

SOUTHWEST CORRIDOR LIGHT RAIL PROJECT CONCEPTUAL DESIGN REPORT



FINAL DRAFT | SUMMER 2020

PROJECT PARTNERS

















PURPOSE OF THE CONCEPTUAL DESIGN REPORT

This Conceptual Design Report presents the goals and preliminary designs of the Southwest Corridor Light Rail Project based on community and project partner input over the past several years. It describes and illustrates the overall urban design vision as well as the conceptual designs for stations, major structures and other key corridor improvements. The document is intended to further public discussion about the project design, identify remaining challenges and shape ongoing design efforts in the coming years.

An environmental review of the project is also underway. A Draft Environmental Impact Statement (DEIS) was published in June 2018, initiating a public comment period. Together, the DEIS analysis and public comments informed the selection of a Locally Preferred Alternative in November 2018. A Final Environmental Impact Statement (FEIS) - expected to be published in the fall of 2020 - will respond to feedback and define the project scope, impacts and mitigations.

For more technical information about the project – such as property impacts, traffic and noise – please refer to the Final Environmental Impact Statement or contact project staff at: swcorridor@trimet.org

PHOTO CREDITS

All photos taken by TriMet unless otherwise noted.



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Table of Contents

	Executive Summary	4	Design Elements 4.1 Design Guidance
1	Introduction 1.1 Project Purpose and Values 1.2 Regional Planning Blueprint 1.3 Project Overview	9 11 14 15	 4.2 Stations and Platforms 4.3 Alignment Design 4.4 Trackway Type 4.5 Operations Equipment and Facilities 4.6 Walls 4.7 Overhead Structures
2	Process	23 24 25 26 26	 4.8 Bike Facilities and Protected Intersections 4.9 Light Rail Intersections 4.10 Stormwater Features 4.11 Urban Design Elements 4.12 Station Access Toolkit 4.13 Creating Places at Stations
	2.5 Funding	26 27 27	5 Design Concepts: Inner Portland
	2.8 Creating a Shared Investment.2.9 Equitable Development Strategy.2.10 Key Next Steps	28 28 29	6 Design Concepts: Outer Portland
			7 Design Concepts: Tigard and Tualatin
3	Corridor Context	31 32 33 34	Acknowledgments
	 3.4 Equitable Transit-Oriented Development 3.5 Natural Features	35 36 37 38 45	Appendices



Executive Summary

We've published this document in the midst of the COVID-19 pandemic, a unique global experience that has changed a lot of things - transit included. But one thing that remains the same is the region's commitment to safely and affordably get people where they need to go. While we adapt our system to meet our community's current needs, it is important that we also look toward the horizon, and continue planning for how we want our region to grow for generations to come.

The Southwest Corridor Light Rail Project represents the next important step in building out our region's transportation system. The new MAX Line will provide a 30-minute trip between Downtown Portland and Tualatin, one of the most congested travel corridors in our region. As the region grows to by more than 400,000 people by 2040, the project will also be the catalyst for broader corridor improvements, fostering connected, affordable communities where all people can live, work, and thrive.

The project benefits are myriad and extend to the region at large. Compared to its current state, the project allows the corridor to move more people to more places, increasing person-throughput capacity in segments such as historic SW Barbur Blvd by as much as 57 percent in the AM peak and 46 percent in PM peak. By reducing the daily passenger vehicle miles traveled by about 59,000 miles per day, the equivalent of about 7,000 to 8,000 metric tons of annual greenhouse gas emissions, the project helps fulfill state and local climate action plans.

Regional growth projections anticipate 75,000 new residents and 65,000 new jobs in the corridor by 2035. In partnership with the Southwest Equitable Development Strategy, the project will also help retain and increase opportunities for people of color and low-income residents living in the corridor. Project partners aim to create 950 new affordable housing units in the corridor (**Appendix C**).

Transit provides a critical social equity role. Southwest Corridor Light Rail Project partners are developing strategies to minimize gentrification and displacement,



and combat climate change, which disproportionately affect people of color and low income communities. We remain committed to building and maintaining a safe, affordable and accessible transit system for everyone.

Finally, the project contributes to the local economy: forty Disadvantaged Business Enterprises are already employed through preliminary design work, and the opportunity to bring nearly \$1.33 billion in federal matching funds is expected to generate nearly 28,000 jobs in our region. This includes direct jobs - such as planners, designers, engineers and construction workers - as well as stimulating job growth through indirect and induced jobs as salaries are spent in our local economy on groceries, entertainment, and the wide range of services offered throughout the corridor.

The current project design reflects nearly a decade of planning between TriMet, Metro, Oregon Department of Transportation, Washington County, and the Cities of Portland, Tigard, Tualatin, and Durham. The Conceptual Design Report (CDR) describes and illustrates the overall design vision by providing conceptual designs for stations, structures, and other key corridor improvements. The document is intended to further public discussion about the project design as well as identify remaining challenges. Technical information about the project, such as traffic, wetland impacts, and mitigation strategies are detailed in the Final Environmental Impact Statement (FEIS), which complements the CDR.

The CDR outlines project principles, goals and objectives developed with input from a variety of project stakeholders. In Chapter 3, the CDR introduces regional

context and history, which informs opportunities and challenges for the overall project design. In Chapter 4, the CDR provides examples and toolkits for project elements. Chapters 5-7 describe station locations, access planning, and functional concept plans. Building on community input generated, these chapters also note the design value statements to be explored further in future project phases.

In addition to the project scope, the CDR captures the connection with relevant infrastructure projects planned by partner agencies. During previous outreach, a variety of complementary infrastructure projects for the corridor were seen as important investments by the community. While these projects are planned, designed, funded and constructed entirely by partner agencies, and are not part of the project, they are included on pages in each station area for context. These projects demonstrate that the Southwest Corridor Light Rail Project is the backbone of a high-capacity transit network, leveraging further investments and improving regional mobility.

REALIZING OUR REGION'S SHARED VALUES





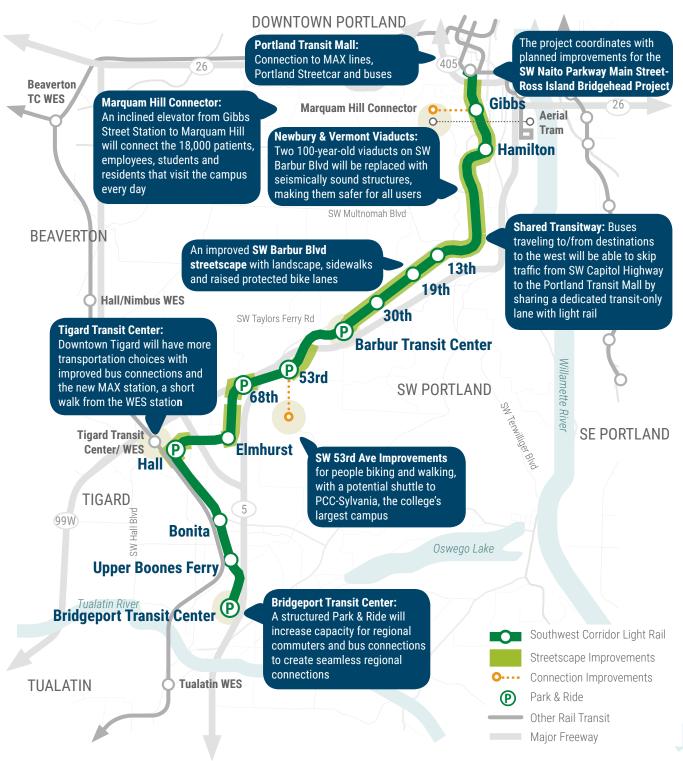




PROJECT SCOPE

Project scope includes improvements for people walking, biking, taking the bus, and driving, such as:

- 10 miles of new, standard bi-directional sidewalks and crosswalks to improve comfort and promote walkable access to transit and local station area amenities.
- Over six miles of enhanced bicycles facilities, including shared streets, raised protected bike lanes and protected intersections encourage bicycle commuting and access to transit.
- Short-term and long-term bike parking options are conveniently located at each station.
- Up to 2,000 Park & Ride spaces along the alignment.
- 1.6 miles of shared transitway allowing buses to travel within the light rail guideway, enhancing the speed, reliability and convenience of bus routes serving Hillsdale and other Southwest communities.
- A new operations and maintenance facility (OMF) supports fast, reliable and cost effective MAX service in the corridor and brings up to 150 new jobs to Tigard.
- SW 70th Ave improvements will complete portions of Tigard's planned bike and pedestrian network and increase access to the growing Tigard Triangle mixed use community.
- SW Hall Blvd, SW Commercial St and SW Hunziker St improvements will improve safety for people walking and biking, and promote comfortable access to transit throughout Downtown Tigard.
- A new pedestrian bridge over SW Lower Boones
 Ferry Rd connects the light rail station with bus
 facilities and a Park & Ride at Bridgeport Transit
 Center in Tualatin, supporting many different ways
 of reaching the MAX system.



DESIGN CONCEPTS: PORTLAND

GIBBS STREET STATION



6,200 Projected **Daily Trips***

*An additional 7,600 projected daily trips are expected from buses in the shared transitway

See Page 94

Nestled between the historic Lair Hill neighborhood and the forested West Hills of Terwilliger Parkway. the Gibbs Street Station will provide a critical connection for the thousands of employees, patients and students visiting Marguam Hill every day. Enhanced pedestrian crossings will make it easier for South Portland residents to access Terwilliger Parkway's natural beauty and expansive views. With a new crossing of SW Naito Pkwy and the Marquam Hill Connector, a pedestrian connection will reach from the South Waterfront to Marguam Hill. These connections will provide direct access to the light rail station, and a new public plaza.

See Page 102

The Hamilton Street Station is located near the South Portland community hub, between SW Bancroft St and SW Hamilton St. Safer, easier pedestrian connections across SW Barbur Blvd will help link the Homestead neighborhood uphill and the South Portland neighborhood downhill. The station will serve as a major transfer point for local bus lines.

HAMILTON STREET STATION



1,800 Projected **Daily Trips**

19TH AVENUE STATION

43 Percent Walk 46 Percent Transfer

2 Percent Transfer

O Percent Auto

12 Percent Auto

See Page 122



2,000 Projected **Daily Trips**

87 Percent Walk 12 Percent Transfer 1 Percent Auto

19th Avenue Station is nested within a neighborhood and commercial area located at the intersection of SW Capitol Hill Rd, SW 19th Ave and SW Barbur Blvd. The SW 19th Ave and SW Spring Garden St overcrossings of I-5 provide convenient multimodal access from the station to the South Burlingame neighborhood east of I-5. The station is adjacent to a recently remodeled Safeway store and is one of two stations within close proximity to the Multnomah neighborhood. A number of schools, housing and parks are clustered near this station.

MARQUAM HILL CONNECTOR



10,000 Projected **Daily Trips**

See Page 98

Marguam Hill, home to numerous health care destinations, including Oregon Health & Science University (OHSU), attracts over 18,000 employees, patients and students each day from around the region. To serve this major destination, the Southwest Corridor Light Rail Project will include a connection from the Gibbs Street Station on SW Barbur Blvd, up the steep inclines toward Marguam Hill to land at SW Terwilliger Blvd. An inclined elevator will provide a new form of transportation in Portland. Two elevator cabs would run on parallel tracks to move people up and down the steep slope between OHSU and Gibbs Street Station

13TH AVENUE STATION



2,300 Projected **Daily Trips**

63 Percent Walk 37 Percent Transfer O Percent Auto



13th Avenue Station is located on the east side of the West Hills and is the gateway to the SW Barbur Blvd commercial corridor. Adjacent to the Burlingame Fred Meyer and between the South Burlingame and Hillsdale neighborhoods, it is the closest station to Hillsdale Town Center and the SW Terwilliger Blvd crossing of I-5, serving as a key connection point for people walking, biking, driving and taking buses traveling toward Downtown Portland or Tigard/Tualatin.

30TH AVENUE STATION



4,200 Projected **Daily Trips**

95 Percent Walk ① Percent Transfer 5 Percent Auto

See Page 126

30th Avenue Station is located on SW Barbur Blvd providing direct access to the Markham and Multnomah neighborhoods. Nearby SW 26th Ave provides convenient access from residential areas east of I-5. Located near existing commercial and office areas, 30th Avenue Station also provides access to neighborhood amenities and supports future growth.

BARBUR TRANSIT CENTER

2,900 Projected Daily Trips

♦ 65 Percent Walk● 12 Percent Transfer■ 24 Percent Auto

See Page 130

With views to Mt. Hood and centered within the West Portland Town Center, the Barbur Transit Center is the high-visibility flagship station of the new Southwest Corridor Light Rail Project within the City of Portland. With access to I-5, SW Capitol Hwy, SW Taylors Ferry Rd, multiple bus routes, an existing pedestrian bridge across I-5 and nearby connections to SW Trails, Barbur Transit Center is at the crossroads of multimodal mobility. The transit center consists of bus amenities, a light rail connection a surface Park & Ride with up to 300 spaces, improved pedestrian access and bike parking facilities.

53RD AVENUE STATION



2,400 Projected Daily Trips

65 Percent Walk
1 Percent Transfer
34 Percent Auto

See Page 138

53rd Avenue Station is located in the far Southwest neighborhood off SW 53rd Ave between SW Barbur Blvd and I-5. Adjacent to the wooded slopes of Mt. Sylvania, the station serves the neighborhood and the PCC-Sylvania campus. Complementing walk and bus access to the station, the site includes a proposed surface Park & Ride with up to 310 spaces, and improvements on SW 53rd Ave for people walking and biking.

DESIGN CONCEPTS: TIGARD & TUALATIN

68TH PARKWAY STATION



4,900 Projected Daily Trips

19 Percent Walk
40 Percent Transfer
19 Percent Auto

See Page 158

Located on the south side of Pacific Hwy/99W, the station's prominent presence atop a natural amphitheater above Red Rock Creek provides views over the Tualatin Valley and Red Rock Creek watershed. 68th Parkway Station acts as the portal into the burgeoning Tigard Triangle neighborhood. Sidewalk improvements and improved pedestrian crossings on Pacific Hwy/99W at SW 68th Pkwy and SW 64th Ave connect the station to the residential areas to the north. Adjacent bus stops and a surface Park & Ride with up to 350 spaces will enable quick and easy transfers for people coming from King City, Sherwood and other communities southwest of Tigard.

ELMHURST STREET STATION



3,900 Projected Daily Trips

♦ 99 Percent Walk● 1 Percent Transfer■ 0 Percent Auto

See Page 164

Located at the heart of the Tigard Triangle, the station is a central magnet supporting mobility in all directions for the growing number of residents and workers in this mixed use neighborhood. Street improvements near the station will promote safe and convenient access to mixed use neighborhoods and regional trails.

HALL BOULEVARD STATION



5,500 Projected Daily Trips

♦ 46 Percent Walk♦ 42 Percent Transfer12 Percent Auto

Sitting at the intersection of a dense mixed-use center and regional employment hub, Hall Boulevard Station is a critical node for the project. To emphasize bus and WES Commuter Rail transfers, the SW Commercial St transit corridor will be designed for pedestrian comfort and integrate the station into Downtown Tigard. Design elements include bus shelters, landscaping, pavement treatments and wayfinding. Similar pedestrian and bicycle improvements along SW Hall Blvd and SW Hunziker St will help continue to make Tigard one of the most walkable cities in the region.

See Page 170 BONITA ROAD STATION



2,300 Projected Daily Trips

↑ 73 Percent Walk
27 Percent Transfer
0 Percent Auto

See Page 176

Located at the intersection of SW Bonita Rd and SW 74th Ave, Bonita Road Station serves both the diverse residential communities to the west and the industrial employment center to the east. Perhaps more importantly, the station is just a few steps from an entry point to the Fanno Creek Trail, making it a perfect link for those walking and biking along this vital regional connector.

UPPER BOONES FERRY ROAD STATION

See Page 180

1,300 Projected 100 Percent Walk

Upper Boones Ferry Road Station is located in the heart of Tigard's bustling office park employment center. Commuters will be able to easily walk to dozens of offices, industrial buildings and business parks that surround the station. SW Upper Boones Ferry Rd also serves as the primary connection from the station to residential and retail areas to the east of I-5 and beyond.

BRIDGEPORT TRANSIT CENTER



7,800 Projected Daily Trips

23 Percent Walk50 Percent Transfer

27 Percent Auto

See Page 184

The Bridgeport Transit Center will be more than just a light rail station. It will be an iconic mobility node and visible gateway to those traveling across the region. With a major Park & Ride, bus transfer center, access to I-5 and walkable connections to Bridgeport Village, the station will serve a wide range of communities in the southern metro area. Adjacent to the Bridgeport Village commercial center are numerous potential development sites. The area is set to become a new central hub of activity.

WHAT'S NEXT?

Daily Trips

Following this CDR, the project will seek to secure 30 percent of local funding commitments through the Get Moving 2020 regional transportation funding measure in November 2020. These commitments are necessary to continue to advance toward a Full Funding Grant Agreement from the Federal Transportation Administration (FTA). The project anticipates starting construction in 2021, with the start of service in 2027.

① Percent Transfer

O Percent Auto

Beyond 2027, developing light rail infrastructure opens up many future opportunities to improve and expand value in the communities surrounding its stations. As illustrated on the right, the future vision for a transit station brings opportunities for expanded mobility services supporting station access, transit-oriented development that help communities take advantage of the public investment of a system and improvements to natural systems including trails, streams and wetlands.

Ultimately, the Southwest Corridor Light Rail Project is key to shaping the future of our region in line with Metro's 2040 Growth Concept. Working together, we can achieve a project that moves and connects people, provides transportation choices, maintains and creates equitable communities, preserves and restores the natural environment, and builds infrastructure for a sustainable future. The project partners look forward to ongoing collaboration with the many stakeholders in the region to realize the vision of this project.



2019-2020

DESIGN

2020-2022

2022-2027

ENGINEERING

CONSTRUCTION

COMMUNITY ENGAGEMENT (ONGOING)

See Chapter 2 to learn more about the community engagement process and next phases of the project.

WORKING TOGETHER FOR TRANSIT-ORIENTED COMMUNITIES



Mature tree canopy and stormwater features, over time, can create a more attractive street-level pedestrian experience while protecting rivers, streams and oceans.

Private mobility options can complement and promote transit use. The project is assessing the need for future mobility services at locations within and outside the right-of-way.

The presence of a walkable, compact and mixed community near stations helps to encourage transit use, and offers better mobility for non-driving populations.





1 Introduction

1.1 Project Purpose and Values

The Southwest Corridor Light Rail Project aims to help the region realize its shared values. To ensure these values encompass this project, a set of principles, goals and objectives have been established. These principles and goals reflect stakeholders' adopted visions, strategies and action plans that express the communities' desires and describe what the project would like to accomplish. By measuring the project against these values, the benefits to the region are realized and frame the purpose of this project. This framework has helped steer decisions on the project, leading to the preliminary designs defined in this document.

These principles, goals and objectives ensure that the many contributors to this regional investment continue to have a voice in shaping the project's outcome. They serve as a guide for choosing courses of action that help achieve equitable communities, ensure healthy environments, and provide robust mobility options that align with our regional goals and design aspirations for a sustainable future.

The four principles guiding the project design are:

- 1. Move and Connect People to build a safe, dependable transit system that provides a reliable and desirable transit experience, is adaptable to technologies and supports multiple modes on our transportation network.
- 2. Maintain and Create Equitable Communities that strengthen existing community and cultural resources, retain communities of color and low income populations, promote equitable access to opportunity, generate inclusive economic benefits and create welcome, intuitive spaces for all.

PROJECT PRINCIPLES









- **3.** Preserve and Restore Natural Environment to preserve wildlife habitat, support the natural environment, and improve connections to nature, recreation and green spaces.
- **4. Design for the Future** to build flexible, resilient infrastructure, support community sustainability, minimize the project's footprint and minimize the impacts of potential future hazards.

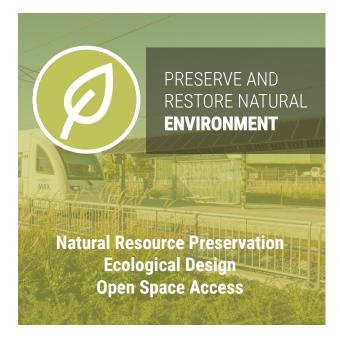
Moving forward, the objectives will work, along with input from community partners, to ensure that investments provide the best value and most effective way to achieve project goals. This framework will be applied to test options and guide design choices, link regional goals to technical decision-making, monitor outputs to ensure accountability, and articulate project values and priorities to help leverage alternative

funding to implement complementary investments. The objectives relating to each principle and goal are further defined on the following pages.

Please refer to **Appendix B** for Draft CDR Principles, Goals and Objectives, and the Draft CDR Project Metrics

PROJECT PRINCIPLES, GOALS AND OBJECTIVES





Goal 1: Design and implement a safe, dependable transit project

- Design a fiscally stable project to qualify for both a competitive FTA rating and local financial commitment
- Locate stations to **decrease travel distances** between people and attractions
- Apply a range of tools to the corridor to optimize ridership
- · Prioritize customer safety and apply principles of Crime Prevention through Environmental Design (CPTED)
- Facilitate local connections and transfers to MAX service

Goal 2: Provide an attractive and desirable transit experience

- Design stations and vehicle elements for universal access
- Provide convenient and intuitive station access points
- Include consistent system elements and wayfinding that is easily identifiable to riders
- Incorporate durable, easy to clean materials to maximize quality and extend service life
- · Optimize facilities for human interaction, usability, and comfort
- Design stations for clear and easy fare payment

Goal 3: Design to adapt to future modes and technology

- · As feasible, pilot new technologies to build resilience to industry change and incorporate changing access modes
- Pursue strategic partnerships to creatively address first-last mile connections

Goal 4: Support the completion of a multimodal transportation network

- · Apply a station access hierarchy to **protect vulnerable users** and prioritize shared modes (bus, shuttle, carpool)
- Provide facilities for **active transportation** users at appropriate station sites
- Maintain vehicular capacity of the corridor and minimize infiltration through neighborhoods
- Support relevant station access partner projects that increase transit use

Goal 1: Preserve wildlife habitat and connectivity to the regional ecosystem

- Protect and improve existing plant, aquatic and animal habitat
- Avoid floodplains and potential flooding areas for station location and/or access
- Support existing efforts to **re-create natural areas**
- · Mitigate short- and long-term noise and light impacts on station-adjacent natural environment
- Minimize infrastructure footprint in wooded and natural areas

Goal 2: Be ecologically responsive and support the natural environment

- Seek opportunities to incorporate design treatments that enhance project-associated wetlands and riparian areas
- Incorporate stormwater management best practices into project design to improve water quality and stream health
- · Where appropriate, specify native plants
- Provide educational opportunities to highlight the **ecosystem value** of the corridor

Goal 3: Improve connections to nature, recreation and green spaces

- Where appropriate, incorporate new and maintain existing green and open space into the project
- Support opportunities to increase links to existing and planned green and open spaces
- Maximize opportunity for future **tree canopy** in project planting design





Goal 1: Maintain and strengthen existing community and cultural resources

- Protect existing affordable housing and preserve identified historic resources
- Prevent cultural displacement of low income and disadvantaged communities of color, especially established nodes of immigrant and Latino populations
- · Celebrate diversity through contextual design elements that respond to the corridor's varied culture, history and community
- Seek input from local stakeholders to **identify essential assets** within the corridor and encourage access to them
- Minimize footprint of transportation facilities

Goal 2: Promote equitable access to community resources, commerce and transit benefits

- Connect to existing regional job centers
- Support **mixed income and mixed housing developments** within walking distance to stations
- · Support regional initiatives to identify affordable housing opportunities on publicly owned land near proposed station sites

Goal 3: Support creation of welcoming, intuitive spaces for all

- · Design stations as high quality public places that will inspire future public and private investment
- Design pedestrian-friendly, comfortable and attractive **streetscapes**
- Support city adopted land use plans and initiatives

Goal 4: Generate inclusive economic benefits for people and businesses in the corridor

- Support small, local and growing businesses
- Catalyze industry, employment and commercial uses near transit stations
- Support regional initiative to create affordable housing on publicly owned lands near transit stations
- Minimize construction impacts
- Maintain transparency to inform stakeholders of project benefits, impacts, opportunities, budget and schedule

Goal 1: Build robust, flexible infrastructure to support community sustainability

- Foster **collaborations** to integrate infrastructure into neighborhoods and leverage related investments
- Acknowledge and design for development adaptability
- Design for the impacts of a changing climate
- Apply best practices and standards to manage corridor facilities, property, operations and maintenance
- Consider project life-cycle when making design choices

Goal 2: Minimize the project's carbon footprint

- Support and apply low-energy technologies, including renewable energy such as wind and solar
- Encourage low-carbon patterns of development
- Optimize material efficiency and specify low-embodied-carbon materials, including those with shorter travel distances
- Encourage the use of low-carbon modes of transportation to access the project

Goal 3: Plan responses to minimize the impact of potential future hazards

- Design to minimize impacts from known **natural hazards**
- Locate and design **critical systems** to withstand extreme weather events based on future climatic conditions
- Promote effective **emergency response** procedures
- Design to minimize impact and potential for human-caused threats

1.2 Regional Planning Blueprint

The Portland metropolitan area has long been a national leader in regional planning. From pioneering efforts establishing an urban growth boundary, to building one of the nation's first modern light rail systems, the region has sought to implement equitable and sustainable solutions as its many diverse communities continue to grow and change.

The Southwest Corridor Light Rail Project represents the next important step in planning for the region's future. Interstate 5 (I-5) south of Downtown Portland is already one of the most congested travel corridors in the region. The surrounding communities, known as the Southwest Corridor, are expected to see 75,000 new residents and 65,000 new jobs by 2035. This project will connect the important regional centers in the Southwest Corridor to the existing high-capacity transit network, offering a sustainable travel option to jobs, homes and other destinations for people all across the region.

Project partners are also undertaking efforts to ensure that lower income households and communities of color continue to live, work and thrive in the Southwest Corridor. Through the Southwest Equitable Development Strategy, jurisdictional and community partners are identifying opportunities for affordable housing, developing job training strategies and helping historically underrepresented community members engage in the planning process. It is important that the region's major transit investments support communities that are livable and affordable for everyone.

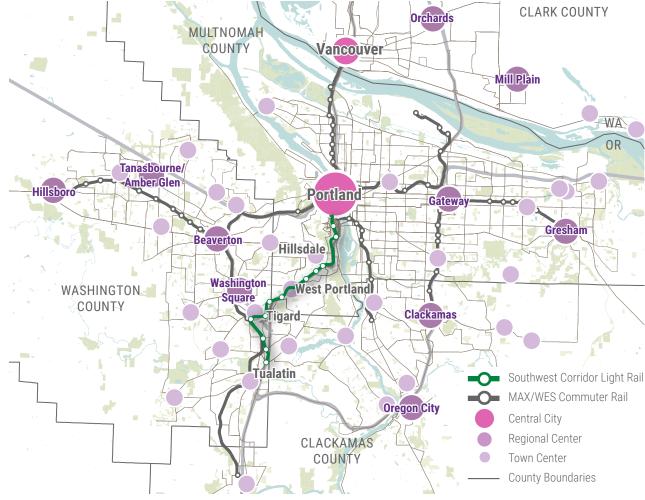


Figure 1.1: Metro Growth 2040 Components

















Figure 1.2: The Southwest Corridor Light Rail Project is a coordinated effort between eight jurisdictions and agencies

1.3 Project Overview

FAST. RELIABLE TRANSIT FOR A GROWING AREA

The Southwest Corridor Light Rail Project will be an 11mile extension of the existing MAX Light Rail system. It will offer a 30-minute ride between Downtown Portland and Tualatin, connecting regional centers including West Portland Town Center, Tigard Triangle, Downtown Tigard and Bridgeport Village. The light rail is expected to provide 37,500 trips on an average weekday by 2035, which could make up 20 percent of all commuters going southbound from Downtown Portland during afternoon rush hours.

More than just light rail, the project will also include a variety of improvements to make it safer and easier to get around by all modes. New sidewalks and upgraded bike facilities will be built along the project corridor and other key locations. Roadways will be repaved and rebuilt with new upgraded traffic signals. The project will also include major stormwater improvements to treat the nearly 81 acres of existing impervious surface - all currently unmanaged in the corridor.

The project will foster equitable communities by expanding access to vibrant, walkable neighborhood centers, building stations in identified urban and suburban centers, organizing local bus service to improve regional connections to light rail and supporting public and private projects to add housing. To achieve this, project partners are coordinating investments with other local initiatives.

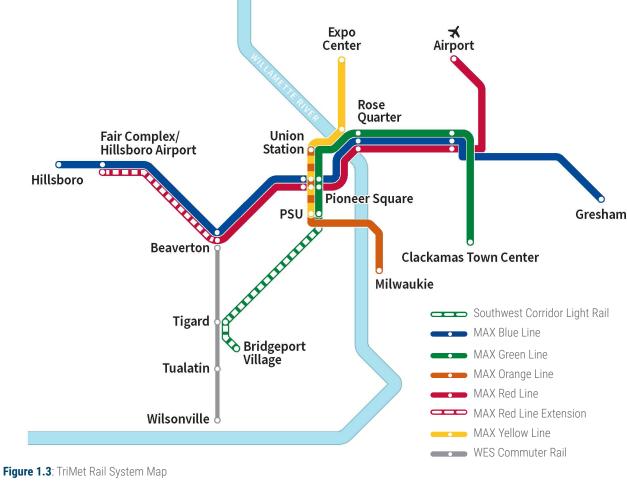




Figure 1.4: TriMet Rail System Timeline

CONNECTING THE SOUTHWEST CORRIDOR

Expanding transit options in the Southwest Corridor is essential to the livability and economic vitality of the region. The project not only brings frequent, reliable transit by expanding the MAX system, but also invests in safer infrastructure for people walking and biking. This multimodal project contributes to our regional goals for mobility, climate and more equitable communities. As a coordinated effort, the project sets the stage for many ongoing regional investments.

In 2019, we had:

people commuting between Portland and Tigard/Tualatin

By 2035, we could see:

37,500

average weekday light rail trips on the Southwest Corridor Light Rail

75,000

new residents in the Southwest Corridor

17

percent increase in congestion on I-5 between Portland and Tigard

Reliability from PSU to Tualatin:

58 min

-VS-

30 min

To be on-time 90 percent of the time in today's weekday PM peak, one should allow 58 minutes for auto travel time. In 2027, light rail will consistently make the same trip in 30 minutes.

SOURCE: METRO, 2019



SOUTHWEST CORRIDOR PROJECT BY THE NUMBERS



99999 99999 999



11 MILES

13 STATIONS 30 MINUTES

BETWEEN DOWNTOWN PORTLAND AND BRIDGEPORT VILLAGE

STATIONS WILL SERVE MANY DIFFERENT FUNCTIONS

Stations serve multiple functions based on where they are located within the community. Southwest Corridor Light Rail Project stations will be located within a variety of neighborhoods, town centers and employment areas between Downtown Portland and Tualatin. Station characteristics help shape the communities they serve from opening day, acting as a framework for what the surrounding area can become in the future through coordinated land use, mobility and placemaking.

Project partners will work to understand the aspirations of communities around each station and how this is reflected in design elements that express community character.



EFFICIENTLY MOVING MORE PEOPLE TO MORE PLACES

The way we get around is rapidly changing, with opportunity for new choices. Stations are more than just places to get on and off light rail; they are transportation hubs that can connect people to mobility choices - whether it is car share, bike share, electric scooters or ride-hailing – as well as other amenities, such as delivery lockers, wifi hotspots and public gathering spaces. Southwest Corridor Light Rail Project:

- Helps maximize person throughput in a congested corridor
- Creates seamless connections between bus, MAX lines and WES Commuter Rail
- Supports infrastructure investments, roadway and stormwater improvements, bus service enhancement and active transportation infrastructure
- Includes 10 miles of new sidewalks and over six miles of new and enhanced bike facilities that encourage active transportation
- Improves access to the Portland Community College-Sylvania campus
- Provides a new transit accessible connection to Marquam Hill destinations
- Includes up to 2,000 Park & Ride spaces for those traveling on light rail



RESPONDING TO LOCAL CLIMATE GOALS

The Southwest Corridor Light Rail Project is expected to reduce daily passenger vehicle miles traveled by about 59,000 miles per day – that's about 7,000 to 8,000 metric tons of annual greenhouse gas emissions. But it may bring even greater climate benefits by supporting the region's growth strategies – stimulating compact development so people can make more trips by walking or biking, while reducing car travel. Other climate benefits include:

- regenerative braking. While TriMet is transitioning its bus fleet away from diesel by 2040, light rail is a proven green technology that has been successful in our region for the past 30 years, accounting for one third of all TriMet trips.
- It's more than MAX trains. The project includes improvements to the road, bike and pedestrian network, and stations will be designed to accommodate new transportation technologies. Bus service will be improved to complement MAX and maximize alternatives to vehicle travel.
- The project includes green infrastructure to improve the natural environment along the corridor, supporting water quality, fish passage and long-term habitat connectivity. The project will significantly upgrade stormwater management systems, including bioswales to filter and slow runoff.



BUILDING A PROJECT FOR EVERYONE

The Southwest Corridor is a diverse community. Project partners strive to ensure that low income households and communities of color continue to live, work and thrive in the Southwest Corridor alongside this major transportation investment. The project adds additional capacity or person-throughput within the Southwest Corridor, allowing more people to move more places.

Within a half mile of the corridor:

percent of residents are people of color

percent of residents are living on low incomes

percent of existing jobs are low- to medium-wage jobs

Partners are committed to:



supporting the Southwest Equitable Development Strategy

preserving and building more affordable housing within the corridor, including a pledge to identify sites for 950 more units



CONTRIBUTING TO THE LOCAL ECONOMY

\$1.33

billion dollars of federal funds leveraged

7.5 min

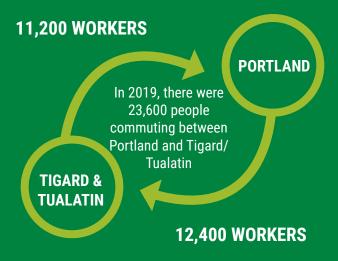
peak hour weekday train frequencies expected between Downtown Portland and Tigard, increasing access to living wage jobs and educational opportunities

nearly 28,000

new jobs expected to be generated by the project

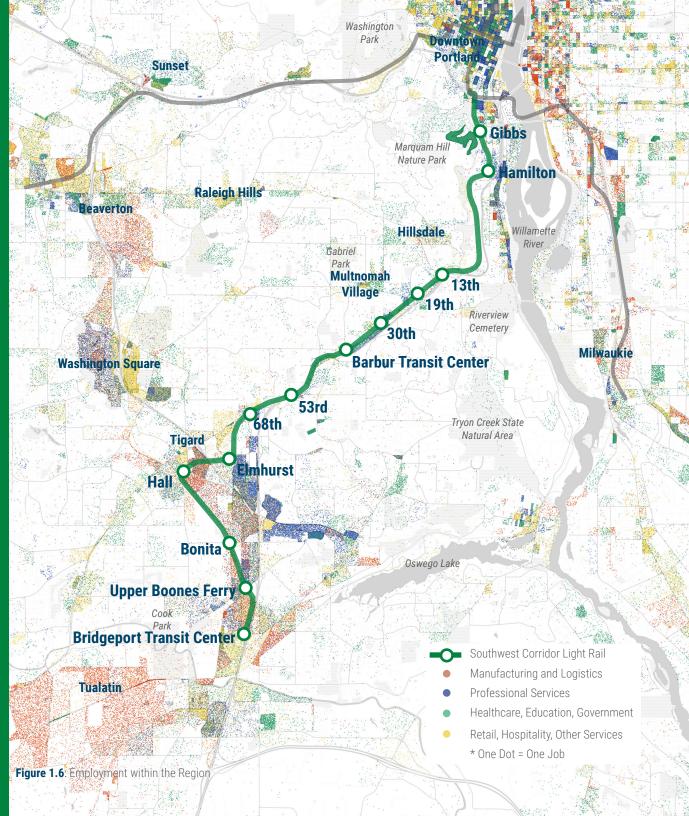
40

Disadvantaged Business Enterprises (DBEs) already contracted for the project design phase



DATA SOURCE: 2017 ONTHEMAP DATA (CENSUS LEHD)

IMAGE SOURCE: EMPLOYMENT IN AMERICA, 2014 (ROBERT MANDUCA)





2 Process

Successfully completing a project of this size and complexity is no small feat. Building on the experience of many past light rail projects, the planning process includes significant technical analysis, coordination with jurisdictional partners and continual stakeholder engagement. This chapter provides an overview of how the project got here and the decision-making structures that help ensure the region builds the best possible light rail project.

2.1 Understanding Project Impacts

With such a transformational project, it is critical to comprehensively evaluate the positive and negative impacts the project could have on the built and natural environment, and develop strategies to minimize or avoid adverse impacts. This technical work is codified under the National Environmental Policy Act (NEPA), which requires major projects to make detailed information about impacts available to the public through an environmental review. Types of impacts studied include property acquisitions, historic structures, park, visual, noise, traffic and water resources. The environmental review also includes studies of alignment alternatives being considered, a "no-build" alternative as a baseline for evaluating the benefits and impacts of the light rail alternative, and the other related transportation investments that could complement the project, but assumed to be funded separately. In June 2018, the Southwest Corridor Light Rail Project published these detailed studies in a Draft Environmental Impact Statement (DEIS), considering several potential light rail routes as well as options for improving access to stations. The DEIS analysis and public comments informed the selection of a Locally Preferred Alternative in November 2018. A Final Environmental Impact Statement (FEIS) published in the fall of 2020 will respond to feedback and define the project scope, impacts and mitigations.





IMAGE SOURCE: TRIMET

2.2 Key Milestones

Since 2011, local leaders have studied how the project can best help residents, commuters and visitors get around the region safely, quickly and efficiently for decades to come. Over the next few years, TriMet will work with partners and communities to refine designs through the next phases of the project, as described in the timeline below.



A Shared Investment Strategy is developed through coordination with local planning efforts and community engagement. A Draft Environmental Impact Statement (DEIS) is published and released for public comment. A Locally Preferred Alternative is selected, confirming the general route and station locations.

Figure 2.1: Overview of key milestones

Project design is advanced to 30 percent and captured in the CDR. Updated project impacts are published in the Final Environmental Impact Statement (FEIS). Initial project costs are refined, and 30 percent of local funding is secured. A Record of Decision is made by the Federal Transportation Administration.

Designs are refined and advanced to 100 percent and all local funding is secured. Property acquisition and early project construction begins.

With a Full Funding Grant Agreement from the Federal Transportation Administration, construction, testing and training takes place with an expected start of service in 2027.



Community engagement continues throughout all phases. To learn more about TriMet's process, see **Section 2.7: Community Engagement**

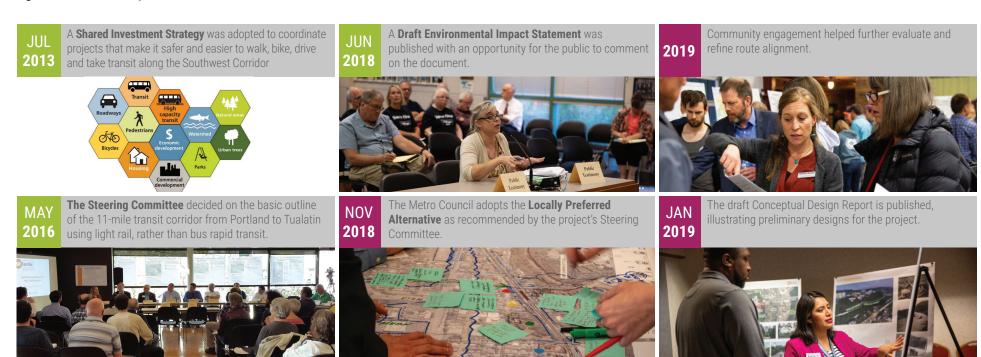


Figure 2.2: A number of significant milestones have occurred during previous phases of the project

2.3 Project Partners

Project partners are working together to make this project a reality, and have a variety of roles, contributing leadership, expertise, and funding. Project partners include: Metro, TriMet, City of Portland, City of Tigard, Washington County, City of Tualatin, City of Durham and the Oregon Department of Transportation (ODOT). Metro was the lead agency from 2011-2018 during the early project planning and environmental review. In late 2018, TriMet took the lead role and is expected to carry the project through design, engineering and construction, with continued community engagement.

2.4 Guiding Documents

The Southwest Corridor Light Rail Project has a suite of planning agreements that helped establish project partnerships and outline the project goals. These include:

CITY OF PORTLAND RESOLUTION AND EXHIBITS

The City of Portland formally adopted the Preferred Alternative through this document and provided a series of priority actions. These resolutions included, but are not limited to: a preliminary project work plan; environmental clearance of the Ross Island Bridgehead Reconfiguration Project; the importance of providing three stations in the central SW Barbur Blvd corridor; collaboration for redevelopment opportunities at the Barbur Transit Center through the West Portland Town Center land use planning process; resolution of the Crossroads Area light rail alignment; prioritization of station access, including a collaboration with the City of Tigard on station access projects where investments also serve Portland neighborhoods; mobility options; and Park & Rides in conformance with City land use directives; connectivity to Marguam Hill and Portland Community College; refinements to a downtown connection; integration of key recommendations from the Barbur Concept Plan as it relates to station locations and focus areas; special consideration to "the Woods" area; considerable evaluation given to local neighborhood circulation and business access;

compliance of stormwater management regulations; and support for the affordable housing targets in the Southwest Corridor Equitable Housing Strategy.

OREGON DEPARTMENT OF TRANSPORTATION AND CITY OF PORTLAND JURISDICTIONAL TRANSFER OF SW BARBUR BLVD

The City of Portland and ODOT have an Intergovernmental Agreement to jurisdictionally transfer SW Barbur Blvd right-of-way currently under ODOT ownership and maintenance to the City of Portland. This agreement applies where the light rail alignment is located in the center of SW Barbur Blvd (north of Barbur Transit Center), and required that the Southwest Corridor Light Rail Project design and construct the roadway and transit improvements to the City of Portland's operational conditions and design guidelines. These improvements include, but are not limited, to a complete pedestrian sidewalk network, bicycle lanes. safer intersection design, repaving of roadway and replacement of the Newbury and Vermont viaduct structures along the defined segment of SW Barbur Blvd.

CITY OF TIGARD MEMORANDUM OF UNDERSTANDING (MOU)

In 2018, the City of Tigard and TriMet established a commitment of both parties to address the land use, transportation, redevelopment, economic and fiscal impacts that result from the Preferred Alternative selection. The MOU provides a collaborative framework for parties regarding location of stations serving Tigard, improved pedestrian access and multimodal connectivity to Downtown Tigard, preservation of existing affordable housing, identification of transitoriented development (TOD) opportunities, contextual treatments for the operations and maintenance facility, mitigation of job impacts and inclusion of a multi-use path over OR-217 as a project betterment.

AFFORDABLE HOUSING MEMORANDUM OF UNDERSTANDING (MOU)

In 2018, the City of Portland, City of Tigard, Washington County, Metro and TriMet made a commitment to promote affordable housing, business stabilization, employment opportunities, commercial uses at station areas and other development in the corridor in conjunction with the project. The Affordable Housing MOU names specific affordable housing production targets from the Southwest Corridor Equitable Housing Strategy and provides a framework and statement of intent to deliver upon these commitments. Alignmentwide, the MOU aims to create 950 affordable housing units within residentially developable excess property parcels at station areas. Coordination of these housing, economic development and community development goals relies on a collaboration with community partners.

2.5 Funding

The project is estimated at \$2.8 billion. Over the next several months the project leadership is working to formalize partner local funding commitments.

The Southwest Corridor Light Rail Project is one of the transportation investments that would be funded through Metro's Get Moving 2020 regional transportation funding measure. This package of investments is expected to go before voters in November 2020, with \$975 million assumed for the Southwest Corridor Light Rail Project.

Passage of the funding measure is a necessary step for the project to move forward into the next phase of the federal funding process, to continue to work toward garnering \$1.33 billion of discretionary federal funding.

2.6 Committees

STEERING COMMITTEE

Consisting of project partner elected and appointed officials, the Steering Committee (SC) serves as the highest level of project decision-making throughout the project development and final design, representing the interests of each jurisdictional partner, and providing project guidance regarding scope and budget elements. A former project SC was convened under Metro's project leadership from 2011-2018, and TriMet convened a new Steering Committee in 2019.

COMMUNITY ADVISORY COMMITTEE

Consisting of representatives from broader communities, the Community Advisory Committee (CAC) advises the Steering Committee and project staff by bringing a wide-ranging perspective on community issues. The CAC reviews technical information, discusses community interests and concerns and provides feedback to project staff.



2.7 Community Engagement

Continuous community engagement is fundamental to creating a great transit project. Staff from Metro, TriMet and other partners have been talking with the public about their vision and values for the Southwest Corridor since 2011. Throughout the planning and design process, staff have used a suite of engagement strategies to gather feedback and help inform key project decisions. Project staff regularly attend the events and meetings of key stakeholder groups to keep them updated on project progress, and the public is always encouraged to share their thoughts during the public comment periods at Steering Committee and Community Advisory Committee meetings. Individually impacted residents, property owners or businesses are paired with community liaisons to help minimize and mitigate impacts as much as possible through the design and construction process.

More specifically, with the release of the draft CDR in February 2020, the Southwest Corridor Light Rail project team embarked on a robust public engagement effort to share the designs from this document and gather feedback from the public. The team used a variety of engagement strategies including open houses, focus groups and presentations to solicit feedback from community members. The feedback collected from that effort are documented in **Appendix H**. This community feedback is also reflected within the station pages (Chapters 5 through 7) of this document, in the section labeled "Design Values: Applying Community Feedback in Ongoing Design."





Figure 2.3: Decision-making process





2.8 Creating a Shared Investment

The Southwest Corridor Light Rail Project is more than just building high capacity transit, it is about focusing regional growth in a way that helps us achieve our goals of livability, equity and resilience. The early design concepts in this document build on the long history of plans for communities within the Southwest Corridor, including the Barbur Concept Plan, Tigard Comprehensive Plan and the Linking Tualatin Plan among others. In 2013, regional leaders adopted the Shared Investment Strategy, which identified bike, walk, bus and road projects that would complement the light rail project, but be funded separately.

Ensuring that the project provides equitable access to housing and economic opportunities is also a critical goal. In coordination with the light rail planning, partners are currently undertaking complementary planning processes, such as the Southwest Equitable Development Strategy (SWEDS), the West Portland Town Center Planning Process, and Tigard Triangle equitable urban renewal implementation. The Southwest Corridor Equitable Housing Strategy adopted by Portland City Council and accepted by the Tigard City Council in 2018 is nested within SWEDS, providing guidance for policy and investments for affordable and market rate housing along the corridor.



IMAGE SOURCE: METRO

2.9 Equitable Development Strategy

The Southwest Corridor Plan envisions a livable, affordable, economically-thriving community with reliable and safe transportation options for every resident and commuter. With this vision in mind, the SWEDS strives to ensure that lower income households and communities of color continue to live, work and thrive in the Southwest Corridor as we invest in a major transportation project such as light rail.

This means making sure Southwest Corridor neighborhoods have:

- affordable housing choices for people of all incomes and cultures
- a range of jobs for people of all backgrounds
- learning opportunities that prepare people for those jobs
- wages that support people's desire to live and work in the corridor

SWEDS was created by a committed group of public, private and non-profit organizations working alongside community members, and it is now ready for implementation. This strategy is the culmination of years-long strategic discussions about equitable development along the Southwest Corridor. With a significant investment in activities to enable authentic community engagement and an achievable strategic vision, the corridor is better positioned to deal with possible displacement pressures. The strategy identifies 18 specific actions and organizational champions to lead on each. The goal is to put these actions into place prior to opening day of the new MAX line in an effort to stabilize communities and prevent displacement. A Southwest Corridor Equity Coalition will guide implementation of the plan, and initial philanthropic and jurisdictional funding is in place to support implementation.

SWEDS PROJECT OVERSIGHT COMMITTEE

SWEDS Strategy Project Oversight Committee (SPOC) members set and approve project goals, shape and sustain the vision and outcomes and provide project leadership for the Equitable Development Strategy. The SPOC will review and approve recommendations from staff and advisory groups regarding all project deliverables. The SPOC is an oversight committee made up of Southwest Corridor project partners, social justice and affordable housing advocacy organizations, local community and neighborhood groups, and business and workforce development experts.

SOUTHWEST CORRIDOR INCLUSIVE COMMUNITIES

The City of Portland's Bureau of Planning and Sustainability is leading an ongoing multi-year land use planning and community development effort to plan for healthy, connected and inclusive communities along the Southwest Corridor. The two key components for this effort include the SW Naito Parkway Main Street and the West Portland Town Center planning processes.

STAY INFORMED!



Visit our website to learn more about the project and how to sign up for notifications about community meetings and project news.

trimet.org/swcorridor

2.10 Key Next Steps

Major Milestones	Expected Date	
	Final Environmental Impact Statement (FEIS) - Published	Fall 2020
	Record of Decision on FEIS	Fall 2020
	Get Moving 2020 - Regional Transportation Funding Measure	Fall 2020
Community	Engineering Phase Begins	2021
Engagement (Ongoing)	Full Funding Grant Agreement (FFGA) Awarded	2022
	Property Acquisition and Construction	2021 - 2026
	Final Transit Plan/Bus Routing	2026
	Light Rail Service Begins	2027

Figure 2.4: Major Project Milestones

RECORD OF DECISION

After the Federal Transit Administration publishes the Final Environmental Impact Statement (FEIS), a Record of Decision will be issued, marking the end of a thorough process to identify, avoid, minimize and mitigate possible impacts. The FEIS will reflect the Locally Preferred Alternative (LPA), as well as a Minimum Operable Segment (MOS). The purpose of selecting a MOS is to identify a segment of the LPA that provides the most cost-effective solution with the greatest benefits for the project. The MOS must be able to function as a stand-alone project and not be dependent on any future segments being constructed. To learn more about the MOS selected for Southwest Corridor Light Rail, please refer to the FEIS.

GET MOVING 2020 - REGIONAL TRANSPORTATION FUNDING MEASURE

In July 2020, the Metro Council unanimously referred the Get Moving 2020 measure to voters. In the 18 months prior, Metro worked with local leaders and the public on a plan to make it safer and easier for everyone to get around as the Portland area continues to grow. This plan includes dozens of projects in 17 major travel corridors, as well as additional programs to invest in transit, safety and community stability across Clackamas, Multnomah and Washington counties. Among other

regional projects, the measure would include a critical component of Southwest Corridor Light Rail Project's local funding. The regional transportation funding measure will go before voters in November 2020.

PROJECT DESIGN

In coordination with project partners, stakeholder input and community engagement, feedback obtained from the conceptual design report will continue to inform design throughout later stages of the project. The objective is to follow up on issues raised by this report, capture FEIS mitigations, identify opportunities to be pursued during the project's final design, coordinate with current and future planning efforts by other jurisdictions, inform the project's Conduct of Construction program and select the appropriate station elements for each station area. The project's principles, goals and objectives will be a fundamental tool in shaping these decisions throughout all project phases. The project's design will be responsive to the character and aspirations of surrounding neighborhoods, while maintaining a system-wide identity. To achieve this, the project defines:

Elements of Consistency establish and reinforce
 TriMet's transit system identity, such as signage,
 information displays, transit shelters, lighting and
 other amenities.

- **Elements of Distinction** emphasize where riders are within the overall regional system to create tangible connections to neighborhoods and their distinctive qualities.
- Fixed Elements ensure regulatory compliance related to building codes, Americans with Disabilities Act (ADA), operational efficiency and maintainability.
- **Flexible Elements** can be modified to meet neighborhood-specific goals or respond to adjacent development.

Transit ridership depends on providing safe and secure facilities to access transit. To accomplish this, the project design and construction will complete a Safety Certification process. This process will ensure that every new station will meet or exceed guidelines established by the ADA and embraces the principles of Crime Prevention Through Environmental Design (CPTED). The CPTED principles - natural surveillance, territorial reinforcement, natural access and target hardening - are used to prevent crime through a designing a physical environment that positively influences human behavior.

SUSTAINABLE PRACTICES

Through thoughtful planning and design, the project is taking significant steps to minimize the project's environmental footprint. During the design and construction of the project, additional efforts look to reuse materials, enhance stormwater treatments, install renewable technologies, carefully select sustainable materials and reduce vehicle emissions. There are also focused efforts to minimize and mitigate impacts, including tree preservation and replacement as a project priority.

DESIGN AND PLANNING REVIEWS

In addition to encouraging participation and input from the community, the Conceptual Design Report and project details will be presented to a broad group of jurisdictional agencies and commissions. The process will continue through project development phase and include the design and planning commissions for the cities of Portland, Tigard, Tualatin and Washington County. These commissions will review the report and be asked to provide input on the project design.

LAND USE APPROVALS

Land use approvals may include design review of historic landmarks and contributing resources, environmental overlay zones and adopted land use plans.

STATION ACCESS

Although opportunities and strategies for bicycle and pedestrian improvements have been identified and are discussed in the station area sections of this report, a comprehensive approach that fully integrates bike and pedestrian access with each station area is still in development. There will continue to be meetings with bicycle and pedestrian stakeholder groups to finalize the improvement plans. Project partners will evaluate separate funding opportunities for the related transportation investments to complement the project. Additionally, project staff are seeking partnerships with mobility providers to expand micro-mobility options throughout the Southwest, cultivating a network of options.

PERMITTING

The project team will apply for the necessary environmental and construction permits and land use approvals during the Final Design and construction phases. A fast-track permitting process may be pursued to ensure timely approvals necessary to meet the project schedule.

