamook County Transportation District (TCTD) services	Banks-Vernonia State Trail, Banks Trailhead
Bethany	-	-	TriMet and future shuttle service	Rock Creek PCC Campus, Bethany Village, Westside Regional Trail, Waterhouse Trail
Cedar Mill	-	-	TriMet and future shuttle service	St. Vincent Hospital, Cedar Mill Town Center,
Cornelius	Existing stops along TV Hwy	-	TriMet, YCT, and GroveLink-service	Virginia Garcia, Cornelius Library, Council Creek Regional Trail
Forest Grove	Existing stops along TV Hwy	-	TriMet, YCT, and GroveLink-service	Pacific University Forest Grove Campus/Forest Grove Town Center Ballad Towne Square
Gaston	Existing YCT stops on OR 47 are not optimal; off-highway location could be considered	-	Only served by YCT	Wapato Wildlife Refuge
King City	Existing TriMet stops are on OR 99W	-	TriMet, YCT; and existing/planned shuttle service	-
Murray/Scholls	Existing TriMet stops	-	TriMet and future shuttle service(s)	-
North Plains	Existing westLink stop	-	Ride Connection and TCTD services	-
Raleigh Hills	Connections between existing TriMet lines	-	TriMet	-
Sherwood	Existing TriMet and YCT stops are on Langer Dr	X	TriMet, YCT; and existing/planned shuttle service	Sherwood Regional Family YMCA
Tanasbourne	Existing TriMet stops are on NW 185th and on Evergreen POINT and TCTD stop at Tanasbourne Town Center (Town Center Dr east of NW 185th)	-	POINT, Ride Connection, TCTD, TriMet (multiple routes)	Tanasbourne Town Center

What are the recommendations?

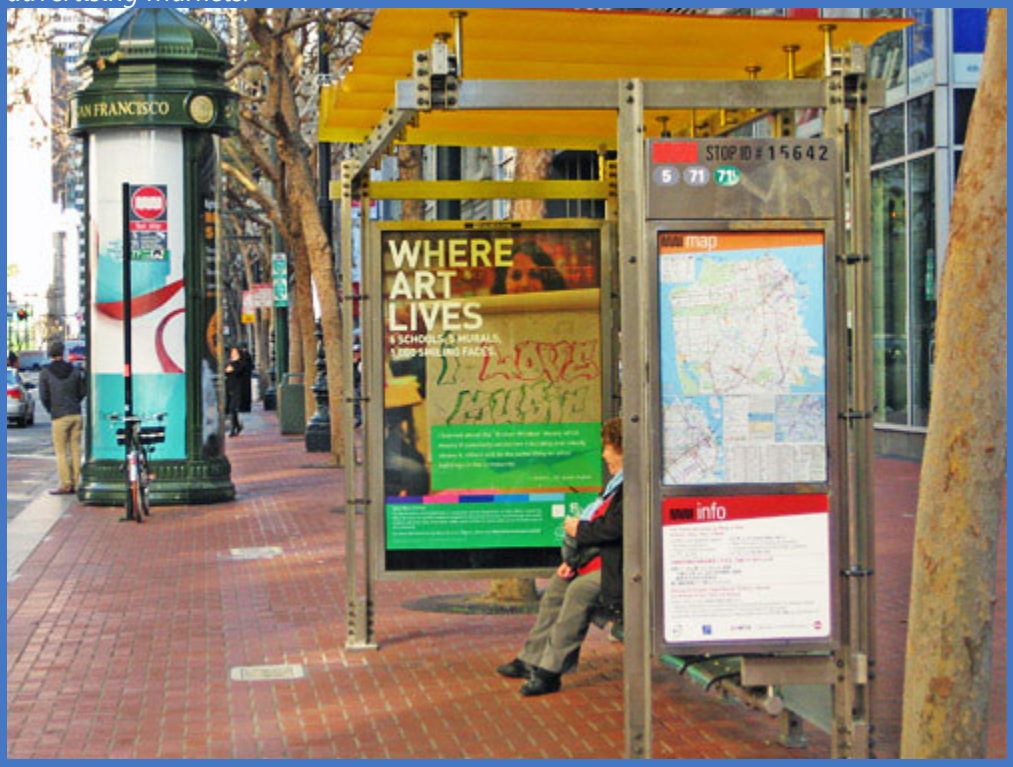
Washington County and other local jurisdictions can support coordination of transit stop improvements by leveraging local development and capital projects so all stops and stations are accessible, safe, and welcoming.

Strategy	What's the Action?	Why is it Important?	Implementation Support
5.1	Improve transit wayfinding at transit shelters at key destinations around the region.	Improved wayfinding helps reach new riders that are not familiar with transit by providing clear wayfinding, route, and schedule information. Wayfinding also supports intermodal transfers, pedestrian and bicycle access to transit, and standards to convey real-time information.	Local jurisdictions
5.2	Add real-time information displays to transit centers and high ridership stops.	Many of the transit centers in Washington County lack real-time information displays. These displays let passengers know when vehicles are due to arrive and can provide alerts and other updates.	TriMet
5.3	Improve personal safety at and near bus stops and along transit routes by adding lighting and creating a sense of place with public art, street furniture, and landscaping.	Safe, more comfortable transit stops are necessary to help people access transit. Many bus stops in Washington County lack amenities, which discourage riders from taking transit.	TriMet Local jurisdictions
5.4	Proactively work with transit providers on opportunities to coordinate stop improvements with redevelopment or other capital projects.	Coordinating stop improvements with capital projects enables more investment in project funding and a quicker way to install amenities or not preclude future installation of shelters.	TriMet Local jurisdictions
5.5	Repurpose underutilized parking lots as mobility hubs near population destinations served by multiple transit lines.	Mobility hubs provide transit connections from multiple origins for riders who cannot otherwise access these destinations.	TriMet Local jurisdictions
5.6	Install flex spaces in station communities and town centers for bike and scooter share parking, as well as for loading of taxis, ride hailing vehicles, and shuttles.	Micromobility, rideshare, and shuttles help people connect to transit.	TriMet Local jurisdictions
5.7	Offer secure bike parking at mobility hubs and high ridership bus stops to encourage transit riders to connect to transit by bike.	When people can bike to transit, the catchment area is increased. Secure bike parking is needed to help people bike to transit.	TriMet Local jurisdictions
5.8	Develop mobility hubs at key locations where major transit routes or shuttles connect.	Installing a mobility hub where the demand already exists ensures the purpose of the mobility hub and allows transit service providers to understand the contextual analysis of the location.	TriMet Local jurisdictions
5.9	Offer shared mobility options such as car and bike share that can be implemented where appropriate.	Shared mobility options are key to providing riders with first mile/last mile connections.	TriMet Local jurisdictions

SFMTA Transit Shelter Program (San Francisco, CA)

San Francisco Municipal Transportation Agency (SFMTA) was one of the first transit agencies to develop a formal shelter program in 1987. The purpose of the program was to replace old shelters in San Francisco with new shelters that provide improved travel information seating, lighting, and weather protection and to maintain the shelters on an ongoing basis to keep them in good repair. Previously, many shelters were not well maintained and had become covered in graffiti. SFMTA initiated its shelter program through an innovative arrangement with a private contractor, CBS Outdoor. Under the arrangement, the contractor owns and maintains the shelters and pays for improvements. The contractor pays for the improvements by selling advertising, which is placed prominently in the shelters. In 2007, SFMTA entered a 15-year contract with Clear Channel with the option of one 5-year renewal after 2017. The contract with Clear Channel requires that the company install between 1,110–1,500 new shelters over five years, replace 39 kiosks, provide 1,500 traffic controllers, and install 3,000 solar-powered customer-information signs. It stipulates that the contractor make a one-time signing payment of $5 million and pay $500,000 for administration costs.

Note: *In these types of partnerships, it is important to have clear guidelines written into the contract that indicate where stops are upgraded to make sure these shelters are equitably distributed to agencies based on Washington County's prioritization scheme not based on advertising markets.*

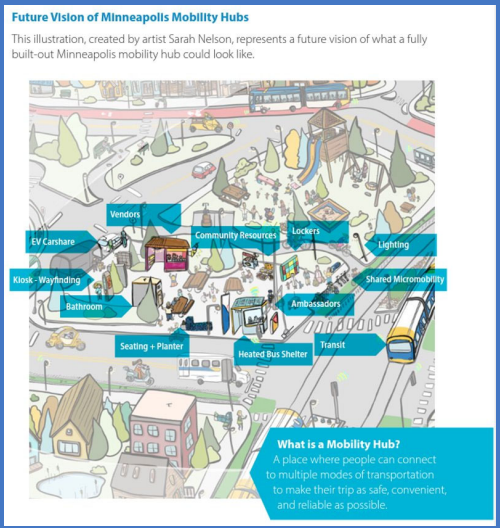


Source: Transit Shelters, sfbetterstreets

Minneapolis Mobility Hubs (Minneapolis, MN)

Minneapolis created an Ambassador Pilot Program to launch mobility hubs in the city. The pilot allowed mobility hubs to be driven by the needs of the community.

Mobility hubs were installed to increase safety and reliability and enhance wayfinding through different modes of transportation. In 2020, there were Mobility Hubs in 14 neighborhoods.



Implementing Mobility Hubs

Mobility hub implementation can range from relatively simple, cost-effective enhancements to support the underlying transit system to complex and capital-intensive upgrades to existing or new transit facilities. The table below illustrates different types of mobility hub elements ranging from least to most costly and complex.

Mobility Hub Element	Description	Connection Type	Cost	Complexity
Curb Management Program	Develop a curb management program in partnership with local jurisdictions to retrofit existing on-street parking stalls to incorporate mobility hub elements	Local Station	$	Low
Off-Street Parking Lot Retrofits	Assess existing and underutilized parking lots (public or private) to help identify existing parking lots that could be retrofitted to support access to transit	Local Station	$$	Low-Medium
Bus Stop Enhancements	Enhance existing TriMet bus stops to incorporate additional mobility hub elements	Local	$$	Low-Medium
MAX Station and Park-and-Ride Enhancements	Enhance existing TriMet MAX Stations and Park-and-Rides to incorporate mobility hub elements, including new intermodal services, TNC pick-up/drop-off zones, bike and scooter share zones, placemaking elements, and enhanced stop amenities (seating, shelters, landscaping, etc.)	Local Station Regional	$$$	Medium-High
New Mobility Hubs	Analyze buildable and/or underutilized lots to help identify places in the county where new mobility hubs could be developed, either entirely through public dollars or through public-private partnerships.	Station Regional	$$$$	High

The following key takeaways highlight the most important steps the County and its jurisdictional partners can take to implement mobility hubs:

- Prioritize network-wide first and last mile improvements. Close bicycle and pedestrian gaps in the broader transportation network to yield the most benefit from future intermodal improvements
- Prioritize partnerships and investments to upgrade existing park-and-rides to next-generation mobility hubs. The County should engage with TriMet on key facilities such as the Tualatin Park-and-Ride to consider ways of making this more of a regional facility, offering a much broader range of intermodal options and placemaking elements.
- Support a curb management program to disperse mobility options throughout Washington County. A distributed network of "flex mobility zones" is a cost-effective and low-risk approach that would create potentially dozens of new spaces throughout the County where a range of mobility options could be woven into the underlying transportation network.
- Identify demonstration projects to test mobility hub concepts. The County should work with regional partners to identify potential pilot or demonstration projects to test mobility hub concepts at a smaller scale.

The important connection between land use and transit

Attractive and convenient transit service is not just about how often the bus arrives and where it goes; it also depends on the attractiveness of the street, the density and mix of land uses, and a connected street network and safe and convenient crossings that allow bicyclists and pedestrians to easily and safely access transit service. Local jurisdictions play a critical role in designing their streets and focusing development in areas that are or can be well-served by transit.

Concentrate and intensify activities near frequent transit. There is a strong correlation between land use density and transit demand. High density development (residential densities at least 10–12 households per acre and/or have more than 12–16 jobs per acre) should be encouraged in areas served by HCT corridors and frequent transit.