ACOUISITION AND RELOCATION PROCESS

Whenever possible, the region selects rail alignments that avoid or minimize property acquisitions or other impacts on property owners, however, many property owners, businesses and residents will be impacted. A full disclosure of these impacted properties is included

in the Final Environmental Impact Statement (FEIS).

Property acquisitions could begin as early as 2021, once the project is fully funded. This process includes environmental studies of each parcel, third-party appraisal of each parcel's market value and an outside review of these appraisals, followed by the presentation of an offer of just compensation to each property owner. TriMet provides specialized staff to assist property owners in navigating the complicated rules governing acquisition and relocation.

To the extent allowed by governing regulations, the project pays for business relocation site searches, land, buildings other improvements, moving expenses, utility connections at new locations and small remodel projects for re-establishment at the replacement location. For residents, all moving costs are paid by the project, and in some cases rent subsidies are available.

FINAL TRANSIT PLAN/BUS ROUTING

With the opening of a new light rail line, TriMet typically makes adjustments to the surrounding bus network to optimize ridership and service efficiency, and complement the added light rail service. The future vision for transit in the Southwest part of the metro region can be found in the Southwest Service Enhancement Plan (SWSEP) on TriMet's website.

CONSTRUCTION ACTIVITY

Construction is expected to begin in 2021 with private utility relocation, advanced utilities and early structures work. Major track work, civil improvements and station elements are expected to start in 2022. TriMet is committed to minimizing the disruption caused by construction, and seeks to maintain transparency with the community in developing schedules and construction sequencing. Following a system-wide testing and operations training period, light rail service is expected to begin in fall 2027.

START OF SERVICE: EXPECTED FALL 2027









3 Corridor Context



3.1 The Corridor in History

The project builds on the diverse transportation history of the corridor to create more travel options for more people.

- **Early History:** Prior to European settlement, the corridor's gentle grade served as a key trade route among the Chinook tribes in the north and the Tualatin/Atfalati in the south
- 19th Century: The corridor served as the main line of a railroad network that crisscrossed the West Hills.
- Early 20th Century: In 1925, SW Barbur Blvd was paved, becoming a major vehicle thoroughfare serving industrial centers and growing suburban neighborhoods to the south of the urban core.
- Mid-20th Century: By the 1960's the corridor's function as the main southern vehicle route into central Portland was replaced by Interstate-5.
- Present: Over the last fifty years, while the makeup of the corridor has remained mostly auto-oriented, there is growing support for improving connectivity for people walking, biking and taking transit.



IMAGE SOURCE: TIGARD PUBLIC LIBRARY AND THE TIGARD HISTORICAL ASSOCIATION

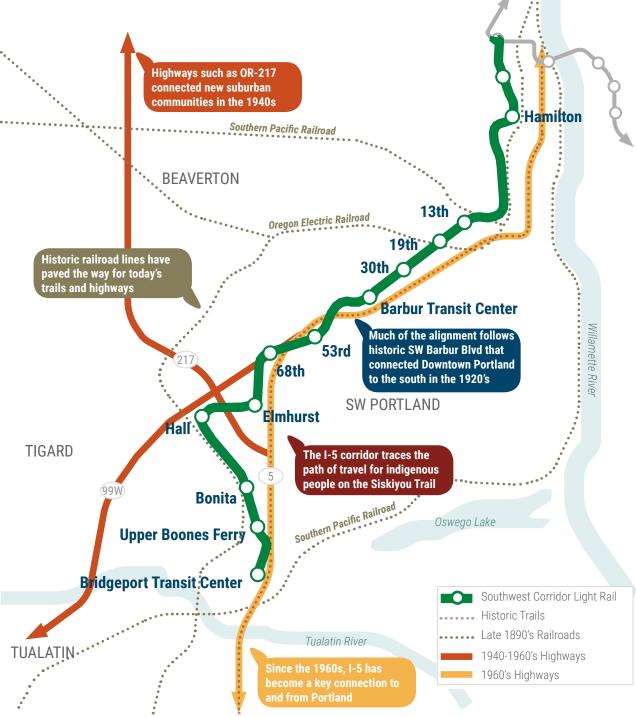


Figure 3.1: The Southwest Corridor Light Rail Project alignment responds to the corridor's rich transportation and cultural history

3.2 Connecting Neighborhoods



The Southwest Corridor connects distinct areas to each other and to the larger MAX system.

South Downtown is a busy urban employment area and also has the highest concentration of affordable housing. Historic **Lair Hill** includes the residential neighborhoods of South Portland and Homestead to the east, and Terwilliger Blvd and Marquam Hill destinations to the west.

Barbur Blvd Historic District and the West Portland

Town Center are mixed-residential neighborhoods that include single family and naturally occurring affordable multifamily housing. Forty four percent of the population within walking distance to stations on this segment of the alignment are renters. **Far Southwest** is a residential area and provides students and employees of PCC-Sylvania with opportunities for housing and services.

Together, **Tigard Triangle and Downtown Tigard** are a designated town center with mixed-use commercial centers, planned to support much of Tigard's anticipated growth. An existing transit center and WES Commuter Rail station lets travelers make regional transit connections. **Tigard Employment Corridor** consists of a mix of industrial and office uses.

Bonita, Upper Boones Ferry and Bridgeport Transit Center are within walking distance to over 10,000 jobs.

Bridgeport Village in **Tualatin** is a retail center with adjacent mixed residential housing.

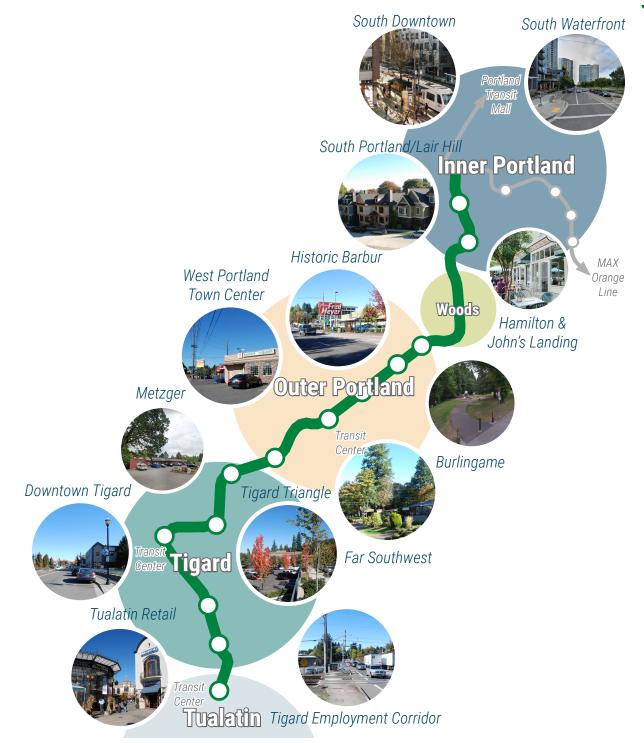


Figure 3.2: The Southwest Corridor Light Rail Project will connect between neighborhoods along the corridor

3.3 Land Use and Planning Context



The project supports the vision of the corridor's communities by aligning with adopted regional and local plans.

Central City in Motion (ongoing)

Effort to plan, prioritize and implement transportation improvements in the city's core, including new pedestrian crossings, bus lanes and bikeways.

Enhanced Transit Corridors Plan (2018)

A plan identifying where transit priority, streamlining and access treatments that can help make transit more attractive and reliable especially for people who depend upon transit.

Barbur Concept Plan (2013)

A strategy and vision to achieve community aspirations for a more walkable, vibrant SW Barbur Blvd and guide transformation to a civic corridor that is a destination for people to live, work, play and learn.

West Portland Town Center Plan (ongoing)

A vision for a healthy, connected, and multi-cultural town center and an action plan to meet the diverse needs of current and future residents and businesses.

Southwest in Motion (2019)

A short-term prioritization, refinement and implementation strategy for planned active transportation investments that provide basic walking and bicycling connectivity where they are needed most in Southwest Portland.

Tigard Triangle Plan District (2017)

Land use and development vision for the Tigard Triangle that advances Tigard's mission to become the most walkable city in the Pacific Northwest and supports the district's designation as a regional town center.

Tigard Downtown Improvement Plan (2005)

A blueprint for the evolution of Downtown Tigard into a vital, vibrant, mixed-use, pedestrian-friendly town center.

Linking Tualatin (2013)

Vision for land use changes and increased transit readiness to better link people to jobs and destinations throughout the region.

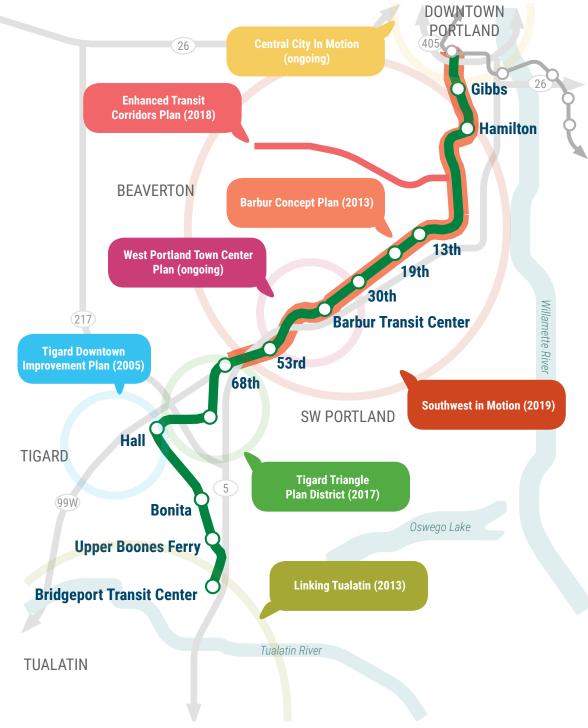


Figure 3.3: The Southwest Corridor Light Rail Projects regional vision is derived from a number of local plans

3.4 Equitable Transit-Oriented Development



Advised by a team of economic and architectural consultants, the project has begun a holistic review of the affordable housing supply and demand along the length of the Southwest Corridor Light Rail Project alignment. This review is primarily focused on identifying how partners can deliver the affordable housing development goals that were agreed upon in the October 2018 Memorandum of Understanding (MOU) signed by TriMet, Metro, Washington County, and the Cities of Portland and Tigard (**Appendix C**).

To ensure balanced development, and equitable neighborhood growth without displacement, the 2018 MOU established minimum targets of 600 new affordable housing units on surplus project land in the City of Portland and a minimum of 150 new affordable housing units on surplus project land in the City of Tigard. Although the extent of the surplus land portfolio will only be known once the right-of-way (ROW) acquisition process is finished, TriMet is committed to identifying opportunities and supporting partners in developing affordable housing opportunities whenever it can. This approach will ensure that partners can meet the MOU goals as quickly as possible by allowing, where possible, affordable housing development to begin before the final light rail project completion.

This Southwest Corridor Light Rail Project objective complements TriMet's agency-level initiative to deliver equitable, inclusive and community-focused transitoriented development (TOD) across the region, as outlined in its TOD Guidelines. At a high-level, these guidelines seek to promote mixed-income and mixed-use developments that fit in with their surrounding communities and deliver new housing, opportunities and amenities to neighborhoods without displacement of existing residents, communities, cultures or businesses. TriMet's TOD guidelines can be found in **Appendix I**.

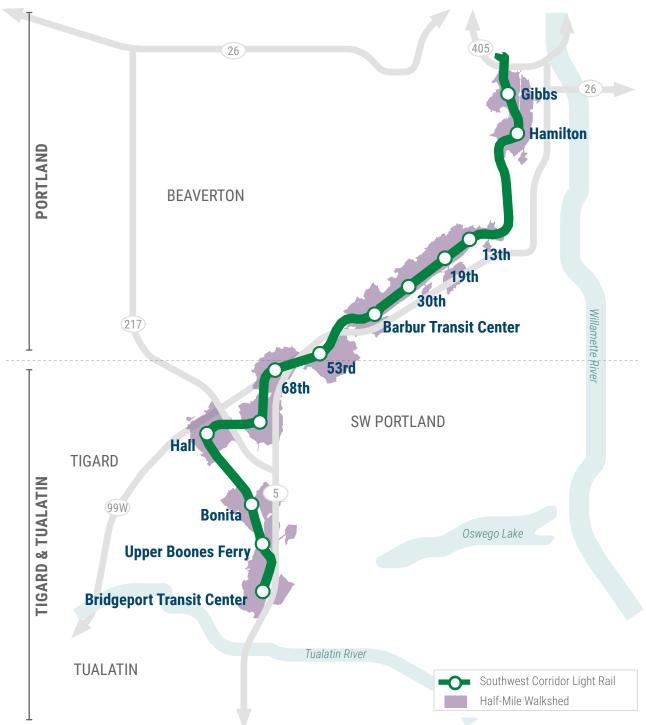


Figure 3.4: Project partners alignment-wide affordable housing commitments

3.5 Natural Features



The project works to protect and improve the rich natural environment within the corridor.

- The light rail project will cross twenty different streams, interacting with important local watersheds including Tryon, Stephens, Red Rock and Fanno Creek Watersheds. The project will leverage infrastructure investments to improve fish passage, long-term habitat connectivity and water quality in these watersheds.
- With its varied topography of steep slopes and deep valleys, the corridor is a challenging area for stormwater management. The project will include major improvements to help treat the nearly 81 acres of existing impervious surface – all currently unmanaged in the corridor.
- Some of the area's largest stands of urban trees exist on the slopes of the Tualatin Mountains, just west of the light rail route, including Marquam Nature Park, one of the largest parks in Portland. In areas where the project cannot avoid impacts to these natural areas, mitigation measures will be implemented.
- As part of the Section 4(f) process, the project is in consultation with the FTA and Portland Parks & Recreation to identify possible mitigation opportunities for natural area impacts, which may include;
 - Contribution towards local recreational trail investments
 - Contribution towards natural resource management plans
 - Improvements to the parking area, driveway access and accessible route at Duniway Park, as well as new trees, planting areas and stormwater treatment
 - An enhanced retaining wall design at Lair Hill Park that fits within its unique context and minimizes impacts to existing tree roots
 - Interpretive signage, invasive plant removal and understory plant restoration within the Terwilliger Parkway
 - Tree mitigations beyond Title 11

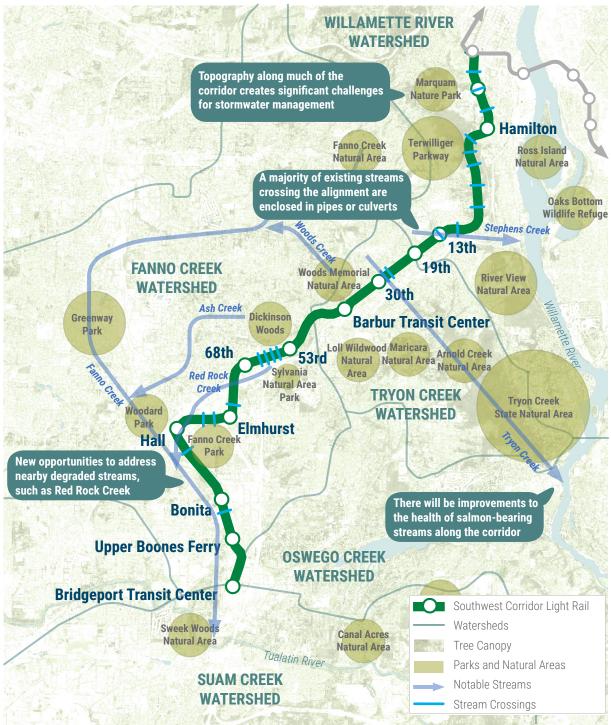


Figure 3.5: The Southwest Corridor Light Rail Project connects a system of diverse habitats, watersheds, and waterbodies

3.6 Trails and Parks



The project will provide access to the variety of parks, natural areas, active transportation options and recreational opportunities that weave through the Southwest Corridor communities. Two major trail networks intersect with the alignment at multiple stations.

- Metro Regional Trail System: Spanning across five cities and two counties, this 15+ miles of paved and unpaved trails provides bike, run and walk opportunities across the Southwest region. A key connector is the Fanno Creek Trail, which is planned to extend from the Willamette River in Southwest Portland to the Tualatin River in Durham. The project intersects the existing Fanno Creek Trail at the Bonita Station.
- **SW Trails Network:** With seven defined routes, this community-driven initiative supports a growing network of urban trails through Southwest Portland. Using low traffic streets and citizen maintained connections, SW Trails connect neighborhood centers, schools, parks and more. Two of SW Trails routes are designated as part of the larger Regional Trail System. The project intersects SW Trails at the Gibbs Street, 19th Avenue and Barbur Transit Center Stations.
- Pedestrian improvements on and near SW Barbur Blvd will ensure that almost every station is within an easy, 10-minute walk of a neighborhood park or natural area.



IMAGE SOURCE: METRO

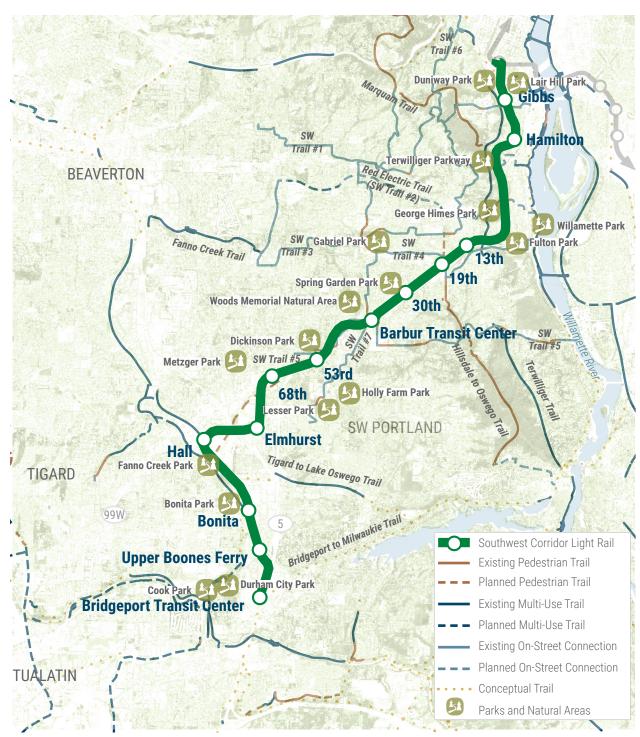


Figure 3.6: The Southwest Corridor Light Rail Project connects parks and natural areas through a system of planned and existing regional trails



Project Description

3.7 Connecting Riders to Their Destinations

By 2035, people will take 37,500 daily trips on the new MAX line. The highest ridership is projected at Bridgeport Transit Center, and the Gibbs Street and Hall Boulevard Stations (See Figure 3.7). The design of each station area will consider how to facilitate safe access to transit for these different trip types and rider volumes. The ridership analysis conducted through regional modeling includes walking, transfer and auto activity as travel modes for their ridership calculations per federal standards. Walking is the primary mode of access to transit, as reflected with 65% of riders projected to access their light rail station by foot in the Southwest Corridor. Biking to stations is also an essential mode of access. While bikes are not quantified in the ridership mode splits, project partners recognize the need to invest in bicycle infrastructure, both to support biking as an alternative to single occupancy vehicles and as a means to accessing transit. See the "Biking" section on the following page to learn more about how the project is studying bike catchments and projected bike use around each station area.

VISION ZERO

Vision Zero is a nationwide strategy to eliminate all traffic fatalities and severe injuries - while increasing safe, healthy and equitable mobility for all. In 2015, Portland City Council passed a resolution adopting Vision Zero with a goal to eliminate deaths and serious injuries on Portland streets by 2025. The Southwest Corridor Light Rail Project is committed to a transportation system that is centered around safety to achieve these same goals throughout the alignment. Street improvements will modernize roadways creating safe access to transit, increasing permeability of high traffic roadways, protecting bicyclists and supporting safe routes to schools.

2035 STATION ACTIVITY AND ACCESS

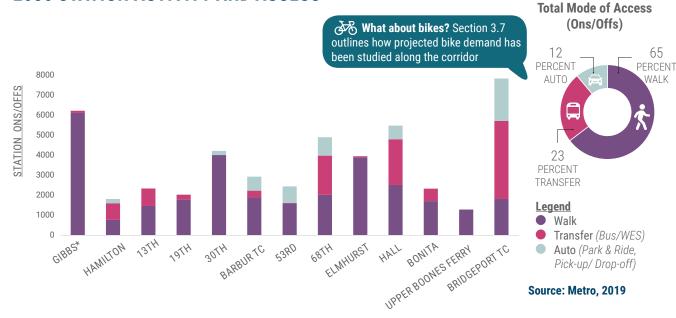


Figure 3.7: 2035 projected daily station activity (37,500 total trips) and mode of access. *Note: An additional 7,600 projected daily trips are expected at Gibbs Street Station from buses in the shared transitways

STATION ACCESS HIERARCHY

The Southwest Corridor Light Rail Project has applied a modal hierarchy for station access (Figure 3.8). Project partners continue to assess how to best connect people to each station, both on opening day and in the future. The following hierarchy targets a shift in mode share toward transit, active transportation and shared modes. Achieving access improvements rely on a variety of coordinated analysis and tools listed below and explored in **Section 4.12 Station Access Toolkit.** For more detail on how an expanded mobility framework could be applied throughout the project area, see **Chapter 4**. For more detail on how access modes are applied to specific stations, see **Chapters 5-7**.

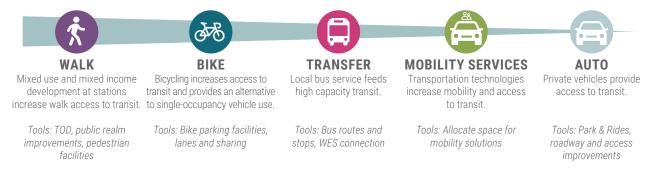


Figure 3.8: The projects station access hierarchy emphasizes safe access to and from the station for transit and active transportation modes

WALKING

Walking is the primary means to access transit. For light rail stations, a half-mile walkshed is considered a walkable distance. The project builds approximately ten miles of bi-directional sidewalks, safely connecting transit to businesses, residences, parks, trails, and open space. Transit-oriented development that provides a mix of land uses and residents with mixed incomes. support transit ridership and helps increase walking and biking, to support lifestyles that can be less auto dependent. Walkshed assessments considered existing barriers, station demographics, and local land uses to understand the relative demand for walking and suggested improvements. Active transportation planning for Southwest Corridor Light Rail Project complements work conducted by jurisdictional and agency partners in their adopted plans, including Portland's Transportation System Plan (TSP), PedPDX, Southwest in Motion (SWIM), Tigard Triangle Plan, and the Safe Routes to School program, as well as the region's Shared Investment Strategy.



The Southwest Corridor Light Rail Project will contribute to new opportunities for bike connections to transit and between destinations. Station area bike catchments and a bike parking analysis were completed for the project. A bike catchment area is defined as three-mile distance from the transit station. While the project's ridership does not account for bikes, the project studied various geographic conditions such as slope, proximity to transit, existing and planned bike infrastructure in the corridor and rider behaviors to determine appropriate bike parking quantities at stations.

The catchment area process helps illustrate what neighborhoods and local origins/destinations are served, and how far-reaching the coverage areas may be, based on existing and planned facilities. The catchment contributes to the project's understanding of the relative demand for cyclists traveling through or to a

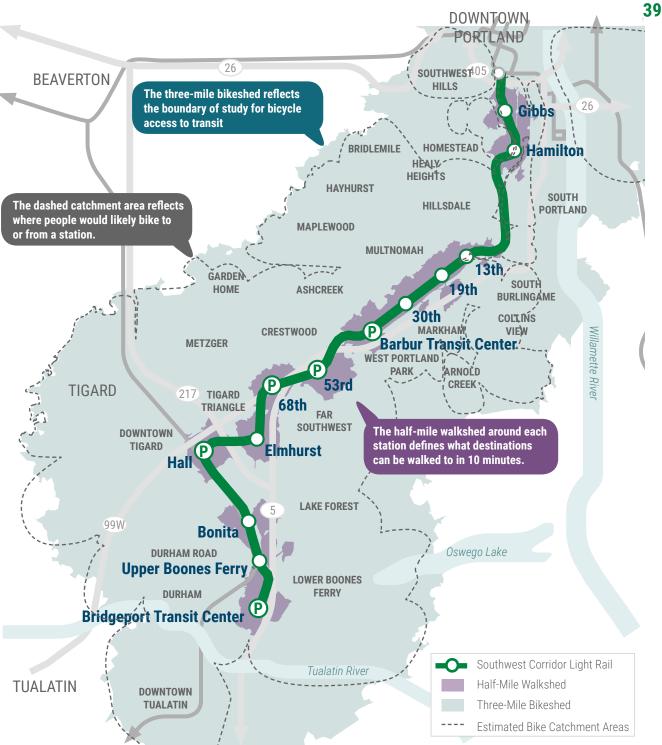


Figure 3.9: Walksheds, bikesheds and the bike catchment for stations along the Southwest Corridor Light Rail Project

station, and is included into a broader framework to be used with project partners and other organizations to invest in bicycle access for each station.



BIKE PARKING

Bike parking lockers, short-term racks and/ or secure enclosed bike & ride facilities are proposed at each station. This analysis has resulted in a set of typologies (Figure 3.10) that define the character of each station and estimate the type and quantities of bike parking needed to support station access and anticipated bike commuting behaviors. While the analysis defines a station typology for opening day, future conditions and behaviors may shift the station typology over time.



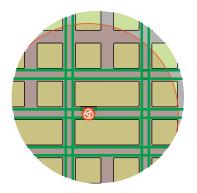


EXAMPLES OF BIKE PARKING AT STATIONS



HIGH STATION BIKE USE

Stations serving the **highest** demand for personal bike parking, with a high need for secure long-term bike parking options.



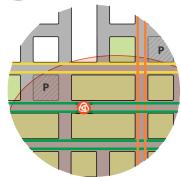
FACTORS:

- High relative station usage
- High number of pedestrians
- · Low availability of auto parking
- Connected, low stress bike network
- Large bike catchment area
- Funneled bicycle use to stations due to significant man-made or natural barriers beyond the station (eq. highways or hills)



MEDIUM STATION BIKE USE

Stations serving a **moderate** demand for personal bike parking.



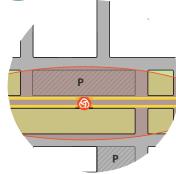
FACTORS:

- Medium relative station usage
- Medium number of pedestrians
- · Small lots for moderate availability of auto parking
- Connected bike network
- Moderate bike catchment area
- Potentially some funneled bicycle use due to man-made or natural barriers beyond the station (eg. highways or hills)



LOW STATION BIKE USE

Stations serving a lower demand for personal bike parking.



FACTORS:

- Low relative station usage
- Low number of pedestrians
- · Large lots for high availability of auto parking
- Disconnected bike network
- Small bike catchment area

Figure 3.10: Southwest Corridor Light Rail Project bike parking typologies

TRANSIT & TRANSFERS

Bus transfers link riders into high capacity transit. The Southwest Corridor Light Rail Project will provide nearly 23% of light rail riders with a connection to other local and regional transit including:

- SMART buses at Bridgeport Transit Center
- Portland Streetcar in Downtown Portland
- C-TRAN buses in Downtown Portland
- WES Commuter Rail and Yamhill County Transit in Downtown Tigard
- MAX Blue, Red, Yellow and Orange lines in Downtown Portland. Trains serving Southwest Corridor Light Rail Project stations will continue through Downtown Portland onto MAX Green Line
- TriMet buses (nearly every station)
- ODOT POINT bus service
- Clackamas County and City of Tualatin's planned third-party shuttle (Tualatin to Oregon City connection)

With the addition of Southwest Corridor Light Rail service, TriMet will make changes in the bus network to maximize ridership, create new connections and minimize duplication. For purposes of 2035 ridership modeling, planners have made assumptions about potential bus service changes, but a final service plan will be developed in consultation with riders in the future.

Planning assumptions were based largely on TriMet's Southwest Service Enhancement Plan (SWSEP), which was developed from an extensive public engagement process in 2015. For more detail on which bus routes are planned to connect with each light rail station, **see Chapters 5-7.**

About a year prior to beginning Southwest Corridor Light Rail service, TriMet will engage riders in a public process to revisit these assumptions and confirm a bus service plan that serves future needs while minimizing service duplication.

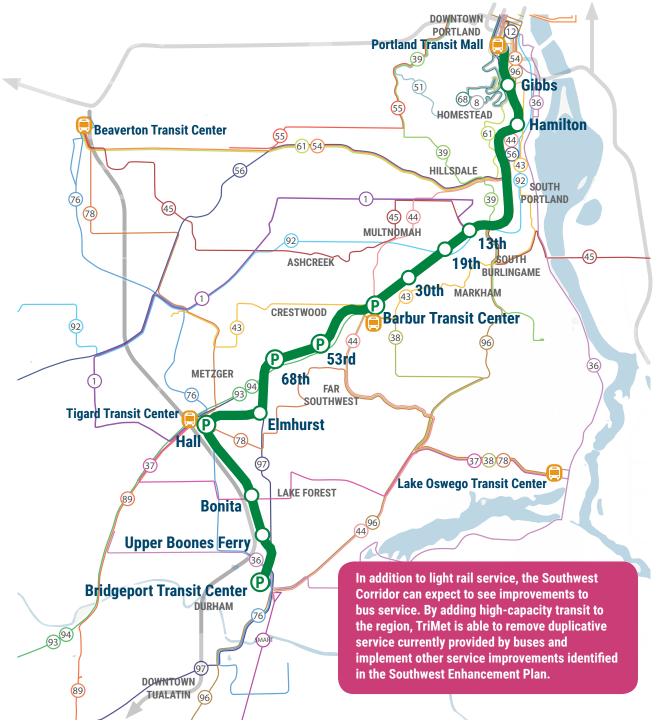


Figure 3.11: Potential bus network with the Southwest Corridor Light Rail Project



MOBILITY SERVICES

The project seeks to improve access to transit by providing space within streets or at stations that support partnerships with private mobility service providers. To better understand the range of services, and likely users, the project initiated a study to highlight how factors throughout the project area, such as environmental characteristics, land use mix and population attributes of those living or working near a station, may influence viability of those services.

For example, the location of a major destination may make the investment in bike share or e-bikes more likely, while a large population of car-free households might influence the use of on-demand ride hail services.

Stations serving populations of lower-income individuals were given careful consideration. Opportunities for mobility services are explored in more detail in **Chapter 4**, and for each station in **Chapters 5-7**. Design integration of space to support partnerships with mobility service providers will take place during Final Engineering.



AUTO

In addition to active mobility infrastructure for people walking and biking, the project is making investments in roadway infrastructure to improve safety, maintain capacity, and retain access to individual businesses and residences. Approximately 12% of light rail riders are expected to access their station by car, through pick up/drop off trips and also Park & Ride usage. Changes to local circulation and property access are being designed to reduce impact to neighborhoods. The dramatic topography of the Southwest Corridor has resulted in a network of streets that follow contours more often than creating a uniform street grid pattern. Because of this, the project is sensitive to the existing street connections and impacts that the project could

have on vehicular circulation throughout neighborhoods adjacent to the corridor.

The FEIS is performing an in-depth study to identify neighborhood access and traffic issues, as well as potential mitigations. The results will be used to inform project designs. Proposed traffic mitigations, such as signals and the design of u-turns and turning movements and intersections, will be refined to provide adequate vehicular circulation, maintain access to neighborhoods, minimize the neighborhood cutthrough traffic, and ensure that local streets maintain primarily local access. The Southwest Corridor Light Rail Project will also maintain access for emergency response, including fire truck vehicles along SW Barbur Blvd to neighboring streets. The project will similarly maintain access for business, commercial and freight activity along the corridor. See **Chapters 5-7** for more information and details about station neighborhood access.

PARK & RIDES

Park & Ride facilities serve riders traveling from farther distances or from locations without convenient transit service to access the light rail system. Community engagement in Spring 2019 helped define the quantity, locations and type of Park & Rides in the Final Environmental Impact Statement (FEIS). These facilities have been refined from those studied in the Draft Environmental Impact Statement (DEIS) to account for adverse effects and projected demand. All proposed Park & Ride quantities could be reduced subject to further traffic studies and design refinements. Information on the size, type, and location of Park & Rides can be found in **Section 4.12.**

STATION ACCESS PROJECTS

In 2012, project partners assembled a comprehensive list of planned local infrastructure projects that increase connectivity and support land uses in the Southwest Corridor. The Shared Investment Strategy, adopted in 2013 by the project's Steering Committee, recommended a narrow list of strategic roadway, bike, and pedestrian projects that could be part of the light rail project. These projects were selected for their ability to expand access to the proposed Southwest Corridor Light Rail Project stations. As prospective light rail alignments were narrowed, these station access projects continued to be filtered to retain only those maintaining a nexus with the current light rail alignment. These projects will be included in the FEIS for environmental clearance, but are not included in the Southwest Corridor Light Rail Project budget. These projects could be designed and built by the project (TriMet), if other funding sources are secured. Project stakeholders will continue to seek public input as these identified access projects are prioritized for potential future implementation.

Through the Southwest in Motion (SWIM) process, the City of Portland and community advocates have also been planning a short-term prioritization, refinement, and implementation strategy for planned active transportation investments to improve walking and biking connectivity in Southwest Portland. SWIM presents a two-step prioritization plan for implementation that includes top tier and second tier projects. For more information on this effort, please visit: portlandoregon.gov/transportation/SWIM.

A full list of station access projects and the project prioritization process is outlined on the following pages. Access projects are further documented in **Chapters 5-7**.

STATION ACCESS PROJECT PRIORITIZATION

The bicycle and pedestrian projects within the Shared Investment Strategy were further assessed to maintain those relevant to the light rail route selected in the LPA. Project staff used the criteria below to evaluate each project's ability to achieve project goals, in order to prioritize station access projects within each jurisdiction. With the release of the draft CDR in February 2020, the Southwest Corridor Light Rail project team gathered feedback from the public on station access project prioritization. This input is has been added to Figure 3.13 Station Access Project Prioritization Matrix and is documented in **Appendix H**.

CORE QUESTIONS

How critical is the Station Access project to provide access to proposed light rail transit?

- **Proximity:** Does it connect directly to a proposed station?
- Amenity Access: Does it serve a community asset?
- **Equitable access:** Does it serve low income and disadvantaged communities?
- **Barriers:** Does it cross physical barriers with potential to increase ridership?

How important is the project in terms of safety and adopted plans?

- Auto volumes: Is it on a high volume roadway?
- **Crash history:** Is there a history bicycle and/or pedestrian injuries or fatalities?
- Local and regional plans: Is it prioritized in any adopted plans?

What are the anticipated construction-related costs and concerns of the project?

Impacts: Is the project high risk?Cost: What is the estimated cost?

RANKING CRITERIA

Using the Ranking Criteria below, suggested priorities are defined as:

- **Funded:** Project is funded and will be completed ahead of the Southwest Corridor Light Rail Project
- **High:** Project has highest benefits; implement first pending available funding
- **Medium:** Project has high benefits; fund and implement after high priority projects
- **Low:** Project has lower benefits, is redundant to other access projects, and/or has no nexus with the LPA

- 1. 1st Bikeway
- 2. Grover Bikeway
- 3. Hamilton Sidewalks and Bikeway
- 4. Terwilliger Bikeway
- 5. Chestnut Bikeway
- 6. 13th Sidewalks and Bikeway
- 7. Custer Sidewalks
- 8. Custer Walk/Bike Bridge
- 9. Capitol Hill Sidewalks and Bikeway

B

- 10. 19th Bikeway
- 11. Troy Bikeway
- 12. Spring Garden and Dolph Sidewalks and Bikeway
- 13. 24th Sidewalks and Bikeway
- 14. 26th Sidewalks and Bikeway
- 15. 30th Sidewalks

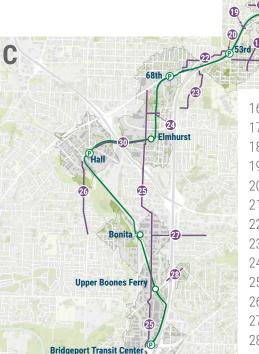


Figure 3.12: Southwest Corridor Station Access Projects

- 16. Taylors Ferry Sidewalks and Bikeway
- 17. 40th Sidewalks and Crossing
- 18. Capitol Sidewalks and Crossings
- 19. Luradel Walk/Bike Bridge

Barbur Transit Center

- 20. 53rd Walk/Bike Bridge
- 21. Pomona Sidewalks and Bikeway
- 22. Pasadena Sidewalks and Bikeway
- 23. Barbur/PCC to Triangle Connection
- 24. Baylor Sidewalks
- 25. 72nd Sidewalks and Bikeway
- 26. Hall Sidewalks
- 27. Bonita Sidewalks and Bikeway
- 28. Carman Sidewalks and Bikeway
- 29. Lower Boones Ferry and Boones Ferry Bikeway
- 30. Highway 217 Walk/Bike Bridge

STATION ACCESS PROJECT PRIORITIZATION MATRIX

FEIS	Project Name	Ranking criteria								Reference criteria			Spring 2020 Draft CDR			
ID # (not rank)		Proximity	Amenity Access	Equitable Access	Overcomes Barrier	Higher Auto Volume	Crash History	Plan Priority	Risks/ Impacts	Costs	Project Sponsor Funding Status***	Overall Priority (from Ranking Criteria)	Support from In person/ Online Surveys	Support from Community Groups	Comments	
Portlar	nd Projects Segment A and B												ı		TI TI OWN TO BE A TO THE TO THE TENT OF TH	
1	1st Ave Bikeway	No	Low	High	Low	Local	Medium	2 nd tier SWIM *	Low	Low		Low			The city's SW Naito Pkwy main street project is the Highest Priority.	
2	Grover Bikeway	No	None	High	Low	Local	Low to None	No Priority assigned	Low	Low		Low			The city's SW Naito Pkwy main street project is the Highest Priority	
3	Hamilton Sidewalks & Bikeway	Yes	None	High	Low	Local	Medium	2 nd tier SWIM	Low	Low		High			Direct, equitable station access	
4	Terwilliger Bikeway	Indirect	Low	Low	Low	Major collector	Low to None	Top Tier SWIM	Low	Low		Medium				
5	Chestnut Bikeway	No	None	Low	Low	Local	Low to None	No Priority assigned	Low	Low		Low				
6	13th Sidewalks & Bikeway	No	None	Low	Low	Local	Low to None	No Priority assigned	Low	Medium		Medium				
7	Custer Sidewalks	Yes	Low	Low	Low	Local	Low to None	Active project	Low	Medium	Funded	Est. Completion 2022				
8	Custer Walk/Bike Bridge	Yes	Medium	Medium	High I-5	Over Interstate	N/A	Not in adopted plans	High; 4F & Constructability	High		Medium	South Burlingame NA			
9	Capitol Hill Sidewalks & Bikeway	Yes	Medium	Medium	Low	Major collector	Low to None	Top Tier SWIM	Medium	High	Portions Funded (Funding Uncertain)	High	*		Funded portions est completion by 2022. High priority gap; Stephens creek to Bertha Blvd	
10	19th Bikeway	Yes	Low	Low	Low	Major collector	Low to None	Top Tier SWIM	Low	Low	Portions Funded	High			Expected completion: Spring 2021, High priority gap; Infill between project limits and 1-5 Bridge	
11	Troy Bikeway	No	Medium	Medium	Low	Local	Low to None	Active Project	Medium	Low	Funded (Funding Uncertain)	Est. Completion 2022			mini between project mints and 1-3 bridge	
12	Spring Garden & Dolph Sidewalks & Bikeway	Indirect	Medium	Medium High	Medium Speed	Major collector	High	Top Tier SWIM (West only)	Medium	High		High			Potential to phase 13th to Taylor's Ferry	
13	24th Sidewalks & Bikeway	No	High	Medium High	Medium Traffic	Local	Low to None	Top Tier SWIM	Low	Medium	Not Funded	High				
14	26th Sidewalks & Bikeway	No	Medium	Medium	High I-5	Local	Medium	Active project	Medium	Medium	Portions Funded	Medium?			Funded portions est. completion Fall 2022. Medium priority gap; I-5 underpass to Dolph/28th	
15	30th Sidewalks	Yes	High	High	Low	Local	Low to None	2 nd tier SWIM	Low	Medium		High			Direct, equitable station access. Relates to Partner	
16	Taylors Ferry Sidewalks & Bikeway	Yes	Low	Low	Medium Traffic	Minor Arterial	High	Top Tier SWIM	High; E-Zone & Creek	High		High	*		project D; SW 30th Barbur to Dolph Relates to Partner project D; SW 30th Barbur to Dolph	
17	40th Sidewalks & Bikeway	Indirect	High	Medium High	Low	Local	Low to None	No Priority assigned	Low	Low	Portions Funded	High			Funded portions est. complete Fall 2022. High priority gap; Huber to Wilbard.	
18	Capitol Sidewalks & Bikeway	No	High	Medium High	Medium Traffic	Major collector	High	Active project	Medium	High	Funding Uncertain	High	*		Funded portions est. completion Fall 2022 (note: funding uncertain). High priority gap; Huber to Barbur	
19	Luradel Walk/Bike Bridge	No	Medium	Medium	High I-5	Over Interstate	N/A	No Priority assigned	Medium: Constructability	High		Medium		Crestwood NA, HAKI focus group	Between stations. May not qualify for FTA funding	
20	53rd Walk/Bike Bridge	Yes	Medium	Medium	High I-5	Over Interstate	N/A	Not in adopted plans	Very High: Significant Design & construction challenges	High		Medium	*	Ash Creek NA	High Risk. Relates to SA project # 22. Redundant to walk shed for 68th Station.	
21	Pomona Sidewalks & Bikeway	Yes	High	High	Medium Traffic	Major collector	Medium	2 nd tier SWIM	Medium	High	Funding Uncertain	High	*		High priority gap; SW 53rd to Capitol Hwy	
22	Pasadena Sidewalks & Bikeway	Indirect	Low	Low	Low	Major collector	Low to None	Top Tier SWIM	Medium	High		Low			Relates to SA project #20	
23	Barbur/PCC to Triangle Connection	No	Medium	Medium	Medium Traffic	Major collector	Low to None	2 nd tier SWIM	Medium	High		Low	*			
	Projects Segment C	1						Not in adopted					1			
24	Baylor Sidewalks	No	None	No	Low	Local	low to none	plans	Low	Low		Low				
25	72nd Sidewalks & Bikeway	Near Elmhurst & Bridgeport	None Near stations	Near Elmhurst & Bridgeport	Medium Traffic	Minor Arterial	High	High Priority	Medium	High		Medium	*			
26	Hall Sidewalks	Yes	High	High	Medium Traffic	Minor Arterial	High	High Priority	Low	High		High	*			
27	Bonita Sidewalks & Bikeway	No	None	No	Low	Major collector	Medium	Not in adopted plans Not in adopted	Medium	High		Low				
28	Carmen Sidewalks & Bikeway	No	None	No	Low	Major collector	Medium	plans	Medium	High		Low				
30	OR-217 Multi-use Pathway	Yes	Medium	High	High 217	Over highway	High	High Priority	High: Constructability	High		High	*			
Tualatin Projects Segment C Lower Boones Ferry & Boones																
29	Ferry Bikeway	Yes	High	High	High River & Traffic	High	High	High Priority	Medium	High		High				

^{*} SWIM is defined as SouthWest In Motion

Figure 3.13: Southwest Corridor Station Access Project Prioritization Matrix

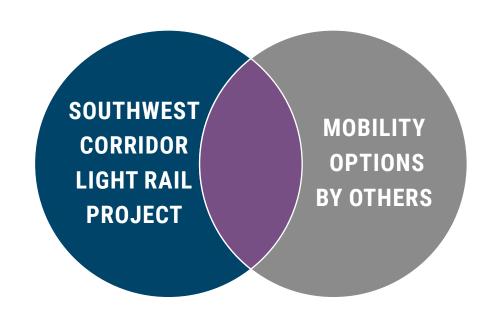
^{**} Near Elmhurst & Bridgeport stations only. Remove remainder from further consideration

^{***} Funding status as of July 2020. Station access project funding by local jurisdictions is subject to change, check with project sponsor for latest information.

3.8 Station Access Coordination

The scope of the light rail project includes all transit infrastructure and integrated station access elements, like the Marquam Hill Connector and sidewalks and bike lanes on SW Barbur Blvd and SW 70th Ave. These integrated elements allow for efficient use of resources and well-coordinated designs that support mobility and land use goals.

In addition to integrated access projects, a variety of station access tools will be used to improve station access. These options will include projects and services by other local jurisdictions. See **Section 4.12** for more information on how these tools are applied within the Southwest Corridor Light Rail Project.



AREAS OF RESPONSIBILITY



SOUTHWEST

CORRIDOR

LIGHT RAIL

PROJECT

LIGHT RAIL INFRASTRUCTURE

 Light rail system infrastructure and all the components associated with the function, operation and maintenance of the light rail system.

ACCESS IMPROVEMENTS

 Selected projects to improve access to and from the station that will be constructed as part of the light rail project.

ASSOCIATED IMPROVEMENTS

 Street improvements, intersections, pedestrian and bike facilities, Park & Rides, stormwater treatments, mobility elements, and additional mitigations to address noise, traffic and environment.



TATION ACCESS PROJECTS



OPPORTUNITIES

STATION ACCESS PROJECTS

 Station access projects that were advanced through the Shared Investment Strategy and are seeking environmental clearance. These projects are funded by others and are not in the light rail project budget.

FUTURE OPPORTUNITY: PUBLIC PROPERTIES FOR TRANSIT-ORIENTED DEVELOPMENT

 Publicly-owned sites that could provide transit-oriented development include: Barbur Transit Center, Tigard Park & Ride (at Pacific Highway), Bridgeport Park & Ride.



PROJECTS
BY OTHERS

PARTNER PROJECTS

- Projects are planned projects led entirely by jurisdictions, or other entities. These projects are planned, funded, designed, and constructed by others, and are not part of the Southwest Corridor Light Rail Project.
- We've heard from community groups, these are important to local visions. Reference to these projects are included for context only to inform station area decisions.
- Example: Southwest in Motion (SWIM)



4 Design Elements

4.1 Design Guidance

A great transit system is composed of a number of elements, each of which are distinct and have their own function, and yet need to work together, as shown in Figure 4.1. This chapter describes these key project elements, indicates where they are located and provides some precedent examples that explore how these elements could be expressed. Chapters 5-7 provide further detail on how these elements work together at each station area.

The core project principles in **Section 1.1: Project Purpose and Values** have been extrapolated into design guidance to help create an attractive, functional light rail system that can positively influence the surrounding area. Each of the guidance statements will shape a design that integrates and meets all the identified principles. Urban design extends beyond the look and feel of the light rail system; it will impact the pattern of streets, open spaces and buildings that surround the project.

PROJECT DESIGN GUIDANCE

SAFE AND SECURE

Design should emphasize Crime Prevention through Environmental Design (CPTED) principles of highly visible places, lighting and natural surveillance in contributing toward safety and deterrence from crime.

2 COMFORTABLE AND CONVENIENT

Design should create a comfortable environment across different weather conditions, seasonal events and times of day.

3 CONTEXTUAL

Design should be well-integrated with the social and physical nature of the community it serves -- highlighting the best qualities around each station while reflecting the culture and context of the surrounding streets, open spaces, buildings and neighborhood assets.

4 CONNECTED AND ACCESSIBLE

Design should make it simple and intuitive for riders to travel to and from the station.

5 PEOPLE-FIRST DESIGN

Design should enable station and streets to be comfortable and attractive places for people to be, not just travel through.

6 HIGH-QUALITY DESIGN

Design should establish durable material choices, station elements and design strategies that can be implemented consistently across a variety of challenging contexts.

7 FLEXIBLE

Design should be adaptable to new technologies, trends and conditions, and allow for elements of the system to evolve as the community evolves around it.



















Figure 4.1: Typical Design Elements within a Station Area (this illustration is not representative of any location along the Southwest Corridor Light Rail Project)

AN INTEGRATED PROJECT

The following chapter describes the elements of the Southwest Corridor Light Rail Project, as well as associated improvements.

DESIGN ELEMENTS

Section 4.2 Stations and Platforms

Section 4.3 Alignment Design

Section 4.4 Trackway Type

Section 4.5 Operations Equipment and Facilities

Section 4.6 Walls

Section 47 Overhead Structures

Section 48 Bike Facilities and Protected Intersections

Section 4.9 Light Rail Intersections

Section 4.10 Stormwater Features

Section 410 Urban Design Elements

Section 412 Station Access Toolkit

Section 4.13 Creating Places at Stations

4.2 Stations and Platforms

Station locations are influenced by land use, aiming to improve access to key destinations and other modes of transportation, such as buses or bike facilities. Station design is also influenced by ridership projections, including what mode of access people will use to get to the station. The Southwest Corridor Light Rail Project will provide easy-to-use stations in both in-street and off-street locations. The consistent use of system-wide elements will be familiar to regular users. Each station will also include unique elements to express its local context.

PLATFORM CONFIGURATIONS

Center Platform: Offers access to travel in both directions from a single platform.

Side Platform: Offers access to only one travel direction per platform.

Split Side Platform: Offers access to only one travel direction per platform. Platforms located on opposite ends of an intersection.

The platform will create a safe and easy-to-navigate experience from the moment of arrival at the station. Placement of station elements, including ticketing machines, signage and amenities creates a clear path of travel to and from the platform and minimizes disruptions to passenger flow.

PLATFORM ZONES

ENTRY

ZONE

Entry Zone: Entry zone onto the platform varies between station locations; some may be accessed from a crosswalk while others are accessed from an adjacent plaza.

Ticketing Zone: Ticketing zone provides both a place for riders to purchase tickets, tap a Hop^{TM} card or read transit information.

Boarding Zone: Consists of patron amenities that provide comfort and safety. Additional signage and transit information is provided.

TICKETING

ZONE

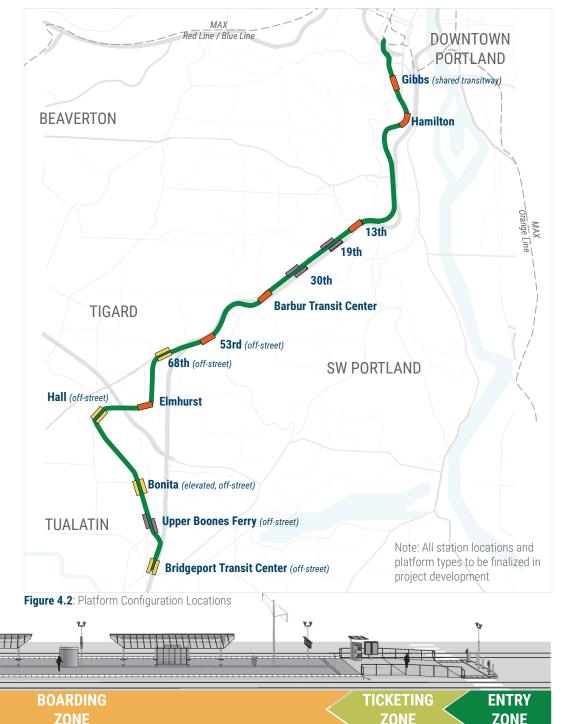


Figure 4.3: Typical Platform Zones with entries on both sides. Not all stations will have entries on both sides.

DESIRABLE CHARACTERISTICS

All station platform configurations generally have the same layout of equipment and station elements. These elements will vary when the station is integrated into a plaza, elevated above the roadway, etc. Shared characteristics of desirable station design include:

- Canopies provide weather protection for ticketing equipment and also provide weather protection for passengers
- Platform walkways are kept clear of obstructions and are designed to allow adequate room for passing through and gueuing
- Nearby destinations and transfer connections are highly visible from the platform
- Wayfinding signage is located and spaced consistently throughout the platform, with clear indication of which side patrons should wait to board toward the desired direction
- Stations are designed to be contemporary, minimal and consistent with other TriMet station infrastructure

TYPICAL CENTER PLATFORM

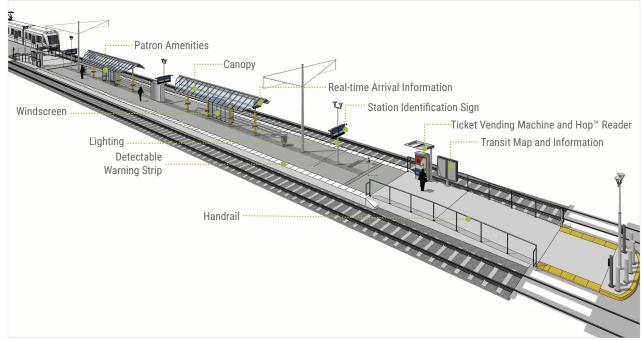


Figure 4.4: Center Platform Components

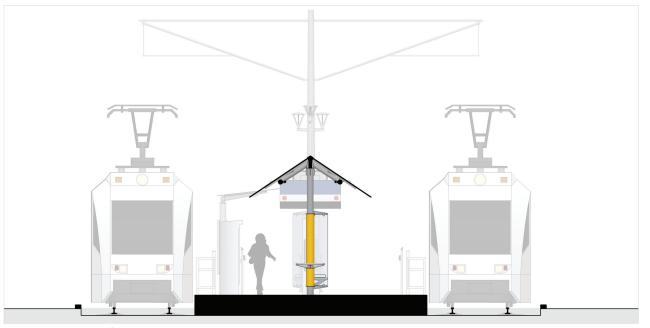


Figure 4.5: Center Platform Components

WHY CENTER PLATFORMS?

The center platform offers access to travel in both directions from a single platform and requires only one set of equipment. This configuration is chosen to simplify transfers and allows a narrower footprint due to shared single platform width. Since the trackway is located on both sides of the platform, access to the station is limited to the platform ends.

WHY SIDE PLATFORMS?

The side platform offers access to only one travel direction per platform. It takes up a larger overall footprint compared to a center platform and requires two sets of equipment. This configuration is chosen to distribute activity between two platforms and may allow back-of-platform access from an adjacent plaza or sidewalk.

WHY SPLIT-SIDE PLATFORMS?

A variation of the typical side configuration is a split-side platform where platforms are located on opposite sides of an intersection. It is the least optimal configuration for transfers, but works well for center-running light rail trackways that require designing left-turn and u-turn lanes onto other streets. They also work well where station platforms straddle a roadway crossing, such as at Upper Boones Ferry Road Station.

TYPICAL SIDE PLATFORM

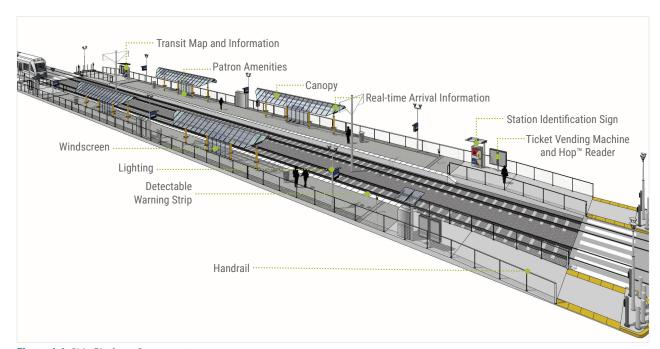


Figure 4.6: Side Platform Components



Figure 4.7: Side Platform Components

4.3 Alignment Design

The alignment is defined horizontally by where the track is placed along the corridor, and vertically by the height/depth of structures. Safety is the highest priority and focus for the light rail alignment design. Other considerations respond to community, topographic, technical and construction challenges. The best alignment reflects a balanced response to these issues, while the design aims to minimize transitions across roadways, sidewalks and bike facilities in order to avoid conflicts between different modes. An optimal alignment achieves passenger comfort and system service through higher operational speeds.

RELATIONSHIP TO GRADE

At-Grade: Track runs parallel to the grade of the street

Above Grade: Track above street on an elevated structure or bridge

• • • • Below Grade: Track below street in a underpass

RIGHT-OF-WAY TYPES

Shared Transitway: Trackway will be used jointly by express buses and light rail, minimizing congestion and improving travel times and reliability

Street Running: Street running light rail is located within the public right-of-way, either in the center or along one side of the roadway

Railroad Adjacent: Trackway runs alongside an existing railroad tracks

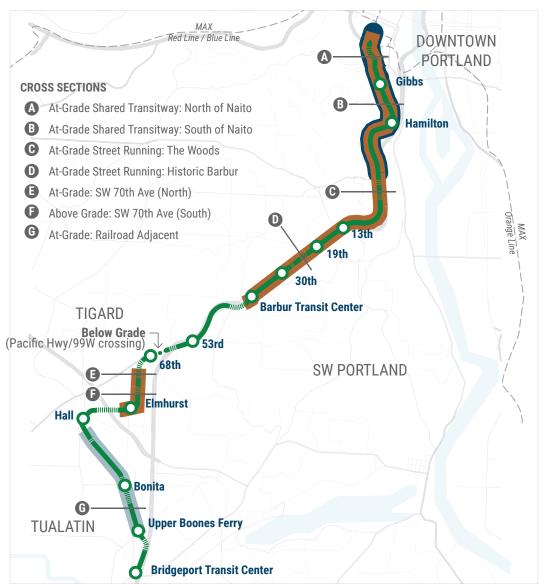


Figure 4.8: Types of Trackway Alignments



AT-GRADE TRACK



ABOVE GRADE TRACK



BELOW GRADE TRACK



SHARED TRANSITWAY
IMAGE SOURCE: TRIMET FLICKR



STREET RUNNING
IMAGE SOURCE: TRIMET FLICKR



RAILROAD ADJACENT

SOUTHWEST CORRIDOR LIGHT RAIL PROJECT: CROSS-SECTIONS

⚠ AT-GRADE SHARED TRANSITWAY: NORTH OF NAITO

The shared transitway for buses and light rail along SW Barbur Blvd allows for one lane of vehicular travel in both directions, as well as on-street bike facilities. Pedestrians are separated from the roadway by a landscaped buffer. Due to the steep slope between Marquam Hill and the South Waterfront, retaining walls will be required.

AT-GRADE SHARED TRANSITWAY: SOUTH OF NAITO

A wider right-of-way south of the Barbur-Naito intersection allows for two lanes of vehicular travel in both directions, as well as raised protected bike lanes at the same level as the sidewalk. The wider right-of-way also allows for more generous landscaped buffers between pedestrians, cyclists, and vehicles. The shared transitway continues to allow buses to quickly move along SW Barbur Blvd while minimizing shared traffic congestion with vehicles.

*all cross-sections are facing north, unless otherwise specified

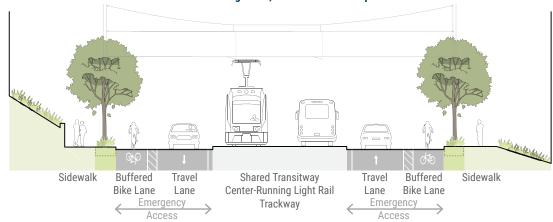


Figure 4.9: At-grade shared transitway north of Naito Parkway

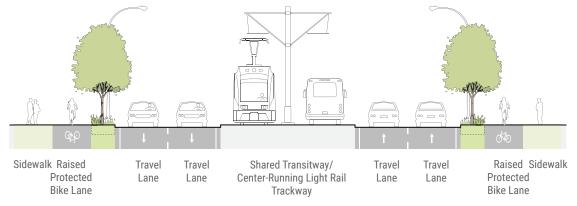


Figure 4.10: At-grade shared transitway south of Naito Parkway

AT-GRADE STREET RUNNING: THE WOODS

The project will also rebuild two historic viaducts. A typical cross-section of a new viaduct is shown in Figure 4.11. The final design of these structures will maximize the safety of people biking, walking, driving and taking transit, while minimizing impacts to the natural areas within the Woods segment. A narrower cross section in the woods and at the viaduct structures is being studied to reduce tree impacts. South of a new traffic signal at Rasmussen Village, the trackway transitions from a shared transitway to a light rail-only trackway.

AT-GRADE STREET RUNNING: HISTORIC BARBUR

South of the Woods, the streetscape shares characteristics as the shared transitway south of the Barbur-Naito intersection, with two lanes of vehicular travel in both directions, as well as raised protected bike lanes at the same level as the sidewalk. The streetscape ends at Barbur Transit Center, where the trackway moves off the street transitioning to a light rail structure crossing of I-5.

AT-GRADE: SW 70TH AVE (NORTH)

The SW 70th Ave streetscape in the Tigard Triangle has a side-running at-grade light rail trackway with a right-of-way width to allow for sidewalks on both sides of the street. The streetscape consists of two lanes of vehicular travel, shared between cyclists and motor vehicles.

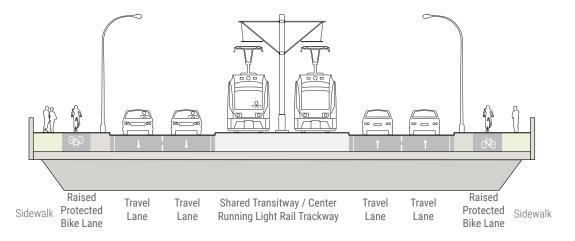


Figure 4.11: At-grade center-running light rail trackway through the Woods segment at a viaduct location

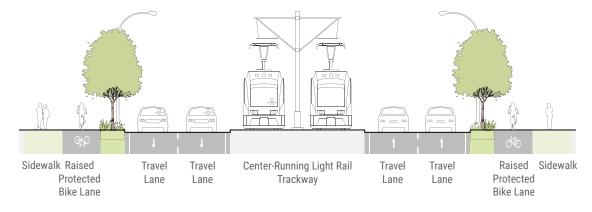


Figure 4.12: At-grade center-running light rail trackway through Historic Barbur

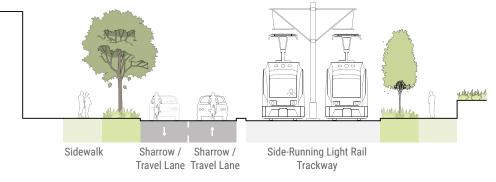


Figure 4.13: At-grade side-running light rail trackway through SW 70th Ave

■ ABOVE GRADE: SW 70TH AVE (SOUTH)

SW 70th Ave in the Tigard Triangle has a side-running light rail trackway that is elevated to avoid an at-grade crossing at SW Dartmouth St, which is a primary east-west arterial access between I-5 and SW Pacific Hwy/99W. The remainder of the streetscape consists of two lanes of vehicular travel, shared between cyclists and vehicles. The topography within the Tigard Triangle requires retaining walls that allow for the terracing of the trackway, the streetscape and adjacent parcels above and below the streetscape. As a result, a sidewalk is located only on the west side of SW 70th Ave between SW Dartmouth St and SW Elmhurst St.

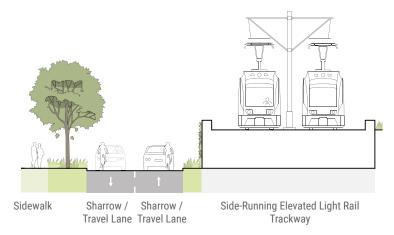


Figure 4.14: Above-grade side-running light rail trackway through SW 70th Ave

G AT-GRADE: RAILROAD ADJACENT

Southwest of the Hall Boulevard Station, the light rail trackway runs through the Tigard Employment Corridor, paralleling the WES Commuter Rail and Union Pacific freight rail rights-of-way to the west, with office development and industry to the east. Segments north and south of SW Bonita Rd will be elevated to avoid at-grade conflicts with existing rail rights-of-way. The existing pedestrian crossing will remain at Bonita Road for access to the Bonita Road Station. A new pedestrian crossing will be located where the existing freight and new light rail tracks and SW 72nd Ave intersect, just north of SW Kable Ln. To access the Upper Boones Ferry Station, existing pedestrian crossings at SW 72nd Ave and SW Sequoia Pkwy will be used.

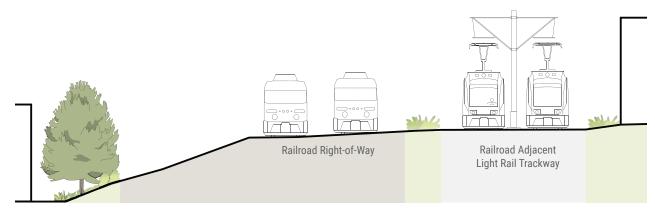


Figure 4.15: At-grade light rail trackway adjacent to existing railroad right-of-way

SHARED TRANSITWAY

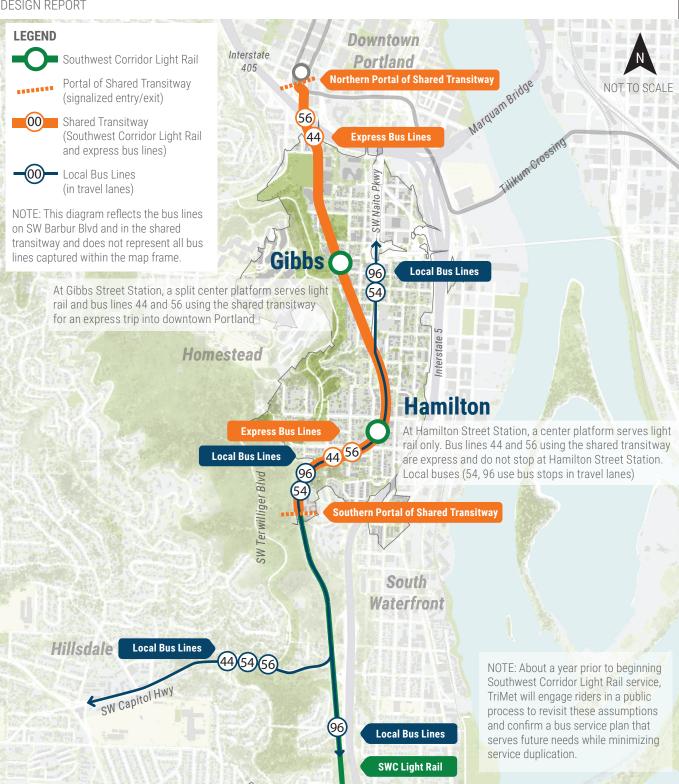
A 1.6 mile segment of paved trackway, called the shared transitway is planned into and out of downtown Portland. This feature accommodates both bus and light rail operations and provides bus routes with access to dedicated transit lanes and a faster transit trip in congested areas. The shared transitway projects nearly 7,600 daily trips to and from Gibbs Street Station on bus lines 44 and 56. Operating speeds within the shared transitway are currently assumed at 35 mph. Connected vehicle studies are in progress to explore current technologies required to meet these assumptions. As an example, the MAX Orange Line includes a 1.3-mile shared transitway, which provides access for the bus lines 17 and 9 and the Portland Streetcar approaching and on the Tilikum Crossing bridge.

LIGHT RAIL FREQUENCY

Light rail service frequencies are expected to range from 7.5 to 15 minutes in 2035, depending on the location along alignment and the time of day. See **Figure 4.16** for estimated travel time between stations.



SOUTH WATERFRONT/ TILIKUM SHARED TRANSITWAY IMAGE SOURCE: TRIMET FLICKR



ESTIMATED STATION TO STATION LIGHT RAIL TRAVEL TIME (MINUTES)

← Northbound

	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \														
Sta	tion S	SW College	Gibbs	Hamilton	13th	19th	30th	Barbur	53rd	68th	Elmhurst	Hall	Bonita	UBF	Bridgeport
SW Jack	cson		2.8	4.5	9.0	10.6	12.4	14.4	16.9	18.5	21.1	22.9	25.5	27.1	29.5
Gi	bbs	2.8		1.6	6.2	7.8	9.5	11.5	14.1	15.7	18.3	20.1	22.7	24.3	26.7
Hamil	lton	4.5	1.6		4.5	6.1	7.9	9.9	12.4	14.1	16.6	18.5	21.0	22.6	25.0
1	3th	9.0	6.2	4.5		1.6	3.3	5.4	7.9	9.5	12.1	13.9	16.5	18.1	20.5
1	9th	10.6	7.8	6.1	1.6		1.8	3.8	6.3	7.9	10.5	12.3	14.9	16.5	18.9
3	30th	12.4	9.5	7.9	3.3	1.8		2.0	4.6	6.2	8.8	10.6	13.1	14.8	17.1
Bar 5	rbur	14.4	11.5	9.9	5.4	3.8	2.0		2.5	4.2	6.7	8.6	11.1	12.7	15.1
lnos.	3rd	16.9	14.1	12.4	7.9	6.3	4.6	2.5		1.6	4.2	6.0	8.6	10.2	12.6
6	8th	18.5	15.7	14.1	9.5	7.9	6.2	4.2	1.6		2.6	4.4	7.0	8.6	10.9
Elmhi	urst	21.1	18.3	16.6	12.1	10.5	8.8	6.7	4.2	2.6		1.8	4.4	6.0	8.4
	Hall	22.9	20.1	18.5	13.9	12.3	10.6	8.6	6.0	4.4	1.8		2.6	4.2	6.6
Во	nita	25.5	22.7	21.0	16.5	14.9	13.1	11.1	8.6	7.0	4.4	2.6		1.6	4.0
l	UBF	27.1	24.3	22.6	18.1	16.5	14.8	12.7	10.2	8.6	6.0	4.2	1.6		2.4
Bridge	port	29.5	26.7	25.0	20.5	18.9	17.1	15.1	12.6	10.9	8.4	6.6	4.0	2.4	

Figure 4.16: Estimated Station to Station Light Rail Travel Time (Minutes)

- (1) UBF is abbreviated for Upper Boones Ferry
 (2) Estimated travel times shown are based on preliminary modeling variables for informational purposes only. Travel time is subject to refinement throughout project development and final engineering.

4.4 Trackway Type

As the alignment travels through various contexts, over guideway support structures and into shared street environments, the trackway will change in response to the various needs required by each of these conditions. Ballasted track will be the most common type of track, as it is the most appropriate method for exclusive rail alignments. Direct embedded track will be used on the shared transitway and at intersections where vehicles and people walking and bicycling require a flat surface to be able to cross the rail lines. Direct fixation will be used on overhead structures and tunnels where there will not be any interaction with other modes of circulation. Figure 4.18 illustrates the various trackway fixation types.

TRACKWAY TYPES

Embedded: Track embedded into a concrete slab at roadway crossings and through the shared transitway

Ballasted: Track attaches to concrete ties embedded in a coarse aggregate where the rail line is an exclusive light rail use

Direct Fixation: Track attaches to raised concrete bars integral to its support structure. Used in tunnels and on elevated structures

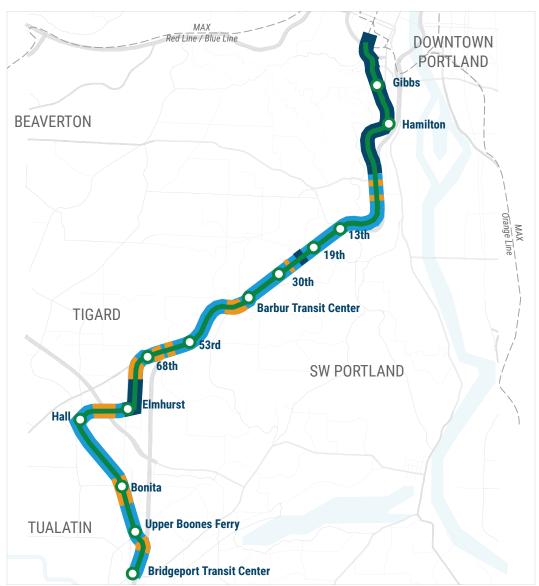
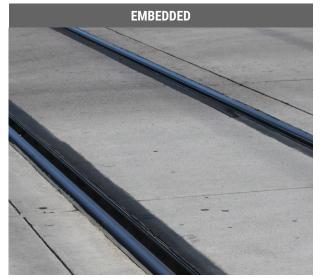
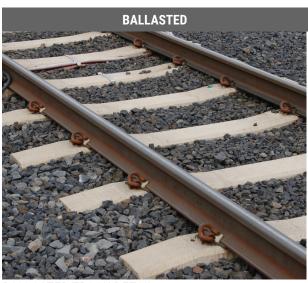


Figure 4.17: Trackway Type Locations

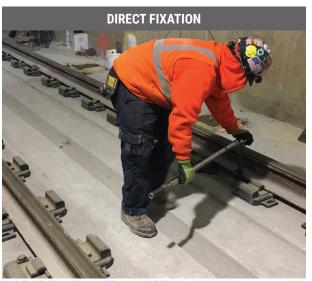
TRACKWAY TYPES



EMBEDDED TRACK DETAIL IMAGE SOURCE: ZGF



BALLASTED TRACK DETAIL
IMAGE SOURCE: ZGF



DIRECT FIXATION TRACK DETAIL

IMAGE SOURCE: MTA CONSTRUCTION & DEVELOPMENT FLICKR



EMBEDDED TRACK ON SHARED TRANSITWAY IMAGE SOURCE: ZGF



BALLASTED TRACK AT DEDICATED LIGHT RAIL STATION IMAGE SOURCE: TRIMET FLICKR



DIRECT FIXATION TRACK THROUGH TUNNEL IMAGE SOURCE: ZGF

Figure 4.18: Reference images of the three trackway fixation types which will be used throughout the corridor based on context and anticipated use of the light rail right-of-way.

4.5 Operations Equipment and Facilities

The transit system is supported by operations equipment with signal, communication and powering functions. The most frequent and visible elements are the Overhead Catenary System (OCS) poles that carry overhead wires supplying power to the light rail vehicles. Poles are located along the entire alignment and typically in the center of the trackway, except when there are limitations in right-of-way width, or other considerations such as bus operations. OCS poles come in a variety of types, sizes and finishes to fit within their context. Some OCS poles also include overhead street lighting. Figure 4.20 includes OCS pole types.

An Operations and Maintenance Facility in Tigard, accessed by light rail from a third trackway at Hall Street Station and by vehicles from SW Hunziker St, will be used for train cleaning, storage and repair. The facility serves as a base for crews cleaning and maintaining stations, Park & Rides, Transit Centers, trackway, signals, communications and overhead power, and is a reporting headquarters for train operators. There will also be numerous smaller systems buildings along the alignment containing signal, communications, or power equipment, or a combination thereof. While their primary function is utility, systems buildings can be designed and located in a way that contributes positively to the station area environment through high-quality facade treatments, landscape screening and attractive fencing. Images of these design treatments are shown in Figure 4.20.



RUBY JUNCTION OPERATIONS AND MAINTENANCE FACILITY (TRIMET)



Figure 4.19: Operations Facilities Locations

OPERATIONS FACILITIES

Systems Buildings: Structures that house power distribution and communication functions for the light rail system



Operations and Maintenance Facility (OMF): Structure and rail yard for operational activities and maintenance of light rail vehicles

 Overhead Catenary System (OCS): A support system that supplies the light rail vehicle with electricity - located system-wide

OPERATIONS EQUIPMENT AND FACILITIES DESIGN



INDUSTRIAL OCS POLE - GENERAL AREAS
IMAGE SOURCE: ZGF



ROUND OCS POLE - HIGH VISIBILITY AREAS IMAGE SOURCE: TRIMET FLICKR



OCS INTEGRATED WITH LIGHTING - URBAN AREAS IMAGE SOURCE: ZGF



SYSTEMS BUILDING WITH METAL SCREEN IMAGE SOURCE: ZGF



SYSTEMS BUILDING WITH MURAL IMAGE SOURCE: VIA ARCHITECTURE



SYSTEMS BUILDING WITH MURAL IMAGE SOURCE: KENJI HAMAI STOLL

Figure 4.20: OCS poles and systems buildings may have a standardized appearance, or a higher quality design finish depending on context and visibility

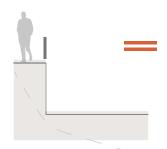
4.6 Walls

The Southwest Corridor Light Rail Project travels through areas with dynamic topography. Large structural walls will be required in many locations along the route. These walls will use various design treatments which respond to the surrounding urban environment, neighborhood or natural context. Figure 4.21 identifies the locations of these walls, and a visual glossary of these design tools is illustrated in Figure 4.22. These design treatments visually reduce the overall mass of the wall, create visual interest, include top of wall treatments to define clear horizontal lines, and incorporate protective barriers and guardrails into the design. Design treatments are chosen based on available space and location context. Height, length and configuration of all proposed walls will be finalized in final engineering.

WALL TYPES



Cut Site Wall: A cut site wall is created when a wall is cut into the hillside, requiring the removal of soil.



Fill Site Wall: A fill site wall is created when extra soil is needed to fill behind a wall that creates a vertical (or near-vertical) elevation that would require a protective rail.

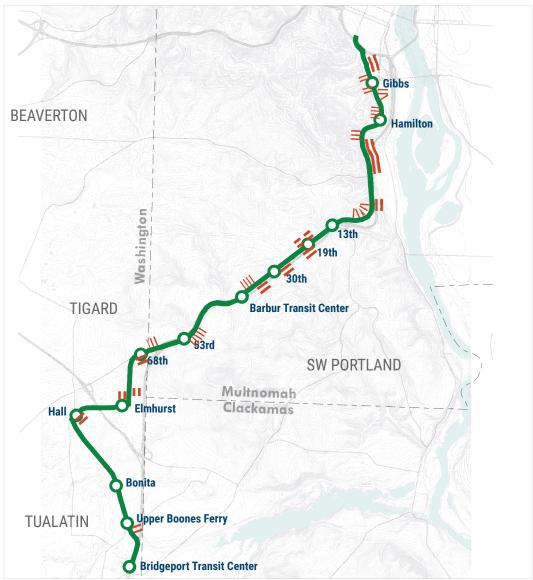


Figure 4.21: Significant Wall Locations and Type

WALL DESIGN TOOLKIT



TREE AND PLANTING SCREEN
IMAGE SOURCE: GOOGLEEARTH



WALL WITH PATTERN RELIEF
IMAGE SOURCE: ZGF



GALVANIZED GUARDRAIL WITH UNIFORM PATTERN IMAGE SOURCE: TRIMET FLICKR



GABION WALL
IMAGE SOURCE: MAYER/REED



LARGE PANEL TEXTURED WALL IMAGE SOURCE: PETER EHRLICH



GALVANIZED GUARDRAIL WITH NATURAL PATTERN IMAGE SOURCE: DAVID EVANS AND ASSOCIATES



PLACEMAKING AND IDENTITY IMAGE SOURCE: ZACH YARRINGTON



TEXTURED WALL PATTERNS IMAGE SOURCE: MAYER/REED



CONCRETE WALL CAP AND PAINTED GUARDRAIL IMAGE SOURCE: TRIMET FLICKR

Figure 4.22: Visual impact of walls can be mitigated by base modulations such as battering and terracing, surface treatments and textures on the face of wall, and top of wall finish by guardrails or caps.

4.7 Overhead Structures

Overhead structures are necessary to cross barriers, maximize safety, maintain travel time and avoid or minimize impacts to sensitive environmental areas. The appearance of overhead structures will be designed to fit within their context. All structures will be built to modern-day code and specification, including seismic provisions.

There are four primary types of context for overhead structures along the Southwest Corridor Light Rail Project: Over freeways and major arterials using typical design standards; urban areas or areas highly visible from the public realm warranting attention to design detail; natural areas around the two viaduct replacements on SW Barbur Blvd in the Woods and the Red Rock Creek watershed within the Tigard Triangle; and an elevated station at Bonita. Images of potential design treatments of these areas are illustrated in Figure 4.24. As shown, some structures travel through a variety of environments and will respond to their changing context. Treatments will be refined over the course of project development and final engineering.

LIGHT RAIL STRUCTURES

- **Roadway or Rail Bridges:** Standard structures that allow the track to cross over a roadway, waterway or other rail tracks
- Urban Bridges: Structures in urban areas or highly visible locations from the public realm which could warrant greater design detail
- **Elevated Stations:** Stations elevated above grade, primarily to avoid at-grade roadway crossings at the station
- Natural Area Bridges: The project will replace the existing
 Newbury and Vermont Viaduct structures in the Woods, and add a
 structure over the Red Rock Creek in the Tigard Triangle

OTHER STRUCTURES

Pedestrian Bridge: Pedestrian-only walkways

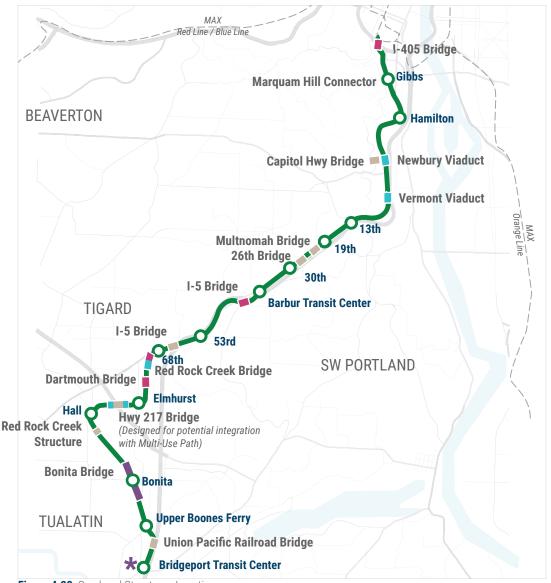


Figure 4.23: Overhead Structures Locations

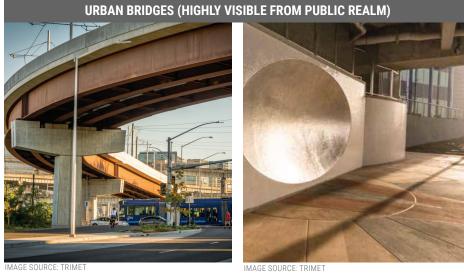
OVERHEAD STRUCTURES DESIGN TOOLKIT



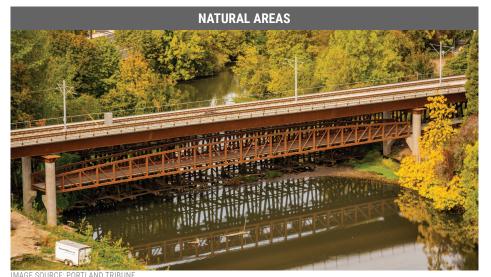
TYPICAL CONCRETE COLUMNS AND GUIDEWAY STRUCTURE



GUIDEWAY INTEGRATED INTO ELEVATED STATION DESIGN



STEEL STRUCTURE OR INTEGRATED PLACEMAKING



SPANNING WATERBODIES AND OPEN SPACE

Figure 4.24: Depending on context, overhead structures can have a standard appearance, integrate into station architecture, have distinctive features in urban areas, or more reserved character in natural areas.

4.8 Bike Facilities and Protected Intersections

The project will add over six miles to the region's system of bike facilities, bike crossings and neighborhood greenways, particularly where streets are rebuilt to accommodate street running light rail within the right-of-way. Within Portland, a continuous separated bicycle connection from Barbur Transit Center to Downtown Portland will allow cyclists of all ages and abilities to safely and comfortably access destinations along the corridor. The project will continue to explore and coordinate options for bike facilities along SW Barbur Blvd, north of SW Naito Parkway intersection.

SHARED STREETS IN TIGARD

In Tigard, the SW 70th Ave shared street in the Tigard Triangle will provide a safe and pleasant walking and cycling route from the station to emerging development north of SW Dartmouth Street. It will be the first segment of Tigard's vision to make SW 70th Ave a key north-south walking and biking route linking the station with Red Rock Creek, development in the center of the Tigard Triangle and regional trails to the south.





SHARED STREETS
IMAGE SOURCE: CYCLE TORONTO, ARCGIS.COM

BIKE FACILITY TYPES ALONG ALIGNMENT

Shared Streets: Designates a safe and visible place for cyclists to ride where they share a low traffic volume roadway with cars

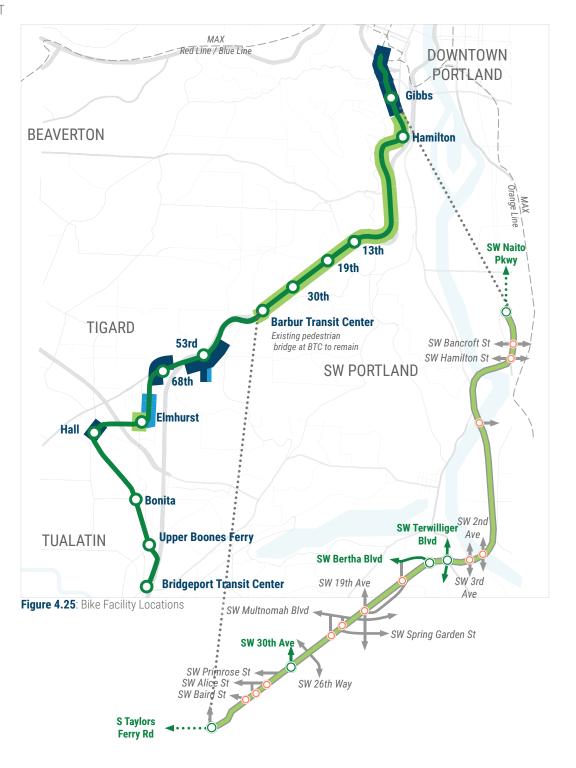
Buffered Bike Lanes: Striped cyclist-only lanes that create atgrade separation between cyclists and automobiles

Raised Protected Bike Lanes (RPBL): Bicycle facility that provides comfort and safety by putting a curb-separated buffer between traffic and cyclists

SIGNALIZED PROTECTED INTERSECTION TREATMENTS (See Figure 4.21)



Target Locations for Type 2 or 3 (all other intersections)



RAISED PROTECTED BIKE LANES IN PORTLAND

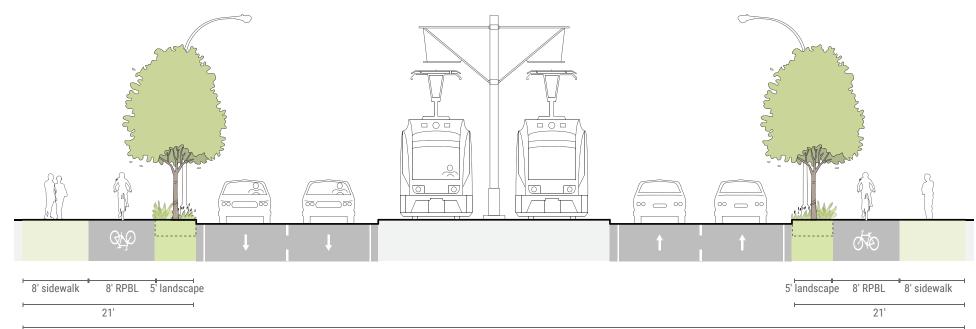
Raised Protected Bike Lanes (RPBLs) provide a comfortable and safe bicycling environment. People biking are separated from automobiles by a curbprotected furnishing zone. Along SW Barbur Blvd, this zone will include planting, street trees, lights and utility poles. People biking will ride on each side of the street in the same direction as traffic, adjacent to the sidewalk and with a separation treatment as appropriate to address narrower space on the street. Coordination between site furnishings and bus shelter locations in relationship with bike facilities to be explored in final design.

The project will construct over four miles of RPBLs between SW Naito Pkwy and Barbur Transit Center, providing a seamless and continuous connection through Southwest Portland that serves a number of neighborhoods along the corridor.



PRECEDENT OF RAISED PROTECTED BIKE LANE (BOND ST)

IMAGE SOURCE: TRIMET



114' minimum (often wider due to stations, turn lanes, etc.)

Figure 4.26: Typical cross-section of raised protected bike lanes on SW Barbur Blvd

PROTECTED INTERSECTIONS

Protected intersections protect both people walking and biking from traffic. Protected intersections that are signalized may have right, left and/or though movements for all modes. In addition to being protected from right-turning vehicles, cyclists also have a protected place to make a two-stage left turn without merging into traffic. In some locations, right-turning vehicles may have a red light while people walking and biking cross the intersections. Lead interval signal timing will be explored at protected intersection locations. Pedestrians also benefit from protected intersections because they reduce the overall roadway crossing distance.

There are several types of intersection designs for protected intersections that will be applied along the corridor. A full protected intersection (Type 1) provides separation and protection for people walking and biking in every direction. This design also requires additional right-of-way space that will not be available at every intersection. Type 2 and Type 3 will be applied along the corridor as appropriate to address narrower roadways.

The following criteria are used to determine the best design solution at each intersection:

- Demand
- ADA standards
- Existing bike facilities
- Planned bike facilities
- Additional space
- Traffic volumes
- Turning movements
- Topography

PROTECTED INTERSECTION TYPES

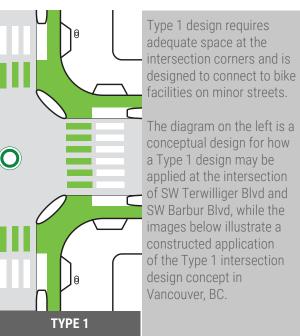
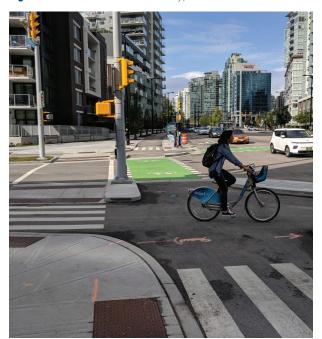
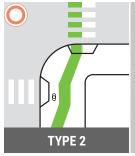


Figure 4.27: Protected intersection types



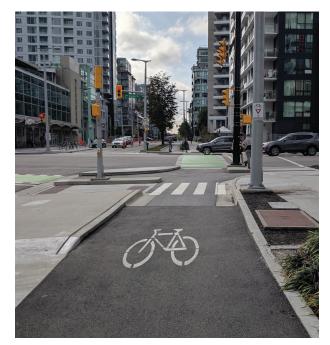
EXAMPLE OF TYPE 1 INTERSECTION IMAGE SOURCE: DALE BRACEWELL



Type 2 design is more compact and may be applied in locations where space is limited. This type may be employed where the minor streets are narrower and do not include bike facilities.



Similarly compact as Type 2, Type 3 design provides a mixing zone for bicyclists and pedestrians to briefly share as they wait to cross, as opposed to separation.



4.9 Light Rail Intersections

Light rail will affect the pattern of circulation for all modes of transportation, and the project will modify traffic flow to improve safety through enhancements to existing intersections. Project partners are collaborating to apply new design tools that will improve circulation and access along the corridor. All intersections will prioritize pedestrian and cyclist safety first.

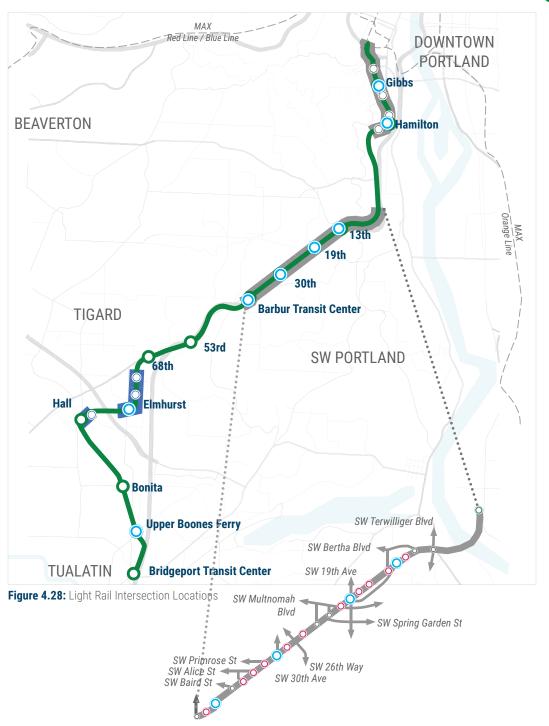
New pedestrian crossings along the project alignment will create more regular spacing for a more pedestrian-oriented environment with connections to desired locations. Continue reading the "Pedestrian Permeability" section for a sample of how additional crossings improve pedestrian permeability, specifically along SW Barbur Blvd.

INTERSECTION TYPES

- Station Intersections: Intersections that contain a light rail station and prioritize movement to and from the station. (Note: Upper Boones Ferry Road Station also intersects with dedicated light rail)
- **Pedestrian-Only Crossings:** Pedestrian-only crossings provide opportunities to cross on longer blocks
- Locations where intersections cross center-running light rail
- Locations where a cross street intersects with dedicated siderunning light rail



LIGHT RAIL STATION INTERSECTION (SE 17TH AVE & RHINE ST)



70 SOUTHWEST CORRIDOR LIGHT RAIL PROJECT: CONCEPTUAL DESIGN REPORT



SIDE-RUNNING LIGHT RAIL INTERSECTION (NE HOLLADAY ST & NE 7TH AVE)



SHARED LIGHT RAIL-RAILROAD INTERSECTION (DOWNTOWN MILWAUKIE)



CENTER-RUNNING LIGHT RAIL INTERSECTION (SE 17TH AVE)



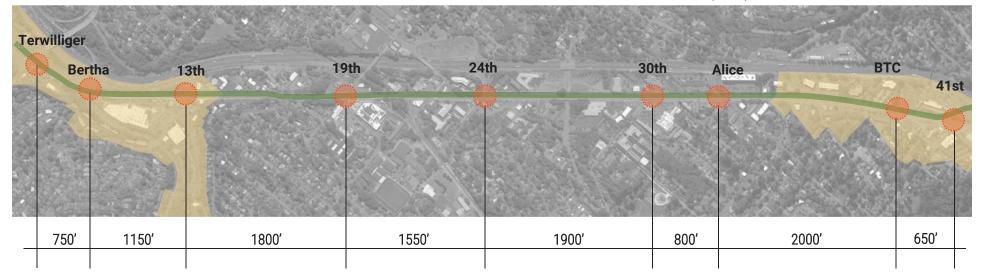
PEDESTRIAN-ONLY CROSSING (SE 17TH AVE & RHINE ST)

PEDESTRIAN PERMEABILITY

A major benefit of the Southwest Corridor Light Rail Project is the increased pedestrian permeability across SW Barbur Blvd, making the crossing locations throughout the corridor and large arterials as safe and comfortable as possible, while maintaining light rail operations and vehicular traffic. With guidance from PedPDX, Portland's citywide pedestrian plan, the project increases the overall permeability of SW Barbur Blvd through additional marked crossings. The design of crossing frequencies strives to meet a 530' desired spacing within designated pedestrian districts and a 800' desired spacing outside of pedestrian districts. These additional pedestrian crossings also benefit bicyclists, by providing improved circulation and crossing opportunities. Figure 4.29 below illustrates a sample of these improvements.

LEGEND Southwest Corridor Light Rail Pedestrian District Traffic Signal (Vehicular Intersection) Enhanced Pedestrian Crossing (Full Crosswalk) Enhanced Pedestrian Crossing (Half Crosswalk to Platform) [500' | Spacing between Marked Crossings (feet)

EXISTING PEDESTRIAN CROSSINGS WITH TRAFFIC SIGNAL OR FLASHING BEACON (RRFB)



PROPOSED PEDESTRIAN CROSSINGS

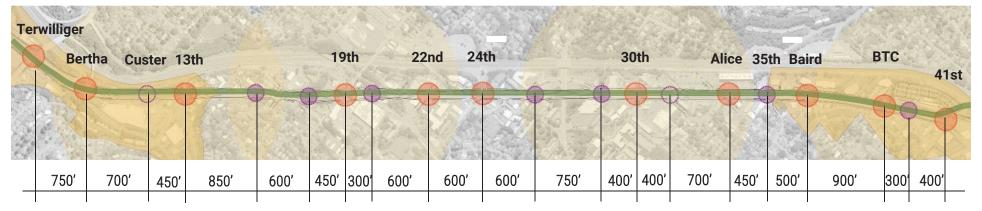


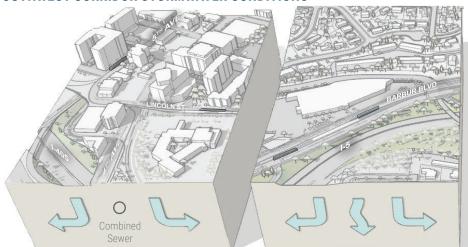
Figure 4.29: Sample - pedestrian permeability along SW Barbur Blvd

4.10 Stormwater Features

Managing stormwater locally and on-site helps clean pollution from stormwater and protect rivers, streams and oceans. The varied geology and topography of the Southwest Corridor and differences in the existing wastewater infrastructure treatment system dictate the various tools and approaches that must be used to capture and clean stormwater in the corridor. The four generalized land conditions (Figure 4.30) along the Southwest Corridor Light Rail Project show that different stormwater solutions will be needed to mitigate runoff and integrate it into existing spaces.

Figure 4.31 show an array of tools and facilities, such as bioswales, stormwater planters, and rain gardens that can be used to collect stormwater and runoff from surrounding surfaces to reduce spikes in stormwater flow and improve water quality in the process. Stormwater infrastructure also offers opportunities for collaborations between TriMet and its jurisdictional and agency partners. Work is underway to confirm where these conditions specifically apply across the corridor. Additionally, ongoing coordination to balance potential development opportunities with stormwater treatment facility types and locations will continue throughout project design.

SOUTHWEST CORRIDOR STORMWATER CONDITIONS



SOUTH PORTLAND

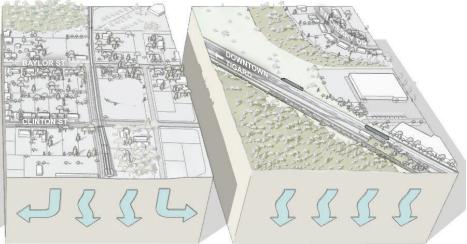
Urban cores such as Downtown Portland have significant quantities of impervious surface from streets, parking lots and buildings. Stormwater will be released into the city's existing combined sewer system.

BARBUR CORRIDOR

Barbur Corridor has complex topography. It is bordered by steep hillsides to the west and I-5 to the east. Additionally, Barbur Corridor undulates between topographic high points and low points, and has multiple stream crossings. South of SW 3rd Ave, the stormwater system transitions from a combined sewer to a storm-only sewer. SW Barbur Blvd will generate large quantities of runoff, but can also be designed to capture large quantities of runoff.

STORMWATER TOOLKIT





URBAN TIGARD

Urban Tigard has a mix of undeveloped open space, natural areas, building types and surface parking lots. It is also comparatively flatter than Barbur Corridor. The toolkit of stormwater features will not be just limited to streets, but potentially to large swaths of greenspace interspersed all throughout urban Tigard.

RAILROAD RIGHT-OF-WAY

The railroad right-of-way through Tigard and Tualatin has naturally permeable surface on the Fanno Creek side and a large number of surface parking lots and big-box office buildings on the side bordering I-5.

STORMWATER TOOLKIT (CONTINUED)



Functions:

- Water quality
- Detention

Potential Project Application:

- Systems buildings
- Parking structures



Functions:

- Water quality
- Detention
- Parking wall structures

Potential Project Application:

- Parking lots
- Under structures
- Stations



Functions:

- Water quality
- Detention
- Infiltration where viable
- Large depressed facilities

Potential Project Application:

- Surface lots
- Tigard



TERRACING

Functions:

- Water quality
- Detention
- Steep areas

Potential Project Application:

- SW Barbur Blvd
- The Woods
- Stations



INFILTRATION BASINS

Functions:

- Water quality
- Detention
- Retention planters

Potential Project Application:

- All segments
 The Woods
- Barbur Blvd
 Pocket parks
- Under structures



Functions:
• Existing

- Existing, naturally occurring
- Habitat restoration

Potential Project Application:

- Parks
- Greenspaces
- Vegetated corridors



Functions:

Conveyance

Potential Project Application:

Stations



TORMWATER TREE: TRENCH

Functions:

- Water quality and detention
- Vaulted pavements/structural soils/Silva cells
- Compact green design option
- Root paths, continuous trenches

Potential Project Application:

• SW Barbur Blvd • The Woods



Functions:

- Water quality
- Detention & Infiltration
- Larger areas
- Near wetlands

Potential Project Application:

- Operations and maintenance facility
- Upper Boones Ferry



Functions:

- Water quality
- Detention
- Good for narrow, linear spaces
- Traffic calming

Potential Project Application:

- Streets (All Segments)
- SW Barbur Blvd
- The Woods



Functions:

- Detention underneath
- Infiltration where viable
- Materials: concrete, asphalt, pavers

Potential Project Application:

- Sidewalks
- Platform
- Parking lots (Park & Rides)



Functions:

- Water quality
- Habitat restoration
- In-stream detention/storage

Potential Project Application:

Stream crossings



4.11 Urban Design Elements

Urban design elements of the project will seek to make stations, structures, and other functional elements of the project attractive and safe. These elements will reflect both the character and values of their immediate surroundings found in each neighborhood, and provide consistency to the functional and visual definition of light rail transit facilities. In addition to elements already described in this chapter, others include: lighting, wayfinding, screening elements, paving treatments, railings, benches, bike amenities, planting areas, and street trees. The type, size, and location of these items will be reviewed with the public, to guide final design of the project.

URBAN DESIGN TOOLKIT



BENCHES
IMAGE SOURCE: MAYER/REED



LIGHTING
IMAGE SOURCE: MAYER/REED



TRANSIT SHELTER AND SCREENING IMAGE SOURCE: TRIMET FLICKR



PLATFORM RAILING IMAGE SOURCE: TRIMET FLICKR



WASTE RECEPTACLES IMAGE SOURCE: LANDSCAPE FORMS



TACTILE PAVING IMAGE SOURCE: TRIMET FLICKR

Figure 4.32: Urban Design Toolkit

URBAN DESIGN TOOLKIT (CONTINUED)



TICKETING EQUIPMENT IMAGE SOURCE: TRIMET FLICKR



SCREENING
IMAGE SOURCE: TRIMET FLICKR



PLAZA ELEMENTS
IMAGE SOURCE: GREENWORKS



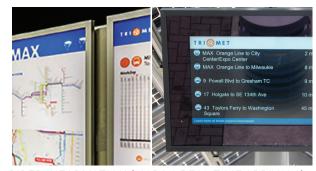
STATION WAYFINDING SIGNAGE IMAGE SOURCE: TRIMET FLICKR



LANDSCAPING AND STREET TREES IMAGE SOURCE: GREENWORKS



LOW WALLS
IMAGE SOURCE: TRIMET FLICKR



RIDER INFORMATION (MAPS & REAL-TIME ARRIVALS) IMAGE SOURCE: TRIMET FLICKR



PLAZA PAVING
IMAGE SOURCE: TRIMET FLICKR



BUS FACILITIES
IMAGE SOURCE: TRIMET

4.12 Station Access Toolkit

TriMet provides bus, light rail, commuter rail and paratransit services throughout the region. Access to transit is increased through infrastructure investments, such as bike facilities and parking. The scope of the Southwest Corridor Light Rail Project includes integrated elements to support station access including the Marguam Hill Connector and a variety of streetscape improvements, such as sidewalks, bike facilities, traffic signals, etc. Both transit access and choosing alternatives to single-occupancy vehicles are supported by third party mobility options, such as bike share.

TriMet is working to enable a mix of mobility solutions to connect riders to transit. Figure 4.34 below identifies the access tools considered by the project. The "TriMet Access Tools" section below highlights the mobility tools that are included in the opening day project scope.

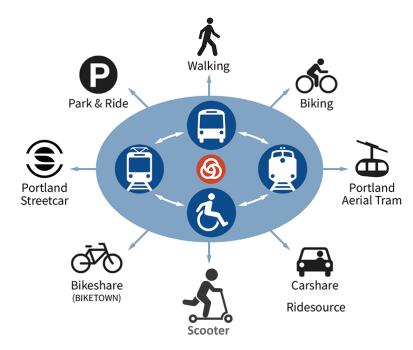


Figure 4.33: Sample of tools for transit access

PEDESTRIAN FACILITIES

INTEGRATED STATION ACCESS

BIKE FACILITIES AND PARKING

BUS STOPS AND TRANSIT CONNECTIONS

SPACE FOR MOBILITY SOLUTIONS

PARK & RIDE FACILITIES

ROADWAY IMPROVEMENTS

SUPPORTING TRANSIT-



ORIENTED COMMUNITIES

- Enabling transit-oriented development on publicaly-owned sites such as Barbur Transit Center, Tigard Park & Ride (at Pacific Highway/99W), Bridgeport Transit Center /Park & Ride
- Other potential opportunities along the corridor as coordinated by jurisdictions and housing developers

TRIMET ACCESS TOOLS → SHARED RESPONSIBILITIES → ACCESS TOOLS BY OTHERS



MOBILITY **SOLUTIONS BY OTHERS**

MOBILITY SERVICE ACCESS TOOLS

Coordinating with privately operated mobility solutions beyond the project footprint to provide more and better travel choices that increase convenient access to transit service

PARTNER PROJECTS

· Southwest Corridor infrastructure and access projects that are not included in the project scope





TRANSIT-**ORIENTED COMMUNITIES**

Figure 4.34: Areas of responsibility and coordination for different access tools

Mobility infrastructure for riders must be located where it can be most conveniently and safely accessed.

Access and mobility solutions capture different trip distances (travel reach). Certain solutions may also be more easily adopted or prioritized by communities based on convenience, comfort and cost.

Where space is limited adjacent to the station, street right-of-way and/or private development can provide alternative locations to support mobility solutions.

Figure 4.35 explores a framework which provides a range of distances where mobility solutions can be optimally placed around a station.



STATION ADJACENT

Less than half a minute (or approximately 100') from the station by foot, these solutions benefit from good visibility from the station platform and direct interface with the project.



ONE BLOCK FROM STATION

Less than a minute (or approximately 200') from the station entrance by foot, solutions may be located where passengers may be willing to walk slightly further to access them.



ONE BLOCK FROM STATION AND BEYOND

Roughly 1.5 minutes (or approximately 400') from the station entrance by foot, these solutions include Park & Ride, as well as less frequent local services, and a variety of private operators, including car share.

STATION SITING AND PLACEMENT FOR ACCESS TOOLS



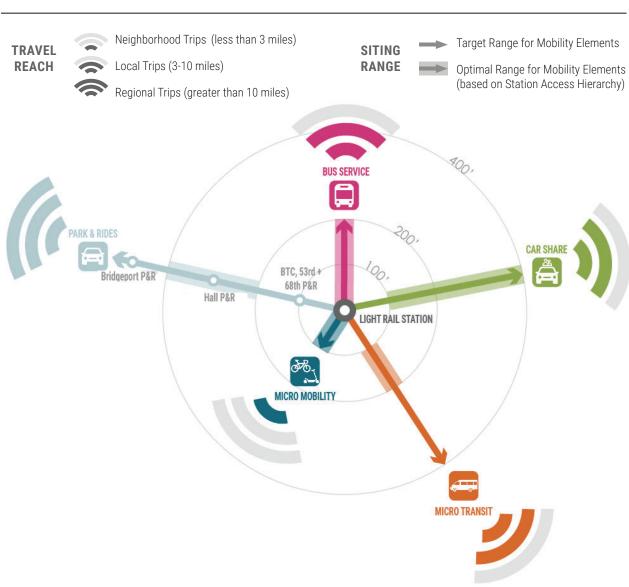


Figure 4.35: The Station Access Hierarchy for Southwest Corridor Light Rail Project informs the siting of mobility solutions around a station area.

WALK ACCESS TOOLS: TRANSIT-ORIENTED COMMUNITIES

Walking is the primary means to access transit. Studies show that people who live or work in communities with a mix of housing, services and convenient access to transit tend to drive 20-40% less, using alternative modes such as transit, walking and biking. These types of communities better enable individuals and families to reduce their reliance on autos and offer better mobility for non-driving populations.