Align major destinations along reasonably direct corridors served by frequent transit. An efficient transit route connects multiple high demand destinations in a reasonably direct line to minimize out-of-direction travel. It connects major trip origins and destinations along the route and has major activity centers at each endpoint, providing a steady flow of passengers boarding at all points. The proposed frequent service grid for Washington County was identified based in part on the presence of major activity centers along transit corridors. Transit must efficiently connect to destinations and be accompanied by a walkable street environment, a mix of uses, and safe and convenient access to transit service.

Provide a rich mix of uses that support street-level activity throughout the day and night. A diversity of land uses (including residential, commercial, industrial, institutional, and recreational uses) promotes walking and transit ridership, and reduces driving. A mix of land uses allows more daily needs to be met within shorter distances, encouraging people to walk and take transit for more trips. Land use diversity also creates a more interesting and active urban environment that makes walking and taking transit feel safer and more attractive at all times of the day and night. Designing buildings so that they are oriented to the street and with features such as street-level windows and awnings also creates attractive pedestrian environments that support walking, bicycling, and transit.

Support transit access by providing safe and convenient crossings. Every transit rider is at some point a pedestrian, whether they are dropped off at a park-and-ride or walk from their home to access transit. Safe and convenient access to transit is essential to building transit ridership. Of utmost importance is to ensure that crossings are conveniently located and

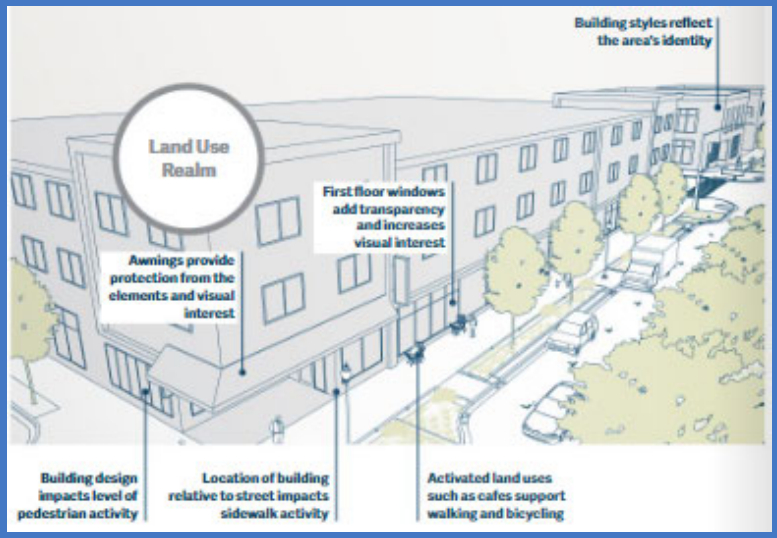


Illustration of intersection between land use and the streetscape

Source: Designing Livable Streets and Trails. Metro, 2019

well-marked. Strategies include interior block connections and mid-block crossings, in addition to other strategies discussed in Key Move 6 below.

Interconnected streets in a grid pattern shorten distances between transit stops and destinations. Intersection density strongly influences transit ridership. Short blocks and well-connected streets make it easier and faster to access transit and contribute to a high-quality pedestrian experience. An interconnected street grid is a challenge in many areas of Washington County. The key actions in Key Move 6 support safer and more accessible streets that will help people access transit more easily and feel safe doing so.

Key Move 6: Improve Bike and Pedestrian Access to Transit

The experience accessing transit stops and stations varies widely across the county. Some areas have significant gaps in the sidewalk network, limited bicycle facilities, and challenging first and last mile connections to transit while other areas benefit from seamless and high-quality connections. Even where facilities exist they may be stressful and/or not convenient. Community feedback during the development of the Washington County Vision for Transit highlighted a need for improved access and connections to transit by providing more comfortable and safer pedestrian and bicycle facilities.

The jurisdictions across Washington County play an important role in designing and operating the network that connects people to transit. Bicycle and pedestrian access improvements can be prioritized to help connect people to HCT and frequent service corridors as well as high-need areas to support those who depend on transit.