The Southwest Corridor Light Rail Project includes 10 miles of new, standard bi-directional sidewalks and crosswalks to improve comfort and promote walkable access to transit and local station area amenities. Creating inviting pedestrian places and expanding the number of people living near transit increases the number of transit patrons and the overall vitality of the surrounding community. In the Southwest Corridor, many different types of development are possible. Local jurisdictions are leading related land use processes to envision Southwest Corridor Light Rail Project station areas, and in some cases, adapting development codes to allow for residential uses or introducing context-sensitive equitable development tools.

AFFORDABLE HOUSING

The project recognizes the value of providing new light rail service and the importance of preserving affordability, and avoiding displacement of disadvantaged residents who often rely on transit. Project partners are committed to supporting development of affordable housing along the light rail alignment. Figure 4.37 highlights the MOU committed goals within each jurisdiction (**Appendix C**) as well as the potential estimated unit capacity on remnant parcels (**Section 3.4**).



Figure 4.36: Transit-oriented communities, such as at Orenco Station, create patterns of activities and services that support increased transit use.

AFFORDABLE HOUSING SUMMARY

Project Partners: TriMet, Metro, City of Portland, City of Tigard, Washington County				
Jurisdiction	Committed Goal	Potential Estimated Capacity on Remnant Parcels		
Portland	600 affordable housing units	610-930* affordable housing units		
Tigard	150 affordable housing units	710-1300 affordable housing units		

^{*}Barbur Transit Center and Ross Island Bridgehead parcels are not included in this evaluation, and are undergoing a separate planning process to identify redevelopment opportunities.

Figure 4.37: Affordable housing development



Figure 4.38: Project partners are working to advance transitoriented affordable housing along the project alignment.

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BIKE ACCESS TOOLS: BIKE PARKING

The quality of the surrounding bike network, topography and the types of trips made by bike will influence the demand for short-term or long-term parking, with secure options at each station. Bike parking typologies in **Section 3.7** help determine recommended quantities for each station

Bike parking is typically located within 100 feet from the station platform. This allows riders to conveniently secure their bikes and head directly to the platform, and vice versa. The areas around the platform also have greater visibility, and therefore promote greater bike security to deter bike theft.

In some cases, bike parking's smaller footprint can be integrated into furnishing zones (sharing the same strip as street trees and landscaping), behind sidewalks, and in plazas. Bike & Ride facilities are standalone facilities that may also be located in a plaza or Park & Ride where space is available.



TRANSFER ACCESS TOOLS

In addition to light rail service, the Southwest area of the region can expect to see improvements to bus service. Bus service enhancement plans will be advanced through a public process about a year prior to opening.

Bus stop siting, typically located within 100-200 feet from the station entrance, will be confirmed during the Final Engineering Phase of the project. Conceptual locations are identified in **Chapters 5-7**.

BIKE ACCESS TOOLS



FUNCTION:

- Short-term use
- Standardized staple rack design
- Bike racks may be covered by weather protection where practical

STATION APPLICATION:

All Stations



BIKE RACKS
IMAGE SOURCE: TRIMET



FUNCTION:

- · Long-term use
- Standardized locker that may be grouped together and stacked
- Requires stewardship and maintenance

STATION APPLICATION:

All Stations



BIKE LOCKERS
IMAGE SOURCE: TRIMET



FUNCTION:

- Secure, enclosed structure
- May be coordinated with BikeLink or Hop Card access

STATION APPLICATION:

Gibbs Street Station 68th Parkway Station (Potential) Bridgeport Transit Center



ENCLOSED SECURE BIKE & RIDE

Figure 4.39: Different bike tools will be implemented at each station based on recommended bike parking demand.



MOBILITY SERVICE ACCESS TOOLS

Emerging mobility services can promote connections to transit. The project recognizes that more travel choices can increase the comfort and convenience of transit service for all. Adapting stations to various travel choices is especially important for vulnerable populations, such as older adults, economically disadvantaged households and people with disabilities. Market demand for these services varies for each station based on demographic, land use and station design consideration. See **Appendix J** for more detail.

Throughout Final Engineering, project partners will be coordinating with private sector companies who own or operate these services to assess options for mobility services. Ongoing coordination with local jurisdictions will be key to accommodating these emerging travel options, to plan for flexible curb space and seek opportunities adjacent to stations.



DRIVE ACCESS TOOLS: PARK & RIDES AND PICK UP/DROP OFF

Park & Ride facilities serve riders from farther distances or from locations without convenient transit service to access the light rail system. Park & Rides may also be designed in the future to accommodate additional mobility services, including Bike & Rides, pick-up/dropoff and ride-hailing, and car-share parking, as well as other types of development opportunities.

Pick up and drop off locations will be sited as feasible at each station location.

PRIVATE MOBILITY SERVICE ACCESS TOOLS



MOBILITY SERVICES FOR 3-10 MILES

CAR-SHARE

Car sharing programs allow people to access a shared fleet of vehicles on as-needed, per-hour or per-mile basis.

Space Requirements: Marked parking space(s)



ON-DEMAND RIDE-HAILING

Ride-hailing matches riders with drivers with riders in real-time through mobile applications.

Space Requirements: Drop off zone



MOBILITY SERVICES FOR <3 MILES



ELECTRIC BIKES AND SCOOTERS

System for electric scooters or bikes whereby users use a phone application to rent and ride to their destination.

Space Requirements: Parking area



BIKE SHARE (DOCKED/DOCK-LESS)

System of bicycles available to users to access as needed for point-to-point or round-trip trips.

Space Requirements: Space for dock (parking area if dockless), within or near to station



ON-DEMAND SHUTTLES

Shuttle service that can be on-demand in real-time or fixed route service updated frequently.

Space Requirements: Drop off zone



CIRCULATOR SHUTTLES

Shuttles operate on pre-defined, fixed routes in controlled environments (autonomous or driver-operated).

Space Requirements: Drop off zone

Figure 4.40: Future partnering opportunities with private providers to enhance mobility and station access. Note: these services are not included within the Southwest Corridor Light Rail Project scope.

PARK & RIDE LOCATIONS

ТҮРЕ	STATION	STATION ENTRANCE TO PARK & RIDE DISTANCE	EXISTING PARKING SPACES	PROPOSED MAXIMUM QUANTITY
Surface Park & Ride	Barbur Transit Center	Less than 100' (Across Barbur Blvd)	368	Up to 300
	53rd Avenue Station	Less than 100' (Adjacent to station)	0	Up to 310
	68th Parkway Station	Less than 100' (Adjacent to station)	0	Up to 350
	Hall Boulevard Station	Approximately 300' (Across OMF access road)	0 (103 at WES P&R)	Up to 100
Structured Park & Ride	Bridgeport Transit Center	Approximately 200' (Accessed via pedestrian walkway)	368	Up to 960

Figure 4.41: Park & Rides are located throughout the corridor, adding upon existing lots or creating new lots to meet ridership demand

4.13 Creating Places at Stations

The Southwest Corridor Light Rail Project seeks to incorporate flexibility to accommodate future opportunities as mobility and land use conditions change.

Five opportunities described below summarize typical conditions at light rail stations. Each station has a different context that influences where mobility solutions can be placed.

These types of opportunities will require ongoing coordination between developers, property owners and jurisdictions. Not every opportunity is present at each station.

Chapters 5-7 explore what types of access opportunities may be present at each station location.



Figure 4.42: Opportunity areas along the light rail alignment for mobility solutions

EXPLORING FUTURE OPPORTUNITIES FOR MOBILITY SOLUTIONS



A New Transit-Oriented **Places**

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated exterior area.



B Adapting Existing **Places**

Property owners may work with the city and mobility providers on solutions such as in a parking lot or other exterior area.



C Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.



Adapting Park & Rides

Mobility solutions may be introduced into dedicated Park & Rides, such as pickup/drop-off zones or space for other mobility services.



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.

OPENING DAY

On opening day, the Southwest Corridor Light Rail Project will include items as defined within the project scope and as described in this report.

This Conceptual Design Report focuses specifically on the transit system functional elements and their aesthetics, character and siting, as well as integrated access projects. In some cases, selected elements of 'place-making' are also included within the project boundary, such as transit plazas.

FUTURE VISION

Transit projects are complex, and so is their urban design. Developing new light rail infrastructure opens up many opportunities to improve and expand upon community values for mobility, equity, climate change, land use and other goals.

The future vision for a transit project like the Southwest Corridor Light Rail Project may ultimately include many opportunities for new mobility services supporting station access, buildings and other kinds of investments that help communities take advantage of the public investment of a system. High-capacity transit encourages vibrant cultural centers, business corridors and mixed-income housing.

These are improvements that will be initiated and funded by others.



Figure 4.43: Opening day scope and future station area vision upon coordination with partners



84 SOUTHWEST CORRIDOR LIGHT RAIL PROJECT: CONCEPTUAL DESIGN REPORT

DES	SIGN CONCEPTS: INNER PORTLAND83
5.1	Project Highlights
5.2	Moving Around Inner Portland86
	Station Access and Partner Projects
	SW Naito Parkway Main Street/
	Ross Island Bridgehead89
	Neighborhood Access90
5.3	Downtown Tie-In
5.4	Gibbs Street Station
5.5	Marquam Hill Connector
5.6	Barbur - Naito Street Network
5.7	Hamilton Street Station
5.8	Capitol Highway Bridge Replacement
5.9	Viaducts Replacement

5 Design Concepts: Inner Portland

5.1 Project Highlights

The Southwest Corridor Light Rail Project is an opportunity to help reconnect South Portland while respecting the historic resources and lush natural **setting that characterize the surrounding neighborhoods.** Two stations at Gibbs Street and Hamilton Street bind neighborhoods from east to west with modern infrastructure and improved pedestrian connections, while north-south access is improved with new sidewalks, bike facilities and street trees on both sides of SW Barbur Blvd. The Southwest Hills, Homestead and Hillsdale neighborhoods will also get improved transit with buses taking advantage of a new shared transitway to avoid congestion, providing riders with access to major regional destinations and improved connections to Downtown Portland and East Portland. The project will explore and coordinate options for enhanced bike facilities along SW Barbur Blvd north of SW Naito Parkway intersection, where existing properties constrain the right-of-way. Southwest Corridor Light Rail Project will support City-led projects, such as the SW 4th Ave bike lanes, the Green Loop, Southwest in Motion projects, and the Ross Island Bridgehead Reconfiguration/SW Naito Parkway Main Street Project, aimed at returning this historic district to a healthy, contiguous community (Appendix E).

PROJECT BENEFITS



MOVE AND **CONNECT** PEOPLE

- A 1.6-mile shared transitway (see Figures 4.8-4.10) removes bus lines 44 and 56 from automobile traffic, providing a faster commute for transit riders coming from the west
- Street improvements and the Marquam Hill Connector make it safer and easier to bike and walk between the South Portland, Lair Hill, South Waterfront and Homestead neighborhoods



MAINTAIN AND CREATE **EQUITABLE COMMUNITIES**

- The Marquam Hill Connector and Gibbs Street Station pedestrian plaza provide a new front door for visitors and employees to destinations on Marquam Hill
- Street and pedestrian improvements help reconnect the neighborhood and support city-led efforts, such as the Ross Island Bridgehead/ SW Naito Parkway Main Street project



PRESERVE AND RESTORE NATURAL ENVIRONMENT

- New stations are within easy walking distance of parks, trails and natural areas, including Terwilliger Parkway and George Himes Park (part of the Westside Wildlife Corridor), as well as Duniway and Lair Hill Parks
- Light rail construction will help improve the natural habitat around several creeks running from the West Hills to the Willamette River

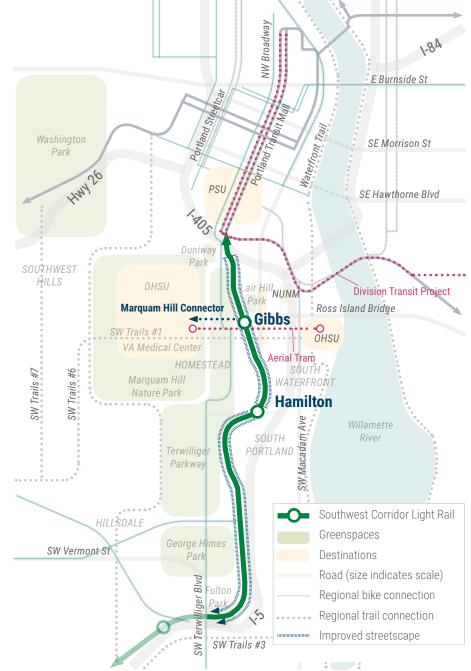


Figure 5.1.1 Project Overview - Inner Portland



5.2 Moving Around Inner Portland

ACCESSING THE STATION

- Gibbs Street Station sits at the nexus of a historic neighborhood, wooded parkway and major medical center. The station provides a link between the Lair Hill neighborhood, known for its pedestrian scale and historic architecture, and Terwilliger Parkway, with its expansive natural setting and views. Buses and the Portland Aerial Tram further link the station area to regionally significant employment, recreation and medical centers on Marquam Hill and the South Waterfront.
- A majority of light rail riders will access Gibbs Street Station by walking. However, the station will also be accessed by those taking the bus, since Gibbs Street Station shares its platform with both light rail and bus riders.
- Hamilton Street Station riders are projected to arrive by foot and bus transfers. Homestead and John's Landing can be accessed directly from Hamilton Street Station, with bus routes along Corbett Ave connecting riders to destinations and neighborhoods further along the waterfront.
- For each station, project partners are exploring the best locations where passenger drop-off can be provided.

IMPROVING TRANSIT ACCESS

An inventory of bicycle and pedestrian conditions on blocks adjacent to each station has identified the following challenges in Inner Portland:

- North-south arterials have limited crossing opportunities. These include SW Barbur Blvd, SW Naito Pkwy, SW Macadam Ave, SW 3rd Ave and SW Terwilliger Blvd.
- I-5 acts as a barrier between neighborhoods in South Portland and the South Waterfront.

these conditions. It strengthens east-west connections, including new crossings on SW Barbur Blvd and intersection improvements to SW Naito Pkwy. The Marquam Hill Connector will connect Gibbs Street Station to Oregon Health & Science University's (OHSU) Marquam Hill campus. The shared transitway relieves traffic congestion while allocating more space within SW Barbur Blvd's limited right-of-way for buffered and protected bikeways and improved sidewalks.

Seamless access improvements require close coordination between all project partners. Southwest Corridor Light Rail Project Station Access planning has been developed in concert with Portland's Transportation System Plan (TSP), Southwest in Motion (SWIM) strategy and Safe Routes to School program. A list of partner-led Station Access projects for improving pedestrian and bicycle access in Inner Portland is on the following page. Note that not all projects currently have associated budgets and schedules. Some of these projects may be constructed in conjunction with the light rail project, while others will be constructed after opening day.

The design concepts included in this chapter show a small area plan for each location with all projects included in the current Southwest Corridor Light Rail Project funding. A "functional plan" shows how each station contributes to access for walking, biking, driving, and transit, and how the station fits into its existing context.





The Southwest Corridor Light Rail Project will improve

INNER PORTLAND: 2035 STATION RIDERSHIP

Source: Metro, 2019



GIBBS* 6,200 Projected Daily Trips

98 Percent Walk

2 Percent Transfer





* An additional **7,600 projected daily trips** are expected to get off and off the Gibbs Street Station from buses that share the same platform as the light rail line.



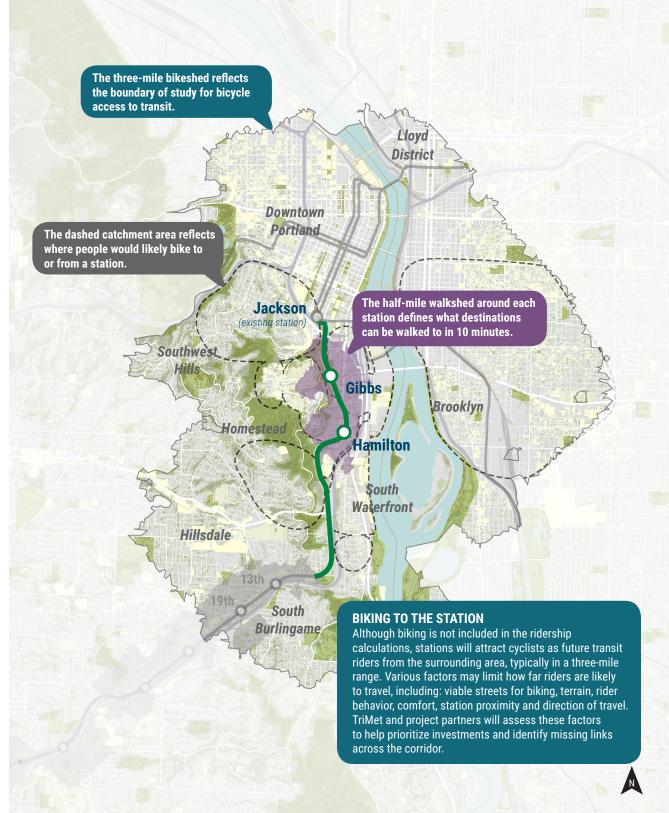
HAMILTON 1,800 Projected Daily Trips

43 Percent Walk

46 Percent Transfer

12 Percent Auto





STATION ACCESS AND PARTNER PROJECTS

The following map shows the location and geographic extent for additional Southwest Corridor Light Rail Station Access Projects. Projects are highlighted that help to increase connectivity to light rail stations. Station access projects have advanced through the Shared Investment Strategy are included in the FEIS, but not the project budget. These could be designed and built by the Southwest Corridor Light Rail Project (TriMet), if other sources of funding are secured.

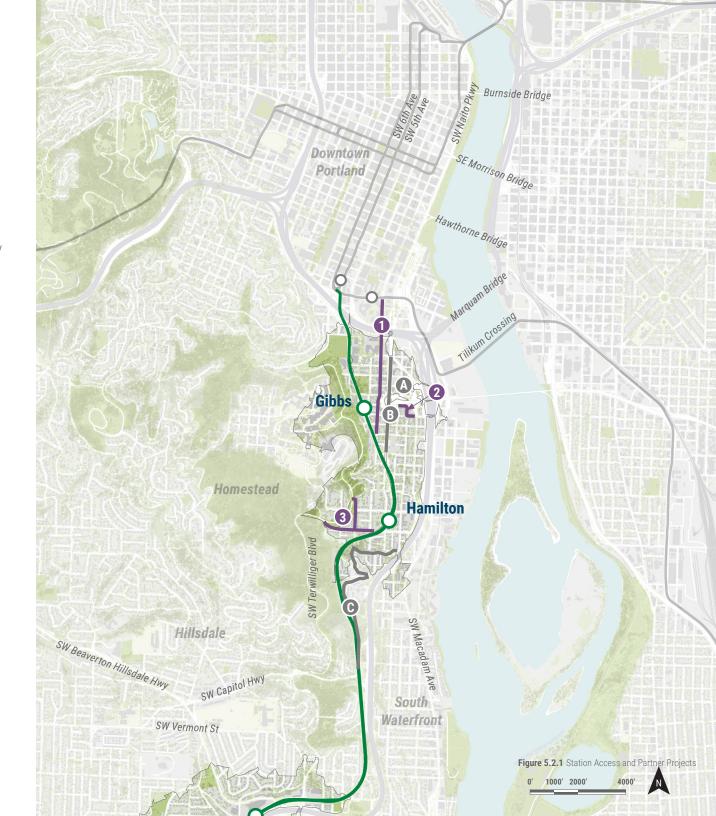
This map also includes relevant local projects led entirely by local jurisdictions. These projects will be coordinated with, and help to inform station area decisions. These projects are planned, funded, designed and constructed by others, and are not part of the Southwest Corridor Light Rail Project. More information on these projects is available on the website of each project lead.

STATION ACCESS PROJECTS —

- 1st Ave Bikeway
- 2 Grover Bikeway
- 3 Hamilton Sidewalks and Bikeway

PARTNER-LED PROJECTS —

- A Ross Island Bridgehead Reconfiguration (City of Portland TSP)
- B SW Naito Parkway Main Street Project
- **C** SW Slavin Rd Connector (City of Portland TSP)



PARTNER PROJECTS (CONTINUED)



The Southwest Corridor Light Rail Project will be closely coordinated with partner projects, including the SW Naito Parkway Main Street Project and the Ross Island Bridgehead Reconfiguration, led by the Portland Bureau of Transportation. This project aims to improve bicycle and pedestrian connectivity within the South Portland neighborhood and redirect regional highway traffic away from neighborhood streets. Additionally, the reconfiguration of bridge ramps will open up approximately three acres of publicly owned land for affordable housing and development opportunities (See Appendices C and E).

Figure 5.2.3 DRAFT Vision of SW Naito Parkway Main Street and Ross Island Bridgehead Partner Project

NEIGHBORHOOD ACCESS

The following diagrams show the proposed vehicular circulation for Inner Portland, which highlights possible traffic mitigations, new or modified signals and design of intersections to support u-turns and turning movements adjacent to the project alignment. New enhanced pedestrian crossings will be added throughout the project, significantly improving the pedestrian safety and crossing opportunities along the alignment. New enhanced pedestrian crossing treatment types will continue to be explored as a valuable measure in providing increased pedestrian safety and permeability across major streets. Additional crossings also benefit access to new and improved bike facilities built by the project.

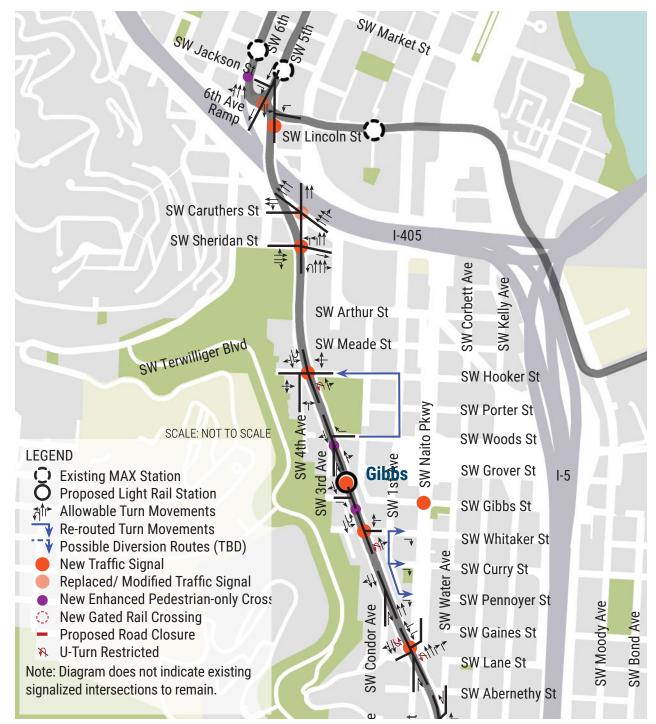


Figure 5.2.4 Proposed Neighborhood Access and Circulation

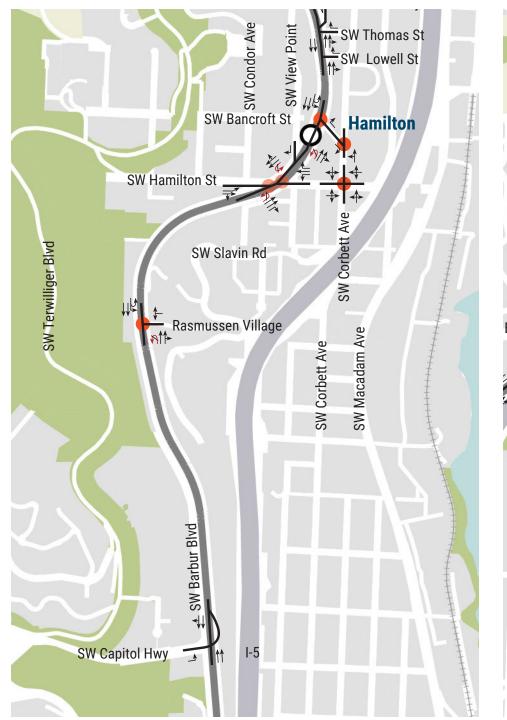


Figure 5.2.5 Proposed Neighborhood Access and Circulation

Note: Design of roadway circulation within the Fulton Park neighborhood will be refined over SW Corbett Ave SW Nevada St the course of project development and final engineering. To prioritize SW Parkhill Dr neighborhood circulation and safe emergency access, the project will seek feedback through public engagement regarding possible alternatives. SW 2nd Ave SW Terwilliger SW 3rd Ave SW 5th Ave SW Bertha Fulton Park Blvd SW Brier PI SW 4th Ave SCALE: NOT TO SCALE **LEGEND** Existing MAX Station Proposed Light Rail Station Allowable Turn Movements Re-routed Turn Movements Possible Diversion Routes (TBD) New Traffic Signal Replaced/ Modified Traffic Signal New Enhanced Pedestrian-only Cross New Gated Rail Crossing Proposed Road Closure N U-Turn Restricted Note: Diagram does not indicate existing signalized intersections to remain.

Figure 5.2.6 Proposed Neighborhood Access and Circulation

5.3 Downtown Tie-In

The 1.6 mile long shared transitway of the Southwest Corridor Light Rail Project crosses over SW Caruthers St, SW Sheridan St and I-405 on an elevated structure, avoiding impacts to local and regional vehicular circulation. Stretching through an overlay zone, the design of this structure will comply with the local design review process.

The light rail connection into the Portland Transit Mall provides easy and reliable connections to other frequent service transit lines, including the Division Transit Project's new high-capacity bus service. The Downtown Portland tie-in design will also support City of Portland-led projects for people walking, biking and taking transit through ongoing coordination for improvements such as the Green Loop, Central City in Motion and Southwest in Motion projects. At SW 5th Ave and SW 6th Ave, train operations of MAX Orange Line and Southwest Corridor Light Rail Project, along with bus and vehicle circulation and pedestrian crossings will be further analyzed in final engineering.

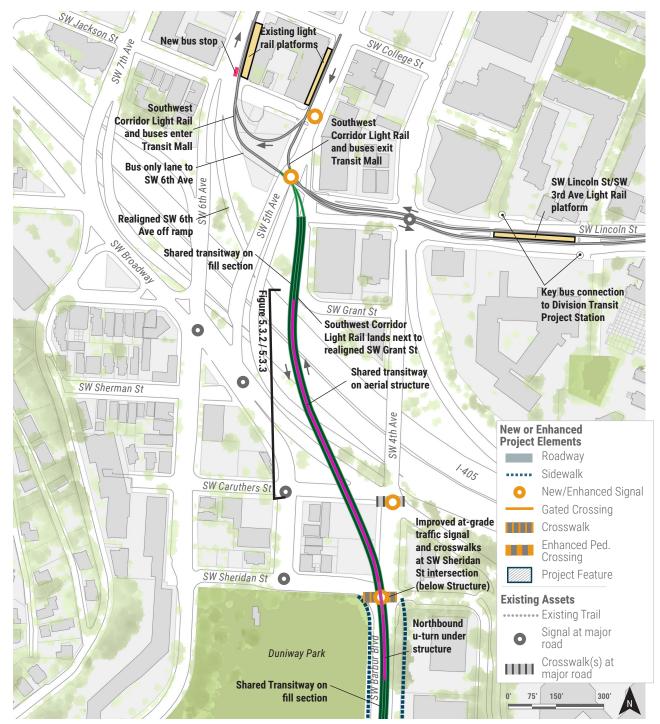


Figure 5.3.1 DRAFT Downtown Tie-in overview

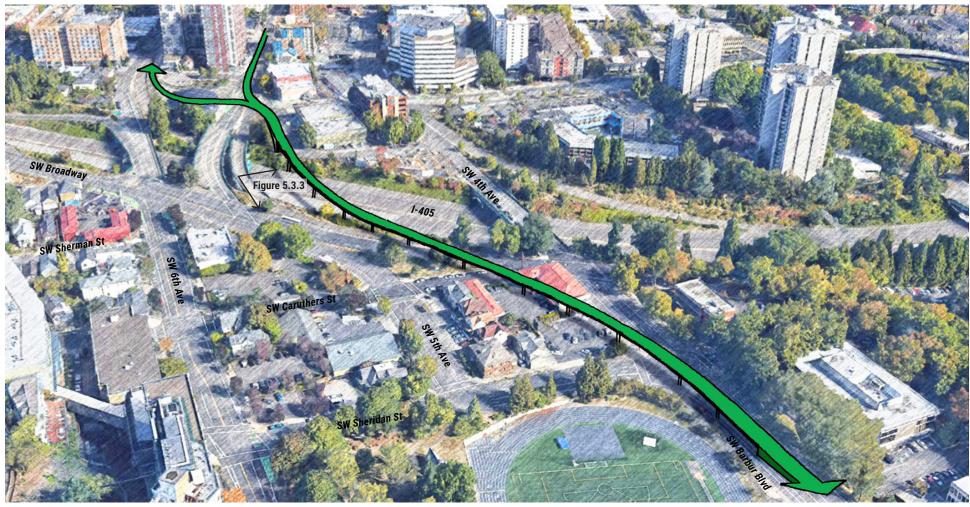


Figure 5.3.2 DRAFT Downtown Tie-in aerial overview

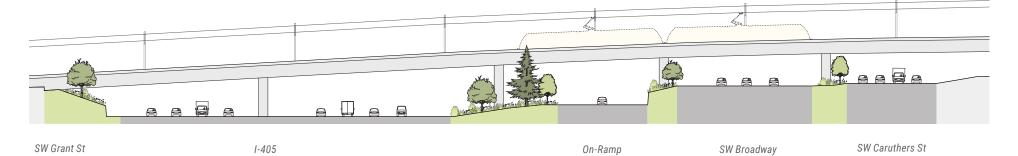


Figure 5.3.3 DRAFT Downtown Tie-in cross section



5.4 Gibbs Street Station



6,200 Projected Daily Trips*

98 Percent Walk
2 Percent Transfer

O Percent Auto



*An additional **7,600 projected daily trips** are expected at Gibbs Street Station from buses in the shared transitway

Nestled between the historic Lair Hill neighborhood and the forested West Hills of Terwilliger Parkway, the Gibbs Street Station will provide a critical connection for the thousands of employees, patients and students visiting Marquam Hill every day. Enhanced pedestrian crossings will make it easier for South Portland residents to access Terwilliger Parkway's natural beauty and expansive views. With a new crossing of SW Naito Pkwy and the Marquam Hill Connector, a pedestrian connection will reach from the South Waterfront to Marquam Hill. These connections will provide direct access to the light rail station, and a new public plaza.

PROJECT BENEFITS



MOVE AND **CONNECT** PEOPLE

- Three new and improved pedestrian crossings along SW Barbur Blvd
- Enhanced pedestrian crossings of SW Barbur Blvd and SW Naito Pkwy at SW Gibbs St intersections, connecting neighborhoods Marquam Hill and South Waterfront
- Planned connections to bus lines 44, 56 (shared transitway) line 43 on 1st Ave, and lines 54, 96 on SW Naito Pkwy
- One travel lane retained in each direction along SW Barbur Blvd, north of SW Naito Pkwy

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Access to Lair Hill, Homestead and South Waterfront neighborhoods, and Marquam Hill destinations
- Narrowed street section maintains emergency access while minimizing park and historic property impacts
- Access to Terwilliger Parkway, Duniway and Lair Hill Parks, SW Trail #1



 Enhanced street tree canopies and stormwater treatment along SW Barbur Blvd



Figure 5.4.1 DRAFT Gibbs Street Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Provide a safe pedestrian connection between the station and the Marquam Hill Connector with adequate crosswalks and plaza space to support high volumes of pedestrians
- Provide adequate secure and weather protected bike parking to support both access to transit and the Marquam Hill Connector
- Provide a safe, accessible connection to the Lair Hill neighborhood that respects the historic character and coordinates with Naito Main Street and Darlene Hooley connections
- Traffic mitigations, signals, and design of intersections to support u-turns and turning movements that provide adequate vehicular circulation to maintain access to neighborhoods and minimize neighborhood cut-through traffic
- Explore and coordinate options for bike facilities along SW Barbur Blvd north of SW Naito Parkway intersection where existing properties constrain the right-of-way, and enhance connections to downtown through the planned facilities for SW Naito Parkway Main Street Project, SW 4th Ave bike lanes, the Green Loop, and Southwest in Motion projects
- Further design may identify opportunities for adaptive reuse of the synagogue building

PROJECT SCOPE

- Gibbs Street Station and light rail infrastructure
- SW Barbur Blvd bike and pedestrian improvements
- · Short-term and long-term bike parking
- · Shared transitway for light rail and bus
- · Marquam Hill Connector and Plaza
- Pedestrian ramp and staircase down to SW 2nd Ave/ SW Gibbs St



Project Feature

New or Enhanced Project Elements Existing Assets Roadway Multifamily Sidewalk **Employment** New/Enhanced Signal Retail Gated Crossing ••••• Existing Trail Crosswalk Signal at major road Enhanced Ped. Crossina Crosswalk(s) at major road

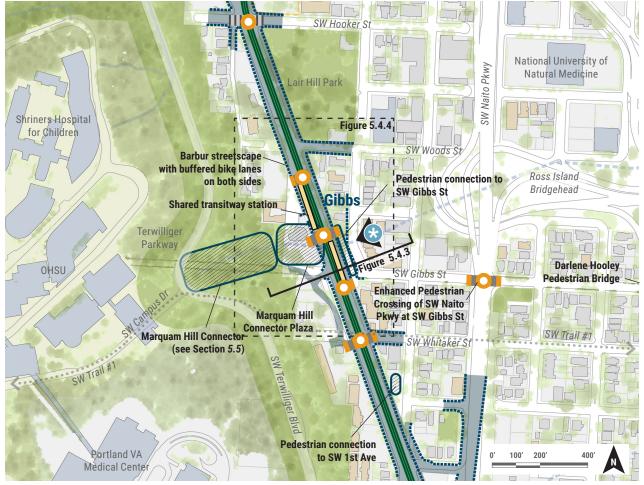


Figure 5.4.2 DRAFT Gibbs Street Station overview

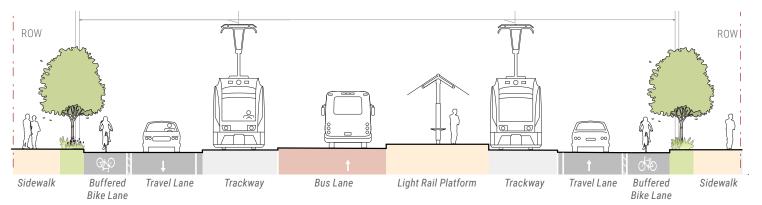


Figure 5.4.3 DRAFT Gibbs Street Station Cross Section



Figure 5.4.4 DRAFT Gibbs Street Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION FEATURES

- 1 Shared transitway platform
- ② Station environment for circulation to and visibility of Marquam Hill Connector (MHC)
- 3) Potential removal of synagogue building
- **4**) Wide pedestrian crossings
- (5) New/Enhanced Signal
- (6) Pedestrian island
- (7) Buffered bike lanes
- (8) Potential pick-up/drop-off
- Second the second of the se
- 10 Potential systems building, location subject to change
- Stair and ramp access for improved pedestrian connection





STATION ACCESS PROJECTS

-11- 1st Ave Bikeway

-2- Grover Bikeway

PARTNER-LED PROJECTS

-A- Ross Island Bridgehead Reconfiguration (City of Portland TSP)

-B- SW Naito Parkway Main Street Project

Note: See Figures 5.2.2 and 5.6.1 for more detail about Partner-led Projects A and B.



Figure 5.4.5 Gibbs Street Station Access Projects and Potential Partnering

1/2 Mile Station Walkshed

100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.

There is estimated demand within the station area for the following private mobility services:



Electric Bike/ Scooter Share



On-Demand Ridehailing

TRANSIT-ORIENTED DEVELOPMENT

Gibbs Street Station is bordered by the historic Lair Hill District and Park to the east, and natural Terwilliger Parkway to the west. While there is limited development opportunity near to the station, pedestrian trails connect OHSU, Terwilliger Blvd, and the station to opportunity sites further east, including developable mixed-use blocks created by the SW Naito Parkway Main Street Project and Ross Island Bridgehead. This is identified as the Kelly Focus area in the Barbur Concept Plan.

5.5 Marquam Hill Connector

Marquam Hill is home to Oregon Health & Science University (OHSU), Veterans Administration of Portland, the Shriners Hospital, residences and supporting businesses, and attracts over 18,000 employees, patients, students and residents each day from all around the region. The Southwest Corridor Light Rail Project will include a connection from the MAX station at Barbur Boulevard and Gibbs Street to Marquam Hill. This short distance up the steep hill requires a safe, accessible connector to help move people from the station to Marquam Hill destinations.

Compared with existing bus service to Marquam Hill, a mechanical connection between the Gibbs Station and Terwilliger Parkway will improve travel times to Marquam Hill destinations from both the north and the south, have lower operating costs and C02 emissions, and will provide capacity for thousands of additional daily riders.

OHSU Existing and Planned Improvements

- OHSU Pedestrian and Accessibility Improvements
 - Trails (SW Trails #1 shown as dashed line)
- Elevators
- Bike Circulation
- Bus Circulation
- Bus Stop
 - New/Enhanced Signal
- Southwest Corridor Light Rail Project Improvements
- Marquam Hill Connector

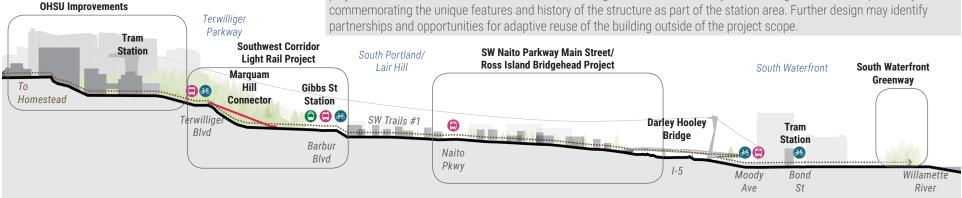


Figure 5.5.2 Pedestrian connections and improvements between the South Waterfront and OHSU Marquam Hill campus (approximately 1 mile)

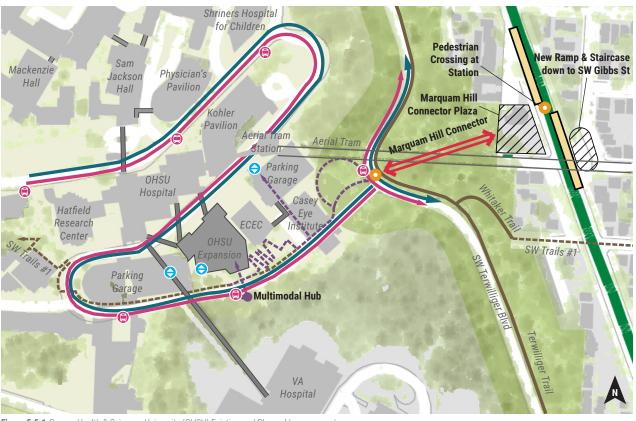


Figure 5.5.1 Oregon Health & Sciences University (OHSU) Existing and Planned Improvements

SYNAGOGUE

In order to reduce impacts to historic homes and parks in the South Portland Historic District, the structure formerly used as a synagogue by Congregation Ahavath Achim will likely need to be removed. TriMet purchased the synagogue at the request of the Congregation in 2018, and the Congregation does not object to the removal of the synagogue. Moving forward, the project team will work with local stakeholders, including the Jewish community and the neighborhood, to explore ways of commemorating the unique features and history of the structure as part of the station area. Further design may identify partnerships and opportunities for adaptive reuse of the building outside of the project scope.

INCLINED ELEVATOR

An inclined elevator has been selected as the preferred connector choice. Choosing the right connector involved multiple phases of robust public engagement and technical review. Of all the connector options explored, the inclined elevator received the most public support, and was found to have the least impact on Terwilliger Parkway.

An inclined elevator works similar to a standard elevator but provides horizontal and vertical movement. Two elevator cabs, each with a capacity of 40 people, will run on parallel tracks to efficiently move people up and down the steep slope between OHSU and Gibbs Street Station.

A trip in the elevator will take about 60 seconds. From the top of the inclined elevator, at Terwilliger Parkway and Campus Drive, an accessible pathway will connect to elevators within the OHSU campus. Riders will also be able to access Line 8-Jackson Park/NE 15th Ave here, which provides frequent, door-to-door service to many Marquam Hill destinations.

Ongoing design of the inclined elevator will require close coordination between Marquam Hill stakeholders including OHSU, Portland Parks & Recreation, Bueau of Environmental Services, Portland Water Bureau, Friends of Terwilliger and the neighboring community. Ownership, operations and maintenance of the inclined elevator will be determined during the engineering phase.



Figure 5.5.4 Bird's eye view of the Marquam Hill Connector

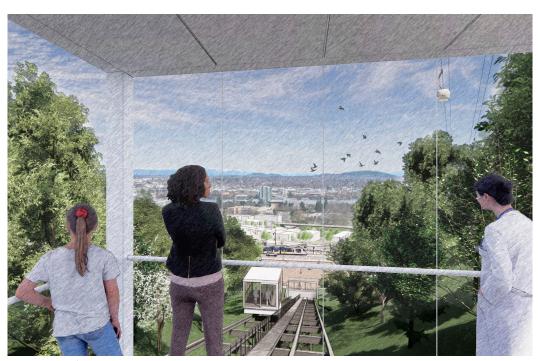


Figure 5.5.3 View from inside the inclined elevator, looking east toward Gibbs Street Station and the plaza below.



Figure 5.5.5 View from the western terminus of the inclined elevator, which ends at SW Terwilliger Blvd.

5.6 Barbur - Naito Street Network

The Southwest Corridor Light Rail Project design substantially reconfigures the SW Barbur Blvd and SW Naito Parkway intersection, creating an at-grade intersection in place of the existing tunnel alignment, resulting in improvements for people walking and biking.

Early visioning by the community is also underway for the SW Naito Parkway Main Street and Ross Island Bridgehead, a partner project with various street design concepts for a "Main Street" including improved pedestrian and bicycle facilities. Together, these projects will rebuild local street connections, and coordinate pedestrian and bicycle facilities to provide greater resident access to Gibbs Street Station and promote land uses that contribute to a healthy, connected community.

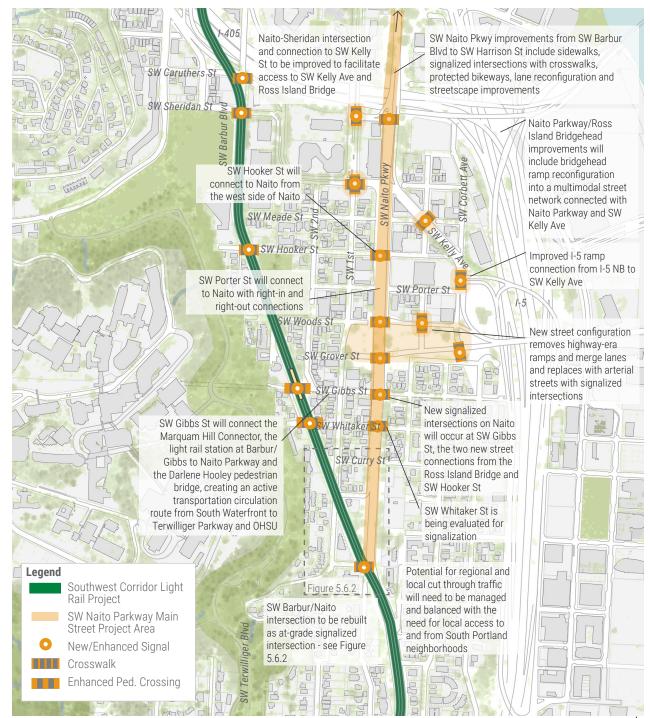


Figure 5.6.1 DRAFT Barbur - Naito Street Network Area Plan - Integration of Projects

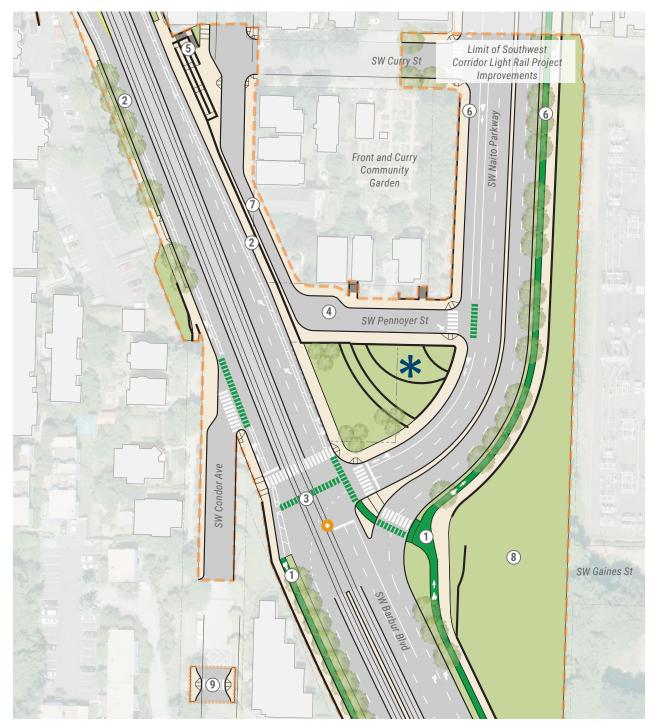


Figure 5.6.2 DRAFT Barbur - Naito Intersection Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

INTERSECTION FEATURES

- (1) Raised protected bike lane
- **2**) Buffered bike lanes
- 3 At-grade signalized intersection
- 4 Local-access only on SW Pennoyer St
- (5) Stair and ramp access for improved pedestrian connection
- 6 Coordination with City of Portland's SW Naito Parkway Main Street Project protected bikeway, final design to be determined
- SW Curry St to SW Pennoyer St connection to be determined
- Pedestrian connection to SW Gaines St under study
- (9) Midblock crossing at SW Condor Ave

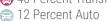


5.7 Hamilton Street Station



1,800 Projected Daily Trips

43 Percent Walk 46 Percent Transfer





The Hamilton Street Station is located near the South Portland community hub, between SW Bancroft St and SW Hamilton St. Safer, easier pedestrian connections across SW Barbur Blvd will help link the Homestead neighborhood uphill and the South Portland neighborhood downhill. The station will serve as a major transfer point for local bus lines.

PROJECT BENEFITS



MOVE AND CONNECT PEOPLE

- Two new and improved pedestrian connections across SW Barbur Blvd and improved crossing along SW Corbett Ave, improving access to John's Landing neighborhood
- Raised protected bike lanes and upgraded sidewalks along SW Barbur Blvd
- Planned connections to bus lines 43, 54 and 96 note: bus lines 44 and 56 in shared transitway do not stop at Hamilton Street Station
- Optimized SW Bancroft St realignment for truck access

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Supports the vision of the Barbur Concept Plan
- Access to South Portland and Homestead neighborhoods
- Access to Terwilliger Parkway

PRESERVE AND RESTORE NATURAL ENVIRONMENT

· Enhanced street tree canopies and stormwater treatment along SW Barbur Blvd

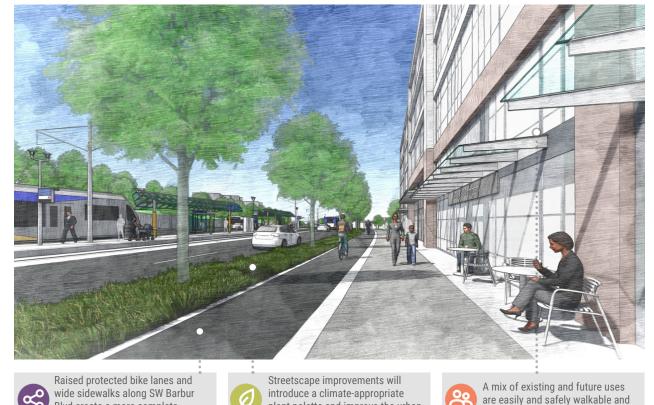


Figure 5.7.1 DRAFT Hamilton Street Station Vision

multimodal network

Blvd create a more complete

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

• Hamilton Street Station to have pedestrian and bicycle amenities that help improve station access and stitch together the neighborhood on each side of SW Barbur Blvd

plant palette and improve the urban

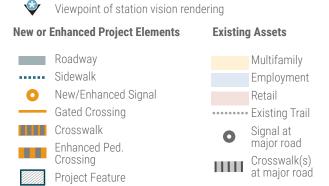
tree canopy on SW Barbur Blvd

hikable from the station

- Final design of station platform and bus stops to provide safe crossing of SW Barbur Blvd that facilitates high volumes of bus to light rail transfer activity
- · Continue to coordinate with local stakeholders on the Bancroft alignment and Bancroft/Corbett intersection
- Design station area in coordination with development plans on surrounding properties

PROJECT SCOPE

- · Hamilton Street Station and light rail infrastructure
- SW Barbur Blvd bike and pedestrian improvements
- Pedestrian staircase up to SW View Point Terrace and SW Hamilton St
- New signals at SW Hamilton St/ SW Corbett Ave and SW Bancroft St/ SW Corbett Ave intersections
- SW Bancroft Blvd realignment
- · Short-term and long-term bike parking
- Revised bus stop routing and stop locations



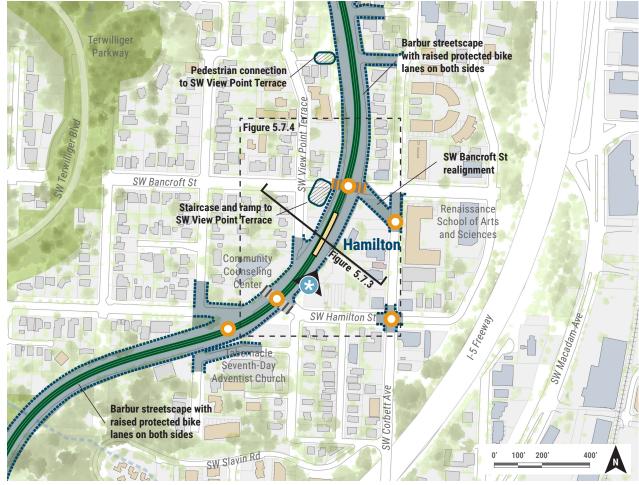


Figure 5.7.2 DRAFT Hamilton Street Station overview

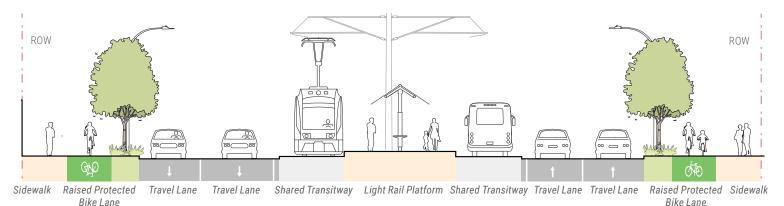


Figure 5.7.3 DRAFT Hamilton Street Station Cross Section

SW Bancroft St SW View Point Terrace 7 SW Corbett Ave PBS Conference Center Community Counseling Center Corbett Hill Wellness Center Best Friends Veterinary 6 Medical Center SW Hamilton St

Figure 5.7.4 DRAFT Hamilton Street Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION FEATURES

- (1) Center platform
- 2 Pedestrian walkway to platform with barrier railing
- 3 Raised protected bike lanes
- 4 Pedestrian stairs and ramp to SW Bancroft St
- (5) SW Bancroft St realigned to SW Barbur Blvd
- **6** Shared transitway
- Potential systems building, location subject to change



STATION ACCESS PROJECTS

Hamilton Sidewalks and Bikeway

PARTNER-LED PROJECTS

SW Slavin Rd Connector (City of Portland TSP)



Figure 5.7.5 Hamilton Street Station Access Projects and Potential Partnering

1/2 Mile Station Walkshed 100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.



mobility services: **Electric Bike/ Scooter Share**



On-Demand Ridehailing



Hamilton Street Station is bordered by both multi-dwelling residential and commercial mixed use zoning, resulting in neighborhood-scale uses and activities - particularly along SW Corbett Ave. Major pedestrian/bike improvements and developable parcels along Barbur Blvd could encourage street-level uses facing SW Barbur Blvd as well. This is identified as the Hamilton Focus area in the Barbur Concept Plan.

There is estimated demand within the station area for the following private



Adapting Existing Places

Property owners may work with the city and mobility providers on solutions such as in a parking lot or landscaped area.

5.8 Capitol Highway Bridge Replacement

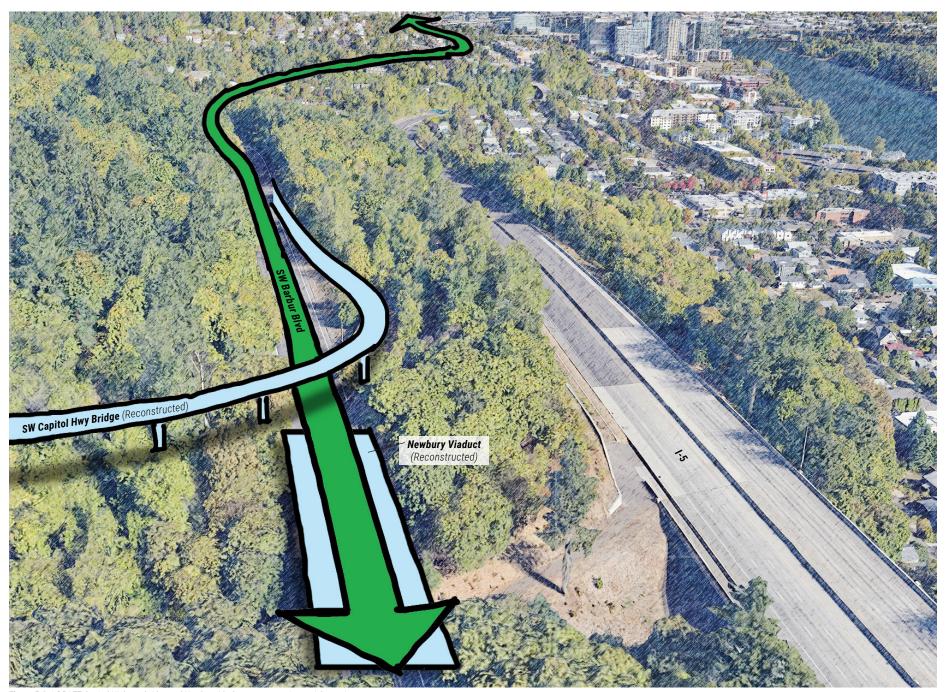


Figure 5.8.1 DRAFT Capitol Highway bridge and Newbury Viaduct reconstruction aerial overview

5.9 Viaducts Replacement

Newbury and Vermont Viaducts are located within the Woods segment of SW Barbur Blvd. Constructed in 1934, these structures are still in service, withstanding far greater traffic than they were intended for, and lacking facilities for people walking and biking. The Southwest Corridor Light Rail Project has committed to replacing the timber supported viaducts with new seismically-sound structures designed to carry four auto lanes, light rail, and improved bike and pedestrian facilities, creating a better experience for all modes.