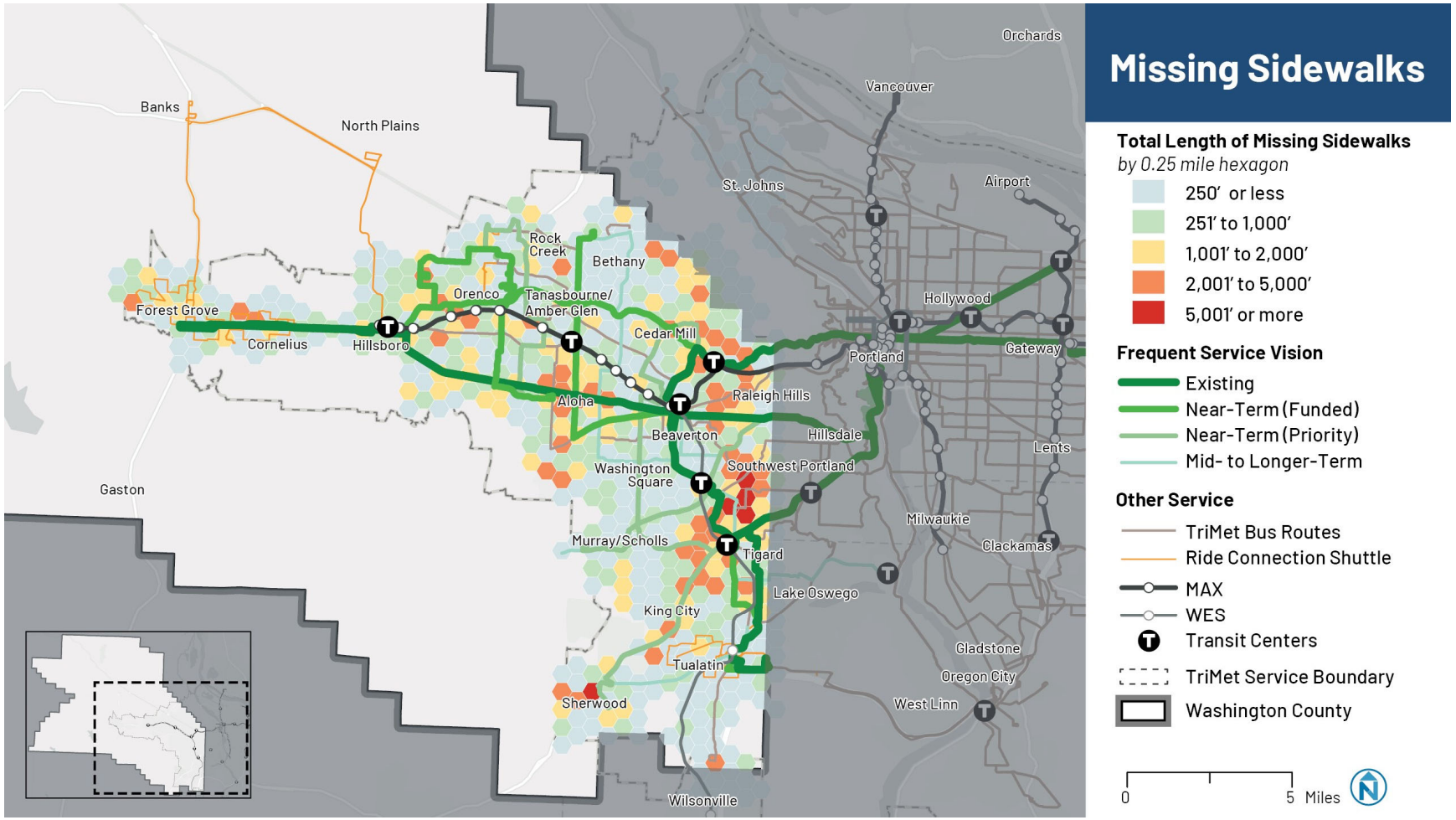
The community told us loud and clear that safety and access improvements are needed to improve the transit experience.

Over half of online open house respondents and a few roundtable discussion participants referenced bicycle, pedestrian, and safety access as a barrier to taking transit. Barriers include:

- "Transit stops that don't make you feel safe (i.e., really close to the highway (TV Highway), hardly any shelter, cover, lack of adequate lighting (Farmington)."
- "Too many closed crosswalks."
- "The closest light to cross 5 lanes of Main/Baseline is 5-9 blocks in either direction from my street, which makes it difficult to walk or take the bus."
- "Bike lanes just vanish at the scary intersections."
- "Lack of pedestrian infrastructure makes it dangerous to walk to the bus stop."
- "Need accessibility for power chair users."
- "Lack of sidewalks and curb cuts…for people using devices."
- "Bike connection is difficult – bike facilities do not make people feel safe (i.e., Rhone Hills)."
- Roughly one-third of roundtable discussion participants suggested bicycle, pedestrian, and safety improvements when asked what would make transit Washington County successful. Improvements include:
- "Triple bike racks on buses. More room to stand with bikes on MAX."
- "Prioritize connecting modes like bicycling and walking. They deserve direct and safe connections to stops."
- "Walkability is important too. Safe and convenient places to cross roads."
- "Biking routes/bike-only paths that connect different cities/neighborhoods in Washington County would make it easier for multimodal transit."

Sidewalk gaps, a lack of enhanced crossings on busy roads, and a disconnected street grid with long block lengths make some transit stops in the county hard to access. Streets that lack sidewalks are found throughout the county, as shown in Figure 5-18. Transit corridors like Tualatin Valley Highway, OR 99W, and SW Hall Blvd are among those with high concentrations of missing sidewalks within the hexagonal ¼ mile areas.

Figure 5-18 Length of Missing Sidewalks by ¼ Mile Hexagon Area, with Vision for Transit Frequent Service Network and Other Existing Transit Routes



What are the recommendations?

Washington County and other local jurisdictions, whether through exactions when development occurs or through capital projects, are key to improving bicycle and pedestrian access to transit.

Strategy	What's the Action?	Why is it Important?	Implementation Support
6.1	Prioritize bicycle and pedestrian infrastructure improvement investments near HCT and frequent service corridors for inclusion in local Transportation System Plan (TSP) updates.	TSPs can identify priority corridors over the long-term and Capital Improvement Programs prioritize projects that are funded and built in the near term.	TriMet Metro
6.2	Develop an online Arc GIS mapping tool for local jurisdictions in the county to efficiently identify and prioritize missing sidewalks, needed crosswalks, and bicycle improvements near transit.	The Vision for Transit identified missing sidewalks at a high level. More detailed analysis is needed at the local level to identify projects for inclusion in local TSPs.	Local jurisdictions
6.3	Work with TriMet and the local jurisdictions to better utilize existing bicycle parking facilities along HCT and frequent service corridors. Identify new locations to install secure and convenient short- and long-term bike parking at transit stops, stations, and mobility hubs.	Bike parking allows people the opportunity to connect to transit by bike.	Local jurisdictions TriMet
6.4	Work with TriMet to determine how additional bicycle storage areas can be accommodated on buses and trains, and/or additional bike and rides or other secure bike parking at stations and transit centers.	Bicycle storage on buses and trains enables riders to make first mile/last mile connections.	TriMet

Bicycle & Pedestrian Access Toolkit

Bicycle access is key to serving critical first mile/last mile connections. Safe and direct bicycle facilities that connect to transit increase the catchment area of transit service up to three miles.

Local jurisdictions can implement the following strategies to enhance the bicycle experience and extend travel service:

Install **protected bike lanes** to separate a dedicated bicycling space from the roadway with a physical barrier, such as the curb, a flexible plastic post, and/or plantings.

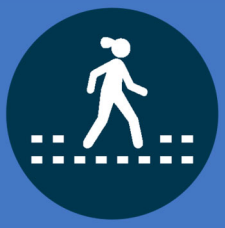
Protect intersections with safety and visibility features including bike ramps, forward waiting areas, corner refuge islands, setback crossings, and bike signals.