The two viaducts are adjacent to natural areas of George Himes Park and span environmental protection overlay zones (P-Zone), and important wildlife corridors. To protect these critical wildlife passages, the viaduct design and construction methods will minimize impact to the sensitive area, maintaining permeability of this rich and vital eastwest habitat corridor and enhancing the view opportunities.



Figure 5.9.1 Newbury Viaduct (Image Source: Structurae)



Figure 5.9.2 Vermont Viaduct (Image Source: Structurae)

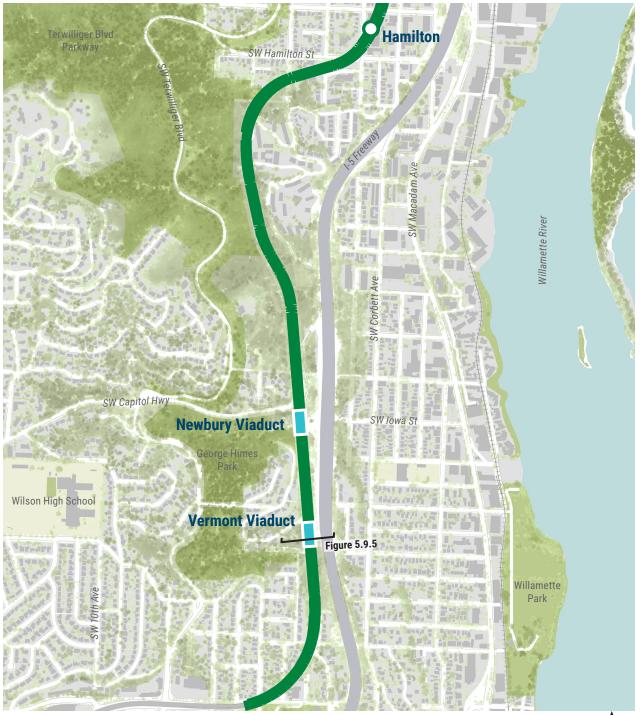


Figure 5.9.3 Location of major viaducts along SW Barbur Blvd, between Hamilton Street and 13th Avenue Stations





Figure 5.9.4 Bird's eye view of Harbor Structure, which is similar to the viaduct replacements (Image Sources: TriMet Flickr, Victor von Salza Flickr)

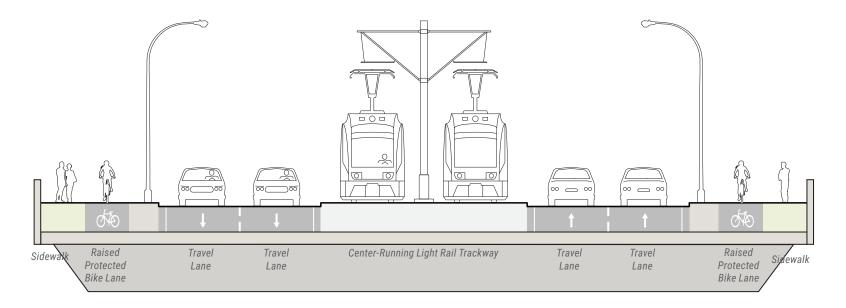


Figure 5.9.5 Typical draft cross-section through SW Barbur Blvd viaducts



110	SOUTHWEST	CUBBINUB	I IGHT RAII	PRO IFCT.	CONCEPTUAL	DESIGN	REPORT

DES	SIGN CONCEPTS: OUTER PORTLAND	109
6.1	Project Highlights	111
6.2	Moving Around Outer Portland	112
	Neighborhood Access	116
6.3	13th Avenue Station	118
6.4	19th Avenue Station	122
6.5	30th Avenue Station	126
6.6	Barbur Transit Center Station	130
6.7	Barbur Transit Center Public Opportunity Site	135
6.8	Street Improvements: South of Barbur Transit Center.	137
6.9	53rd Avenue Station	138
	53rd Ave Streetscape	142
6.10	PCC Connection	144

6 Design Concepts: Outer Portland

6.1 Project Highlights

The Southwest Corridor Light Rail Project will help transform SW Barbur Blvd and nearby connections to achieve community aspirations. The project area is envisioned to be easily accessible, welcoming, vibrant and safe for everyone. SW Barbur Blvd/99W is one of Portland's busiest and most important streets connecting between Downtown Portland, Tigard, neighborhood centers and cities across the region. The Southwest Corridor Light Rail Project increases the capacity of SW Barbur Blvd to move more people through the corridor, enhances safety for all modes, and creates comfortable pedestrian access for people walking and biking. As a publicly owned parcel, the Barbur Transit Center serves as a public opportunity site for possible future transit-oriented development.

PROJECT BENEFITS



MOVE AND CONNECT PEOPLE

- Intersection improvements and new crosswalks help people safely cross SW Barbur Blvd
- An enhanced streetscape on SW 53rd Ave helps improve the daily commute for PCC-Sylvania students, faculty and staff
- Significant enhancements to bike facilities along SW Barbur Blvd north of Barbur Transit Center, improves the safety and comfort of biking through the corridor



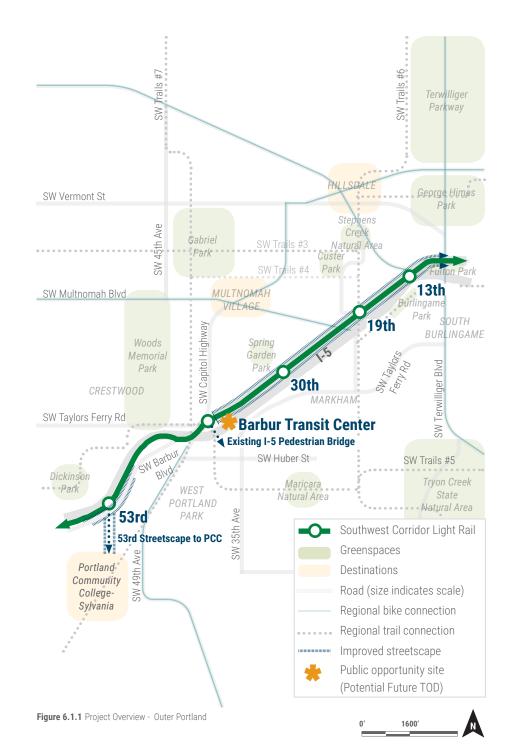
MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- A transit-rich and more people-friendly SW Barbur Blvd helps realize the community vision in the Barbur Concept Plan
- Five stations along SW Barbur Blvd improve transit access to a range of affordable, mixed apartment, single family, and multifamily housing for people of diverse economic backgrounds



PRESERVE AND RESTORE NATURAL ENVIRONMENT

- Improvements and additions to stormwater infrastructure will contribute to improved ecological health of streams feeding into the Willamette River
- Entirely new street tree canopy along SW Barbur Blvd, addresses the lack of street trees that exist today and strengthens the Westside Wildlife Corridor



6.2 Moving Around Outer Portland

ACCESSING THE STATION

- Along SW Barbur Blvd, a majority of transit riders will arrive at stations by walking from nearby residential neighborhoods. For neighborhoods south of SW Barbur Blvd and the I-5, walking access to stations will be limited to streets that cross the highway: SW Terwilliger Pkwy, SW 19th Ave, SW Spring Garden Blvd, SW 26th Way, and the Barbur Transit Center pedestrian overcrossing.
- Riders will transfer from light rail to local bus routes.
 At 13th Avenue and 19th Avenue Stations, riders will transfer to routes heading south toward Lewis & Clark College and northwest.
- Located near existing commercial and office areas, 30th Avenue Station also provides access to neighborhood amenities and supports future growth.
- Barbur Transit Center will continue to serve as a regional transit facility. Future station design (to be addressed in Final Engineering) will improve this area's multimodal characteristics. The station will include Park & Ride spaces and accommodate people arriving by bus and bike. This location also presents a significant opportunity to enhance passenger waiting areas, pick-up and drop-off areas, on-demand rideshare and other forms of micro-mobility such as electric bikes and/or scooters.
- A fixed shuttle is being considered at the 53rd Ave Station to provide service to PCC-Sylvania, as well as a Park & Ride.
- For each station, project partners are exploring the best locations where passenger drop-off can be provided.
- **IMPROVING TRANSIT ACCESS**

An inventory of bicycle and pedestrian conditions on blocks adjacent to each station has identified the following challenges in Outer Portland:

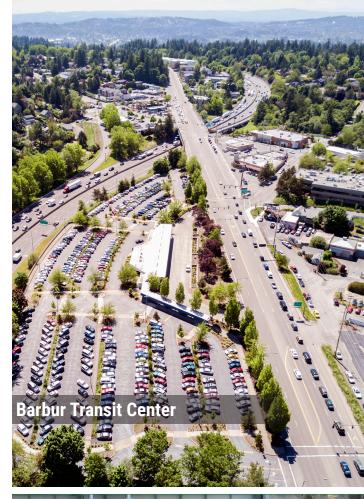
· Local streets lacking sidewalks, unpaved street

- conditions, and steep topography.
- Limited locations where pedestrians and cyclists can cross SW Barbur Blvd and I-5.
- Lack of connection into Portland's broader cycling network.

The Southwest Corridor Light Rail Project will improve these conditions by reducing distances between crosswalks, upgrading adding protected intersections for cyclists. An enhanced SW Barbur Blvd streetscape reconstructs aging overpass structures on SW 26th Way and SW Multnomah Blvd, and improves bikeways and sidewalks on streets adjacent to the light rail alignment.

Seamless access improvements require close coordination between all project partners. Southwest Corridor Station Access planning has been developed in concert with Portland's Transportation System Plan (TSP), Southwest in Motion (SWIM) strategy and Safe Routes to School program. A list of partner-led Station Access projects for improving pedestrian and bicycle access in Outer Portland is on the following page. Note that not all projects currently have associated budgets and schedules. Some of these projects may be constructed in conjunction with the light rail project, while others will be constructed after opening day.

The design concepts included in this chapter show a small area plan for each location with all projects included in the current Southwest Corridor Light Rail Project funding. A functional plan shows how each station contributes to access for walking, biking, driving, and transit, and how the station fits into its existing context.





OUTER PORTLAND: 2035 STATION RIDERSHIP

Source: Metro, 2019



13TH

2,300 Projected Daily Trips

63 Percent Walk



O Percent Auto





19TH

2,000 Projected Daily Trips

87 Percent Walk

12 Percent Transfer

1 Percent Auto



Low



30TH

4,200 Projected Daily Trips

95 Percent Walk

0 Percent Transfer

5 Percent Auto



Medium



BARBUR TRANSIT CENTER 2,900 Projected Daily Trips

65 Percent Walk

12 Percent Transfer

24 Percent Auto



Bike Use: Low



53RD

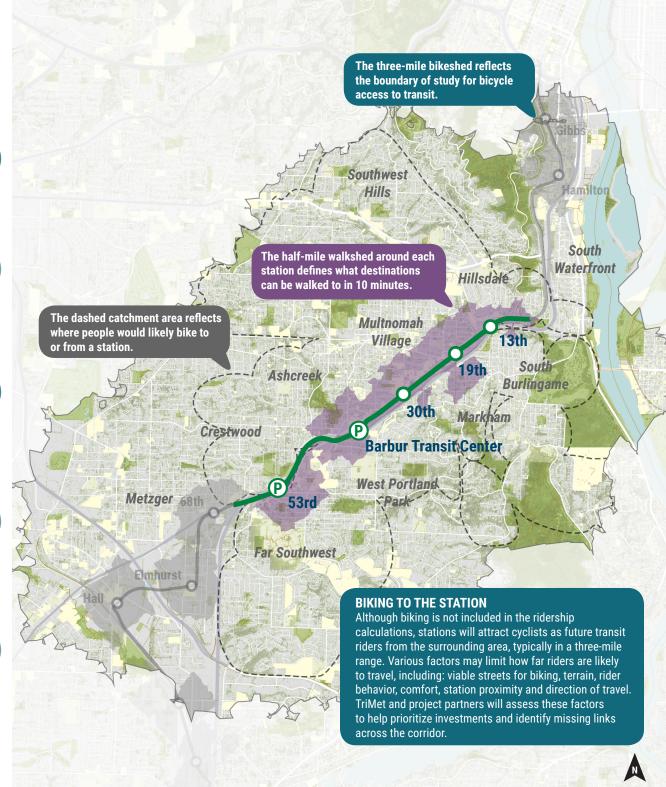
2,400 Projected Daily Trips

65 Percent Walk

1 Percent Transfer

34 Percent Auto

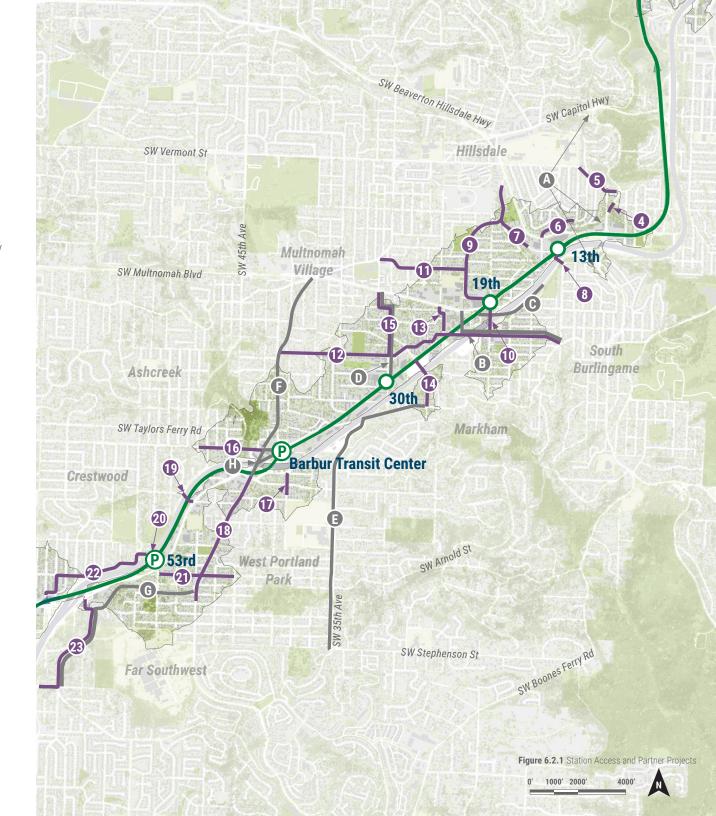




STATION ACCESS AND PARTNER PROJECTS

The following map shows the location and geographic extent for additional Southwest Corridor Light Rail Station Access Projects. Projects are highlighted that help to increase connectivity to light rail stations. Station access projects have advanced through the Shared Investment Strategy are included in the FEIS, but not the project budget. These could be designed and built by the Southwest Corridor Light Rail Project (TriMet), if other sources of funding are secured.

This map also includes relevant local projects led entirely by local jurisdictions. These projects will be coordinated with, and help to inform station area decisions. These projects are planned, funded, designed and constructed by others, and are not part of the Southwest Corridor Light Rail Project. More information on these projects is available on the website of each project lead.



STATION ACCESS PROJECTS —

- 4 Terwilliger Bikeway 5 Chestnut Bikeway 6 13th Sidewalks and Bikeway 7 Custer Sidewalks Custer Walk/Bike Bridge Capitol Hill Sidewalks and Bikeway 10 19th Bikeway 1 Troy Bikeway 12 Spring Garden and Dolph Sidewalks and Bikeway 13 24th Sidewalks and Bikeway
- 26th Sidewalks and Bikeway
- 30th Sidewalks
- 16 Taylors Ferry Sidewalks and Bikeway
- 40th Sidewalks and Bikeway
- (18) Capitol Sidewalks and Bikeway
- 19 Luradel Walk/Bike Bridge
- 53rd Walk/Bike Bridge
- 21 Pomona Sidewalks and Bikeway
- 22 Pasadena Sidewalks and Bikeway
- Barbur/PCC to Triangle Connection

PARTNER-LED PROJECTS —

- Completion of Bikeway Gaps along SW Terwilliger Blvd (City of Portland TSP)
- B Spring Garden Sidewalk And Bikeway Improvements (City of Portland TSP)
- Multnomah Viaduct Safety Improvements (City of Portland TSP)
- SW 30th Ave/SW Hume St/SW 31st Ave Sidewalk And Bikeway Improvements (City of Portland TSP)
- Inner SW Taylors Ferry Rd Safety Improvements (City of Portland TSP)
- SW Capitol Hwy Corridor Improvements (City of Portland TSP)
- G SW Lesser Rd Sidewalk And Bikeway Improvements (City of Portland TSP)
- Barbur Crossroads Safety Project (ODOT)

NEIGHBORHOOD ACCESS SW Terwilliger The following diagrams show the proposed vehicular circulation for Outer Portland, which highlights possible SW Nevada Ct traffic mitigations, new or modified signals and design of intersections to support u-turns and turning movements adjacent to the project alignment. New enhanced SW pedestrian crossings will be added throughout the Bertha project, significantly improving the pedestrian safety and crossing opportunities along the alignment. New enhanced SW Capitol Hill Rd pedestrian crossing treatment types will continue to be explored as a valuable measure in providing increased SW Custer Dr pedestrian safety and permeability across major streets. 13th Additional crossings also benefit access to new and SW 19th Ave improved bike facilities built by the project. SW Moss St SW Mutnoman Blvd SW Evans St SW Capitol Hill Rd SW Multnomah Ave SW 24th Ave SW Spring Garden St SW Hume St SCALE: NOT TO SCALE SW Spring Garden St 🔩 **LEGEND** Existing MAX Station 3W Babur Bwd SW 30th Ave **Proposed Light Rail Station** SW Dolph Ct ↑ Allowable Turn Movements ▼ Re-routed Turn Movements Possible Diversion Routes (TBD) **New Traffic Signal** Replaced/ Modified Traffic Signal New Enhanced Pedestrian-only Cross 30th SW Primrose St New Gated Rail Crossing **Proposed Road Closure** N U-Turn Restricted SW Alice St Note: Diagram does not indicate existing SW Taylors Ferry Rd signalized intersections to remain. SW 35th Ave

Figure 6.2.2 Proposed Vehicular Circulation



Figure 6.2.3 Proposed Vehicular Circulation

6.3 13th Avenue Station



2,300 Projected Daily Trips

- 63 Percent Walk 37 Percent Transfer
- O Percent Auto



13th Avenue Station is located on the east side of the West Hills and is the gateway to the SW Barbur Blvd commercial corridor. Adjacent to the Burlingame Fred Meyer and between the South Burlingame and Hillsdale neighborhoods, it is the closest station to Hillsdale Town Center and the SW Terwilliger Blvd crossing of I-5, serving as a key connection point for people walking, biking, driving and taking buses traveling toward Downtown Portland or Tigard/Tualatin.

PROJECT BENEFITS



MOVE AND CONNECT PEOPLE

- · Five new and improved pedestrian connections across SW Barbur Blvd
- · Raised protected bike lanes and new sidewalks along SW Barbur Blvd
- Planned connections to bus lines 1, 39 and 45
- Two travel lanes retained in each direction along SW Barbur Blvd

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Supports creation of housing and employment opportunities as envisioned in the Barbur Concept Plan
- · Access to Hillsdale and South Burlingame neighborhoods and Fred Meyer grocery store
- · Access to Fulton Park, Custer Park, Stephens Creek Natural Area, and George Himes Park

PRESERVE AND RESTORE NATURAL **ENVIRONMENT**

• Enhanced street tree canopy and stormwater treatment along SW Barbur Blvd

Note: During this engagement process, several requests from the community were received to change the Custer Station name to something more culturally appropriate. Official station name will be discussed about a year prior to light rail opening, however, this station will be referenced as the 13th Avenue Station for the remainder of the design process.



Figure 6.3.1 DRAFT 13th Avenue Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Final design to provide safe and frequent crossings of SW Barbur Blvd and facilitate access to transit within this vital Pedestrian District
- Protected intersection designs linking raised protected bike lanes to enhance planned and existing connections, and maximize comfort for people walking and biking at busy intersections, such as SW Terwilliger Blvd
- · Storm facilities should be integrated into street and site designs to improve water quality, enhance station aesthetics, potentially support water treatment partnerships with private development, and be balanced with future housing opportunities and growth along the corridor
- · Location of system buildings should be functional, but unassuming, and utilize select architectural treatments to reinforce desire neighborhood aesthetics
- Continue to work with Fulton Park and South Burlingame neighborhoods to address access and circulation concerns

PROJECT SCOPE

- 13th Avenue Station (see next page for Functional Plan)
- · Barbur Blvd bike and pedestrian improvements
- · Intersection reconfiguration at SW 13th Ave/ SW Barbur Blvd
- · Short-term and long-term bike parking
- Revised bus stop routing and stop locations

FUNDED PROJECTS BY OTHERS

Tstation Access Project 7: Custer Sidewalks (funded by PBOT, estimated completion by 2022)



Project Feature

Roadway Multifamily Sidewalk **Employment** New/Enhanced Signal Retail Gated Crossing ••••• Existing Trail Crosswalk Signal at major road Enhanced Ped. Crossing Crosswalk(s) at major road

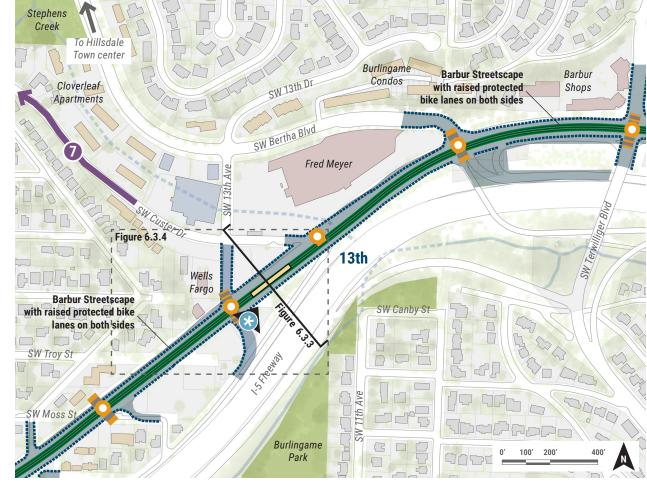
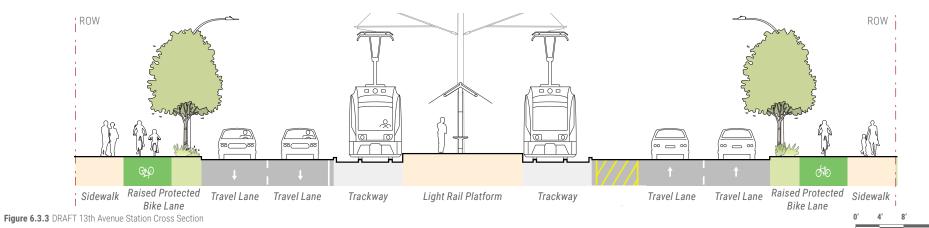


Figure 6.3.2 DRAFT 13th Avenue Station Overview



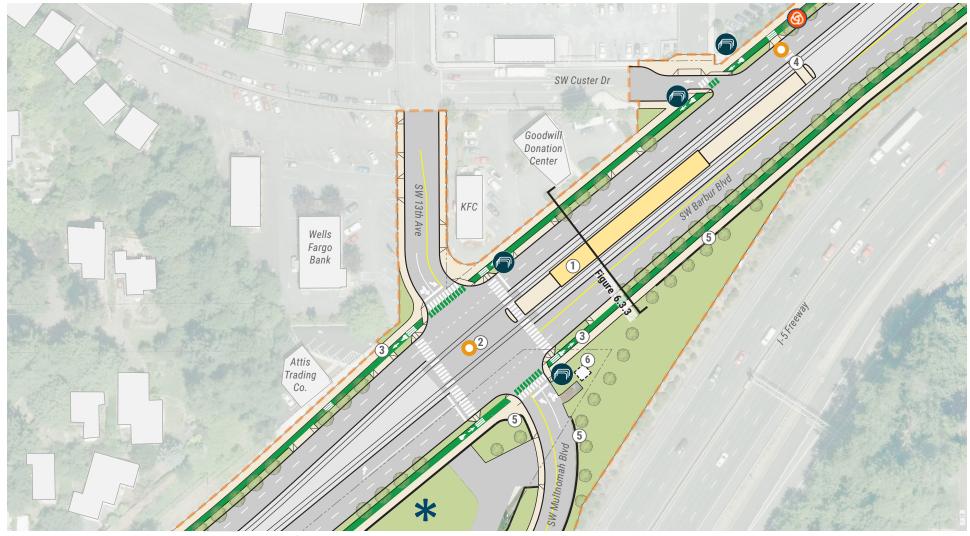


Figure 6.3.4 DRAFT 13th Avenue Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts



STATION FEATURES

- 1 Center platform
- SW Multnomah Blvd/SW 13th realigned to SW Barbur Blvd with new signalized intersection
- 3 Raised protected bike lanes and protected intersection
- 4 Back of platform crossing

- 2.5 50 100
- (5) Retaining wall locations
- **6** Potential systems building location

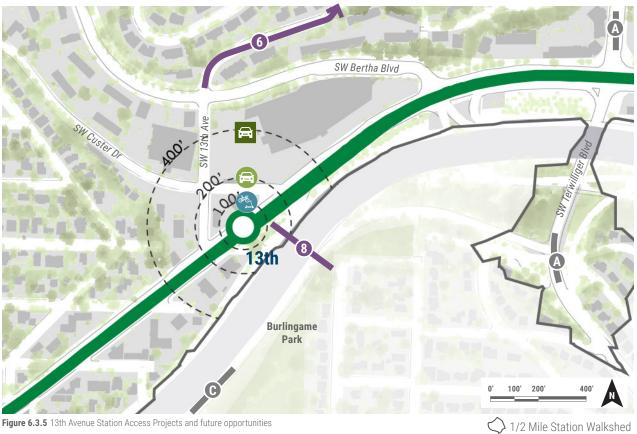
STATION ACCESS PROJECTS

- **-4-** Terwilliger Bikeway*
- -6- 13th Sidewalks and Bikeway
- -8- Custer Walk/Bike Bridge
- -9- Capitol Hill Sidewalks and Bikeway*

PARTNER-LED PROJECTS

- -A- Completion of Bikeway Gaps along SW Terwilliger Blvd (City of Portland TSP)
- Multnomah Viaduct Safety Improvements (City of Portland TSP)

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents



1/2 Mile Station Walkshed
100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, TriMet and project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.

There is estimated demand within the station area for the following private mobility services:



Electric Bike/ Scooter Share



Carshare



On-Demand Ridehailing

TRANSIT-ORIENTED DEVELOPMENT

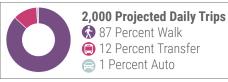
13th Avenue Station is located near to commercial employment and commercial mixed-use zones. Increased access to the neighborhood may help spur development between SW Barbur Blvd and the SW Multnomah Blvd frontage road, and affordable housing opportunities facing onto SW Barbur Blvd. This is identified as the SW 13th Avenue Focus area in the Barbur Concept Plan.

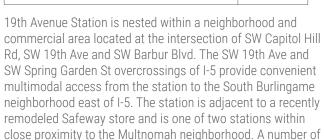


Adapting Existing Places

Property owners may work with the city and mobility providers on solutions such as in a parking lot or landscaped area. Bike Use:

6.4 19th Avenue Station





PROJECT BENEFITS



 Five new and improved pedestrian connections across SW Barbur Blvd

schools, housing and parks are clustered near this station.

- Raised protected bike lanes and upgraded sidewalks along SW Barbur Blvd
- Planned connections to bus line 39
- Two lanes retained in each direction on SW Barbur Blvd

🕿 MAINTAIN AND CREATE **EQUITABLE COMMUNITIES**

- Supports the vision of the Barbur Concept Plan
- Access to Multnomah and Markham neighborhoods, Capitol Hill St. Clare's and West Hills Christian schools, and Safeway grocery store
- Access to Marigold Hydro Park, Custer Park, SW Trails #4 and SW Trails #6



• Enhanced street tree canopy and stormwater treatment along SW Barbur Blvd



Figure 6.4.1 DRAFT 19th Avenue Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Final design of intersections should minimize crossing lengths to facilitate safe, frequent pedestrian movements across SW Barbur Blvd
- Bicycle and pedestrian facility design should accommodate existing and planned improvements on SW Capitol Hill Rd, SW 19th Ave and SW Spring Garden Rd to unite neighborhoods along SW Barbur Blvd and across I-5
- Stormwater facilities should be integrated to reinforce desired character as the headwaters of the Tryon Creek watershed
- Platform location and configuration will be explored to enhance public space and improve access
- Design station area in coordination with development plans on surrounding properties
- Final design of SW Barbur Blvd and SW 19th Ave intersection to review alternative truck turning movements and removal of vehicular slip lane to provide safer crossing for pedestrian and bicyclists

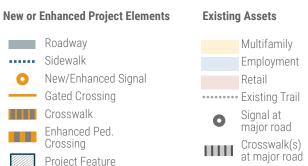
PROJECT SCOPE

- 19th Avenue Station and light rail infrastructure
- · Barbur Blvd bike and pedestrian improvements
- · Short-term and long-term bike parking
- Revised bus stop routing and stop locations

PROJECTS BY OTHERS

- 9 Station Access Project 9: Capitol Hill Sidewalks & Bikeway (partially funded by PBOT (funding uncertain), estimated completion by 2022 for funded portions)
- Station Access Project 10: 19th Bikeway (partially funded by PBOT, estimated completion by 2021 for funded portions)





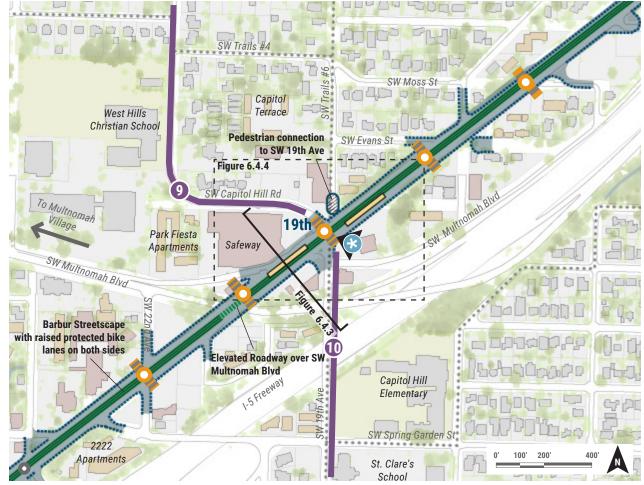


Figure 6.4.2 DRAFT 19th Avenue Station Overview

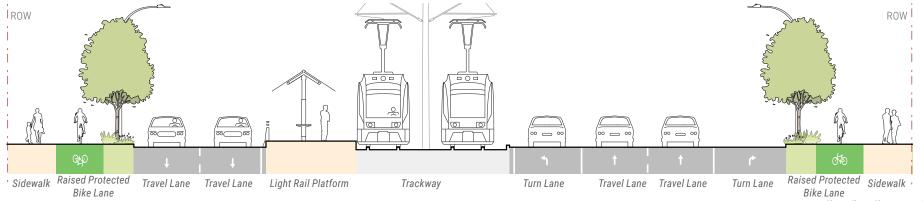


Figure 6.4.3 DRAFT 19th Avenue Station Cross Section



Figure 6.4.4 DRAFT 19th Avenue Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts



STATION FEATURES

- 1 Split side platform (northbound)
- (2) Split side platform (southbound)
- 3 Raised protected bike lanes and intersection
- (4) Pedestrian Z-crossing
- **5** Retaining wall locations
- 6 Potential systems building location

STATION ACCESS PROJECTS

Spring Garden and Dolph Sidewalks and Bikeway

24th Sidewalks & Bikeway

30th Sidewalks*

PARTNER-LED PROJECTS

Spring Garden Sidewalk and Bikeway Improvements (City of Portland TSP)

Multnomah Viaduct Safety Improvements (City of Portland TSP)

SW 30th Ave / SW Hume St / SW 31st Ave Sidewalk and Bikeway Improvements (City of Portland TSP)*

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents



Figure 6.4.5 19th Avenue Station Access Projects and future opportunities

1/2 Mile Station Walkshed 100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, TriMet and project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting Existing Places

Property owners may work with the city and mobility providers on solutions such as in a parking lot or landscaped area.



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.

There is estimated demand within the station area for the following private mobility services:



Electric Bike/ Scooter Share



On-Demand Shuttles



On-Demand Ridehailing

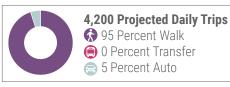
TRANSIT-ORIENTED DEVELOPMENT

19th Avenue Station is located in a commercial mixed use zone, with proximity to Safeway, Multnomah Village and three nearby schools. The area has seen some recent change with the addition of rowhouses across the freeway. There are also major pedestrian/bike improvements and large parcels facing Barbur Blvd that could encourage street-level activities around the station. This is identified as the Capitol Hill Focus area in the Barbur Concept Plan.

Bike Use:

Medium

6.5 30th Avenue Station



30th Avenue Station is located on SW Barbur Blvd providing direct access to the Markham and Multnomah neighborhoods. Nearby SW 26th Ave provides convenient access from residential areas east of I-5. Located near existing commercial and office areas, 30th Avenue Station also provides access to neighborhood amenities and supports future growth.

PROJECT BENEFITS



- Realignment of the SW 30th Ave intersection for safer bike and pedestrian connections
- Seven new and improved pedestrian connections across SW Barbur Blvd
- Raised protected bike lanes and upgraded sidewalks along SW Barbur Blvd
- Two lanes retained in each direction along SW Barbur Blvd

A MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Supports the vision of the Barbur Concept Plan
- · Access to Multnomah and Markham neighborhoods
- Access to Spring Garden Park and Tryon Creek Headwaters

PRESERVE AND RESTORE NATURAL ENVIRONMENT

 Enhanced street tree canopy and stormwater treatment along SW Barbur Blvd



Figure 6.5.1 DRAFT 30th Avenue Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Final design of intersections should minimize crossing lengths to facilitate safe, frequent pedestrian movements across SW Barbur Blvd
- Raised protected bike lanes facilities to accommodate existing and planned improvements on SW 24th, 26th and 30th Avenues to maximize comfort and safety for pedestrians and commuters choosing bicycles
- Intersections designs to support u-turns and turning movements that provide adequate vehicular circulation to maintain access to neighborhoods, while minimizing cut-through traffic circulating through neighborhoods

PROJECT SCOPE

- 30th Avenue Station and light rail infrastructure
- Barbur Blvd bike and pedestrian improvements
- Intersection reconfiguration at SW 30th Ave/ SW Barbur Blvd
- · Short-term and long-term bike parking

PROJECTS BY OTHERS

Station Access Project 14: 26th Sidewalks & Bikeway (partially funded by PBOT, estimated completion by 2022 for funded portions)



New or Enhanced Project Elements Existing Assets Roadway Multifamily Sidewalk **Employment** New/Enhanced Signal Retail Gated Crossing ••••• Existing Trail Crosswalk Signal at major road Enhanced Ped. Crossina Crosswalk(s) at major road Project Feature

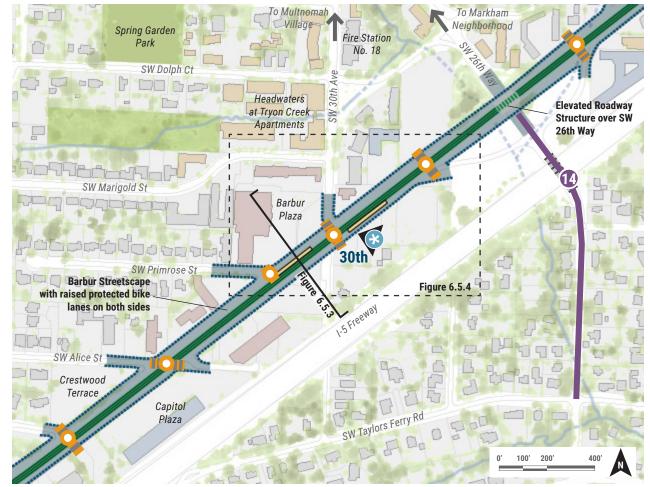


Figure 6.5.2 DRAFT 30th Avenue Station overview

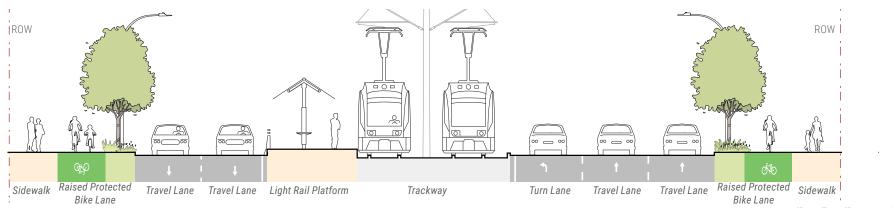


Figure 6.5.3 DRAFT 30th Avenue Station Cross Section

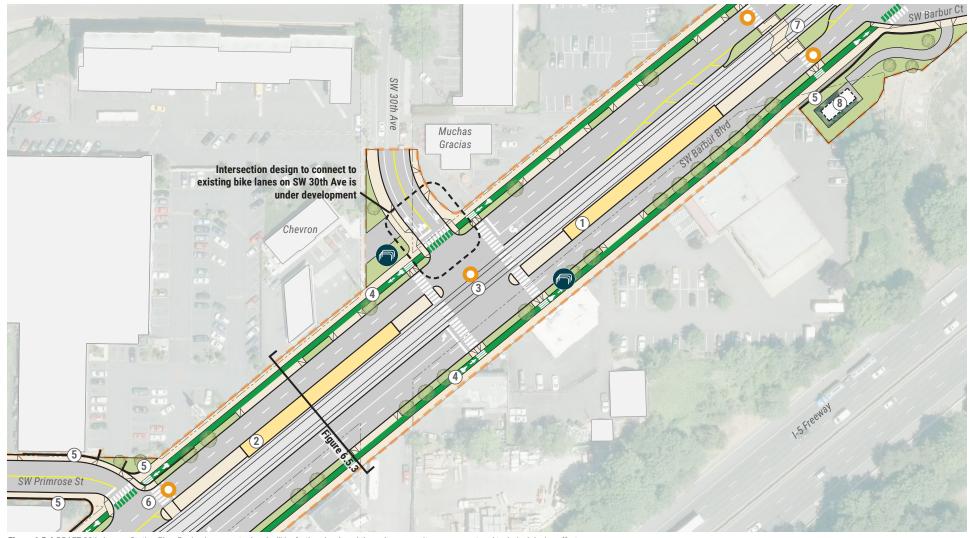


Figure 6.5.4 DRAFT 30th Avenue Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts



STATION FEATURES

- 1 Split side platform (northbound)
- 2 Split side platform (southbound)
- 3 SW 30th Ave realigned to SW Barbur Blvd as a three-way signalized intersection
- Raised protected bike lanes and protected intersection
- (5) Retaining wall locations

- (6) Enhanced Pedestrian Crossing
- Pedestrian Z-crossing
- 8 Potential systems building location



STATION ACCESS PROJECTS

- Spring Garden and Dolph Sidewalks and Bikeway
- 24th Sidewalks and Bikeway*
- 30th Sidewalks

PARTNER-LED PROJECTS

- Spring Garden Sidewalk and Bikeway Improvements (City of Portland TSP)*
- SW 30th Ave / SW Hume St / SW 31st Ave Sidewalk and Bikeway Improvements (City of Portland TSP)
- Inner SW Taylors Ferry Rd Safety Improvements (City of Portland TSP)

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents



100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, TriMet and project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting Existing Places

Property owners may work with the city and mobility providers on solutions such as in a parking lot or landscaped area.



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.

There is estimated demand within the station area for the following private mobility services:



Electric Bike/ Scooter Share



On-Demand Shuttles



On-Demand Ridehailing

TRANSIT-ORIENTED DEVELOPMENT

Located beyond the boundary of the West Portland Town Center Plan, existing zoning places an emphasis on commercial and employment uses, although some residential is allowed. Reconfiguration of the intersection at SW 30th Ave and SW Barbur Blvd may create redevelopment opportunities between Barbur Blvd and I-5 for mixed-income housing. Further exploration of zoning changes by the City of Portland may be warranted to support TOD objectives. This area was identified as the SW 26th Avenue Focus Area in the Barbur Concept Plan.

6.6 Barbur Transit Center



2,900 Projected Daily Trips

65 Percent Walk 12 Percent Transfer



24 Percent Auto

With views to Mt. Hood and centered within the West Portland Town Center, the Barbur Transit Center is the highvisibility flagship station of the new Southwest Corridor Light Rail Project within the City of Portland. With access to I-5, SW Capitol Hwy, SW Taylors Ferry Rd, multiple bus routes, an existing pedestrian bridge across I-5 and nearby connections to SW Trails, Barbur Transit Center is at the crossroads of multimodal mobility. The transit center consists of bus amenities, a light rail connection a surface Park & Ride with up to 300 spaces, improved pedestrian access, and bike parking facilities.

PROJECT BENEFITS



MOVE AND CONNECT PEOPLE

- Five new and improved pedestrian connections across SW Barbur Blvd
- Raised protected bike lanes and upgraded sidewalks along SW Barbur Blvd
- Planned connections to bus lines 38, 43, 44, 93 and 94

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Supports the visions of the West Portland Town Center and the Barbur Concept Plan
- Access to West Portland Park, Markham and Multnomah neighborhoods
- · Serves Jackson and Markham Schools, Capitol Hill Library and Barbur World Foods grocery
- Opportunity to redevelop Barbur Transit Center with affordable housing and other community serving amenities
- Access to Woods Memorial Natural Area, SW Trails #5 and SW Trails #7



 Enhanced street tree canopy and stormwater treatment along SW Barbur Blvd



Figure 6.6.1 DRAFT Barbur Transit Center Vision

DESIGN VALUES: APPLYING COMMUNITY FFFDBACK IN ONGOING DESIGN

· Final design of street and intersections to provide safe crossings of SW Barbur Blvd focused on access to transit and frequent crossings within this central Pedestrian District within West Portland Town Center

tree canopy on SW Barbur Blvd

- · Station and alignment adjustments and on-street bus facilities should be considered to maximize support for West Portland Town Center visions and potential redevelopment of Barbur Transit Center
- · Facilities that support multi-modal travel behaviors should be integrated into Transit Center designs to prioritize walking, biking, bus transfers, car share and micromobility options such as pick-up/drop-off and scooters
- Type, size and location of Park & Ride will be finalized to support access to transit, yet balance multi-modal and West Portland Town Center goals
- Throughout final engineering, continue coordination with adjacent partner-led projects to ensure complete connections for people walking and biking

Barbur streetscape

lanes on both sides

with raised protected bike

PROJECT SCOPE

- · Barbur Transit Center and light rail infrastructure
- · Barbur Blvd bike and pedestrian improvements
- · Short-term and long-term bike parking
- Revised bus stop routing and stop locations
- Surface Park & Ride with up to 300 parking spaces

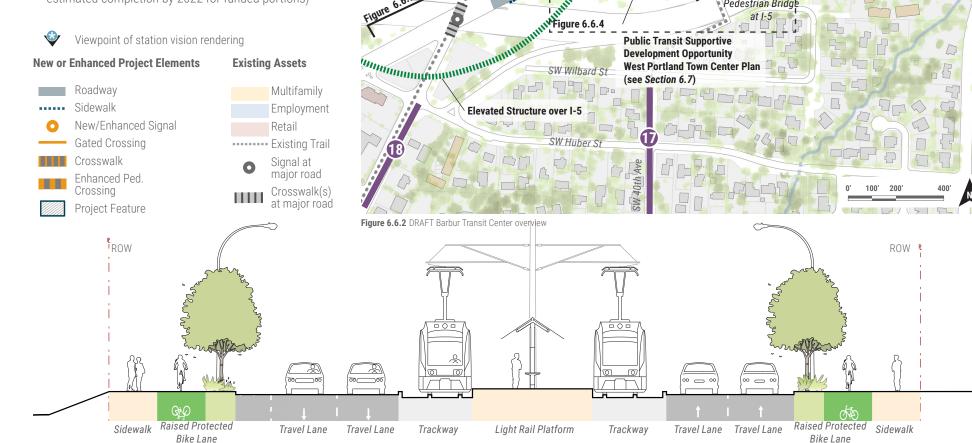
PROJECTS BY OTHERS

Station Access Project 17: 40th Sidewalks & Bikeway (partially funded by PBOT(funding uncertain)

18 Station Access Project 18: Capitol Sidewalks & Bikeway (partially funded by PBOT (funding uncertain), estimated completion by 2022 for funded portions)

Viewpoint of station vision rendering

Figure 6.6.3 DRAFT Barbur Transit Center Cross Section



Barbur World

Woods Memorial Natural Area

Barbur Transit

Center

Public Transit Supportive Development Opportunity

Bus Transit Center Surface Park & Ride

with up to 300 spaces

Existing BTC

Pedestrian Bridge

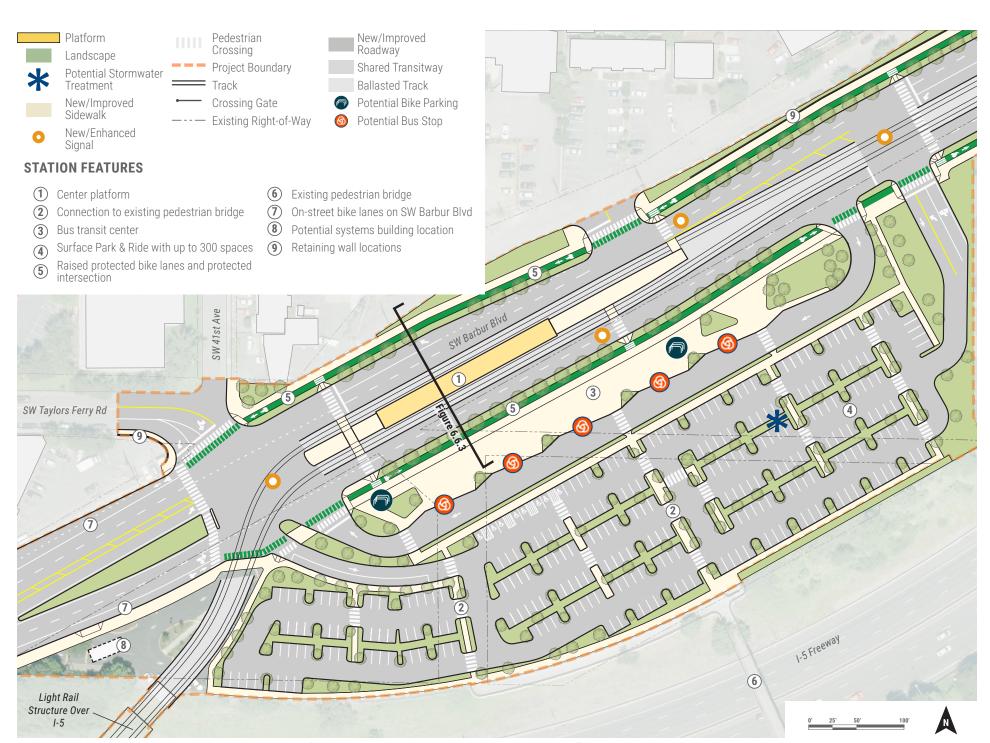


Figure 6.6.4 DRAFT Barbur Transit Center Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION ACCESS PROJECTS

-16- Taylors Ferry Sidewalks and Bikeway

PARTNER-LED PROJECTS

- -E- Inner SW Taylors Ferry Rd Safety Improvements (City of Portland TSP)*
- SW Capitol Hwy Corridor Improvements (City of Portland TSP)
- Barbur Crossroads Safety Project (ODOT)

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents

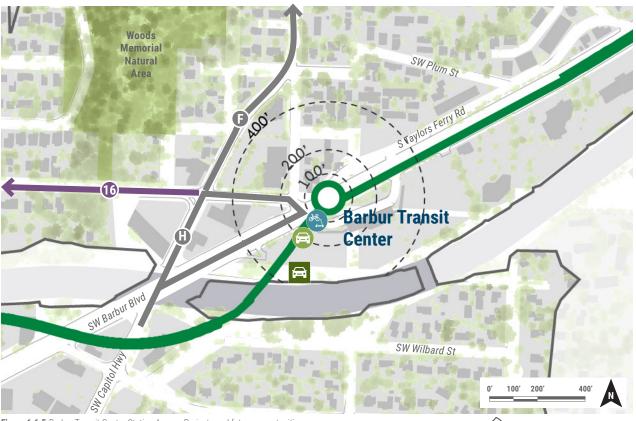


Figure 6.6.5 Barbur Transit Center Station Access Projects and future opportunities

1/2 Mile Station Walkshed
100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, TriMet and project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.

There is estimated demand within the station area for the following private mobility services:



Electric Bike/ Scooter Share



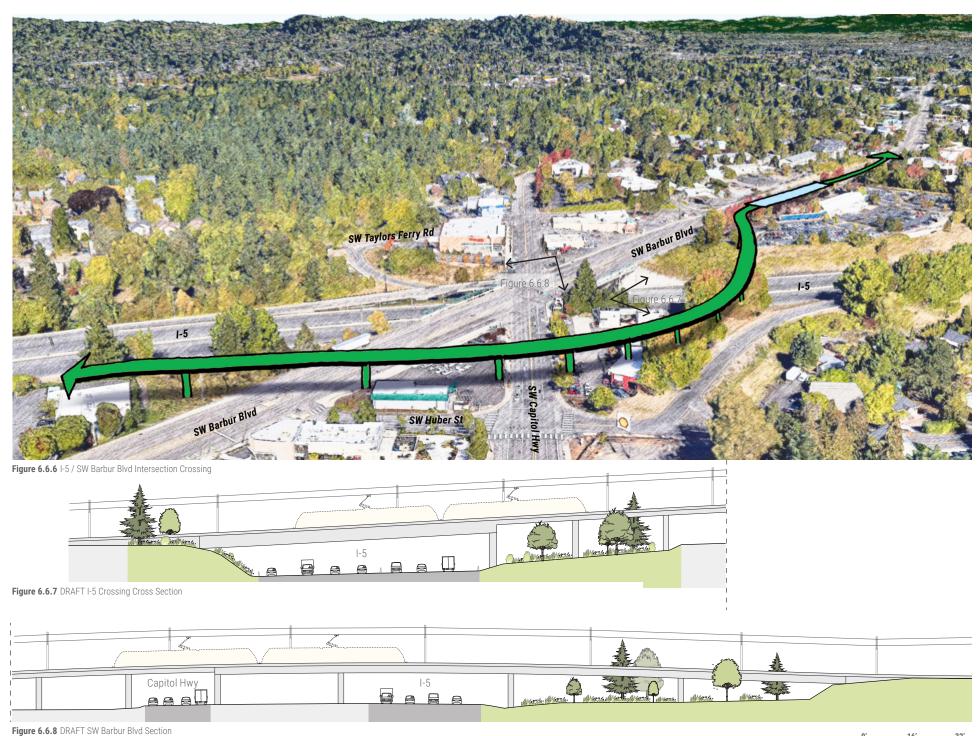
Carshare



On-Demand Ridehailing

TRANSIT-ORIENTED DEVELOPMENT

Barbur Transit Center is located within the West Portland Town Center, one of two regionally-designated town centers in Southwest Portland. Planning underway in 2020-2021 focus on a providing a full range of affordable housing options and culturally relevant goods and services. The publicly-owned site at the Barbur Transit Center Park & Ride provides an opportunity for potential future joint development.



0' 16'

6.7 Barbur Transit Center Public Opportunity Site

Barbur Transit Center is a publicly owned property identified in the 2018 SW Corridor Equitable Housing Strategy as an opportunity for mixed-use, mixed-income development. A wide diversity of community members participating in the City of Portland's West Portland Town Center Plan process envision this site as a Multi-Cultural Hub, providing culturally specific services and amenities in addition to affordable housing for the area's immigrant and refugee communities. An initial redevelopment concept incorporated these priorities to achieve equitable transitoriented development (ETOD).

Redevelopment could occur in conjunction with the light rail project. New residents, businesses and workers will increase early ridership if redevelopment can be timed to open with new transit service. Continued investigation of the side running option is needed to achieve better ETOD.

REDEVELOPMENT CONCEPT PROGRAM

- Five buildings: 3 mixed use and 2 office
- 230-300 apartments
- 15,000-20,000 square feet for retail
- 100,000-170,000 square feet of office space
- 10,000-15,000 square feet of community event and/or office space
- 10,000-15,000 square feet of public open space
- 10,000-15,000 square feet of private open space
- Bus layover area



Figure 6.7.1 Barbur Transit Center Public Opportunity Site: Side Running Alignment (Source: Portland Bureau of Planning & Sustainability)

• Three floors of parking with 150-250 stalls

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Side running vs. center alignment
- Site redevelopment phasing
- · Land use entitlements
- Transportation circulation design supportive of ETOD

· Long-term property ownership

POTENTIAL PUBLIC BENEFITS

- Some affordable housing required for lower-income households
- Indoor community space for cultural events and/or office space for nonprofit service providers
- Retail can include space for businesses providing culturally relevant goods and services (ex. Halal grocer or multi-cultural market place)
- Outdoor space is aligned to preserves views of Mt. Hood and provide opportunity for public art and community gatherings
- Circulation prioritizes pedestrians and connects the pedestrian bridge to the new station
- Office space for businesses and new jobs

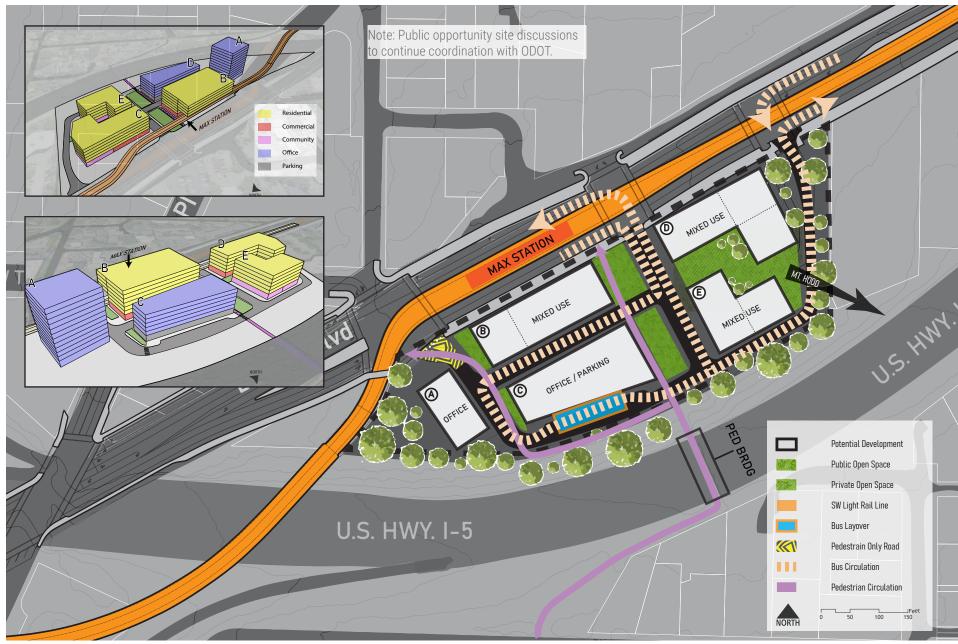


Figure 6.7.2 Barbur Transit Center Public Opportunity Site: Center Running Alignment (Source: Portland Bureau of Planning & Sustainability)

6.8 Street Improvements: South of Barbur Transit Center



 $\textbf{Figure 6.8.1} \ \, \textbf{Extent of pedestrian and bike improvements on Barbur Blvd, south of Barbur Transit Center} \\$

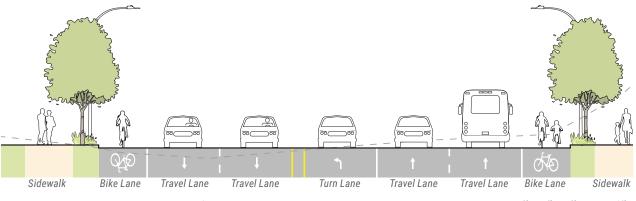
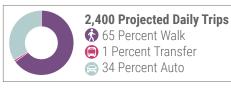


Figure 6.8.2 DRAFT Barbur Blvd Cross Section, south of Barbur Transit Center

Bike Use:

Low

6.9 53rd Avenue Station



53rd Avenue Station is located in the Far Southwest neighborhood off SW 53rd Ave between SW Barbur Blvd and I-5. Adjacent to the wooded slopes of Mt. Sylvania, the station serves the neighborhood and the PCC-Sylvania campus. Complementing walk and bus access to the station, the site includes a proposed surface Park & Ride with up to 310 spaces, and improvements on SW 53rd Ave for people walking and biking.

PROJECT BENEFITS



- New sidewalk along SW Barbur Blvd and an improved pedestrian crossing at SW 53rd Ave
- New bike and walk access to PCC-Sylvania on SW 53rd Ave
- Planned connections to bus lines 93 and 94
- New Park & Ride with convenient access to I-5
- Two lanes retained in each direction along SW Barbur Blvd

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Supports the vision of the Barbur Concept Plan and the PCC-Sylvania Master Plan
- Access to Far Southwest and Crestwood neighborhoods and PCC-Sylvania campus
- Access to Sylvania Natural Area, Holly Farm Park, Lesser City Park and SW Trail #7

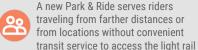
PRESERVE AND RESTORE NATURAL ENVIRONMENT

• Enhanced street tree canopy and stormwater treatment along SW Barbur Blvd





53rd Ave improvements provide a connection for people walking an biking between the station and PCC Sylvania campus



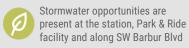


Figure 6.9.1 DRAFT 53rd Avenue Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Stormwater facilities should be integrated to enhance station area aesthetics
- Final design of street and intersections to provide safe crossings of SW Barbur Blvd focused on comfortable access to bus stops along SW Barbur Blvd and the Portland Community College campus
- Type, size and location of Park & Ride will be finalized to support access to transit and address vehicular circulation and support potential development opportunities

Holly

Farm Park

PROJECT SCOPE

- 53rd Avenue Station and light rail infrastructure
- Barbur Blvd & 53rd Avenue bike and pedestrian improvements
- Short-term and long-term bike parking

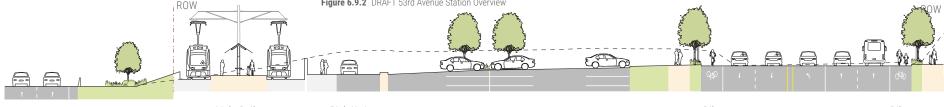


Dickinson Park

Ash Creek Natural Area

Sidewalk

Figure 6.9.4



Park & Ride

Trackway

Drop-Off

Trackway

Figure 6.9.3 DRAFT 53rd Avenue Station Section

1-5

Sidewalk

Barbur Blvd



Figure 6.9.4 DRAFT 53rd Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION ACCESS PROJECTS

53rd Walk/Bike Bridge -20-

Pasadena Sidewalks and Bikeway

Barbur/PCC to Triangle Connection*

PARTNER-LED PROJECTS

SW Lesser Rd Sidewalk and Bikeway Improvements (City of Portland TSP)

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents



100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, TriMet and project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting Park & Rides

Mobility solutions may be introduced into dedicated Park & Rides, such as pick-up/ drop-off zones or space for other mobility services.

There is estimated demand within the station area for the following private mobility services:



Electric Bike/ Scooter Share



Circulator Shuttles



On-Demand Ridehailing



Carshare

Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.

TRANSIT-ORIENTED DEVELOPMENT

53rd Avenue Station in the Far Southwest is an area concentrated with singlefamily residential housing and student and neighborhood-serving businesses. The 53rd Avenue Park & Ride (surface lot) may be a location for a long-term phased approach to further activation. This location was identified as a SW 53rd Avenue Focus Area in the Barbur Concept Plan.

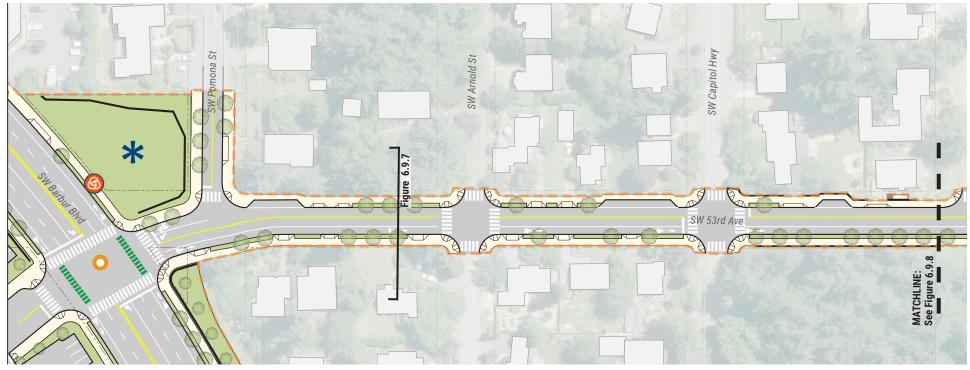


Figure 6.9.6 DRAFT 53rd Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

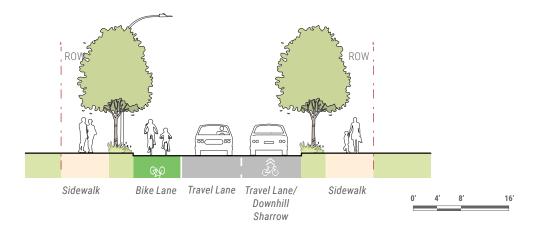


Figure 6.9.7 DRAFT 53rd Streetscape Cross Section







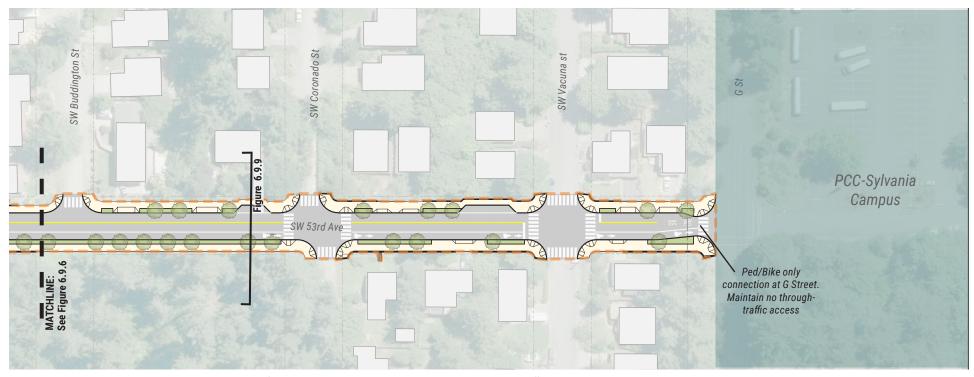


Figure 6.9.8 DRAFT 53rd Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

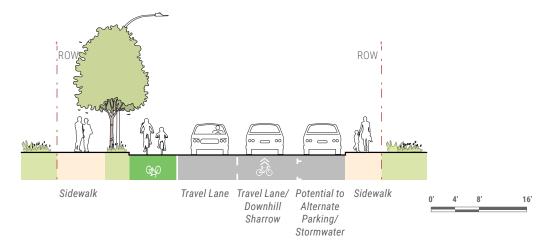
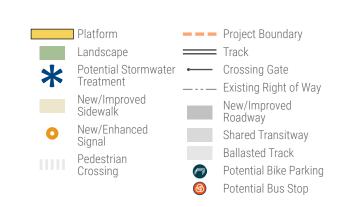


Figure 6.9.9 DRAFT 53rd Streetscape Cross Section



6.10 PCC Connection

During early planning phases of the project, partners considered tunnel options that could connect light rail directly to PCC-Sylvania campus. After extensive analysis and discussions with PCC, neighborhood stakeholders and project partners, the Steering Committee removed tunnels from further consideration. The project adopted SW 53rd Ave street improvements to provide a safe and convenient route for people walking and biking between the SW 53rd Avenue Station and the PCC campus one-half mile away. Proposed improvements for SW 53rd Ave include street paving, sidewalks, new bike facilities, on-street parking, street trees and stormwater facilities. Private motor vehicles would not be able to access campus from SW 53rd Ave, minimizing traffic impacts in the neighborhood and improving safety for people walking and biking.

The design team also explored multiple mechanized peoplemover options, including a tram, gondola, personal rapid transit rail service, bike share, enhanced bus service and shuttles. Multiple workshops and neighbor input guided decisions to narrow these options for the Locally Preferred Alternative. Two options were carried into the DEIS:

- BTC-68th Pkwy shuttle: a standard bus shuttle connecting Barbur Transit Center and 68th Parkway Stations to PCC using Capitol Hwy, 47th Ave, G St, Lesser Rd and Pacific Hwy
- 53rd Ave shuttle: a micro-bus shuttle along SW 53rd Ave

Ridership projections for the 53rd Avenue Station do not assume any potential shuttle service to PCC. However, it brings value and supports other goals to improve transit access and coverage. In this case, a shuttle may help promote comfortable and convenient access between the 53rd Avenue Station and the PCC campus at a significantly lower cost than other mechanized options explored.

Since the DEIS, partners analyzed both potential shuttle options. The analysis considered capacity, travel time, distance traveled, redundancy with transit service, frequency, support for PCC's campus vision, fixed schedule versus on-demand service, and capital, operations and maintenance costs. In all metrics, the SW 53rd Ave shuttle outperformed the BTC-68th Ave shuttle, providing the best support for

PCC's campus vision and meeting the anticipated demand for the number of people using the service, while minimizing impacts and costs. Additionally, a SW 53rd Ave shuttle avoids duplication of existing bus service, specifically the Line 44 that connects BTC to PCC, Line 78, connecting Elmhurst Street Station to PCC and Lines 93 and 94, which connect to the 53rd Avenue Station. A BTC-68th Pkwy shuttle would be redundant, increasing transit operating costs with little additional benefit. A potential 53rd Ave shuttle will be included in the FEIS, and future engagement will help inform decisions on whether such a shuttle service is implemented.

To 53rd Avenue Station TriMet, PCC, PBOT, and Metro staff have studied a potential SW 53rd Ave shuttle to address circulation, stop locations, PORTLAND COMMUNITY COLLEGE
SYLVANIA CAMPUS LEGEND AV Stop PCC Shuttle Stop AV Service PCC Shuttle Service TriMet Bus Stop TriMet Bus Service

and street cross section designs shared in this document.

Ongoing engagement will assist in determining the type of

technologies. Future traffic volumes of the streets adjacent to

the SW 53rd Ave improvements are anticipated to be similar to

shuttle used, including the potential use of autonomous

Figure 6.10.1





DESIGN CONCEPTS: TIGARD & TUALATIN 1		146
7.1	Project Highlights	148
7.2	Moving Around Tigard and Tualatin	149
	Neighborhood Access	153
7.3	I-5 and Pacific Hwy/ 99W Crossing	156
7.4	68th Parkway Station	158
7.5	SW 70th Ave Street Design	162
7.6	Elmhurst Street Station	164
7.7	OR-217 Crossing	168
7.8	Hall Boulevard Station	170
	Operations and Maintenance Facility	174
7.9	Bonita Road Station	176
7.10	Upper Boones Ferry Road Station	180
7.11	Bridgeport Transit Center Station	184



7 Design Concepts: Tigard & Tualatin

7.1 Project Highlights

The Southwest Corridor Light Rail Project will expand the transportation choices for the growing communities in Tigard and Tualatin. The alignment threads together housing, mixed retail and employment centers in the Tigard Triangle, in Downtown Tigard, and near the Bonita Road, Upper Boones Ferry Road, and Bridgeport Transit Center Stations. These centers are envisioned to become vibrant hubs of activity and major connection points for those traveling to and from Portland and throughout the region while also increasing access to existing greenspace and recreational amenities along Fanno Creek and its tributaries. As a publicly owned parcel, the Bridgeport Transit Center serves as a public opportunity site for possible future transit-oriented development.

PROJECT BENEFITS



MOVE AND CONNECT PEOPLE

- New pedestrian and bicycle paths connect people to the broader transportation network, and support SW 72nd Ave as an important northsouth link
- New Park & Ride facilities and easy connections to WES Commuter Rail extend transit access throughout the region



MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Six stations connecting Tigard and Tualatin make it easier to access existing and emerging retail and job opportunities all along the corridor
- New street connections on SW 70th Ave and SW Elmhurst St help realize the vision of the Tigard Triangle plan
- Bike and walk improvements along the alignment make it easier to access the creekside trails and parks throughout the area



PRESERVE AND RESTORE NATURAL ENVIRONMENT

- Added street tree canopies along integrated streetscape improvements
- Stormwater treatment throughout the project alignment

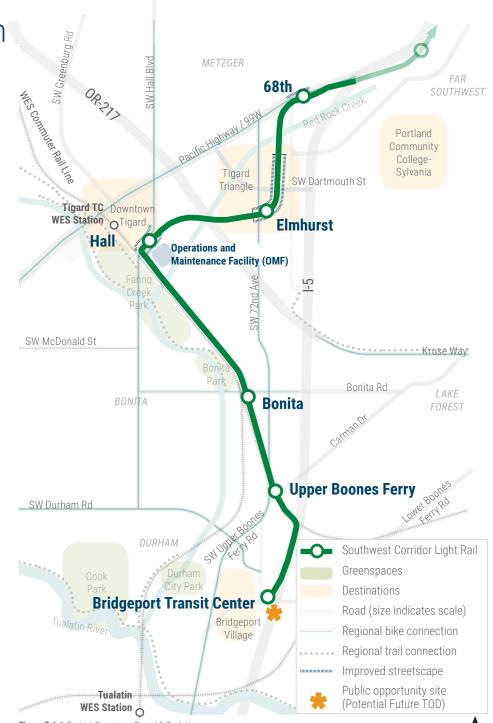


Figure 7.1.1 Project Overview - Tigard & Tualatin



7.2 Moving Around Tigard and Tualatin

ACCESSING THE STATION

- Park & Rides located at 68th Parkway, Hall Boulevard, and Bridgeport Transit Center Stations are expected to have the greatest mix of walk, transfer and auto activities.
- Hall Boulevard Station, located just south of Downtown Tigard, will connect riders to Downtown Tigard, Tigard Transit Center, and the WES Commuter Rail Station.
- Elmhurst Street Station is centrally located in Tigard Triangle, and is envisioned to serve a growing mixed-use neighborhood. A majority of riders are expected to arrive at the station on foot from within the Tigard Triangle.
- Where light rail runs through the Tigard employment corridor alongside the railroad right-of-way, a majority of transit riders will arrive at stations by foot from nearby neighborhoods and employment areas.
- For each station, project partners are exploring the best locations where passenger drop-off can be provided.

IMPROVING TRANSIT ACCESS

An inventory of bicycle and pedestrian conditions on blocks adjacent to each station has identified the following challenges in Tigard and Tualatin:

- Local streets that are unpaved or lack sidewalks.
- Streets with a high number of traffic lanes, a high posted speed limit, and no buffer between the sidewalk and moving vehicles.
- Limited locations where pedestrians and cyclists can cross Pacific Hwy/99W, I-5, and OR-217, Fanno Creek, and the Pacific and Western railroad line.
- · At-grade rail crossings.

The Southwest Corridor Light Rail Project addresses these conditions by reducing distances between crosswalks

and upgrading intersections. An enhanced 70th Ave streetscape will improve walking and biking within the Tigard Triangle to and from the station.

Seamless access improvements require close coordination between all Project Partners. Southwest Corridor Light Rail Project Station Access planning has been developed in concert with Tigard's Transportation System Plan (TSP) and regional trail planning. A list of partner-led Station Access projects for improving pedestrian and bicycle access in Tigard and Tualatin is on the following page. Note that not all projects currently have associated budgets and schedules. Some of these projects may be constructed in conjunction with the light rail project, while others will be constructed after opening day.

The design concepts included in this chapter show a small area plan for each location with all projects included in the current Southwest Corridor Light Rail Project funding. A "functional plan" shows how each station contributes to access for walking, biking, transit, and driving, and how the station fits into its existing context.





TIGARD AND TUALATIN: 2035 STATION RIDERSHIP

Source: Metro, 2019



68TH

4,900 Projected Daily Trips

- **41** Percent Walk
- 40 Percent Transfer
- 19 Percent Auto





ELMHURST

3,900 Projected Daily Trips

- 99 Percent Walk
- 1 Percent Transfer
- O Percent Auto



Bike Use: Low



HALL

5,500 Projected Daily Trips

- 46 Percent Walk
- 42 Percent Transfer
- 12 Percent Auto





BONITA

2,300 Projected Daily Trips

- ♠ 73 Percent Walk
- 27 Percent Transfer
- 0 Percent Auto



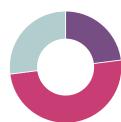
Bike Use: Low



UPPER BOONES FERRY 1,300 Projected Daily Trips

- 100 Percent Walk
- O Percent Transfer
- O Percent Auto



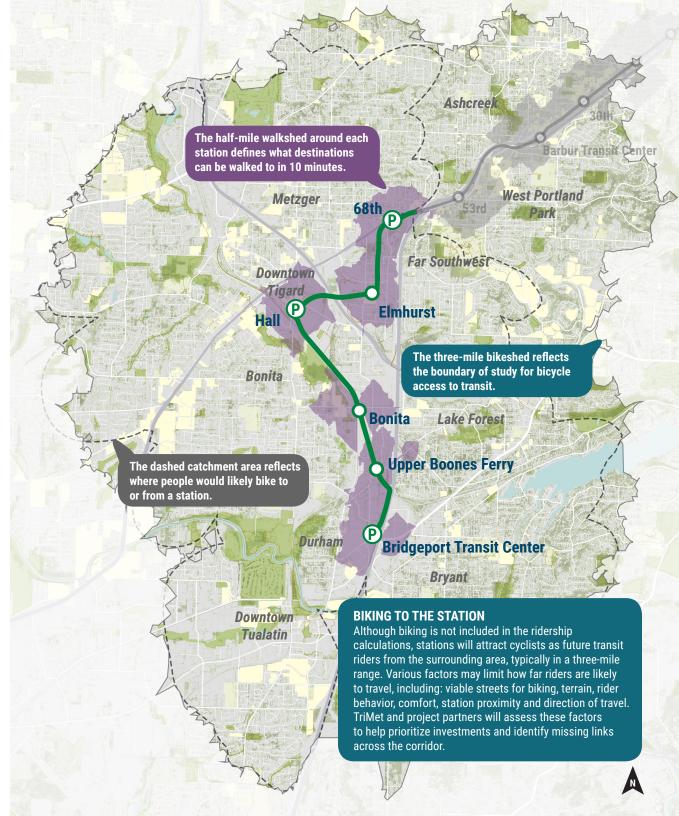


BRIDGEPORT TRANSIT CENTER 7,800 Projected Daily Trips

- 23 Percent Walk
- 50 Percent Transfer
- 27 Percent Auto



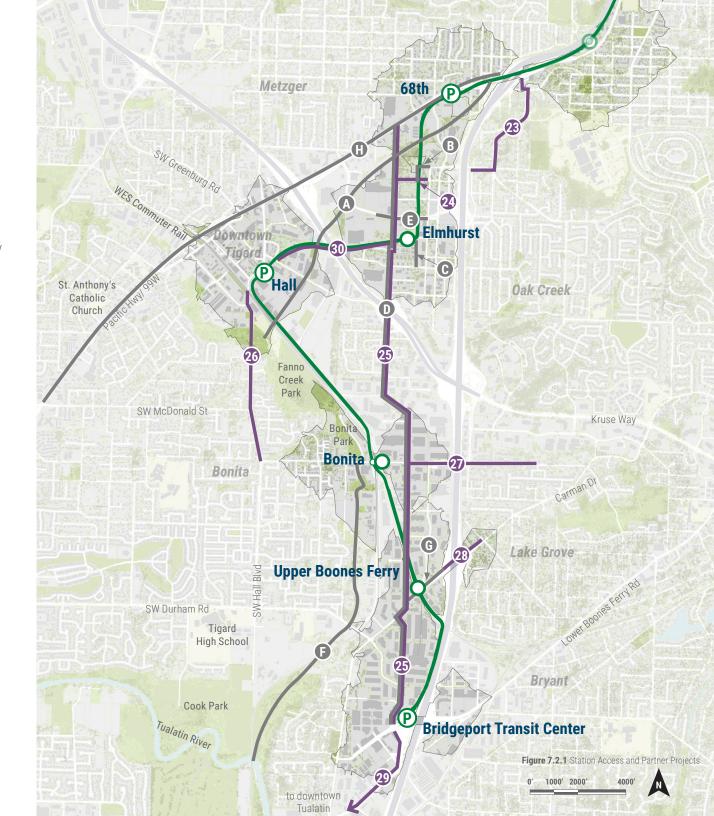
Medium



STATION ACCESS AND PARTNER PROJECTS

The following map shows the location and geographic extent for additional Southwest Corridor Light Rail Station Access projects. Projects are highlighted that help to increase connectivity to light rail stations. Station Access Projects have advanced through the Shared Investment Strategy are included in the FEIS, but not the project budget. These could be designed and built by the Southwest Corridor Light Rail Project (TriMet), if other sources of funding are secured.

This map also includes relevant local projects led entirely by local jurisdictions. These projects will be coordinated with, and help to inform station area decisions. These projects are planned, funded, designed and constructed by others, and are not part of the Southwest Corridor Light Rail Project. More information on these projects is available on the website of each project lead.



152 SOUTHWEST CORRIDOR LIGHT RAIL PROJECT: CONCEPTUAL DESIGN REPORT

STATION ACCESS PROJECTS —

- Barbur/PCC to Triangle Connection
- **24** Baylor Sidewalks
- 72nd Sidewalks & Bikeway
- Hall Sidewalks
- Bonita Sidewalks & Bikeway
- Carman Sidewalks & Bikeway
- Lower Boones Ferry & Boones Ferry Bikeway
- OR- 217 Multi-use Pathway

PARTNER-LED PROJECTS —

- A New Red Rock Creek Trail
- B New extension of SW Atlanta St to SW 70th Ave
- New extension of SW 70th Ave from SW Elmhurst St to Beveland St
- 72nd Ave Corridor Study (City of Tigard TSP 2035)
- Dartmouth Roadway Improvement (City of Tigard TSP 2035)
- **(F)** Extension of Fanno Creek Trail
- **G** Upper Boones Ferry Rd road widening (City of Tigard TSP 2035)
- OR99W: I-5 McDonald St Repaving Project (ODOT)

NEIGHBORHOOD ACCESS Note: Further traffic circulation studies and pedestrian crossing SW 64th Ave The following diagrams show the proposed vehicular opportunities on Pacific Hwy/ 99W between SW 68th and 64th Ave will circulation for Tigard and Tualatin, which highlights be refined over the course of project development and final engineering. possible traffic mitigations, new or modified signals and SW Oak St design of intersections to support u-turns and turning SW Barbur Blvd movements adjacent to the project alignment. New SW 68th Ave enhanced pedestrian crossings will be added throughout the project, significantly improving the pedestrian safety and crossing opportunities along the alignment. New enhanced pedestrian crossing treatment types will continue to be explored as a valuable measure in providing increased pedestrian safety and permeability across major SW Coronado Si streets. Additional crossings also benefit access to new and improved bike facilities built by the project. Park & Ride SW 78th Ave OOM Pacific Hwy SW 68th Pkwy SW Lesser Rd SW Pfaffle St SW Atlanta St SCALE: NOT TO SCALE **LEGEND** SW Baylor St Existing MAX Station Proposed Light Rail Station গ্লী Allowable Turn Movements SW Clinton St Re-routed Turn Movements SW 70th Ave 💠 ▼ Possible Diversion Routes (TBD) SW 72nd Ave **New Traffic Signal** Hwy 217 Replaced/ Modified Traffic Signal SW Dartmouth St New Enhanced Pedestrian-only Cross New Gated Rail Crossing **Proposed Road Closure** SW Elmhurst St N U-Turn Restricted SW Knoll Dr Note: Diagram does not indicate existing **Elmhurst** signalized intersections to remain.

Figure 7.2.2 Proposed Neighborhood Access and Circulation



Figure 7.2.3 Proposed Neighborhood Access and Circulation

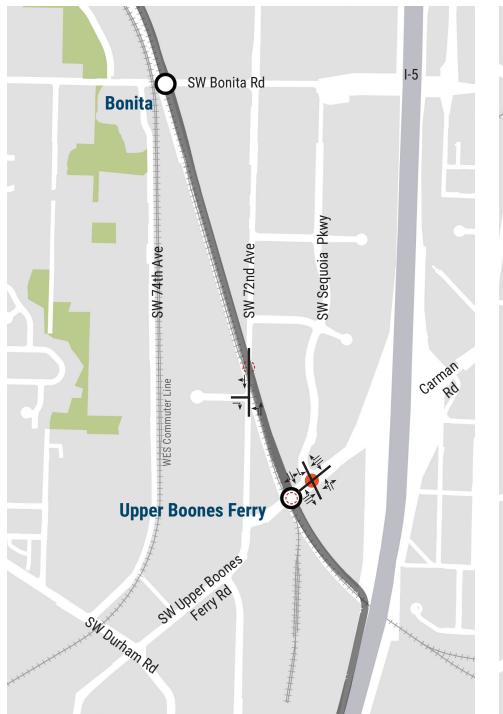


Figure 7.2.4 Proposed Neighborhood Access and Circulation



Figure 7.2.5 Proposed Neighborhood Access and Circulation

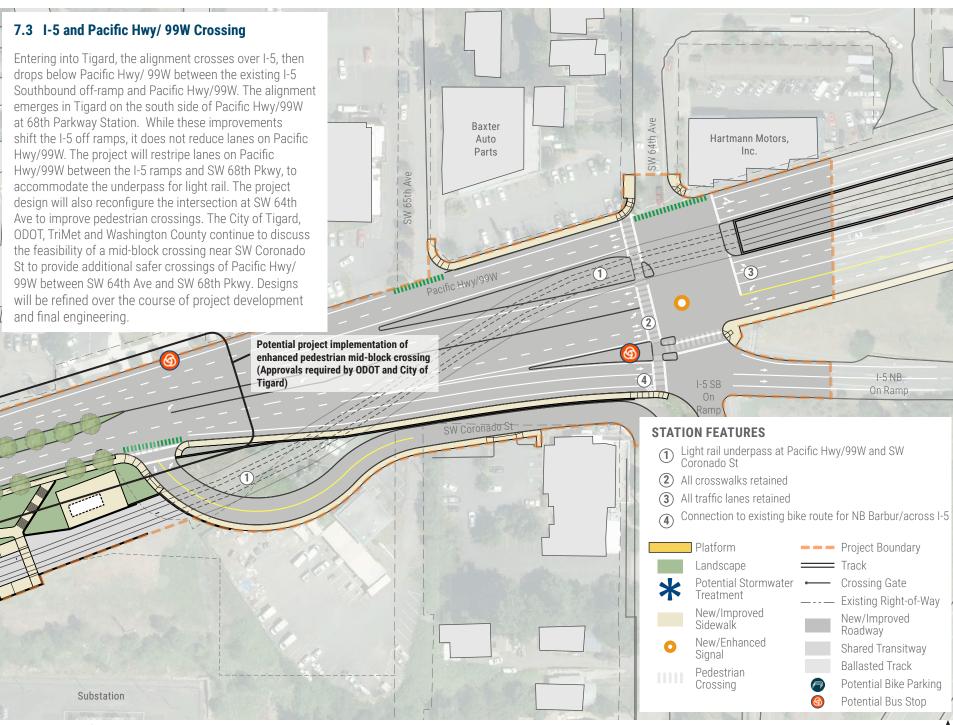


Figure 7.3.1 DRAFT Pacific Hwy/99W at SW 64th Ave Plan





Figure 7.3.2 I-5 and Pacific Hwy/99W Crossings aerial overview

7.4 68th Parkway Station



4,900 Projected Daily Trips

41 Percent Walk
40 Percent Transfer





Located on the south side of Pacific Hwy/99W, the station's prominent presence atop a natural amphitheater above Red Rock Creek provides views over the Tualatin Valley and Red Rock Creek watershed. 68th Parkway Station acts as the portal into the burgeoning Tigard Triangle neighborhood. Sidewalk improvements and improved pedestrian crossings on Pacific Hwy/99W at SW 68th Pkwy and SW 64th Ave connect the station to the residential areas to the north. Adjacent bus stops and a surface Park & Ride with up to 350 spaces will enable quick and easy transfers for people coming from King City, Sherwood and other communities southwest of Tigard.

PROJECT BENEFITS



- Two improved pedestrian connections across Pacific Hwy/ 99W
- Planned connections to bus lines 93 and 94
- New Park & Ride with convenient access to I-5 & Pacific Hwy/99W

ឧ MAINTAIN AND CREATE **EQUITABLE COMMUNITIES**

- Helps support the vision of the Tigard Triangle Plan
- Access to Metzger neighborhood and emerging mixeduse community in the Tigard Triangle's employment and residential center
- Access to planned Red Rock Creek Trail

PRESERVE AND RESTORE NATURAL ENVIRONMENT

- Views to Red Rock Creek natural area and Tualatin River Valley and emphasis of unique topography surrounding station context
- Stormwater treatment for station area and Park & Ride





Improved connections across Pacific Hwy/99W facilitate bus transfers and neighborhood access



Serves established neighborhoods to the north of Pacific Hwy/99W and the emerging Tigard Triangle



Views to Red Rock Creek natural area and Tualatin River Valley and emphasis of unique topography surrounding station context

Figure 7.4.1 DRAFT 68th Parkway Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Architectural design of station, structural elements, and stormwater facilities should frame existing views, emphasize the adjacent natural resources of Red Rock Creek, and have a clear presence on Pacific Hwy/99W
- Type, size and location of Park & Ride will be finalized to support access to transit, address vehicular circulation, and support potential development opportunities
- The station shall have safe pedestrian and bicycle facilities that help improve station access from the neighborhoods on each side of Pacific Hwy/ 99W
- Intersection design at SW 64th Ave and SW 68th Pkwy to provide safe crossing of Pacific Hwy/99W to facilitate comfortable access between residential neighborhoods, businesses, bus stops and the station. Coordination with ODOT Repaying Project along Pacific Hwy/99W ongoing
- Thoughtful design of light rail structure and site design to emphasize the portal of Tigard Triangle
- Design to facilitate transit-oriented development consistent with Tigard's strategic vision to maximize walking and transit ridership, attract private sector investment, advance project affordable housing goals and support Metro's 2040 Town Center land use vision

PROJECT SCOPE

- 68th Parkway Station and light rail infrastructure
- Light rail tunnel under Pacific Hwy/99W and SW Coronado St
- Short-term and long-term bike parking
- Revised bus stop routing and stop locations
- Surface Park & Ride with up to 350 parking spaces
- Streetscape improvements along south side of Pacific Hwy/99W between SW 68th Parkway and SW 64th Ave
- Streetscape improvements along SW 68th Parkway between Pacific Hwy/99W and Red Rock Creek





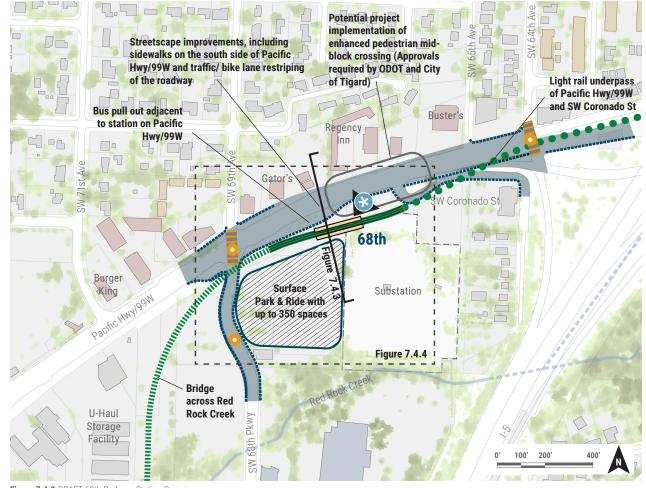


Figure 7.4.2 DRAFT 68th Parkway Station Overview

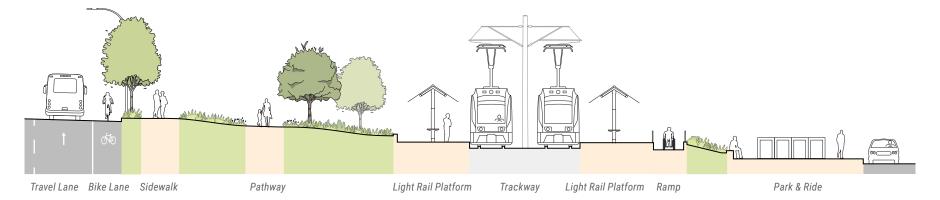


Figure 7.4.3 DRAFT 68th Parkway Station Cross Section



Figure 7.4.4 DRAFT 68th Parkway Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION ACCESS PROJECTS

-23 - Barbur/PCC to Triangle Connection*

24 Baylor Sidewalks*

-25- 72nd Ave Sidewalks & Bikeway

PARTNER-LED PROJECTS

-A- New Red Rock Creek Trail

-B- New extension of SW Atlanta St to SW 70th Ave*

72nd Ave Corridor Study (City of Tigard TSP 2035)

OR99W: I-5 - McDonald St Repaving Project (ODOT)

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents



Figure 7.4.5 68th Parkway Station Access Projects and Potential Partnering

1/2 Mile Station Walkshed
100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting Park & Rides

Mobility solutions may be introduced into dedicated Park & Rides, such as pick-up/drop-off zones or space for other mobility services.

There is estimated demand within the station area for the following private mobility services:









TRANSIT-ORIENTED DEVELOPMENT

Terracing of the Park & Ride as well as parcels on the west side of SW 68th Parkway will help facilitate future development in close proximity to the station. Future development around the station is within walking distance of a Fred Meyer store and other retail on Pacific Hwy/99W and will have access to the future Red Rock Creek trail. Planning for development opportunities will continue to be explored in collaboration with the City of Tigard.



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.

See Chapter 4.12 for a complete list of mobility partnering opportunities.

7.5 SW 70th Ave Street Design

SW 70th Ave is a central, shared multimodal spine in an emerging mixed-use neighborhood, connecting SW Elmhurst St to Red Rock Creek trail, and to the Tigard Lake Oswego Regional Trail. A side-running light rail and integrated streetscape improvements will contribute value to the desired neighborhood aesthetics of the Triangle. Pedestrian and bike connections extend through this prominent new corridor, bringing pedestrian safety improvements, a tree-lined street and an entirely new shared street bike connection.

PROJECT BENEFITS



- New SW 70th Ave street extension through the center of the Tigard Triangle
- New bike and walk facilities along SW 70th Ave and sidewalk improvements along SW Baylor St and SW Clinton St

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

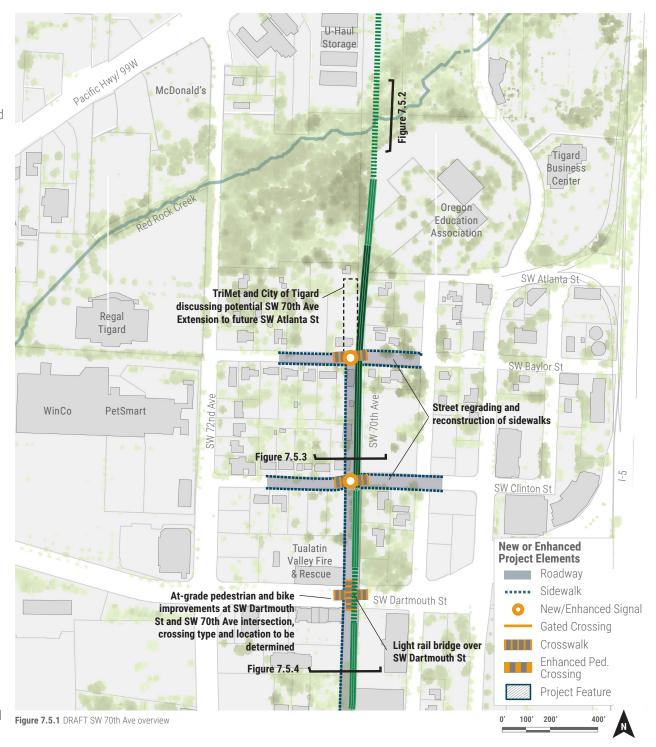
- Supports the street network and connectivity vision of the Tigard Triangle Plan and the Tigard Lean Code
- Design of light rail guideway and improved street quality enhance the experience of people walking and biking along SW 70th Ave and along SW Dartmouth St

PRESERVE AND RESTORE NATURAL ENVIRONMENT

 New street tree canopy and stormwater treatment along SW 70th Ave

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Extent and scope of street improvements along SW 70th Ave will be confirmed in final design to support pedestrian connectivity to Elmhurst Station, recreational resources and mixed use development in this burgeoning neighborhood
- Designs to coordinate with Red Rock Creek trail, and potential future SW Atlanta Street partner projects
- Final design of light rail structures over Red Rock Creek and SW Dartmouth St to be context sensitive and guided by architectural toolkit in Chapter 4



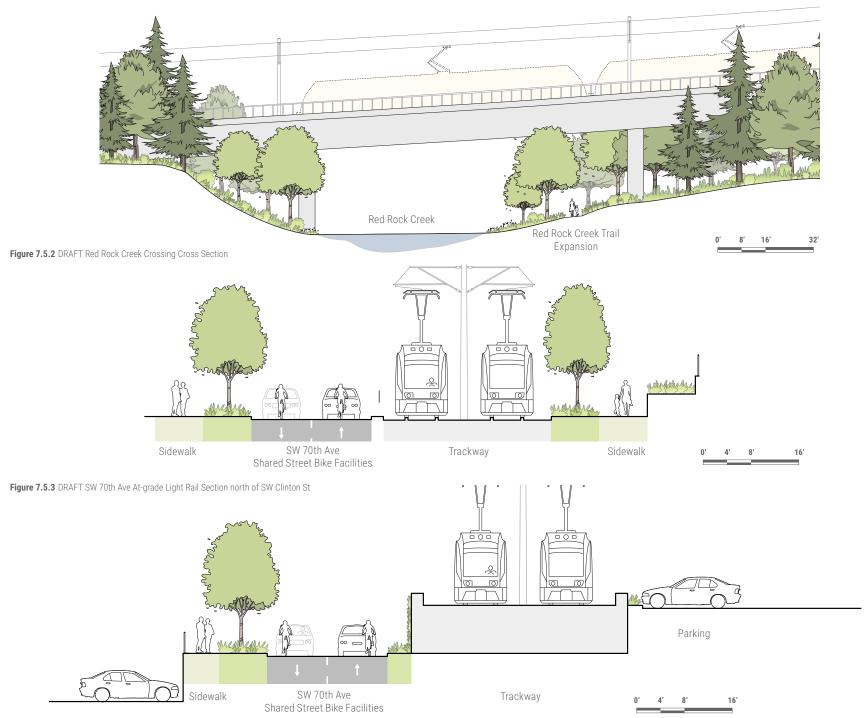


Figure 7.5.4 DRAFT SW 70th Ave Light Rail Abutment Section north of SW Elmhurst St

7.6 Elmhurst Street Station





Located at the heart of the Tigard Triangle, the station is a central magnet supporting mobility in all directions for the growing number of residents and workers in this mixed use neighborhood. Street improvements near the station will promote safe and convenient access to mixed use neighborhoods and regional trails.

PROJECT BENEFITS



- · New bike and pedestrian facilities along SW 70th Ave
- Planned connections to bus line 78 and 97

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Helps support the mixed-use vision of the Tigard Triangle Plan
- Access to planned Red Rock Creek Trail



• Enhanced tree canopy and stormwater treatment along SW Elmhurst St





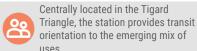




Figure 7.6.1 DRAFT Elmhurst Street Station Vision

DESIGN VALUES: APPLYING COMMUNITY FFFDBACK IN ONGOING DESIGN

- Stormwater facilities should be integrated to enhance station area
- Intersection design to facilitate safe comfortable pedestrian crossings and look for opportunities to eliminate crossing gates
- Platform configuration will be explored to enhance public space and improve access
- Design to facilitate transit-oriented development consistent with Tigard's strategic vision to maximize walking and transit ridership, attract private sector investment, advance project affordable housing goals and support Metro's 2040 Town Center land use vision

PROJECT SCOPE

- Elmhurst Street Station and light rail infrastructure
- SW Elmhurst St streetscape improvements between SW 70th Ave and SW 72nd Ave and intersection improvements
- Short-term and long-term bike parking (see tables below for recommendations on number of spaces for opening day)
- Revised bus stop routing and stop locations

Viewpoint of station vision rendering

Existing Assets

Multifamily

Employment

Retail

Signal at major road

Crosswalk(s)

at major road

••••• Existing Trail

New or Enhanced Project Elements

New/Enhanced Signal

Gated Crossing

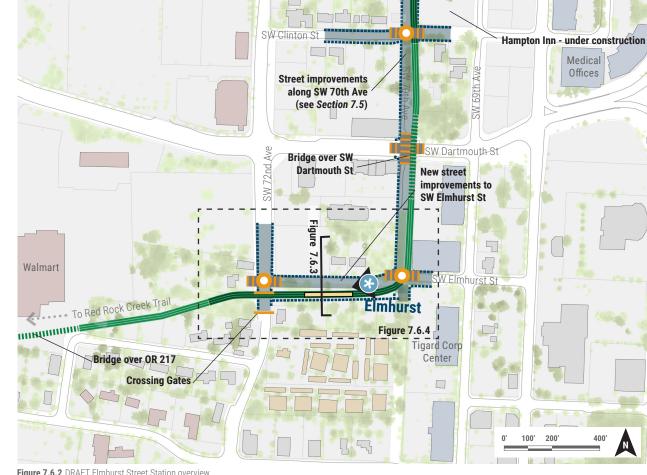
Enhanced Ped. Crossing

Project Feature

Crosswalk

Roadway

Sidewalk



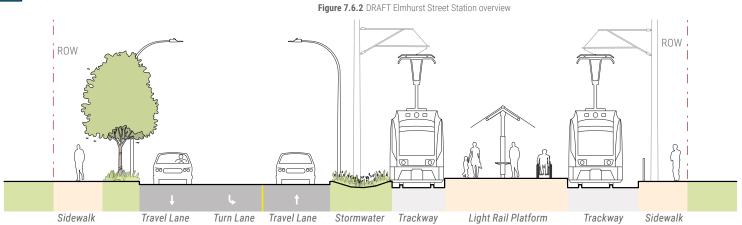


Figure 7.6.3 DRAFT Elmhurst Street Station Cross Section

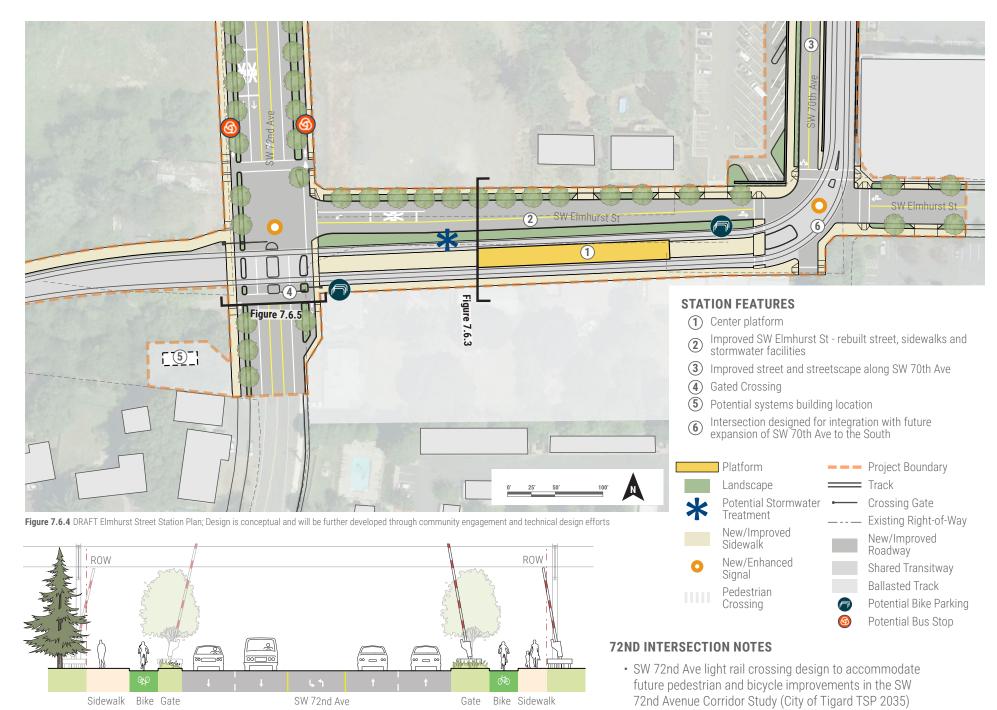


Figure 7.6.5 Section of SW 72nd Ave Crossing Gates

STATION ACCESS PROJECTS

-24- Baylor Sidewalks*

–25– 72nd Sidewalks and Bikeway

OR-217 Multi-use Pathway

PARTNER-LED PROJECTS

New extension of SW 70th Ave to Beveland (South of SW Elmhurst St)

72nd Ave Corridor Study (City of Tigard TSP 2035)

Dartmouth Roadway Improvement (City of Tigard TSP 2035)

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents



Figure 7.6.6 Elmhurst Street Station Access Projects and Potential Partnering

1/2 Mile Station Walkshed
100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.



Adapting Existing Places

Property owners may work with the city and mobility providers on solutions such as in a parking lot or landscaped area.



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.

Travel Lane

There is estimated demand within the station area for the following private mobility services:



Electric Bike/ Scooter Share



Circulator Shuttles



Bike share (Dockless)

TRANSIT-ORIENTED DEVELOPMENT

The station area, centrally located in the Tigard Triangle, is already experiencing transit supportive multi-family and mixed-use development. Future development adjacent to the station should include active ground level uses to help create a vibrant and safe station area. Planning for development opportunities will continue to be explored in collaboration with the City of Tigard.

7.7 OR-217 Crossing

The Southwest Corridor Light Rail Project provides a critical new transit link between the Tigard Triangle and Downtown Tigard. MAX trains will travel from SW 72nd Ave in the Triangle to SW Hunziker St in Downtown Tigard using a new light rail bridge crossing over OR-217. The structure travels through the Knez wetland area, requiring the project to complete wetland mitigation. Final design of light rail structure over Hwy OR-217 and Knez Wetland to be context sensitive and guided by architectural toolkit in Chapter 4.

While currently not part of the project scope, Station Access Project #30: OR-217 Multi-use Pathway is a key active transportation component. This project links Downtown Tigard to the Tigard Triangle, bringing Red Rock Creek Trail a step closer to becoming an arm of the Fanno Creek Trail System. Both TriMet and the City of Tigard agree the multi-use pathway is a project betterment and will partner to be co-applicants for funding. See Figures 7.6.6 and 7.8.8 for extent and location of Multi-use Pathway.

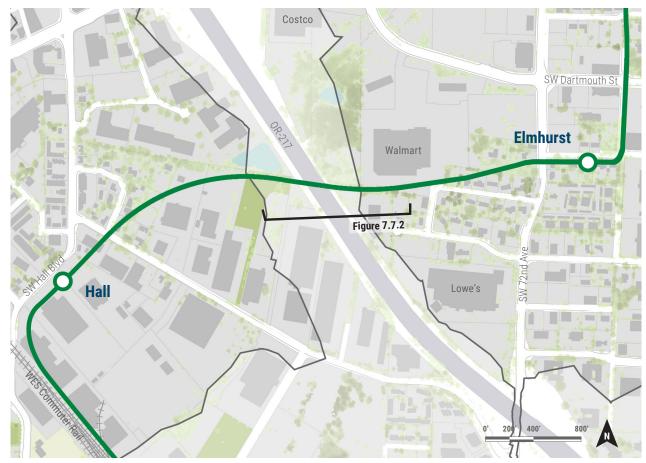


Figure 7.7.1 OR-217 Crossing overview

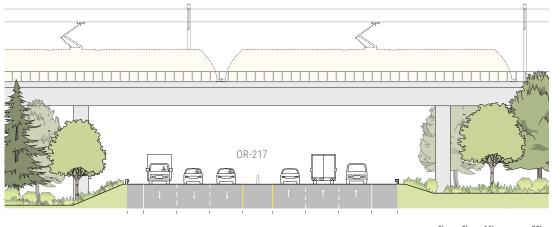


Figure 7.7.2 DRAFT OR-217 Crossing Section



Figure 7.7.3 OR-217 Crossing Aerial Overview

7.8 Hall Boulevard Station



5,500 Projected Daily Trips

46 Percent Walk
42 Percent Transfer



12 Percent Auto

Sitting at the intersection of a dense mixed-use center and regional employment hub, Hall Boulevard Station is a critical node for the project. To emphasize bus and WES Commuter Rail transfers, the SW Commercial St transit corridor will be designed for pedestrian comfort and integrate the station into Downtown Tigard. Design elements include bus shelters, landscaping, pavement treatments and wayfinding. Similar pedestrian and bicycle improvements along SW Hall Blvd and SW Hunziker St will help continue to make Tigard one of the most walkable cities in the region.