Dedicate street space to **bicycle lanes and boxes** to increase driver awareness of cyclists. This can be achieved through colored pavement treatments to indicate bike lanes or striped buffers to increase the separation between the bike lane and the roadway.

Foster a safe bicycling environment through low-stress **Neighborhood Bikeways** by implementing traffic calming elements and signage to reduce car volumes and speeds.

Promote **bike share or scooter share** at transit stops to improve first mile/last mile connections.

Provide **bicycle facilities close to transit stops** to seamlessly connect people to transit by bicycle. All transit trips begin and end with a pedestrian trip. Safe and comfortable sidewalks and pedestrian conditions determine if transit riders take transit at all. The pedestrian realm should include well-lit and ADA-accessible sidewalks buffered from the roadway and well-marked crossings at frequent intervals to improve the safety and experience of everyone, especially older adults and those using mobility devices. Local jurisdictions can implement the following strategies to improve safe access to transit:



Provide **well-marked intersections and enhanced mid-block crossings** to safely cross the street and reduce walking time to transit stops.

Install **traffic calming measures** such as curb extensions and median refuge islands to reduce crossing distances, vehicle speeds, and number of travel lanes.

Implement **exclusive pedestrian phases** to allow pedestrians to cross the street in both directions at the same time. A **leading pedestrian interval (LPI)** gives pedestrians a 3-7 second head start when entering the intersection.

Install **pedestrian-scale lighting** near transit stops so riders can see and be seen to improve perceived and actual safety and comfort.

Implement **wayfinding** along the transit network to help riders connect to key destinations from transit.

Ensure the built environment design follows **Designing for Disability** (also known as **universal or inclusive design**) principles so all ages and abilities can ride transit. Principles include wide sidewalks with curb ramps that are not impeded by poles or other elements, mild driveway cross-slopes, tactile treatments on curb ramps, stop platforms, and other conflict points, information in audio, visual, and tactile formats, and information.

Cost to Improve Missing Sidewalks in the County

There are nearly **80 miles** of missing sidewalks within 250 feet of existing transit stops in Washington County. The cost to fill in sidewalk gaps could be approximately **$60 million,** assuming 6-foot sidewalks and a cost of $25 per square foot (2023 dollars), not including adding or replacing curb ramps.

This includes **$6 million** for approximately **8 miles** of missing sidewalk along (within 100 feet of) current or near-term frequent service corridors and **$5 million** for approximately **6 miles** of missing sidewalk along the other corridors identified for future frequent service.

	All Bus Stops	Existing or Near-Term Frequent Service	Near/Along Proposed Frequent Service
Miles of Sidewalk	78.0	8.0	6.0
Estimated Cost	$62.0 M	$6.0 M	$5.0 M

Source: Unit cost estimate from Washington County. Sidewalk analysis based on data from Washington County.

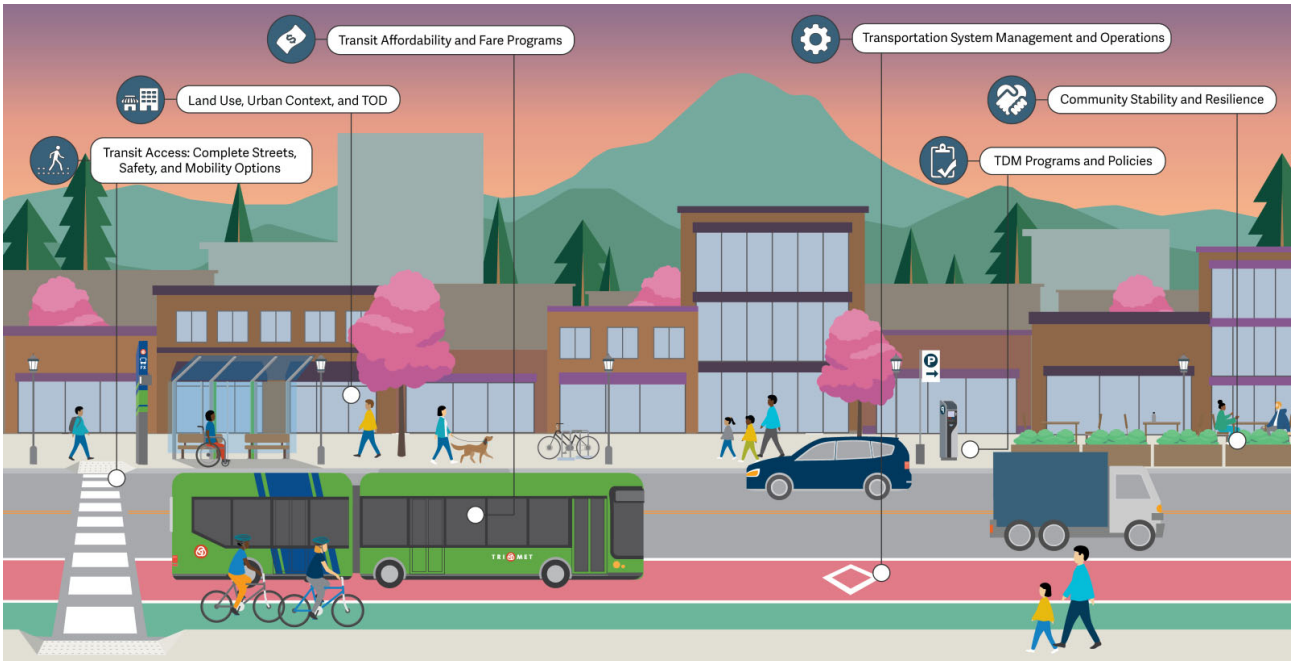
Key Move 7: Implement Transit Supportive Programs and Policies

Transit supportive programs and policies increase the attractiveness and awareness of transit options and help our communities leverage the investments made in our transit system. **Transportation options programs** can encourage people to use transit more often, make transit more affordable, and help them understand what options are available to them. **Transit supportive policies** like compact land uses and well-managed parking help ensure our communities are designed in a way that support transit access.

"The ability for employers to support funded transportation options is a major barrier for people who rely on transit in Washington County."

This key move prioritizes programs and policies that:

- Help riders of all income levels to use transit.
- Incentivize students and employees to ride transit.
- Expand awareness of transit options and normalize the transit experience.
- Manage parking – both to right size the amount of parking and manage the parking we have.



Source: Metro Regional HCT Strategy

What are the recommendations?

Programs and policies are a place where agencies, jurisdictions, and non-profit and private partners can collaborate to implement bold actions to improve the viability and use of transit. Below is a list of key actions for the County and its partners to implement.

Strategy	What's the Action?	Why is it Important?	Implementation Support
7.1	Implement Climate Friendly and Equitable Communities (CFEC) requirements to reduce minimum parking requirements for developments near transit.	Policies that reduce parking subsidies or availability make driving a less attractive option. These policies can be coupled with incentives like commuter benefits. CFEC rules are in place for some communities in Oregon. Guidance is needed for local jurisdictions to adhere to new parking minimum requirements.	Oregon Department of Land Conservation & Development Local jurisdictions
7.2	Create guidance to help broker shared parking agreements to reduce the amount of parking built in the county.	Shared parking is an effective way to reduce the number of parking spaces built for new developments and help manage demand at existing sites.	Local jurisdictions
7.3	Manage parking near transit (parking price, regulation).	Priced parking helps manage parking demand, providing a parking space for those who need it and encouraging others to take transit. Managing parking near transit could include repurposing space in off-street lots / park-and-rides for housing, mobility hub infrastructure, or active transportation space (e.g., bike lockers and shared mobility). Where current transit centers lack capacity to accommodate shuttle and regional transit providers, repurposing space in adjacent off-street lots or at the curb can be a solution. Priced, shared use parking can also help better utilize space at all times of day.	TriMet Local jurisdictions
7.4	Develop pedestrian-oriented design standards especially for areas near frequent transit service.	Pedestrian-oriented design features create a more inviting and safe space around transit. For example, active frontages built right to the street with parking located at the rear of the building and landscaping that provides a buffer between the sidewalk and the street.	Local jurisdictions
7.5	Develop context-sensitive network and complete streets design standards to be applied near transit service.	Complete streets standards enable safe access for all people, including pedestrians and bicyclists to access transit.	Local jurisdictions

Strategy	What's the Action?	Why is it Important?	Implementation Support
7.6	Develop a menu of transportation demand management (TDM) options for local jurisdictions to integrate into the new development process.	Transportation demand management (TDM) strategies can be incorporated into the approval process for new development to ensure that developments of certain sizes and/or locations implement transit supportive programs (such as enhanced stops and stations nearby, subsidized bus passes, on-site transportation coordinators, etc.).	Local jurisdictions
7.7	Expand reduced fare programs by partnering with transit agencies, large employers, universities, and schools.	Through outreach, we heard that affordable fares can be a barrier to taking transit in Washington County. Reduced fare programs can expand the opportunity for people to take transit who most need it.	Local jurisdictions Transit agencies
7.8	Promote a public information and safety campaign to normalize transit in partnership with TriMet or other transit agency partners.	Transit ridership in Washington County has declined since post pandemic and we heard through outreach that the perception of safety was a key barrier to taking transit. More people waiting for and riding transit will improve safety outcomes.	TriMet WTA Private sector partners
7.9	Support education and outreach to large employers to improve awareness of transit options and incentivize transit commuting.	Commute trips are among the most reliable trips to plan for – meaning they happen consistently week over week. This makes them an ideal target for behavior change.	WTA
7.10	Develop a program that engages with affordable housing developments near frequent transit options.	Tailored outreach to key audiences is needed to help residents understand their transit options.	Metro Local jurisdictions Affordable Housing Divisions
7.11	Explore developing a transportation wallet in areas rich in transportation options and managed parking.	Incentives – especially when paired with managed parking – can be a transformative way to help people try new transit options to leverage service investments.	Local jurisdictions
7.12	Develop targeted individualized marketing campaigns for neighborhoods and corridors as transit service enhancements are implemented.	Targeted campaigns are an effective strategy to raise awareness of and leverage transit service enhancements.	TriMet Local jurisdictions

Enhancing Transit Programs in Washington County

The success of transit in Washington County is contingent on well-funded programs to improve people's understanding of transit options and incentivize the use of transit for more trips, more often. There are three immediate opportunities to enhance programming in the county to leverage investments made in transit:

Expand the Westside Transportation Alliance (WTA): The WTA provides critical programs to expand awareness of travel options and help employees reduce drive alone trips in the county. Some employers have seen commutes by transit more than double after partnering with WTA. The WTA annual budget was $252,000 in FY2023 and they were funded through a mix of grants (43%), member dues (25%), program fees (18%), Washington County funds (10%), and other sources (4%). The majority of the program budget is used to pay for staff costs (79%) but staff reach is limited due to the expansiveness of the county. To provide more services and outreach to employers in the county, the WTA would benefit from an additional 1-2 full-time employees, which would roughly double their annual budget to $450,000 per year.

Implement a Transportation Wallet: The City of Portland's Transportation Wallet provides free – or deeply discounted - access to a variety of transportation options (like transit, ride share, bike and scooter share, and taxis) depending on individual or household income. Residents qualify for the wallet based on their residential address and can receive it for free if they trade in their district parking permit. Thirty-eight percent of subsidized affordable housing in Portland participates in the Transportation Wallet to aid vulnerable populations in receiving lower-cost transit. The program is available in certain paid parking districts across the city and is funded in part by parking revenue. Parking permit surcharges collected in each parking district fund the Transportation Wallet in Parking Districts. The Parking Climate and Equitable Mobility Fee and the Portland Clean Energy Funds finance the Access for All Transportation Wallet. PBOT budgeted $240k for incentives for 680 wallets and $102k for programmatic and overhead costs per parking district for their FY 23/24 budget. Washington County could pilot a transportation wallet in areas with well-managed parking, such as in downtown Beaverton or Hillsboro, or in areas with high concentrations of low-income households.