PROJECT BENEFITS



- Safer and easier pedestrian connections across SW Hall Blvd and along SW Commercial St
- Access to Tigard Transit Center and WES Commuter Rail
- Planned connections to WES Commuter Rail, Yamhill County Transit, and TriMet bus lines 1, 37, 76, 78, 89, 93, 94, 97
- Three-track configuration provides light rail access to the operations and maintenance facility (OMF)

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Access to Historic Downtown Tigard and Tigard City Hall
- Access to Red Rock Creek and Fanno Creek Trail

PRESERVE AND RESTORE NATURAL ENVIRONMENT

- Enhanced street tree canopy and stormwater treatment along Hall Blvd
- Preservation of views to Knez wetland
- Light rail alignment and operations and maintenance facility cited to avoid impacts to Red Rock Creek and existing flood plain





SW Hall Blvd crossing and SW Commercial St improvements will facilitate multimodal transit connections



The station provides access to Downtown Tigard as well as the Hunziker industrial core



The light rail and OMF are designed to minimize impact to the surrounding wetlands and floodplains

Figure 7.8.1 DRAFT Hall Boulevard Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- Create station and infrastructure design that supports the vision of a dense, walkable community hub in downtown
- Advance designs of bicycle and pedestrian facilities on SW Hall Blvd to support existing and future multimodal travel behaviors, connect existing and planned improvement projects and access affordable housing
- Consider Hall Boulevard Station and the operations and maintenance facility visibility from SW Commercial St to support station area aesthetics and wayfinding
- Integrate stormwater facilities to enhance station area and Red Rock Creek natural area
- Type, size and location of Park & Ride will be finalized to support access to transit, address vehicular circulation and support potential development opportunities
- Design to facilitate transit-oriented development consistent with Tigard's strategic vision to maximize walking and transit ridership, attract private sector investment, advance project affordable housing goals and support Metro's 2040 Town Center land use vision

PROJECT SCOPE

- · Hall Boulevard Station and light rail infrastructure
- SW Hall Blvd streetscape improvements for people walking, biking and accessing transit between the existing rail crossing and SW Hunziker St
- SW Commercial St bike and pedestrian streetscape improvements (between SW Hall and SW Ash Ave)
- Intersection realignment/ improvements at SW Hunziker St/ SW Scoffins St/ SW Hall Blvd
- Short-term and long-term bike parking (see tables below for recommendations on number of spaces for opening day)
- Revised bus stop routing and stop locations
- Surface Park & Ride with up to 100 parking spaces
- · Operations and Maintenance Facility





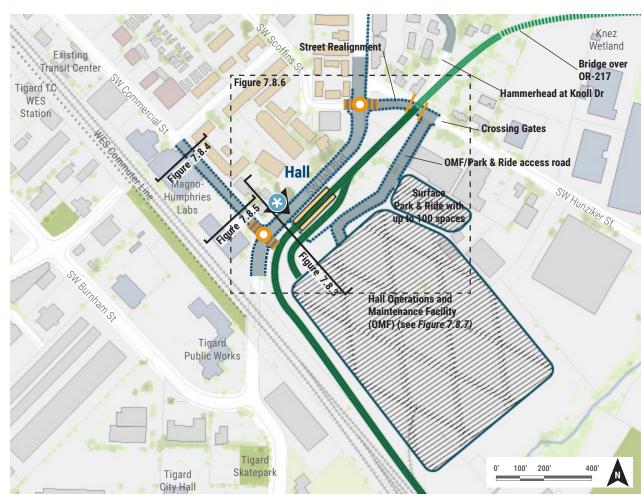


Figure 7.8.2 DRAFT Hall Boulevard Station overview

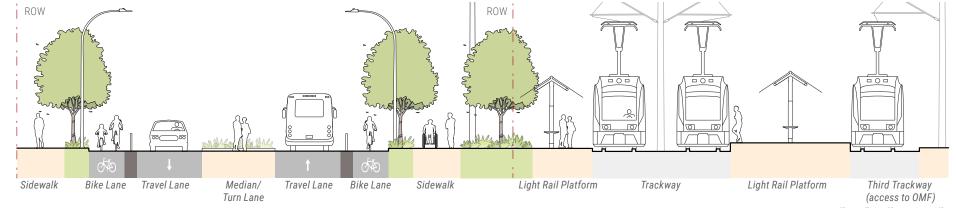


Figure 7.8.3 DRAFT Hall Boulevard Station Cross Section

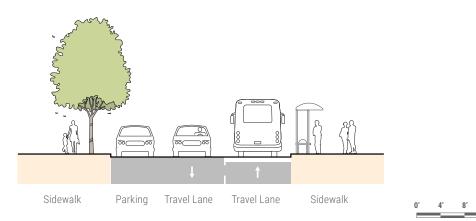


Figure 7.8.4 DRAFT Commercial Street Cross Section, NW-Bound Bus Stop

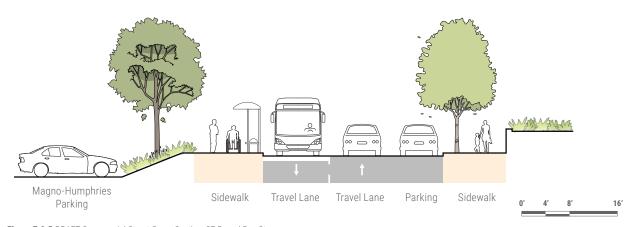


Figure 7.8.5 DRAFT Commercial Street Cross Section, SE-Bound Bus Stop

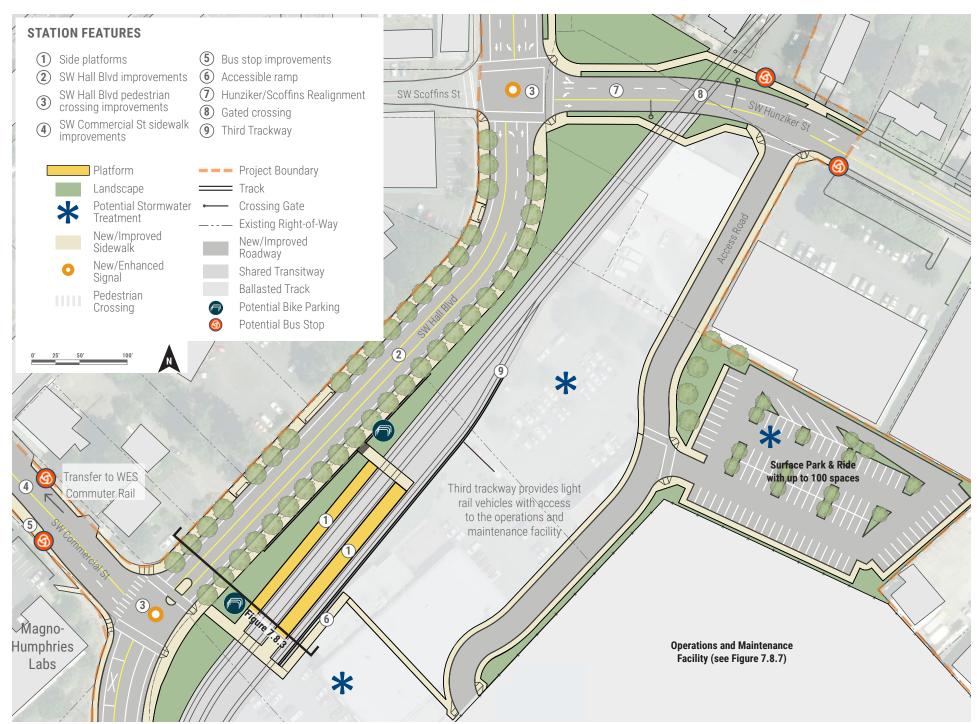


Figure 7.8.6 DRAFT Hall Boulevard Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

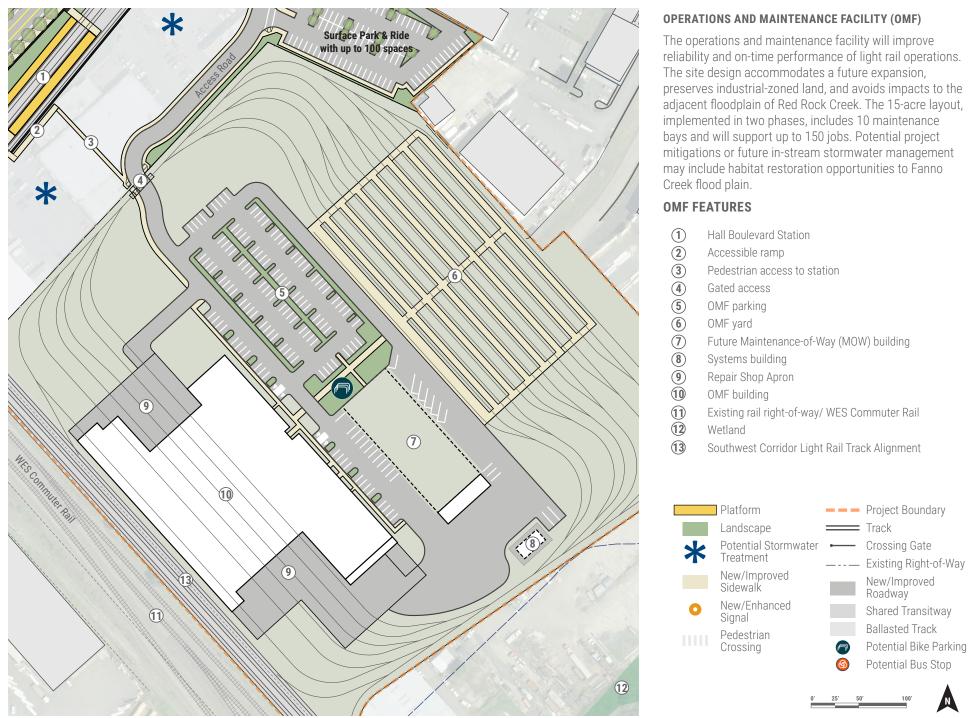


Figure 7.8.7 DRAFT Operations and Maintenance Facility (OMF) Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION ACCESS PROJECTS

-26- Hall Sidewalks

OR-217 Multi-use Pathway

PARTNER-LED PROJECTS

New trail along Red Rock Creek



Figure 7.8.8 Hall Boulevard Station Access Projects and Potential Partnering

1/2 Mile Station Walkshed
100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



New Transit-Oriented Places

Mobility solutions can be integrated into buildings at the ground floor, in a parking garage or associated landscaped area.

Mobility solutions may be integrated in

an area set aside for stormwater needs,

systems buildings or hardscaped plaza.



Adapting Park & Rides

Mobility solutions may be introduced into dedicated Park & Rides, such as pick-up/drop-off zones or space for other mobility services.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.

There is estimated demand within the station area for the following private mobility services:









TRANSIT-ORIENTED DEVELOPMENT

Planning for development opportunities will continue to be explored in collaboration with the City of Tigard.

Public Realm

7.9 Bonita Road Station



2,300 Projected Daily Trips

73 Percent Walk 27 Percent Transfer





Located at the intersection of SW Bonita Rd and SW 74th Ave. Bonita Road Station serves both the diverse residential communities to the west and the industrial employment center to the east. Perhaps more importantly, the station is just a few steps from an entry point to the Fanno Creek Trail, making it a perfect link for those walking and biking along this vital regional connector.

PROJECT BENEFITS



MOVE AND CONNECT PEOPLE

- · Bike and walk connections to the existing Fanno Creek Trail System and planned extension
- Elevated over SW Bonita Rd, the visible station location avoids disruption of nearby businesses, existing railroad tracks and roadway traffic
- Planned connections to bus line 37, 97

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

· Access to the Bonita neighborhood and SW Durham Rd

- industrial and employment center
- Access to Bonita Park and natural areas along Fanno and Ball Creeks
- · Located adjacent to the planned extension of Fanno Creek Regional trail system
- Serves diverse residential communities to the west and industrial employment to the east



Enhanced street tree canopy at station area





Bike and walk connections to the existing Fanno Creek Trail system and planned extension





Enhanced street tree canopy and stormwater treatment at Bonita station area

Figure 7.9.1 DRAFT Bonita Road Station Vision

DESIGN VALUES: APPLYING COMMUNITY FFFDBACK IN ONGOING DESIGN

- Design of alignment and station location to the north of SW Bonita Rd to be context sensitive and guided by architectural toolkit in Chapter 4
- · Pedestrian facilities should connect to existing and planned improvements, such as Fanno Creek Trail, and provide access to existing affordable housing to support Tigard's vision to be a walkable community

PROJECT SCOPE

- · Bonita Road Station and light rail infrastructure
- Off-street pick-up/drop-off loop
- · Short-term and long-term bike parking
- Revised bus stop routing and stop locations



Project Feature

New or Enhanced Project Elements Existing Assets Roadway Multifamily Sidewalk Employment New/Enhanced Signal Retail Gated Crossing ••••• Existing Trail Crosswalk Signal at major road Enhanced Ped. Crossing Crosswalk(s) at major road

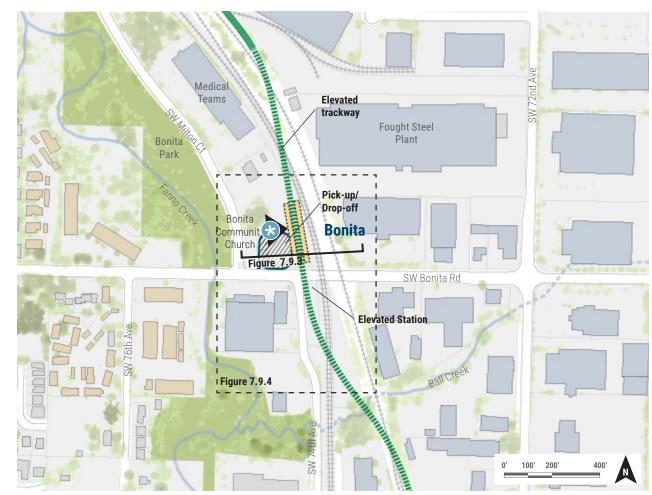


Figure 7.9.2 DRAFT Bonita Road Station overview

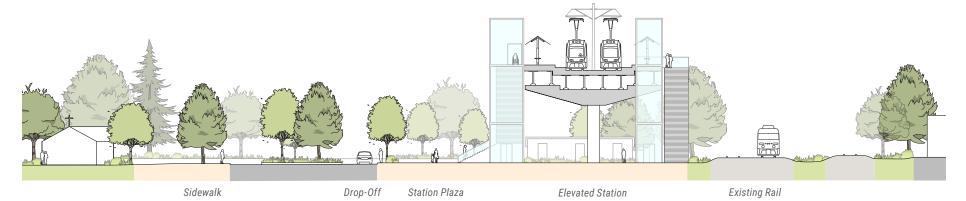


Figure 7.9.3 DRAFT Bonita Road Station Cross Section

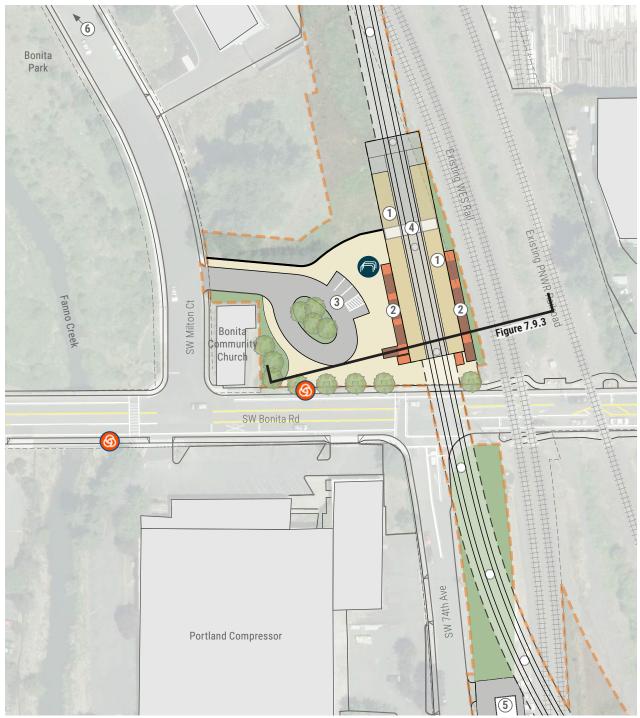


Figure 7.9.4 DRAFT Bonita Road Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION FEATURES

- 1 Elevated station with side platforms
- 2 Stair and elevator access to station
- 3 Pick-up/drop-off
- Potential systems building location (below structure)
- 5 Potential systems building location
- 6 Nearby access to existing Fanno Creek Trail







STATION ACCESS PROJECTS

- **-25-** 72nd Sidewalks & Bikeway
- Bonita Sidewalks & Bikeway

PARTNER-LED PROJECTS

- -D- 72nd Ave Corridor Study (City of Tigard TSP 2035)
- Extension of Fanno Creek Trail



1/2 Mile Station Walkshed
100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza. There is estimated demand within the station area for the following private mobility services:



On-Demand Ridehailing

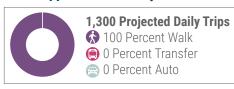
TRANSIT-ORIENTED DEVELOPMENT

To be determined

Bike Use:

Low

7.10 Upper Boones Ferry Road Station



Upper Boones Ferry Road Station is located in the heart of Tigard's bustling office park employment center. Commuters will be able to easily walk to dozens of offices, industrial buildings and business parks that surround the station. SW Upper Boones Ferry Rd also serves as the primary connection from the station to residential and retail areas to the east of I-5 and beyond.

PROJECT BENEFITS



- Safer pedestrian crossings at SW 72nd Ave and the railroad tracks at SW Upper Boones Ferry Rd
- Planned connections to bus line 97

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

 Access to the Durham Road industrial and office employment center

PRESERVE AND RESTORE NATURAL ENVIRONMENT

· Stormwater treatment at station area









Figure 7.10.1 DRA

DRAFT Upper Boones Ferry Road Station Vision

DESIGN VALUES: APPLYING COMMUNITY FEEDBACK IN ONGOING DESIGN

- · Stormwater facilities should be integrated to enhance station area
- Final design of street and intersection to provide safe crossing of SW 72nd Ave and SW Upper Boones Ferry Rd to facilitate comfortable access to the station
- Station design to minimize impacts to traffic flow and allow for potential future roadway expansion (partner project). During project development, additional traffic modeling and consideration of all transportation modes at Upper Boones Ferry Road Station will guide project and partner improvements towards the best long-term regional solution

PROJECT SCOPE

- Upper Boones Ferry Road Station and light rail infrastructure
- Off-street pick-up/drop-off loop
- SW Upper Boones Ferry Rd streetscape improvements between the existing rail crossing and I-5 for people walking, biking and accessing transit
- · Short-term and long-term bike parking
- Revised bus stop routing and stop locations
- · SW Sequoia Pkwy and SW Upper Boones Ferry Rd intersection improvements



Viewpoint of station vision rendering

New or Enhanced Project Elements

Roadway Sidewalk

New/Enhanced Signal

Gated Crossing

Crosswalk

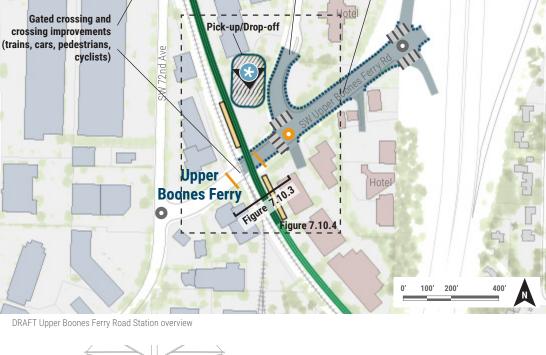
Enhanced Ped. Crossing

Project Feature

Existing Assets



at major road



Roadway reconstruction

along SW Sequoia Pkwy

Roadway reconstruction along SW Upper Boones

Ferry Rd

Figure 7.10.2



Existing PNWR Railroad

Light Rail Platform (north of SW Upper Boones Ferry Road)

Trackway

Light Rail Platform

Existing Parking

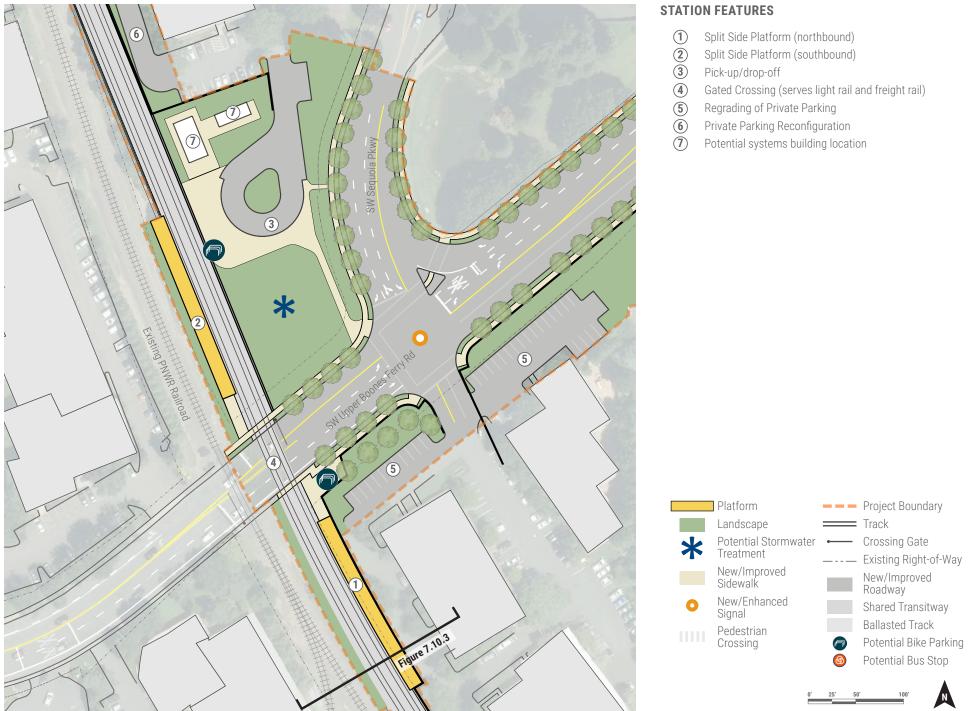


Figure 7.10.4 DRAFT Upper Boones Ferry Road Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION ACCESS PROJECTS

72nd Sidewalks & Bikeway

Carman Sidewalks & Bikeway

PARTNER-LED PROJECTS

72nd Ave Corridor Study (City of Tigard TSP

Extension of Fanno Creek Trail*

Upper Boones Ferry Rd road widening (City of Tigard TSP 2035)

^{*} These projects are located within the 1/2 mile walkshed of the station, but are not captured within the maps extents



100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



Adapting Existing Places

Property owners may work with the city and mobility providers on solutions such as in a parking lot or landscaped area.



Adapting the Right-of-Way

Future mobility solutions may be located along the curb or along the sidewalk within a public or private street - outside of the project boundary.

There is estimated demand within the station area for the following private mobility services:



Circulator Shuttles

TRANSIT-ORIENTED DEVELOPMENT

To be determined



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.

7.11 Bridgeport Transit Center



7,800 Projected Daily Trips

- 23 Percent Walk 50 Percent Transfer
- 27 Percent Auto



The Bridgeport Transit Center will be more than just a light rail station. It will be an iconic mobility node and visible gateway to those traveling across the region. With a major Park & Ride, bus transfer center, access to I-5 and walkable connections to Bridgeport Village, the station will serve a wide range of communities in the southern metro area. Adjacent to the Bridgeport Village commercial center are numerous potential development sites. The area is set to become a new central hub of activity.

PROJECT BENEFITS



MOVE AND CONNECT PEOPLE

- Park & Ride provides parking for people riding light rail and bus
- · Safer pedestrian access across SW 72nd Ave and Lower Boones Ferry Rd
- Planned connections to TriMet bus lines 36, 76, 96, 97, SMART bus line, and ODOT point bus

MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- · Access to City of Durham, Bryant neighborhood and Bridgeport Village shopping center
- · Access to Durham City Park, Heron Grove City Park and Tualatin Greenway

PRESERVE AND RESTORE NATURAL ENVIRONMENT

• Enhanced tree canopy and stormwater treatment at station





Planned connections to TriMet bus lines 36, 76, 96, 97, SMART bus line and ODOT point bus

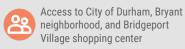




Figure 7.11.1

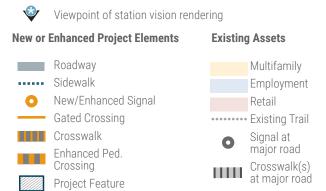
DRAFT Bridgeport Transit Center Vision

DESIGN VALUES: APPLYING COMMUNITY FFFDBACK IN ONGOING DESIGN

- Designs to address traffic congestion and improve connectivity to I-5 and mobility in Tualatin
- · Designs should support connections to downtown Tualatin and other communities in the south, and not preclude a potential future light rail extension
- · Facilities to support multimodal travel behaviors should be integrated into station area streetscape designs to prioritize walking, biking, bus transfers, car share and micromobility options such as pick-up/drop-off and scooters
- Designs to support safe access to transit for people walking and biking across busy streets
- Type, size and location of Park & Ride will be finalized to support access to transit, address vehicular circulation and support potential development opportunities. Design of Transit Center/ Park & Ride should celebrate light rail and the surrounding Tualatin community through placemaking opportunities
- Designs shall facilitate development to shift land use toward walking and biking within transit-oriented development, to attract private sector investment, advance project affordable housing goals and support Tualatin's land use vision

PROJECT SCOPE

- · Bridgeport Transit Center and light rail infrastructure
- Off-street pick-up/drop-off loop
- Bridgeport Transit Center/Park & Ride (up to 960 spaces)
- Pedestrian bridge between light rail platforms and Transit Center/Park & Ride
- · Short-term and long-term bike parking
- Revised bus stop routing and stop locations
- Intersection improvements at SW 72nd Ave and Bridgeport Transit Center/Park & Ride access drive



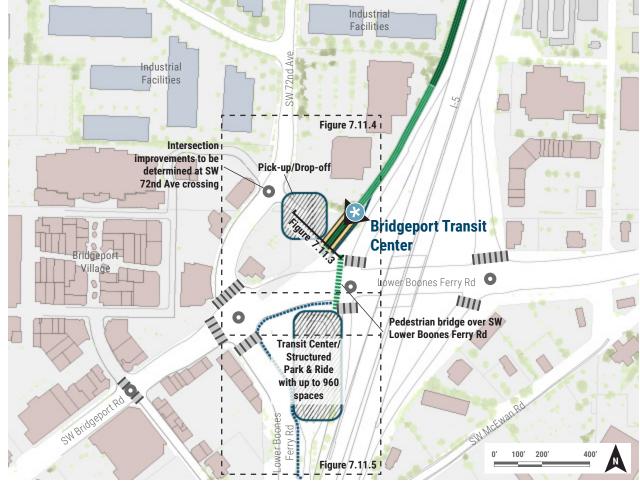
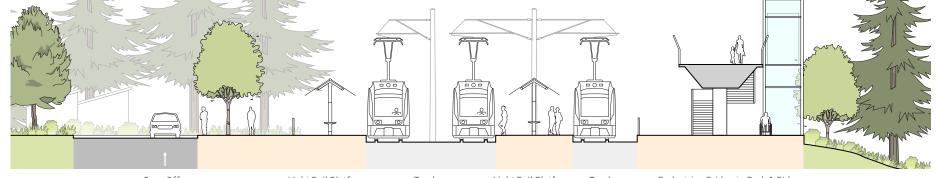


Figure 7.11.2 DRAFT Bridgeport Transit Center Station overview



Drop Off Light Rail Platform Trackway Light Rail Platform Trackway Pedestrian Bridge to Park & Ride



Figure 7.11.4

DRAFT Bridgeport Transit Center Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

STATION FEATURES

- (1) Split platforms
- (2) Pick-up/drop-off
- 3 Transit Center/Structured Park & Ride with up to 960 spaces
- Pedestrian bridge connecting station to Transit Center/ Park & Ride
- **5** Potential systems building location
- 6 Tail track for additional train at end of line
- D Stair and elevator access to pedestrian bridge
- 8 Accessible ramp entries
- Stairs to upper levels of structure









Figure 7.11.5 DRAFT Bridgeport Transit Center Plan and Park & Ride

TRANSIT CENTER FEATURES

- 1 Transit Center at ground level (8 bus bays)
- Vehicular entrance for Structured Park & Ride with up to 960 spaces
- 3 Stairs to upper levels of structure
- **4** Stairs and elevator to upper levels of structure and pedestrian bridge
- **(5)** Traffic mitigation at intersection to be determined
- 6 No existing or new pedestrian crossing on NE side of intersection
- (7) Vehicular access to Park & Ride and bus facilities, with signalized intersection







STATION ACCESS PROJECTS

-25- 72nd Sidewalks and Bikeway

29 Lower Boones Ferry and Boones Ferry Bikeway

PARTNER-LED PROJECTS

-D- 72nd Ave Corridor Study (City of Tigard TSP 2035)



Figure 7.11.6

Bridgeport Transit Center Station Access Projects and Potential Partnering

1/2 Mile Station Walkshed
100/200/400' from Station

FUTURE OPPORTUNITIES

Based on station area context, project partners will explore the following:



Public Realm

Mobility solutions may be integrated in an area set aside for stormwater needs, systems buildings or hardscaped plaza.



Adapting Park & Rides

Mobility solutions may be introduced into dedicated Park & Rides, such as pick-up/drop-off zones or space for other mobility services.

There is estimated demand within the station area for the following private mobility services:



Circulator Shuttle



On-Demand Ridehailing



Carshare

TRANSIT-ORIENTED DEVELOPMENT

Planning for development opportunities will continue to be explored in collaboration with the City of Tualatin.

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Special thanks

To the many community members who provided meaningful input on the Southwest Corridor Light Rail Project

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Additional acknowledgments to the Metro-led Steering Committee members during the projects planning phase (2011-2018) and the 11 cities and agencies who contributed to defining the Locally Preferred Alternative: Metro, TriMet, Oregon Department of Transportation, Washington County, City of Portland, City of Tigard, City of Tualatin, City of Durham, King City, City of Sherwood and the City of Beaverton.

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List of Appendices

A number of reports, documents and plans have influenced the content of this Conceptual Design Report. The documents can also be found on the project website (trimet.org/swcorridor):

А	References				
В	Conceptual Design Report; (Winter 2020) DRAFT Principles, Goals and Objectives DRAFT Project Metrics				
С	Affordable Housing Memorandum of Understanding (October 2018)				
D	Steering Committee Locally Preferred Alternative (August 2018)				
Е	City of Portland - Resolution 37393, Exhibit C (November 2018)				
F	City of Portland - Southwest Corridor Inclusive Communities Project Summary (updated June 2020)				
G	City of Tigard Memorandum of Understanding and Map (November 2018)				
Н	DRAFT Conceptual Design Report - Engagement Summary (Updated July 2, 2020)				
	TriMet Transit-Oriented Development (TOD) Guidelines (adopted May 27, 2020)				
J	Southwest Corridor Light Rail Project - Station Existing Conditions Brief (June 2020)				

Appendix A

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Appendix B

Conceptual Design Report - DRAFT Principles, Goals, and Objectives

PRINCIPLE		GOALS & O	BJECTIVES	
MOVE AND CONNECT PEOPLE Travel Patron Experience Active Partnerships First & Last Mile Connections	Goal 1: Design and implement a safe, dependable transit project Design a fiscally stable project to qualify for both a competitive FTA rating and local financial commitment Locale stations to decrease travel distances between people and attractions Apply a range of tools to the corridor to optimize ridership Prioritize customer safety and apply principles of Crime Prevention through Environmental Design (CPTED) to the alignment and its stations. Facilitate local connections and transfers to Light Rail service	Goal 2: Provide an attractive and desirable transit experience • Design stations and vehicle elements for universal access • Provide convenient and intuitive station access points • Include consistent system elements and wayfinding that is easily identifiable to riders • Incorporate durable, easy to clean materials to maximize quality and extend service life • Optimize facilities for human interaction, usability, and comfort. • Design stations for clear and easy fare payment	Goal 3: Design to adapt to future modes and technology • As feasible, pilot and incorporate new technologies to build resilience to industry change and incorporate chanaina access modes • Pursue strategic partnerships to creatively address first-last mile connections	modal transportation network
MAINTAIN AND CREATE EQUITABLE COMMUNITIES Community Resource Preservation Access to Opportunity Inclusive Community Vision	Goal 1: Maintain and strengthen existing community and cultural resources Protect existing affordable housing Preserve identified historic resources Prevent cultural displacement of low income and disadvantaged communities of color, especially established nodes of immigrant and latino populations Celebrate diversity through contextual design elements that respond to the corridor's varied culture, history and community Seek input from local stakeholders -to identify assets within the corridor and encourage access to them Minimize footprint of transportation facilities	Goal 2: Promote equitable access to community resources, commerce, and transit benefits Connect to existing regional job centers Support mixed income and mixed housing developments within walking distance to stations Support regional initiatives to identify and create affordable housing opportunities on publicly owned land near proposed station sites	Goal 3: Support creation of welcoming, intuitive spaces for all Design stations as high quality public places that will inspire future public and private investment Design pedestrian friendly, comfortable and attractive streetscapes Support city adopted land use plans and initiatives	Goal 4: Generate inclusive economic benefits for people and businesses in the corridor • Support small, local and growing businesses • Catalyze industry, employment and commercial uses near transit stations • Minimize construction impacts • Maintain transparency to inform stakeholders of project benefits, impacts, opportunities, budget, and schedule
PRESERVE AND RESTORE THE NATURAL ENVIRONMENT Natural Resource Preservation Ecological Design Open Space Access	Goal 1: Preserve wildlife habitat and connectivity to the regional ecosystem Protect and improve existing plant, aquatic, and animal habitat Avoid floodplains and potential flooding areas for station location and/or access Support existing efforts to re-create natural areas Avoid, minimize, and mitigate short-and long-term noise and light impacts on station adjacent natural areas Avoid, minimize and mitigate infrastructure footprint in wooded and natural areas	Goal 2: Be ecologically responsive and support the natural environment Seek opportunities to incorporate design treatments that enhance we tlands and riparian areas Incorporate stormwater management best practices into project design to improve water quality and stream health Where appropriate, design using native plants Provide educational opportunities to highlight the ecosystem value of the corridor	Goal 3: Improve connections to nature, recreation, and green spaces • Where appropriate incorporate new and maintain existing green and open space into the project • Support opportunities to improve access to existing and planned natural areas and open spaces • Maximize opportunities for future tree canopy in project planting design	
DESIGN FOR THE FUTURE Flexible Infrastructure Sustainability Emergency Response	Goal 1: Build robust, flexible infrastructure to support community sustainability Fosterregional and jurisdictional collaborations to integrate infrastructure into neighborhoods and leverage related investments Acknowledge and design for development adaptability Design for a changing climate Apply best practices and standards to manage corridor facilities, property, operations and maintenance Consider project life-cycle when making infrastructure design choices	Goal 2: Minimize the Project's carbon footprint Where appropriate, include low-energy technologies and renewable energies such as wind and solar Encourage low-carbon patterns of development Optimize design for material efficiency and specify low-embodied-carbon materials, including those with shorter travel distances Encourage the use of low-carbon modes of transportation to access the project	Goal 3: Respond to and minimize the impact of potential future hazards Design to minimize impacts from known natural hazards Locate and design the project to withstand extreme weather events Plan for emergency response Where appropriate, design to minimize the potential for human-caused threats	

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
	Goal 1: Design and implement a safe, dependable transit	Design a fiscally stable project to qualify for both a competitive FTA rating and local financial commitment	TriMet	FTA new starts	achieve Federal grant for construction
	project	Locate stations to decrease travel distances between people and attractions	TriMet/Cities	Local land use plans (Barbur Concept plan, Link Tualatin)	100% of stations located within walk distance of Land Use planned station locations
		Apply a range of tools to the corridor to optimize ridership	TriMet	TM Service enhancement plan, mobility hubs framework, Shared transit way	Ridership
		 Prioritize customer safety and apply principles of Crime Prevention through Environmental Design (CPTED) to the alignment and its stations. 	TriMet	TM design criteria/CPTED	Achieve Safety Certification
щ		Facilitate local connections and transfers to Light Rail service	TriMet	Non-integrated station access projects. Southwest in Motion projects?	# of projects implemented.
OPL	Goal 2: Provide an attractive and desirable transit experience	Design stations and vehicle elements for universal access	TriMet	TM design criteria/ADA	Achieve Safety Certification
- PE		Provide convenient and intuitive station access points	TriMet	TM design criteria/CPTED	Achieve Safety Certification
		Include consistent system elements and wayfinding that is easily identifiable to riders	TriMet	TM design criteria	Achieve Safety Certification
Z		Incorporate durable, easy to clean materials to maximize quality and extend service life	TriMet	TM design criteria	Sustainability Report (Target)
S		Optimize facilities for human interaction, usability, and comfort.	TriMet	TM design criteria	Achieve Safety Certification
		Design stations for clear and easy fare payment	TriMet	TM design criteria	Achieve Safety Certification
MOVE AND CONNECT PEOPLI	Goal 3: Design to adapt to future modes and technology	As feasible, pilot and incorporate new technologies to build resilience to industry change and incorporate changing access modes	TriMet & Agency Partners	TM Business plan 2020-24 Goal 3, Objective 25	Target at least one pilot project implemented on SWC
O _M		Pursue strategic partnerships to creatively address first-last mile connections	TriMet	TM Business plan 2020-24 Goal 1, Objective 2 Mobility Hubs framework	Ridership & # of mobility elements implemented
_	Goal 4: Support the completion of a multi- modal transportation network	Apply a project station access modal hierarchy to protect vulnerable users (pedestrian, bike) and prioritize shared use modes (bus, shuttle, car pool)	TriMet	TM design Criteria Chapter 6 SW Service enhancement Plan	Achieve Safety Certification Implement Bus service plan at project opening
		Provide facilities for active transportation users at appropriate station sites	TriMet	Mobility Hub framework	# of station implementing mobility hub tools
		Maintain vehicular capacity of the corridor and minimize traffic diversion through neighborhoods	TriMet	FEIS	Compliance with defined thresholds and 10% implementation of proposed mitigations in the Record of Decision
		Support partner projects that enhance station access and increase transit use	Partner agencies (Wash Co, Portland, Tigard, Tualatin, ODOT)	Station access project list	Fund and Implement at least one betterment project in each city jurisdiction

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
	Goal 1: Maintain and strengthen existing community and cultural resources	Protect existing affordable housing	TriMet	FEIS	#of existing affordable housing units within each station area
		Preserve identified historic resources	TriMet	FEIS- Section 106	Finalize memorandum of agreement with SHPO/FTA and TriMet with the publication of FEIS
		Prevent cultural displacement of law income and disadvantaged communities of color, especially established nodes of immigrant and Latino populations	Partner Agencies TriMet	SWEDS/BPS Inclusive Community plans FEIS?	Achieve BPS development targets for BTC moster plan % of existing resources retained
		Celebrate diversity through contextual design elements that respond to the corridor's varied culture, history and community	TriMet	Design review and TriMet's Art program	Achieve land use design review approvals
TIES		Seek input from local stakeholders - to identify assets within the corridor and encourage access to them	TriMet & Agency Partners	Community Outreach plan	# of community events/meetings held. # of groups met with to seek input.
		Minimize footprint of transportation facilities	TriMet	TriMet Design Criteria	Sustainability plan
		Connect to existing regional job centers	TriMet & Agency Partners	FEIS	Ridership
W	Goal 2: Promote equitable access to community resources,	Support mixed income and mixed- housing developments within walking distance to stations	TriMet	TM business plan Goal 2 Objective 7	Document % and/or volume of housing development and employment within walking distance of Station
EQUITABLE COMMUNITIES	commerce, and transit benefits	Support regional initiatives to identify and create affordable housing opportunities on publicly owned land near proposed station sites	TriMet & Agency Partners	Affordable Housing MOU	Implement a Minimum 700 new units
ABLE	Goal 3: Support creation of welcoming, intuitive spaces for all	Design stations as high quality public places that will inspire future public and private investment	TriMet & Agency Partners	TM design Criteria and CPTED design principles	Safety Certification
11/		Design pedestrian friendly, comfortable and attractive streetscapes	Jurisdictional agency	Agency design criteria	Secure local land use approvals
ne		Support city adopted land use plans and initiatives	TriMet & Agency Partners	Agency design criteria	Secure local land use approvals
EC	Goal 4: Generate inclusive economic benefits for people and businesses in the corridor	Preserve and support growth of small, local and growing businesses including targeting and increase recruitment of DBE/MBE certified firms for project contracting	TriMet	Contract DBE plans and worker apprentice requirements	% of DBE invoicing on Design & Construction contracts
		Catalyze industry, employment and commercial uses near transit stations	TriMet & Agency Partners	TM Business plan Goal 2, Objective 9	Percent increase of employment and retail accessible by transit
		Minimize construction impacts	TriMet	Conduct of construction plan	Approved plan
		Maintain transparency to inform stakeholders of project benefits, impacts, opportunities, budget, and schedule	TriMet	Community Outreach plan	# of community events/meetings held. # of groups met with to seek input.

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
	Goal 1: Preserve wildlife habitat and connectivity to the regional ecosystem	Protect and improve existing plant, aquatic, and animal habitat	TriMet	Avoidance of high ecological value sites and establishment of protective buffer zones # of habitat functions addressed to enhance net area and quality of functional habitat	Approved environmental land use review and state and local permits Sustainability plan (Envision?)
		Avoid floodplains and potential flooding areas for station location and/or access	TriMet	FEIS Avoidance of floodplain, establishment of protective buffer zones, and mitigations of all impacts	Publication of the FEIS which evaluates floodplains. Secure permit approvals.
NATURAL ENVIRONMENT		Support existing efforts to re-create natural areas	Agency Partners	FEIS mitigation plans	Sustainability plan and Local action plan. % or SF of habitat and natural area created. (envision?)
VN O		Avoid, minimize, and mitigate short- and long-term noise and light impacts on station adjacent natural areas	TriMet	FEIS mitigation of identified noise impacts	Implement of mitigation identified in the Record of Decision.
/R		Avoid, minimize and mitigate infrastructure footprint in wooded and natural areas	TriMet	FEIS SF of mitigation and proposed mitigations	Implement defined project and mitigation defined in the Record of Decision.
N N		Seek opportunities to incorporate design treatments that enhance wetlands and riparian areas	TriMet, Agency, and non-profit Partners	Local regulations and permits	Achieve permit approvals
SAL	Goal 2: Be ecologically responsive and support the natural environment	Incorporate stormwater management best practices into project design to improve water quality and stream health	TriMet & Agency Partners	degree to which project infiltrates, evapotranspirates, reuses, and/or treats stormwater over existing conditions	Achieve permit approvals
		Where appropriate, design using native plants	TriMet & Agency Partners	Local regulations and permits	Achieve permit approvals
IAT		Provide educational opportunities to highlight the ecosystem value of the corridor	Agency Partners	Degree to which educational opportunities integrated	Fund and implementation of betterment projects
Z	Goal 3: Improve connections to nature, recreation, and green spaces • Where are new and m open space • Support a access to e natural are • Maximize	Where appropriate incorporate new and maintain existing green and open space into the project	TriMet & Agency partners	SF of new green/open space created (Project = station plazas, stormwater habitat)	Fund and implement betterment projects
		Support opportunities to improve access to existing and planned natural areas and open spaces	Agency Partners	#/\$ value of access improvements implemented	Fund and implement betterment projects
		Maximize opportunities for future free canopy in project planting design	TriMet & Agency partners	Local Tree regulations and Mitigations # of trees planted categorized by canopy size (large, medium canopy trees)	Achieve permit approvals and implement mitigations

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
	Goal 1: Build robust, flexible infrastructure to support community sustainability	Foster regional and jurisdictional collaborations to integrate infrastructure into neighborhoods and leverage related investments	Partner Agencies	Sustainability Plan and local action plan	# of meetings held. # of partners meet with.
		Acknowledge and design for development adaptability	Partner Agencies	Sustainability Plan	# of structures/sites designed for adaptability
		Design for a changing climate	TriMet	Sustainability Plan	Target; by 2035 - 45% below 1990 emission levels
		Apply best practices and standards to manage corridor facilities, property, operations and maintenance	TriMet	Sustainability Plan	# of strategies implemented that reduce energy consumption and emissions
DESIGN FOR THE FUTURE		Consider project life-cycle when making infrastructure design choices	TriMet	Sustainability Plan	% of total waste diverted from project (# of trees repurposed?) quantity of durable materials installed (stainless steel, weathered steel, etc)
IE FL	Goal 2: Minimize the Project's carbon footprint	Where appropriate, include low- energy technologies and renewable energies such as wind and solar	TriMet & Partners	Sustainability Plan/Climate action Plan	% of operational energy reductions achieved # of renewable energy point source projects implemented
OR TH		Encourage low-carbon patterns of development	Agency Partners	Climate Action Plan	Complete Station area planning to support density of development/mixed use near stations; tie to Climate action/GHG reductions?
N FC		Optimize design for material efficiency and specify low-embodied- carbon materials, including those with shorter travel distances	TriMet	Sustainability Plan (envision?)	% of site excavations retained onsite or reused on project
ESIG		Encourage the use of low-carbon modes of transportation to access the project	TriMet	Sustainability Plan (envision?)	# of strategies implemented that reduce energy consumption and emissions
	Goal 3: Plan responds to and minimize the impact of potential future hazards	Design to minimize impacts from known natural hazards	TriMet & Partners	TM & Agency Design Criteria Sustainability plan	TM Safety Certification and achieve permit approvals # of parcel, or CF of oil remediated (Haz mat). Acquire DEQ permits.
		Locate and design the project to withstand extreme weather events	TriMet & Partners	TM & Agency Design Criteria	TM Safety Certification and achieve permit approvals
		Plan for emergency response	TriMet & Partners	TM & Agency Design Criteria	TM Safety Certification and achieve permit approvals
		Where appropriate, design to minimize the potential for human- caused threats	TriMet & Partners	TM & Agency Design Criteria	TM Safety Certification and achieve permit approvals

Appendix C

10/08/2018

MEMORANDUM OF UNDERSTANDING

BETWEEN THE CITY OF PORTLAND, CITY OF TIGARD, METRO, WASHINGTON COUNTY AND THE TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON REGARDING SOUTHWEST CORRIDOR AND AFFORDABLE HOUSING

and between the City of Portland, City of Tigard, Washington County, Metro and the Tri-County Metropolitan Transportation District of Oregon ("TriMet") (collectively the "Parties"). day of This Memorandum of Understanding ("MOU") is entered into this

1. Recitals

- Corridor, has been under development since 2012 and includes partners from the Cities of capacity transit investment based on the 2009 Regional High Capacity Transit System "Project"). The Project, which will create a new light rail alignment in the Southwest ("JPACT") identified the Southwest Corridor, connecting downtown Portland to the Portland, Tigard, Tualatin, Durham, Beaverton, Sherwood and King City along with Washington County, the Oregon Department of Transportation, Metro, and TriMet. region's southwest suburbs, as the region's top priority for consideration for a high Plan and the 2014 Regional Transportation Plan ("Southwest Corridor Project" or The Metro Council and the Joint Policy Advisory Committee on Transportation
- The Project will create fast, reliable and affordable transit service that links housing to jobs and educational opportunities, as well as new station areas. The Project schedule anticipates a Full Funding Grant Agreement from the Federal Transit Administration ("FTA") in 2023, with revenue service beginning in 2027. 2
- The Parties have been collaborating on the planning and design of the Project, including economic opportunities, and housing opportunities that will be afforded by improved the transportation needs of the corridor and the associated land use, development, transportation in the corridor.

Page | 1 October 8, 2018

- considering Project alternatives, and established preliminary land use visions for potential Portland has adopted the Barbur Concept Plan, which established a spatial framework for station areas. Tigard's adopted comprehensive plan identifies Downtown Tigard and the Tigard Triangle as districts in which to focus residential and employment growth, supported by transit. 4
- types, business types, and income levels make better station areas. It is also understood The Parties agree that station areas that are active and have a mix of land uses, housing that increased housing, employment opportunities, retail and activity at station areas improve safety and increase ridership. 5
- that the Project should minimize displacement of existing housing stock and businesses in employment and the local community's demand for goods and services. The Parties agree The Parties agree that more housing and businesses near transit service is a benefit to the community, in part because it lowers the cost of transportation. Affordable housing is income households that often rely on the service the most. Stable local businesses are the corridor, while also expanding transit access to current and future households and further benefit to the community, because it provides quality transit access to lower further benefit to the community, because they provide quality transit access to o.
- To that end, Metro is leading the Southwest Equitable Development Strategy process to promote equitable economic development and an affordable housing strategy for the Housing Strategy, which establishes housing targets for the cities, identifies specific corridor, and the Cities of Portland and Tigard have jointly developed an Equitable actions and funding opportunities, and includes possible mechanisms for ongoing coordination and collaboration. 7
- responsibilities herein are contingent upon the continued advancement of the Project, and The Parties desire to work together to promote affordable housing, business stabilization and other development in the corridor in conjunction with the Project. This MOU sets the ultimate receipt of a Full Funding Grant Agreement for Project construction. out a general framework and statement of intent toward those ends, and the ∞i

2. Responsibilities

October 8, 2018

1. Metro

- bond funds to the Southwest Corridor to preserve and fund construction of affordable support Portland and Washington County in allocating an appropriate portion of the If regional voters approve an affordable housing bond, Metro will encourage and housing.
- Metro will participate in the Station Optimization Study being led by TriMet, which is defined in Section 2(e), below. ٠.
- (TOD) along the corridor to support affordable housing and other development, as Metro will seek land acquisition opportunities for Transit Oriented Development available and appropriate. ಳ

2. TriMet

- TriMet will design, finance, construct, and operate the Southwest Corridor Project.
- TriMet will acquire the real property necessary to construct the Project. Property will excess properties and may be developed or disposed of in accordance with applicable may have remnant parcels that are not needed for future transit purposes that become Uniform Relocation Act. At the conclusion of construction of the Project, TriMet be acquired in accordance with applicable state and federal law, including the state and federal law. ۵,
- the amount calculated as the federal share of the fair market value of excess property, amount of the federal share and the amount of the private share through any property development or long-term lease of excess property. Under current FTA regulations, TriMet must require compensation from the entity acquiring the property in at least manner permitted by law and FTA regulations. This may include disposition, joint otherwise convey the excess properties at or near station areas for development in TriMet agrees to take the steps necessary to obtain FTA approval to sell, lease, or but can discount the local share. In the case of disposition of property purchased through a public-private partnership, TriMet will be required to obtain both the disposition. ပ

October 8, 2018

- Project or other transit needs, to the City of Portland for purchase in order supportive density, market rate housing, business stabilization, and mixed by the TriMet and the City of Portland, TriMet will seek FTA approval to parcels to any other party. TriMet and the City of Portland will evaluate use-development, which are all desired at station areas. For each excess property identified as appropriate for housing use, as mutually agreed to to accommodate 600-700 affordable housing units before offering such TriMet will offer residentially developable excess property parcels at sell, lease, or otherwise convey the development rights of the site, as station areas that were purchased, but ultimately not needed, for the such excess properties for affordable housing, but also for transitpermitted under federal and state laws and regulations. -
- Project or other transit needs, to the City of Tigard for purchase in order to supportive density, market rate housing, business stabilization, and mixed use-development, which are all desired at station areas. For each excess property identified as appropriate for housing use, as mutually agreed to by the TriMet and the City of Tigard, TriMet will seek FTA approval to parcels to any other party. TriMet and the City of Tigard will evaluate TriMet will offer residentially developable excess property parcels at accommodate 150-250 affordable housing units before offering such sell, lease, or otherwise convey the development rights of the site, as station areas that were purchased, but ultimately not needed, for the such excess properties for affordable housing, but also for transitpermitted under federal and state laws and regulations :=
- affordable housing by the amount of the local share to facilitate affordable housing development, to the extent allowed under state and federal rules TriMet commits to reduce land value on remnant sites identified for and laws. \equiv
- The parties agree to expedite development to the extent possible. .≥

Page | 4 October 8, 2018

- TriMet will encourage and support Portland and Washington County in allocating an appropriate portion of the Metro housing bond funds, if passed by the voters, the Southwest Corridor to preserve and fund construction of affordable housing. ġ.
- optimization review will also identify potential development sites, including sites various needs, including travel time, reliability, existing land uses, development TriMet will lead a Station Optimization Study when finalizing station locations opportunities and pedestrian and bicycle facilities that connect to stations. The after selection of the Locally Preferred Alternative. The study will balance that may be appropriate for affordable housing along the corridor. نه

3. City of Portland

- The City of Portland will participate and support the Station Optimization Study defined in Section 2(e), above.
- If regional voters approve a Metro affordable housing bond, the City of Portland will work to allocate an appropriate portion of the funds to the Southwest Corridor to preserve and fund construction of affordable housing ض.
- The City of Portland understands that it may be asked to provide funds to address the financing gaps for affordable housing projects along the corridor. ပ
- utilizing additional revenue sources or methods to promote business stabilization, employment opportunities, and preservation of community-serving organizations. In order to promote the addition of jobs and community resources at or near station areas, the City of Portland will explore the feasibility of creating or ij
- The City of Portland will work to implement the Equitable Housing Strategy jointly developed with Tigard. This includes: ย่
- Exploring the feasibility of an Urban Renewal Area along SW Barbur;
- Considering sources of money and financial tools to convert some of the corridor's 372 unregulated apartment buildings into regulated rent/income-restricted buildings; :=

Page | 5 October 8, 2018

- Identifying sites for new affordable housing development along the corridor, including at sites that are currently publicly owned, and locations that may not be impacted by the Project; :=
- Continuing to conduct pre-development studies of potential sites and development prototypes; .≥
- Considering early acquisition of suitable property if identified; >
- Continuing to support nongovernmental stakeholders in the corridor as they explore forming a collaborative structure to facilitate equitable ۲.
- housing, including by continuing to implement System Development Charge waivers for housing projects providing units at 60 percent of Considering new ways to lower the cost of developing affordable Median Family Income ("MFI") or less.
- Coordinating across bureaus (Housing, Planning, etc.) to promote affordable housing and to assist developers with getting access to resources (including financial resources) for affordable housing development, including predevelopment and gap financing. viii.
- converting some single-family zoning near station areas to multifamily locations become more certain, and increase densities as appropriate Reviewing zoning patterns along the corridor, particularly as station zoning, and increasing height and floor area ratios in mixed use and along the corridor and at station areas, including consideration of multifamily areas. .<u>×</u>
- Continuing to expand anti-displacement services to homeowners and renters citywide, and exploring additional tenant protections; ×
- development projects on excess property in a timely manner in order to minimize active station areas and transit ridership by reducing vacant property along the the time such property sits vacant along the alignment. Doing so will support To the extent possible, the City of Portland will facilitate construction of land 4

Page | 6 October 8, 2018

- alignment and expediting housing, active station areas, density, activity, and transit ridership.
- endeavor to create mixed use and mixed income development at station areas, in a To the extent possible while also meeting affordable housing goals, the City will manner that supports local businesses and local demand for goods and services, and to develop property in a way that is oriented toward the light rail line and station areas ьi
- Facilities will be required in the right-of-way, and on abutting property. The City City of Portland recognizes that stormwater management will be required along facility design, and integrate those designs into urban design plans, in order to will actively engage with project partners to promote innovative and effective maximize developable property and promote active mixed-use station areas. SW Barbur as the street is reconstructed, and as abutting sites redevelop. Ę.
- MOU shall include a statement that each development is occurring in affiliation City promotional materials for affordable housing developed pursuant to this with the Project and with the assistance of TriMet.
- The City will work with TriMet to ensure high ridership in the Southwest Corridor by working reduce bus and train travel times. •
- and Further, the City will consider appropriate additional zoning further re-zoning in the station areas of all other existing light rail lines (Blue, transit station area typologies in Figure 3-4 of the 2035 Comprehensive Plan, The City will seek funding to develop and consider appropriate proposals for Red, Green, Yellow and Orange Lines). Proposals will take into account the prohibitions for mini storage units near all transit stations. related policies. ند

. City of Tigard

The City of Tigard will participate and support the Station Optimization Study, as defined in Section 2(e), above. October 8, 2018

- work with Washington County to allocate an appropriate portion of the funds to the Southwest Corridor to preserve and fund construction of affordable housing. If regional voters approve an affordable housing bond, the City of Tigard will þ.
- provide funds to address the financing gaps for affordable housing projects along the The City of Tigard understands that it and Washington County may be asked to corridor. ပ
- The City of Tigard will work to implement the Equitable Housing Strategy jointly developed with Portland. This includes: o
- Considering sources of money and financial tools to convert some of the corridor's unregulated apartment buildings in Tigard into regulated rent/income-restricted buildings;
- Identifying sites for new affordable housing development along the corridor, including at sites that are currently publicly owned, and in locations that may not be impacted by the Project; =
- iii. Continuing pre-development studies of potential sites;
- Considering early acquisition of suitable property if identified; .≥
- Continuing to support nongovernmental stakeholders in the corridor as they explore forming a collaborative structure to facilitate equitable TOD; >
- Development Charge exemptions for housing projects providing units at Considering new ways to lower the cost of constructing affordable housing, including by continuing to implement local System 60 percent of Area Median Family Income ("MFI") or less.
- getting access to resources (including financial resources) for affordable Working to promote affordable housing and to assist developers with housing development; ×Ξ.
- ocations become more certain, and increase densities as appropriate Reviewing zoning patterns along the corridor, particularly as station along the corridor and at station areas. viii.
- ix. Continuing to explore additional tenant protections.