Pilot an Individualized Marketing Campaign: These campaigns can provide targeted marketing materials to residents and employees near new or enhanced transit options – or to new residents moving to a city. The City of Vancouver, WA recently solicited Consultant services for a New Movers Residential Travel Options program for two high equity areas (per the City's Equity Index). The budget to develop, deploy, and evaluate the program was $420,000, inclusive of Consultant services and program expenses.

Commute Benefits Ordinance (Seattle, WA)

In 2020, the City of Seattle instituted an ordinance that requires businesses with 20 or more employees to:

- Allow employees to make a pre-tax deduction for transit or vanpool expenses up to the full amount allowed by federal law; or
- Provide a transit pass that is fully or partially paid for by the employer.

The law encourages commuters to use transit or vanpool to reduce traffic congestion and carbon emissions. Because the deduction is pre-tax, the law has the added benefit of lowering costs for both workers and businesses.

Key Move 8: Build Partnerships to Enhance Service Coordination and Funding

To implement the recommendations in the Vision for Transit, strong partnerships with transit providers, jurisdictions, Washington County, and private partners are needed. More – or redirected funding – will also be needed to enhance service and the supportive elements that improve the transit experience.

Enhanced Coordination

Enhanced coordination across transit providers, local jurisdictions, and private partners will help improve transit across the county. Regional coordination can better integrate and coordinate services across multiple transit providers. Regional coordination meetings could cover:

- Accommodating regional providers at transit stations/centers.
- Opportunities for cost-sharing or operating co-branded services on shared corridors to maximize resources and avoid service duplications.
- Opportunities for additional connections between services.
- Opportunities to incorporate capital project and stop improvements associated with existing and future transit service coordination.
- Opportunities to improve customer information and make trip planning and connections more seamless.

Key regional providers could include:

- TriMet
- Ride Connection
- SMART
- Yamhill County Transit
- Tillamook County Transit
- Oregon POINT

Enhanced Funding

Transit in Washington County is currently funded through a variety of local, state and federal programs. For example, TriMet collects fares from passengers, advertising revenue, collects an employer payroll tax that accounts for over 50% of annual revenue, receives state and federal grants, and bond proceeds. Full implementation of the Vision for Transit will require more robust coordination and investment from a wide range of partners to create sustainable funding for transit.

Cost sharing agreements – like the one that Washington County has with Ride Connection – are one way to build on existing funding mechanisms to provide additional resources for both capital and operating improvements. For example, local jurisdictions can fund services operated by other transit

providers, like Ride Connection or SMART, or they could partner with TriMet to provide additional service or build out new stops. Intentional collaboration between the County, jurisdictions, and service providers can create a more seamless transit experience.

Opportunities to leverage state-level funding and decision-making

Statewide dialogue around funding to improve transit and reduce vehicle congestion presents unique opportunities for Washington County to realize the Vision for Transit.

2025 Legislative Session

Washington County and jurisdictions can explore opportunities to advocate for reallocating the way that federal and state funds for transit and transportation are spent. The current interpretation of the Oregon Constitution mandates that highway funds be spent only on the roadway, essentially eliminating funding for multimodal investments.

Federal funding sources may be more flexible and could be allocated to fund transit improvements across the state. These dollars are regulated and allocated at the state level, which allows for advocacy to influence how these funds are spent.

Tolling revenue

The County and jurisdictions should seek opportunities to advocate for an approach to tolling that helps Washington County achieve its transit goals. This means advocating for future toll revenue to support investments in better transit, walking, and biking infrastructure.

Innovative Mobility Program (IMP)

Oregon Department of Transportation's Innovative Mobility Program allocates $20M in Infrastructure, Investment and Jobs Act (IIJA) funds to improve access to public transportation, reduce the number of trips Oregonians make by car, and reduce greenhouse gas emissions particularly for historically excluded groups. Grant applications will be available until 2027. Counties, cities, and transit agencies are eligible recipients.

Note: the Every Mile Counts Funding Handbook for Local Governments provides a useful overview of funding opportunities to help reduce greenhouse gas emissions from transportation.

Transportation Benefit District (Seattle, WA)

The City of Seattle voted on a Transportation Benefit District (TBD) in 2014 to impose a 0.1% sales tax increase and an additional $60 annual vehicle license fee, generating more than $45 million annually for the expansion of transit service and low-income transportation equity.

What are the recommendations?

Funding for regional coordination is critical to serving a larger population. These recommendations identify funding and coordination opportunities.

Strategy	What's the action?	Why is it important?	Implementation Support
8.1	Monitor transit service performance to justify future investments.	Monitoring transit service allows local jurisdictions to understand what services are being well used and what adjustments need to be made.	Local jurisdictions Metro TriMet
8.2	Explore service buy-up agreements with TriMet and institutional partners to fund increased service frequency or new shuttle routes.	Transit service buy-ups allow an enhanced rider experience. Partnerships create more opportunities for buy-ups through increased funding.	Local jurisdictions TriMet
8.3	Prioritize projects eligible for tolling and/or road pricing revenues.	Tolling and road pricing revenues will benefit the Vision for Transit through funding transit infrastructure projects.	Metro ODOT Local jurisdictions
8.4	Seed partnerships between transit agencies, jurisdictions, and private partners to encourage cost-sharing agreements.	Partnerships with transit providers and private partners can help make sure that transit can operate efficiently and serve areas with high demand.	Local jurisdictions Metro TriMet Employers Non-profits
8.5	Advocate for state funds for transit.	Allocating state funds to transit increases the amount of funding dedicated to transit.	Metro TriMet Local jurisdictions
8.6	Facilitate quarterly convenings of service providers.	Scheduling a set time for service providers creates an opportunity for ongoing collaboration.	Metro TriMet

6 MEASURING SUCCESS

Capturing the complete picture of success – how transit supports vulnerable populations, job access, environmental goals, and overall quality of life – will help communicate progress to the public and position the County, its jurisdictional partners, and TriMet to continue to invest in a high-quality transit system.

Metrics may be created or modified during future planning phases as implementation details and priorities, such as stop and station typologies, are further defined. The initial metrics were based on peer city examples, industry best practices, and Vision for Transit goals.

Vision for Transit Metrics

The Vision for Transit will improve access to frequent service to/from where people live and employment centers, along with the travel time and reliability of transit service.

- Currently, nearly **20%** of the population (2020) has access to frequent service. With the Vision, this number would increase to over **50%** of future population (2040).
- Currently, nearly **30%** of jobs (2020) are within a ½ mile walk of frequent service. With the Vision, this number would increase to nearly **70%** of future jobs (2040).
- Currently, slightly over **40%** of major employers are within a ½ mile walk of frequent service. With the Vision, this number would increase to nearly **90%** of major employers.[8]

Figure 6-1 Access to Transit Metrics

Access Metric	Measure	Existing [2] (Existing Network and Demographics)		Baseline [3] (Baseline Network and Future Demographics)		Vision (Future Network and Demographics)		Change between Baseline and Vision
		#	%	#	%	#	%	#
All Transit [1]	Population	369,000	62%	498,000	62%	575,000	71%	77,000
	Jobs	221,000	70%	334,000	77%	362,000	83%	28,000
Frequent Transit [1]	Population	112,000	19%	191,000	24%	412,000	51%	221,000
	Jobs	89,000	28%	174,000	40%	300,000	69%	126,000
	Number of ECO employers	70	43%	85	52%	142	87%	57

Notes: 1. Within ½-mile walking distance of existing or conceptual stop locations. 2. Existing statistics reflect the current network (as of Fall 2022) and demographics (2020). 3. Baseline statistics include near-term, funded changes identified in Forward Together that will be implemented by the end of 2023 and reflect future demographics (2040).

[8] Considered to be employers subject to State of Oregon Department of Environmental Quality (DEQ) Employee Commute Options (ECO) rules. Employers in the Portland area with more than 100 employees at a single work site must provide their employees with commute options to encourage them to reduce auto trips to the work site.

The Vision for Transit will also improve access to frequent service for people living in equity priority areas defined by Metro and TriMet (see Figure 6-2).

Currently, slightly over **20%** of the population (2020) within Metro Equity Focus Areas (EFAs) has access to frequent service. With the Vision, this number would increase to over **60%** of future population.

Currently, over **45%** of the population (2020) within TriMet equity focus areas (Census block groups in the top quartile of TriMet Equity Index) has access to frequent service. With the Vision, this number would increase to nearly **85%** of future population.

Figure 6-2 Equity-Focused Access to Transit Metrics

Equity Zone Definition	Population Access Metric	Existing [2] (Existing Network and Demographics)		Baseline [3] (Baseline Network and Future Demographics)		Vision (Future Network and Demographics)		Change between Baseline and Vision
		#	%	#	%	#	%	#
Metro Equity Focus Areas [4]	*All* Transit [1]	275,000	69%	335,000	71%	377,000	79%	42,000
	Frequent Transit [1]	85,000	21%	125,000	26%	292,000	62%	167,000
TriMet High Equity Priority [5]	*All* Transit [1]	109,000	83%	130,000	91%	131,000	92%	1,000
	Frequent Transit [1]	61,000	47%	87,000	61%	119,000	84%	32,000

Notes: 1. Within ½-mile walking distance of existing or conceptual stop locations.
2. Existing statistics reflect the current network (as of Fall 2022) and demographics (2020).
3. Baseline statistics include near-term, funded changes identified in Forward Together that were implemented by the end of 2023 and reflect future demographics (2040).
4. Metro EFAs are Census tracts where the rate of Black, Indigenous, or People of Color (BIPOC), people with limited English proficiency (LEP), or people with low income (LI) is greater than the regional average, and the density (persons per acre) of one or more of these populations must be double the regional average.
https://rlisdiscovery.oregonmetro.gov/datasets/drcMetro::equity-focus-areas-efa-2020/about
5. TriMet's Equity Index, at the Census block group level, includes 10 factors, including minority population, low-income population, LEP population, senior population, youth population, people with disabilities, limited vehicle access households, low and medium wage jobs, affordable housing units, and key retail/human/social services. See TriMet Forward Together Existing Conditions Report, 2022, page 27.
https://trimet.org/forward/pdf/TriMet%20Forward%20Together%20Transit%20Existing%20Conditions.pdf

Monitoring Metrics

The goals of the plan are to increase the number of people who ride transit and reduce per capita vehicle miles traveled to address climate change. The metrics below will be tracked by the County to evaluate progress towards the Vision for Transit goals.

Figure 6-3 Monitoring Metrics

	Metric	Existing Value	Time Period	Data Source	How Often
Transit Ridership	Ridership at stop/stations within Washington County	30,866	Fall 2022	TriMet [1]	Annually (based on the Fall service period)
Reduction in VMT per Capita	VMT within Washington County divided by population	8,621 VMT per capita per year	2022	Washington County [2]	Annual
Transit Mode Share	Share of Commute Trips using Transit as Primary Mode	2.5%	2022	American Community Survey [3]	Annual

Sources: 1. TriMet. 2. Washington County. https://www.washingtoncountyor.gov/support-services/documents/washington-county-trip-reduction-plan/. 3. US Census Bureau, American Community Survey 1-Year Estimates, 2022. Table B08141.

Conclusion

The Washington County Vision for Transit for the next 20 years is to serve the varying travel needs of people who live, work, and visit Washington County and help more people get to more places on transit. The Vision for Transit is responsive to the diversity of needs across the county by recommending different levels of transit service and investments tailored to the local context. The Vision also supports the County's climate and equity goals to help make transit a preferred way of travel.

The Vision for Transit is intended to serve as a foundational document for community members, local jurisdictions, transit providers, and other partners seeking to improve transit in Washington County. It establishes a clear statement of need rooted in data, is responsive to emerging policies at the state and regional levels, and establishes clear roles and responsibilities for partners across the County and region. The Vision is already informing local and regional transit supportive initiatives, including TriMet's Forward Together 2.0 and Metro's Access to Transit projects. The Vision will continue to inform policy and investment decisions for the foreseeable future and be a resource document for local Transportation System Plans to prioritize infrastructure that supports transit investments.