Page | 8 October 8, 2018

- The City of Tigard will work to increase densities as appropriate along the corridor to support transit-oriented development and affordable housing. ö
- development projects on excess property in a timely manner in order to minimize the and expediting housing, active station areas, density, activity, and transit ridership. station areas and transit ridership by reducing vacant property along the alignment time such property sits vacant along the alignment. Doing so will support active To the extent possible, the City of Tigard will facilitate construction of land Ŧ.
- City promotional materials for affordable housing developed pursuant to this MOU shall include a statement that each development is occurring in affiliation with the Project and with the assistance of TriMet. ьi
- The City will work with TriMet to ensure high ridership in the Southwest Corridor by working reduce bus and train travel times. ij

5. Washington County

- Washington County will participate and support the Station Optimization Study defined in Section 2(e), above.
- work with Tigard to allocate an appropriate portion of the funds to the Southwest If regional voters approve an affordable housing bond, Washington County will Corridor to preserve and fund construction of affordable housing. ف
- Washington County will identify potential sites for affordable housing along the corridor. ರ
- in housing development within the corridor as resources, including but not limited to Washington County and the Housing Authority of Washington County will partner staff, funding, and land availability, allow. j
- getting access to resources (including financial resources) for affordable housing Washington County will promote affordable housing and assist developers with development in the corridor. ö

October 8, 2018

- excess property in a timely manner. Doing so will support active station areas and transit ridership by reducing vacant property along the alignment and expediting Washington County will facilitate construction of land development projects on To the extent possible, Washington County and the Housing Authority of housing, active station areas, density, activity, and transit ridership. 4:
- constructing affordable housing, including exempting housing projects that provide Washington County will explore opportunities that can increase available funding housing for those making 60 percent or less of Area Median Family Income from for affordable housing in the corridor and will consider ways to lower the cost of System Development Charges, ti
- pursuant to this MOU shall include a statement that each development is occurring Washington County promotional materials for affordable housing developed in affiliation with the Project and with the assistance of TriMet. 4
- Coordination. The parties agree to establish an ongoing structure for staff-level coordination corridor over the course of project planning and implementation. This mechanism should be distinct from, but in tandem with any mechanisms used for the light rail project or the SW of housing, economic development, and community development implementation in the Equitable Development Strategy planning processes. 6.
- private philanthropic organizations, and organizations representing renters and communities organizations and businesses within the corridor will occur through the inter-jurisdictional of color, among others. The parties agree coordinated meaningful engagement with these Corridor. This includes affordable housing providers and funders, market rate developers, organizations have been involved in shaping the Equitable Housing Strategy for the SW Collaboration with Other Community Partners. A variety of non-governmental coordination structure described in Section 6 above. 7
- agreement. In particular, incorporating shared housing targets into a regional agreement, and (over time) developing a shared policy framework for Equitable development in the region. Future Agreements. The parties agree that as the Project evolves, it may make sense to modify this agreement to adapt to changing circumstances, or to add additional points of Toward that end: ∞

Page | 10 October 8, 2018

- The parties agree to discuss and coordinate local housing targets that impact the corridor. ej.
- The parties also agree to discuss the potential for adopting a shared policy statement on light rail station area housing. Ď,
- The parties agree to discuss a new version of this MOU, or a replacement agreement, at about the time TriMet receives the Full Funding Grant Agreement for the Project, which is expected in 2023 ರ
- housing, employment opportunities, and commercial uses at station areas will be important to is a statement of cooperation between the Parties, setting out the Parties' intent to act together the success of the Project and will improve the livability of the region as a whole. This MOU Nature of this agreement. The Parties agree and understand that the development of agreement between the Parties and may not be relied upon as a basis for a contract by estoppel or be the basis for a claim based on detrimental reliance or any other theory. to achieve the goals set out herein. However, this MOU does not created a binding 9

October 8, 2018

City of Portland, Housing Bureau

Shannen Callahan, Interim Director By:

10.10.18 Date:

Tri-City Metropolitan Transportation District of Oregon

Steve Witter, Executive Director Capital Projects

10.9.18 Date:

City of Portland, PBOT

Metro

Chris Warrer, Interim Director By:

By: 4/1/v Elissa Gertler, Planning Director

Date: 10/9 // 8

81-01-01

Date:

Prosper Portland

Sustainability

Joe Zelnder, Inferim Director

City of Portland, Planning and

Date:

berly Brandm, Executive Director

City of Tigard

By: Meek Kenny Asher, Director Community Development

Date: 10/4/10

Washington County, Land use and Transportation

By:
Andrew Singelakis, Director Land Use and Transportation

Washington County, Housing Services

Date: OCT 9, 2018

By: Komi, f. Kalevor, Director of Housing Services

Date: 10/9/2018



Exhibit A

37393

Steering Committee Preferred Alternative Report Southwest Corridor Light Rail Project

1. RECOMMENDATION

for the proposed Southwest Corridor light rail project. The Preferred Alternative must include the transit This report presents the Southwest Corridor Steering Committee's recommended Preferred Alternative mode (light rail), route, stations and termini.

Summary of alignment chosen

extends from downtown Portland to Bridgeport Village and meets the adopted project Purpose & Need. It is based on the project staff recommendation, analysis documented in the Southwest Corridor Light Rail Project Draft Environmental Impact Statement (EIS), input from the public and agencies, and also This recommendation represents a commitment to identifying a cost-effective transit project that takes into consideration the Federal Transit Administration's (FTA) rating criteria for large transit

The recommended Preferred Alternative is shown on Figure 1 and includes the following alternatives and refinements described in the Draft EIS:

- Alternative A1, Barbur
- Alternative B2, I-5 Barbur Transit Center to 60th
- Refinement 2, Taylors Ferry I-5 Overcrossing, which modifies Alternative B2*
- Refinement 4, Barbur Undercrossing, which modifies Alternative B2
- Alternative C2, Ash to Railroad
- o Refinement 5, Elmhurst, which modifies Alternative C2
- Refinement 6, Tigard Transit Center Station East of Hall, which modifies Alternative C2

*The committee recommends a preference for Refinement 2, but with Alternative B2 as studied in the Draft EIS, or a modification of either, remaining in consideration.

committee informed on its progress and contents. If the design and environmental review finds a "fatal plan for further design and environmental review, keeping members of this or a subsequent steering In addition, the committee directs staff to continue to work together to evolve and finalize the work flaw" with any project component, staff will present the issue to TriMet's future project steering committee for guidance. This Preferred Alternative would provide a number of benefits to the SW Corridor and the Portland region. These include:

- Portland that will maintain its travel time even as the population grows by 70,000 in the corridor Providing a reliable, fast travel option between Bridgeport, Tigard, SW Portland and downtown
- Serving a projected 43,000 average weekday riders in 2035.
- Carrying 1 in 5 southbound commuters leaving downtown Portland in the PM peak in 2035.
- Oregon Health & Science University (OHSU), National University of Natural Medicine (NUNM) Connecting existing and future jobs and homes, along with Portland State University (PSU), and Portland Community College-Sylvania (PCC).
- County, including new transit centers and park and rides to enable people to easily switch Providing a new transit "backbone" for the local bus system in southeastern Washington between travel modes.
- opportunities on Marquam Hill at OHSU, the Veterans Administration and Shriners hospitals. Creating a new pedestrian connection to the jobs, medical services and educational
- Creating an improved bike and pedestrian link to PCC Sylvania campus and a quick shuttle connection between the campus and MAX.
- Building a shared transitway in South Portland to allow buses from Hillsdale to bypass congestion to more quickly reach downtown Portland, and vice versa.
- Building continuous sidewalks and bike lanes where light rail would be located within an existing roadway, such as on SW Barbur Boulevard and SW 70th Avenue.
- aim to accommodate continued population and job growth without a proportionate increase in the Tigard Triangle Strategic Plan, Barbur Concept Plan and 2040 Growth Concept. These plans Creating the required transportation infrastructure to support local and regional plans such as traffic congestion by supporting transit-oriented development.

mplications

Preferred Alternative will also be undertaken under Sections 106, 4(f), 6(f) and 7, which address historic effects, and respond to comments submitted on the Draft EIS. Appropriate review and analysis of the beneficial and adverse effects of the project, commit to mitigation strategies and document their The Preferred Alternative will be evaluated in the Final EIS, which will document the significant resources, parks and endangered species.

the Portland/Tigard city boundary crossing over I-5 and Pacific Highway to enter the Tigard Triangle, and 60th), B4 (I-5 Custer to 60th), C1 (Ash to I-5), C3 (Clinton to I-5), C4 (Clinton to Railroad), C5 (Ash and I-5 recommendation would also end further work on aspects of Alternative B2: a new light rail bridge near Reconfiguration), A2-LA (Naito with Limited Access), Design Refinement 1, B1 (Barbur), B3 (I-5 26th to This recommendation would end further analysis of Alternatives A2-BH (Naito with Bridgehead Branched) and C6 (Wall and I-5 Branched), as well as Refinement 3 (I-5 Undercrossing). This

Exhibit A

traveling adjacent to SW Atlanta Street to connect to SW 70th Avenue; and of Alternative C2: the eastwest alignments along SW Beveland Street and SW Ash Avenue.

Further action recommended

In preparation for the Final EIS, the Steering Committee directs staff to continue work to identify ways to avoid, minimize, or mitigate the adverse effects documented in the Draft EIS, including:

- The relocation of households and businesses along the alignment. TriMet will update designs to avoid or minimize property effects but when that is not possible then property owners, tenants and businesses will receive fair market financial compensation and relocation assistance.
- Increased traffic congestion and queuing at several locations throughout the corridor. Additional traffic analysis will be performed where necessary, including at highway ramp terminals, park and ride accesses, and at-grade light rail crossings of streets. Specific locations may include:
- South Portland in the vicinity of the Bridgehead Reconfiguration
- The Barbur/Bertha/I-5 off-ramp
- The Crossroads area in the vicinity of Refinement 2
- Downtown Tigard in the vicinity of Refinement 6
- The SW Upper Boones Ferry at-grade crossing area, with consideration of a gradeseparate crossing
- The greater Bridgeport area
- Routing over wetlands and floodplains in Tigard, and the generation of additional storm water runoff. These effects must be mitigated to levels that meet federal and local requirements.
- properties receive special federal protection and extra public engagement and analysis will be Various effects on historic resources and public parks, largely in South Portland. These undertaken on these impacts.
- Tree removal along the route, particularly in Segment A.

Design work on the Preferred Alternative should also address detailed questions relating to station locations and designs, park and rides, station connections and other issues. The Southwest Corridor Equitable Development Strategy should continue to explore policy options and investments to address the potential for existing and future displacement, including its current funding of pilot programs to promote housing and workforce development options in SW Corridor.

Exhibit A

2. PREFERRED ALTERNATIVE DESCRIPTION AND RATIONALE

Preferred Alternative route, stations and additional project elements; recaps the options removed from For each of the three segments studied in the Draft EIS, this document describes the recommended further consideration; and explains the rationale for its recommendation.

Segment A: Inner Portland

escription

In Segment A (Inner Portland), which extends from the southern end of the Portland Transit Mall to just north of the intersection of SW Barbur Boulevard and SW Brier Place, the recommended Preferred Alternative includes:

Alternative A1, Barbur

The Preferred Alternative in Segment A is shown in Figure 2.

Green Line light rail trains would continue from Clackamas County, through downtown Portland and into Woods area. In this section, the existing Newbury and Vermont viaducts would be replaced by two new the Southwest Corridor, with tracks diverging from existing MAX tracks just west of the current Lincoln structure east of and parallel to SW Fourth Avenue. The alignment would run along the east side of SW Hooker Street. The alignment would continue running in the center of SW Barbur Boulevard into the Station, at SW Fourth Avenue and SW Lincoln Street. It would cross Interstate 405 (I-405) on a new Barbur Boulevard for several blocks, then transition into the center of SW Barbur Boulevard at SW bridges that would carry four auto lanes, light rail, and improved bike and pedestrian facilities.

Between this point and through the southern end of Segment A and into Segment B, light rail would continue to travel in the center of SW Barbur Boulevard. Continuous bicycle and pedestrian facilities would be constructed along the light rail alignment through Segment A and into Segment B, between downtown Portland and the Barbur Transit Center.

Stations

The Preferred Alternative includes the following stations in Segment A:

- **Gibbs Station**
- Hamilton Station

No park and rides are proposed in Segment A.

Additional Project Elements

The committee recommends the continued consideration of these components of the proposed project:

complex on Marquam Hill. This connector will allow pedestrians to reach the South Waterfront Marquam Hill connection to provide access between the Gibbs light rail station to the medical district via the Darlene Hooley pedestrian bridge. Multiple options for this connection are

included in the Draft EIS; the committee recommends a public process later in 2018 for the selection of the preferred option to be studied in the Final EIS. A shared transitway extending over one mile from downtown Portland on SW Barbur Boulevard, with a stop at SW Gibbs, to improve the speed and reliability of buses traveling between downtown Portland and Hillsdale. The Steering Committee also recommends the following additional action beyond the proposed light rail project:

- neighborhood that has been historically negatively impacted by transportation investments, and with at-grade intersections, improve safety for pedestrians and bicyclists, and make nearly three Parkway in coordination with the light rail project, based on the roadway designs in Alternative streets in the South Portland neighborhood, convert SW Naito Parkway to a surface boulevard Development of a Ross Island Bridgehead Reconfiguration that includes changes to SW Naito A2-BH. This separate project would redirect regional traffic away from local neighborhood acres of land available for development. It would provide benefits to the region and to a could potentially mitigate some traffic impacts caused by the light rail project.
- Study of the proposed Bridgehead Reconfiguration in the Final EIS for the light rail project.
- Identification of funding sources for non-project-related mitigation portions of the Bridgehead Reconfiguration independent of the light rail project. Cost estimates must be developed.

Options considered and removed from consideration

The following alternatives were considered for Segment A:

- Alternative A2-BH, Naito with Bridgehead Reconfiguration
- Alternative A2-LA, Naito with Limited Access

Both of these alternatives would have routed light rail on SW Naito Parkway instead of on SW Barbur Boulevard south of downtown Portland. Refinement 1, East side running in the Woods, which would have constructed a separate light ail structure to avoid the Vermont and Newbury viaducts

Additional alternatives were considered and narrowed by the Steering Committee in project phases completed prior to the initiation of the Draft EIS

Rationale for selection

Compared to Alternatives A2-BH and A2-LA, Alternative A1 would:

- Provide faster light rail travel times
- Provide a shorter connection to Marquam Hill
- Result in fewer displacements of residents, businesses and employees and fewer impacts on potentially protected historic resources

Compared to Refinement 1, Alternative A1 would:

- Replace the Vermont and Newbury viaducts, wood structures built in 1934, that compromise the safety of bicyclists and pedestrians due to their narrow widths
- Provide a continuous route for light rail, bicyclists, and pedestrians that would not require an atgrade crossing of northbound SW Barbur Boulevard auto lanes
- contribute funding toward the replacement of the viaducts. This funding could be considered Be the result of an agreement between ODOT and City of Portland in which ODOT would separate from project costs

Segment B: Outer Portland

Description

intersection of SW 68th Avenue and SW Atlanta Street, just west of the Portland/Tigard city boundary, In Segment B, Outer Portland, which extends from SW Barbur Boulevard at SW Brier Place to the the recommended Preferred Alternative includes:

- Alternative B2, I-5 Barbur Transit Center to 60th
- Refinement 2, Taylors Ferry I-5 Overcrossing
- Refinement 4, Barbur Undercrossing

The Preferred Alternative in Segment B is shown in Figure 3.

B2, this or the subsequent Steering Committee may recommend replacing Refinement 2 in the Preferred benefits and impacts of Refinement 2 indicates it would not represent an improvement over Alternative Light rail would operate in the center of SW Barbur Boulevard from the northern end of Segment B until southbound lane of SW Barbur Boulevard at a gated crossing to run north of and parallel to SW Taylors Ferry Road. It would cross SW Capitol Highway at grade before turning south on structure to cross over Alternative with Alternative B2 without the refinement, or some other design resulting from continued SW Taylors Ferry Road and I-5 to land between I-5 and SW Barbur Boulevard. If pending analysis of the analysis. Without Refinement 2, light rail would cross the northbound lane of SW Barbur Boulevard at just north of the Barbur Transit Center. At this location, with Refinement 2, light rail would cross the structure crossing I-5, SW Capitol Highway, and SW Barbur Boulevard to land between SW Barbur gated crossing to run between Barbur Transit Center and I-5. It would cross over a new light rail Boulevard and I-5. Where SW Barbur Boulevard crosses I-5 (the northern point of the Tigard Triangle), light rail would cross Highway to transition to the southeast side of the roadway just west of SW 65th Avenue. The alignment and southbound SW Barbur Boulevard/Pacific Highway. The alignment would then cross under Pacific over I-5 on a new parallel structure that would then descend into the space between the I-5 off-ramp would accommodate Highway 99W and I-5 planning envelopes and sight distance standards set by ODOT. Continuous bicycle and pedestrian facilities would be constructed along Barbur Boulevard from Segment A to the Barbur Transit Center.

The Steering Committee recommends further environmental analysis of Refinement 2, with TriMet's future steering committee to determine whether the Final EIS studies Refinement 2, unrefined Alternative B2 or a design variation of either.

Stations and park and rides

The Preferred Alternative includes the following stations and park and rides in Segment B:

- Custer Station
- 19th Station

- 30th Station
- Barbur TC Station and park and ride with up to 825 spaces
- 53rd Station and park and ride with up to 950 spaces
- 68th Station and park and ride with up to 900 spaces (located in overlap of Segments B and C)

Additional Project Elements

The committee recommends the continued consideration of these components of the proposed project:

- 53rd Avenue pedestrian and bicycling improvements between the station and the PCC Sylvania campus
- PCC Sylvania bus shuttle, either between campus and the SW 53rd Avenue Station, or between Barbur Transit Center, PCC Sylvania, and the SW 68th Avenue Station

Options considered and removed from consideration

The following alternatives were considered for Segment B:

- Alternative B1, Barbur, in which the light rail alignment would remain on SW Barbur Boulevard throughout Segment B
- Alternative B3, I-5 26th to 60th, in which light rail would transition from SW Barbur Boulevard to adjacent to I-5 near SW 26th Avenue
- Alternative B4, I-5 Custer to 60th, in which light rail would transition from SW Barbur Boulevard to adjacent to I-5 near SW Custer Street
- Refinement 3, I-5 Undercrossing, in which light rail would cross SW Barbur Boulevard south of the 53rd Station and continue adjacent and east of I-5, until tunneling under I-5 to reach the Tigard Triangle parallel to SW Atlanta Street and connecting to SW 70th Avenue.

Additional alternatives were considered and narrowed by the committee in project phases completed prior to the initiation of the Draft EIS

Rationale for selection

Compared to Alternatives B3 and B4, Alternative B2 would:

- Offer more accessible and visible station locations
- Include more streetscape and safety improvements to SW Barbur Boulevard
- Result in fewer residential displacements
- Better support the Barbur Concept Plan

undesirable for reasons not described in the Draft EIS, namely that the Barbur/Capitol bridge over I-5 Compared to Alternative B1, Alternative B2 would avoid the complex reconstruction of the existing bridge over I-5 at Crossroads. The committee believes Alternative B1 to be largely infeasible and

would need to be reconstructed as the existing structure is not strong enough for light rail trains. The reconstructed bridge would likely:

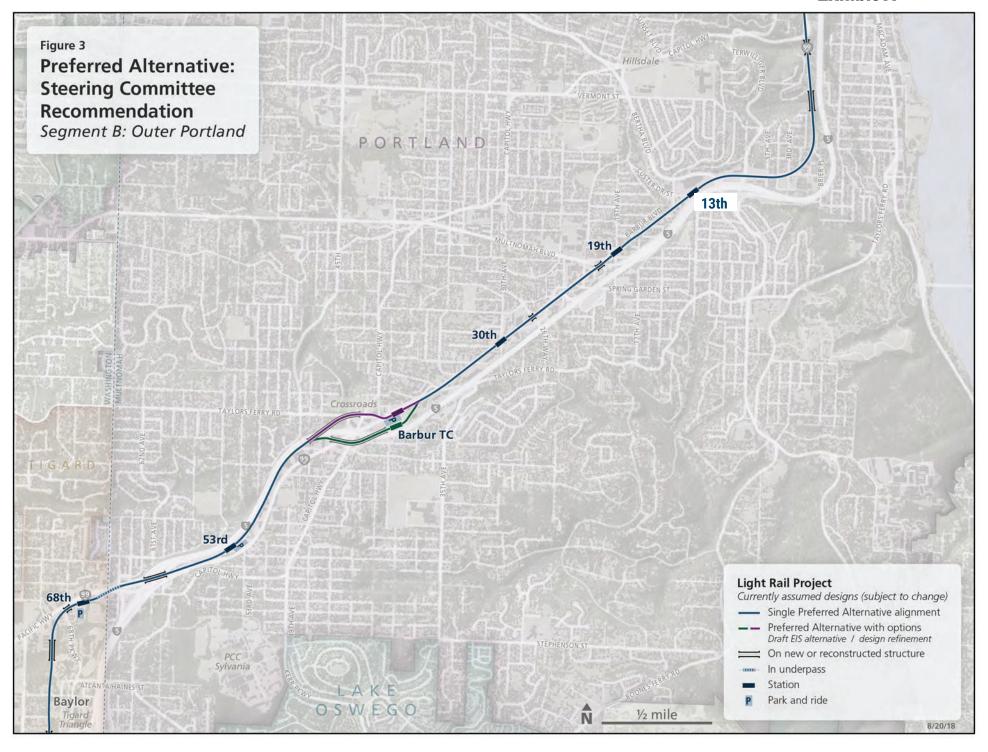
- would also need to be raised. Bike and pedestrian connectivity and safety issues would not be adjacent property accesses as the elevation of streets immediately adjacent to the structure Be rebuilt to be higher to meet current clearance standards and thus create challenges with resolved and may be exacerbated.
- Result in a multiple year closure of SW Capitol Highway (Highway 10) and SW Barbur Boulevard
- length in each direction, which could result in reconstruction of existing on and off ramps, and Require supports (the current structure is a free span), necessitating the widening of I-5 for a may trigger a federal requirement for a full interchange at current standards. These resultant effects would significantly increase the financial cost and adverse effects of the project.

Refinement 2 would, in comparison to Alternative B2 as designed:

- Reduce construction impacts on I-5 by providing a shorter light rail bridge
- Reduce visual impacts because the bridge over I-5 would be lower as it would not cross over SW Barbur Boulevard or SW Capitol Highway
- Reduce costs

Refinement 4 would, in comparison to both Alternative B2 as designed and Refinement

- Result in a faster travel time for transit passengers
- Lower capital costs
- Reduce visual impacts by providing a shorter light rail bridge
- Reduce construction-period traffic impacts on I-5
- Shift the Baylor Station and park and ride to SW 68th Avenue near OR-99W, improving station spacing and park and ride access, and increasing ridership



Segment C: Tigard and Tualatin

Description

In Segment C, which extends from the intersection of SW 68th Place and Pacific Highway to Bridgeport Village in Tualatin, the recommended Preferred Alternative includes:

- Alternative C2, Ash to Railroad
- Refinement 5, Elmhurst
- Refinement 6, Tigard Transit Center Station East of Hall

The Preferred Alignment in Segment C is shown in Figure 4.

This combination of Alternative C2 and refinements represents a Through-Routed alignment direct to Bridgeport Village, and ends consideration of a Branched alignment with separate branches to downtown Tigard and to Bridgeport Village. For more details, see Chapter 2 of the Draft EIS.

alignment bridge over Red Rock Creek connecting to SW 70th Avenue at SW Atlanta Street. Between SW Atlanta Street and SW Elmhurst Street, light rail would operate along the SW 70th Avenue right-of-way, which would include bicycle and pedestrian facilities, and cross over SW Dartmouth Street on structure. would connect to the Tigard Triangle, via a light rail-only bridge over 68th Avenue, with a north-south From the southeast side of SW Barbur Boulevard near SW 68th Avenue, a new curved light rail bridge

SW 70th Avenue and SW 72nd Avenue. The alignment would continue west to cross SW 72nd Avenue at The alignment would turn west from SW 70th Avenue onto SW Elmhurst Street, with a station between grade, before elevating to cross over Highway 217 on a light rail-only bridge toward downtown Tigard. Upon reaching the ground west of Highway 217, the alignment would turn southwest and cross SW Hunziker Street at grade in the vicinity of SW Knoll Drive and travel along the east side of SW Hall Boulevard to reach a station, which would include a bus transfer area and new park and ride. From this new transit center east of Hall, light rail would turn to the southeast and travel adjacent to the Road, resulting in an elevated station at SW Bonita Road. The alignment would continue adjacent to the freight rail and WES Commuter Rail tracks. Light rail would be on a structure between just south of SW before turning south to pass over the railroad on structure toward the terminus at SW Lower Boones railroad at grade and cross SW 72nd Avenue and SW Upper Boones Ferry Road with at-grade gated intersections. The route would approach I-5 about 0.25 mile south of SW Upper Boones Ferry Road Tech Center Drive and just south of SW Bonita Road to avoid a freight rail spur track and SW Bonita Ferry Road near Bridgeport Village.

Continuous bicycle and pedestrian facilities would be constructed along the light rail alignment where it is on SW 70th Avenue south of Red Rock Creek, and potentially in other locations as well.

The alignment would accommodate Highway 99W and I-5 planning envelopes and sight distance standards set by ODOT.

Stations and park and rides

The Preferred Alternative includes the following stations and park and rides in Segment C:

- 68th Station and park and ride with up to 900 spaces (located in overlap of Segments B and C)
- Elmhurst Station
- Hall Station and park and ride with up to 300 spaces
- Bonita Station and park and ride with up to 100 spaces
- Upper Boones Ferry Station and park and ride with up to 50 spaces
- Bridgeport Station and park and ride with up to 950 spaces

Additional Project Elements

An operations and maintenance facility to the southeast of the Hall station, between SW Hunziker Street and the WES/freight tracks

Options considered and removed from consideration

The following alternatives were considered for Segment C:

- Alternative C1, Ash to I-5, in which light rail would diverge from the railroad right of way near SW Landmark Lane south of downtown Tigard to reach I-5 and operate adjacent to I-5 to **Bridgeport Village**
- Alternative C3, Clinton to I-5, in which light rail would utilize a bridge extending from SW Clinton Street in the Tigard Triangle to downtown Tigard
- Alternative C4, Clinton to Railroad, in which light rail would be routed as Alternative C1 south of downtown Tigard and as Alternative C3 between the Tigard Triangle and downtown Tigard
- Tigard Triangle, with some trains using SW Ash Avenue to terminate in downtown Tigard, and Alternative C5, Ash and I-5 Branched, in which light rail service would branch in the southern some trains continuing along an adjacent to I-5 alignment to terminate at Bridgeport
- Alternative C6, Wall and I-5 Branched, in which light rail service would branch in the southern Tigard Triangle, with some trains using SW Wall Street to terminate in downtown Tigard, and some trains continuing along an adjacent to I-5 alignment to terminate at Bridgeport

Additional alternatives were considered and narrowed in project phases completed prior to the initiation of the Draft EIS.

ationale for selection

Compared to Alternatives C5 and C6, which would branch service in the Tigard Triangle and have one terminus in downtown Tigard and one terminus in Bridgeport Village, C2 would:

- Provide better Tigard-Tualatin connectivity and better transit service in Downtown Tigard
- Have lower operating costs, resulting in more cost-effective light rail operations and allowing more local bus service in the corridor

Compared to C3 and C4, which would use an alignment on SW Clinton Street, C2 would:

- Provide an additional light rail station in the Tigard Triangle
- Result in higher ridership
- Better support the Tigard Strategic Plan
- Avoid a critical traffic impact at SW Hall Boulevard near Highway 99W

Compared to C1 and C3, which would operate a through route along I-5, C2 would:

- Provide faster service with faster travel times
- Result in fewer impacts to businesses and employees

Refinement 5 would:

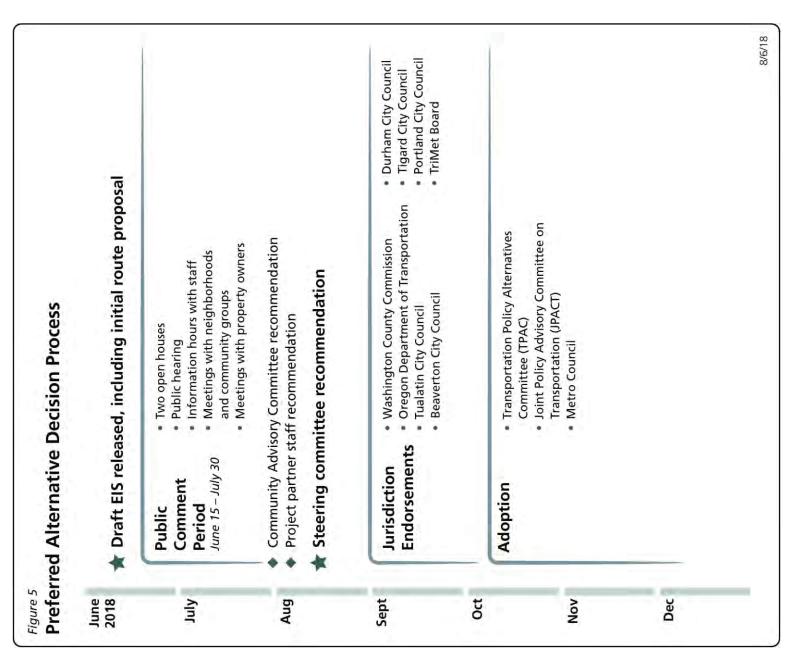
- Avoid impacts to businesses on SW Beveland Street
- Result in faster travel times and increased ridership

Refinement 6 would:

- Avoid residential displacements along SW Hall Boulevard and SW Ash Avenue
- Reduce traffic impacts by avoiding two at-grade auto crossings of SW Hall Boulevard

3. PREFERRED ALTERNATIVE SELECTION PROCESS

The anticipated process for adoption of the Preferred Alternative into the Regional Transportation Plan is shown in Figure 5.



Appendix A – Preliminary Work Plan Development

agreement. Factors from public comments and federal environmental permitting needs must also be The following text is an initial set of interests that does not yet represent a finalized, consensus taken into account before the workplan is finalized.

Segment A – Issues to be addressed

The committee recommends the following design and planning efforts as the project proceeds:

- Work with FTA to determine which portions of the viaducts replacement are eligible for federal funding recognizing that some elements may become betterments to the transit project
- Develop construction sequencing that minimizes traffic impacts related to replacement of the viaducts and associated SW Capitol Highway (Highway 10) overpass
- Define bicycle and pedestrian improvements at the tie-in of light rail to existing infrastructure at SW 4th Avenue and SW Lincoln Street.
- Optimize designs for the light rail alignment tie-in to existing light rail tracks at SW 4th Avenue and SW Lincoln Street to ensure reliable light rail operations.
- Maximize speeds of buses and trains operating together on the shared transitway in South Portland
- Initiate a planning process to select and refine a Marquam Hill connection design.
- Continue traffic analysis with focus on, but not limited to, the South Portland area

Segment B – Issues to be addressed

- Initiate a planning process to select and refine the bus shuttle route connecting light rail to the PCC Sylvania campus.
- Initiate discussion among project partners about the best locations and sizes of park and rides.
- Continue traffic analysis with focus on, but not limited to, the Crossroads area in the vicinity of Refinement 2.

Segment C – Issues to be addressed

- configurations of the Hall station and its related elements (bus stops, pedestrian connections, Continue cooperative design work between TriMet and the City of Tigard on the layouts and park and ride).
- Work to define MOS options that support Tigard's downtown vision, are cost effective, extendable to Tualatin and are operationally efficient.
- TriMet and City of Tigard will work on an agreement regarding the design, development opportunities, benefits and adverse effects of the downtown station.
- Initiate discussion among project partners about the best locations and sizes of park and rides.
- Explore ways to avoid or minimize impacts to businesses at the Bridgeport station and park and ride location

- Continue traffic analysis with focus on, but not limited to areas near freeway ramps, at-grade rail crossings of roadways, and the Bridgeport terminus.
- Prioritize and identify funding for sidewalk and bike facilities or a multi-use path on the light rail bridge over Highway 217.

General planning and design

- Maintain the goal of creating a fast, cost effective project that reaches Bridgeport Village and includes a robust public engagement process to incorporate community values
- Continue to strive to minimize property impacts
- Continue collaboration of TriMet, Metro, Cites of Portland, Tigard and Tualatin and Washington County to pursue opportunities for regulated affordable housing in conjunction with the light rail project.
- Optimize the supporting transit network to ensure connectivity and broad transfer access to
- participating in the environmental review process to define the work program of the Final EIS, Continue collaboration of project partners with FTA and other local and federal agencies particularly on issues such as traffic, ecosystems, water resources and indirect effects.

Design – bicycle and pedestrian

Prioritize and identify funding for sidewalks, bicycle facilities, or multi-use paths adjacent to the alignment or connecting to stations and consider including as betterments, including:

- The station access improvements included in the Draft EIS
- Over I-5 in the Crossroads area if not incorporated in light rail bridge design
- Over Red Rock Creek
- Over Highway 217

Design – stations and park and rides

Initiate a station and park and ride planning process to optimize the number of stations, park and rides, and their locations, and to optimize park and ride capacities and accesses. Further refine station access improvement projects based on the station locations.

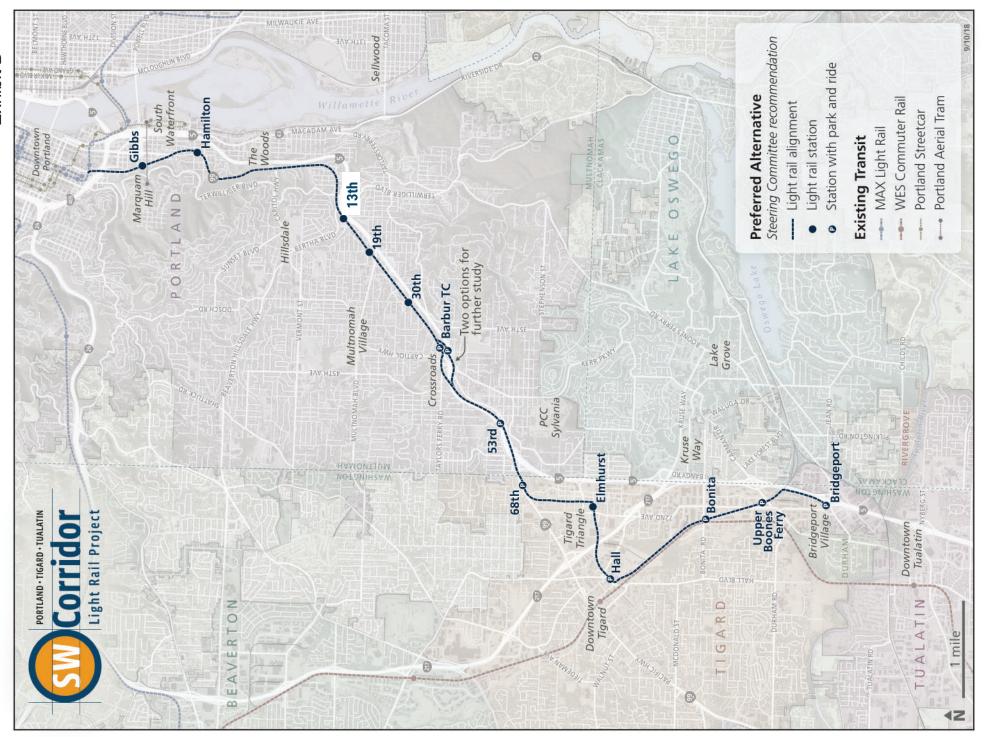
- All park and rides: Evaluate sizing to balance transit performance with safety, traffic impacts, costs, and property impacts.
- All stations and park and rides: Identify opportunities to integrate new technologies for shared vehicles, autonomous vehicles, traffic signal coordination and more into station access and
- Barbur Transit Center: Optimize layout for transit operations and redevelopment potential
- Tigard Transit Center (Hall Station): Ensure designs create safe pedestrian and bicycling access between the station and downtown Tigard and to the WES Commuter Rail station, and foster

- the station area's redevelopment as a mixed use area supporting housing and jobs. Design the operating and maintenance facility east of the Hall station in a manner that facilitates redevelopment in the vicinity.
- modes—autos, buses, bicycles and pedestrians—have convenient access. Explore ways to avoid Bridgeport station: Emphasize the station's importance as the terminus in connecting to areas beyond the light rail line. With this potential as a mobility hub, ensure that all connecting or minimize impacts to the Village Inn.

Traffic analysis

decisions and should be initiated in the short term to inform the Final EIS, versus those that will inform Consider expanding the scope of traffic analysis, while maintaining current methodologies. Staff needs to assess the following suggested analyses to distinguish those that may impact major alignment elements of the final design and can be performed later. The suggested analyses are:

- to identify required mitigations if the Ross Island Bridgehead Reconfiguration is not constructed Assess traffic diversion and traffic circulation changes in the South Portland area, including SW Naito Parkway, SW Barbur Boulevard, I-405, US-26, local streets, and Ross Island Bridge ramps in coordination with the light rail project, and to identify impacts and mitigations if it is.
- Assess traffic queuing resulting from light rail crossing of SW Upper Boones Ferry road crossing, and whether queuing would spill back to the I-5 ramps at SW Carmen Drive, and to the SW Durham Road crossing of WES Commuter Rail tracks. Identify mitigations, including consideration of grade separation.
- Study traffic and safety impacts in the greater Bridgeport area, including Nyberg Road, Tualatin-Sherwood Road, and Lower Boones Ferry Road resulting from access to the proposed park and ride terminus. •
- Perform additional analysis where necessary at other highway ramp terminals, park and ride accesses, and at-grade light rail crossings of streets.



Appendix E

Exhibit C:

Priority Actions and Issues after Preferred Alternative selection

Council prior to completion of the Project Development phase of the Southwest Corridor Portland Design Commission, the Planning and Sustainability Commission and the City collaboration with the Portland Bureau of Transportation (PBOT), to be reviewed by the Project activities following adoption of the Preferred Alternative should address and Light Rail Transit Project (Project). The Conceptual Design Report along with other The City Council requests that TriMet prepare a Conceptual Design Report, in resolve the following issues and opportunities.

Preliminary Work Plan

Southwest Corridor Light Rail Project Steering Committee's Preferred Alternative report Refine and undertake the Preliminary Work Plan identified as Appendix A in the and recommendations.

- The City of Portland concurs with this preliminary work plan for project elements within the City. <u>a</u>
- As indicated this work plan is preliminary and general in nature and will be subject to refinement in collaboration with PBOT and project partners. (q)
 - Several items in this Exhibit C are based on this preliminary work plan and are expanded on here to more clearly respond to City priorities. (C)
- Prior to the start of final engineering phase of work TriMet in coordination with the City will develop a matrix listing project elements both within and outside of the public right-of-way that require permits, design review and land use actions. **D**

Ross Island Bridgehead Reconfiguration

bridgehead ramps and SW Naito Parkway would alleviate some of these neighborhood other streets currently functioning as regional connections have long been divided and Neighborhoods around the Ross Island Bridge (RIB) ramps, SW Naito Parkway and impacts and create development opportunities while improving vital regional traffic impacted by the current highway network in this area. A reconfiguration of the connections.

- committed to work cooperatively through a Memorandum of Understanding (MOU) The City of Portland, Oregon Department of Transportation, Metro and TriMet are to pursue a design, cost estimates and funding strategy for the RIBhead reconfiguration project. <u>a</u>
 - take to cooperatively move the RIBhead project forward. Some key elements are: The workplan contained in the MOU identifies near term actions the partners will **(Q**)
 - A public involvement plan will be developed for the RIBhead project which coordinates with the LRT public involvement plan for post Preferred Alternative activities.
- The RIBhead project reconfiguration will be evaluated as part of the Final EIS :=:

- Project development will be completed to a 30% design or FEIS completion milestone by the LRT project.
- development planning in this area being conducted by the Bureau of Planning and RIBhead project will be developed in coordination with land use and Sustainability. (0)
- The RIBhead project workplan will be modified for subsequent phases of project design and construction. **D**

3. Barbur Transit Center

The Barbur Transit Center has the potential to be a key catalytic site for redevelopment in the West Portland Town Center (Crossroads) area. The current LRT project plans include retention and possible expansion of the park-and-ride function at the Barbur Transit Center station.

- redevelopment potential. The appropriateness and capacity of a park-and-ride The City of Portland understands the Steering Committee recommendation to optimize the layout of the Barbur Transit Center site for transit operations and facility at Barbur Transit Center should be evaluated.
- park-and-ride and bus operations do not inhibit quality urban design and mixed-use Further project planning for the Barbur Transit Center station should assure that development opportunities of the site. (q)
 - Whether the LRT platform at the Barbur Transit Center is ultimately located within SW Barbur or within the site it is important that walkable human-scale street frontage is provided. (C)
 - Crossroads area which coordinates with the LRT public involvement plan for post Preferred Alternative activities and with the West Portland Town Center land use A public involvement plan will be developed for the Barbur Transit Center and planning process. **D**

4. Crossroads Area

studied in the DEIS, or a modification of either, remains in consideration. Transportation Alternative B2 as infrastructure in this area will have a lasting effect on the future of the West Portland In the Crossroads area the Steering Committee recommends a preference for Refinement 2, also referred to as the Taylors Ferry I-5 Overcrossing. Town Center.

- consider opportunities presented or compromised for development of the West Any assessment of alignment and LRT platform locations in Crossroads must Town Center and at the Barbur Transit Center. \widehat{a}
- congestion and safety hazards. Traffic analysis must look at the complete network signal operations. Mitigations to traffic impacts must consider resultant impacts on in this area, not just individual intersections, and include modeling of actual future other modes and recognize the City priority of active transportation over vehicular The complex arrangement of streets and intersections contributes to traffic (q)
- Further planning of the LRT project should investigate the significant existing pedestrian and bicycle accessibility needs and safety issues in this area and <u>ပ</u>

- coordinate improvements with other planned projects to build complete active transportation networks.
- There are impacts potentially affecting properties, residential and employment uses and environmental resources that need to be evaluated in the FEIS (g
- dedicated to the Crossroads area must be undertaken to explore potential impacts During the completion of the FEIS a public outreach and engagement process of Refinement 2 and other options. (e)
 - Further evaluation of the Crossroads area should be undertaken in coordination with land use and development planning in this area being conducted by the Bureau of Planning and Sustainability and land use planning should inform transportation choices. \oplus
- Prior to Steering Committee decision to select alignment in the Crossroads area, there will be a City Council work session to present information, hear invited testimony, and provide an opportunity for Council discussion of alternatives. (g)

5. LRT stations proposed for Park-and-Ride functions

Park-and-Ride facilities provide a viable means of access to LRT but in the City of Portland walk, bicycle and local bus connections are preferred.

- described in Appendix A of the Steering Committee's Preferred Alternative report The City of Portland supports the design component for park-and-ride evaluation and recommendations. (a)
- It is also recommended that as a principle approach that park-and-ride functions be commercial opportunities and locally generated ridership, particularly at Barbur evaluated against impact on land development and affordable housing and Transit Center and SW 53rd Ave. (q)
- balance of these facilities in Portland compared to elsewhere in the corridor. Further project work to optimize park-and-ride capacities should consider a (C)
- As part of planning for park-and-ride site development and operations a fee-based system should be considered to manage demand and other objectives particularly to avoid use of park-and-ride facilities by people not using transit. **p**
- Evaluation of future re-use or otherwise reconfiguring the park-and-ride facilities to reflect emerging and future mobility choices made by transit patrons. (e)
 - Prior to Steering Committee decision to site park and ride facilities, there will be City Council work session to present information, hear invited testimony, and provide an opportunity for Council discussion of alternatives. £

b. Pedestrian and bicycle access to LRT stations

neighborhoods to LRT stations be included in the overall funding strategy for the LRT It is essential that key pedestrian and bicycle access facilities connecting project in order to maximize access for local transit riders.

selecting sidewalks, bicycle facilities and multi-use paths to be included in the LRT determined through station area planning and shall include input from community The next phase of the LRT project should provide a process for reviewing and project, based on the list of potential projects identified in the DEIS and others <u>a</u>

- The City of Portland believes that many of these projects are essential components of the LRT project and not betterments. (q)
 - parking facilities would be spread among the Portland segment transit stations in order The next phase of station planning should evaluate and identify how bicycle to optimize their use and provide maximum connectivity from surrounding neighborhoods. (C)

7. Marquam Hill and Portland Community College connections

financially feasible. Each presents design challenges and opportunities that need to be The connections from LRT stations to Marquam Hill and Portland Community College geographic limitations direct light rail transit access to these key destinations are not are vital components of the Southwest Corridor Light Rail Transit Project. Due to

- The City of Portland agrees with the Steering Committee's recommendation that a public process be established to consider Marquam Hill connection options with a preferred option to be studied in the Final EIS.
 - structures and architectural significance, and consideration of options avoiding Guidelines, minimize impacts to the wooded hillside and park land, safety and Design considerations for the Marquam Hill connection include respect for the Terwilliger Parkway including compliance with the Terwilliger Parkway Design security factors, aesthetics and visual impacts of the connection facility and crossing Terwilliger Parkway. (q)
- such as platform and sidewalk widths, future signal timing, street lighting and the should be conducted to inform the size and location of associated infrastructure An evaluation of anticipated passenger board/de-boarding at the Gibbs station pedestrian route between SW Naito and the Gibbs station. (C)
- A high quality continuous east-west active transportation amenity along SW Gibbs from the LRT station on SW Barbur, across Naito Parkway to the Darlene Hooley Bridge is needed. **p**
- Prior to Steering Committee decision on a Marquam Hill connection, there will be a City Council work session to present information, hear invited testimony, and provide an opportunity for Council discussion of alternatives. (e)
 - The City of Portland agrees with the Steering Committee's recommendation that a connecting LRT to the PCC campus from the Barbur Transit Center or from the planning process be conducted to select and refine the bus shuttle route SW 53rd Avenue LRT station. \oplus
- pedestrian and bicycling access to the campus. These street improvements should be appropriately scaled for the neighborhood environment and will not provide between the LRT station at SW 53rd and the PCC campus to facilitate inviting The City supports publicly-funded street improvements to SW 53rd Avenue private vehicular traffic connection to the campus. (g)

3. Connecting to Downtown

Connecting the LRT alignment to existing light rail service Downtown from SW Barbur and SW 4th Avenue between approximately SW Sheridan Street and SW Lincoln and further north presents transit engineering challenges but other considerations such as land use and potential for future development are also important.

- Bicycle circulation needs in this area include a safe through movement from SW Sheridan to SW Lincoln-SW 5th-SW Jackson, and from the Green Loop in to
- Sheridan and potential wide street crossings at the SW 4th/Lincoln intersection. Pedestrian connectivity challenges include access in to Downtown from SW 9
- LRT routing plans need to consider current property access, particularly on SW Lincoln and SW Grant and future planned developments on these streets. (C)
- Being the south entry to Downtown aesthetic considerations matter particularly in regards to the architecture of elevated transit structures. **b**
- Shared transitway or other bus routing using the SW 4th Ave. access to the Transit Mall must use SW Hall and be coordinated with high capacity transit service being provided on the Division Corridor which will also access the Mall from SW Hall. (e)

9. SW Hamilton Station

The LRT station at SW Hamilton would support the role of the Hamilton Focus Area from the Barbur Concept Plan.

- Hamilton-SW Corbett area serving neighborhood residents and transfer activity. Retaining a similar level of transit accessibility with the LRT project would be a This area currently has high transit service levels with nine bus lines in the SW benefit for this neighborhood.
- Traffic circulation changes that may result from construction of LRT on SW Barbur should consider the nature of SW Corbett as a community street serving this neighborhood and connecting to other neighborhoods. **Q**

10. The Woods segment

The segment of the LRT project corridor generally from SW Hamilton Street to SW Brier Place, referred to as "The Woods" is a largely wooded and steep terrain area with open space resources that transitions to more urbanized areas to the north and south and requires special considerations.

- The City of Portland supports the Steering Committee's recommendation to replace the Vermont and Newbury viaducts that compromise the safety of pedestrians and bicyclists.
- SW Barbur through The Woods should feature a design that accommodates the expected greatly increase in multi-modal use of this segment of the corridor, especially for bicyclists. **(**q)
- Project design should minimize tree removal which is a landmark feature of this segment of the corridor. <u>ပ</u>
- considered. An at-grade intersection replacing the flyover ramp connecting SW Connections to designated pedestrian, bicycle and trail networks should be Capitol Highway to SW Barbur should be considered. **(**0

11. Three stations on Central Barbur

stations further south in Portland at the Barbur Transit Center and at SW 53rd Avenue. The Preferred Alternative for the LRT project includes three neighborhood stations in , SW 19 and SW 30th, as well as the central SW Barbur Boulevard area at SW 13th

- important in providing transit access notably for Hillsdale, Multnomah, Markham The three neighborhood stations in the central Barbur Boulevard area are and South Burlingame neighborhoods.
- All three neighborhood stations are collectively required to significantly facilitate the transformation of SW Barbur Boulevard to a Civic Corridor envisioned by the Barbur Concept Plan. **(**p)
 - Because the LRT facility will largely replace frequent bus service along SW Barbur Boulevard it will be important to plan for local bus service that connects communities to the LRT stations. (C)
- The City of Portland recommends that all three stations be retained in the LRT project through the project development phase. **p**
 - Hillsdale, Multnomah, Markham, South Burlingame and other neighborhoods. The provision of bicycle parking facilities (Bike Hubs) should be apportioned among these stations in such a way as to provide use for transit riders from (e)

12. SW 53rd Avenue Station

The station at SW 53rd Avenue is an important project component serving access to PCC, and potentially park-and-ride and/or affordable housing opportunities.

- This station also presents opportunities for mixed-use development.
- Safe, attractive and prominently designed pedestrian and bicycle connections from the LRT platform to the City street and active transportation networks are needed given the traffic character of Barbur in this segment and the vehicle attraction of the park-and-ride. (q)
- Evaluation of the station for connection by a PCC shuttle should be included <u>ပ</u>

13. SW 68th Avenue Station

Although this station is physically located in the city of Tigard, it also serves residents of Investment Strategy to allow Portland residents to access the station at SW 68th safely station area. Pedestrian and bicycle facilities must be evaluated as part of the Shared the City of Portland and will be included in the evaluation for the PCC campus shuttle. Portland staff should offer to collaborate with the City of Tigard in planning for this

14. Changes in circulation and access

Local neighborhood circulation and business access will be changed by the LRT project along SW Barbur Boulevard because of the addition of LRT in the street median which will concentrate left turns and add U-turns at signalized intersections.

A traffic analysis to evaluate changes in circulation should be conducted as part of the FEIS and identify locations where increases in traffic on neighborhood streets might occur. Traffic management mitigations for those changes that would be significant should be included in the FEIS. An evaluation of current truck access to businesses along SW Barbur should be conducted to ensure that accommodation for future circulation patterns is made. **(**Q)

15. Stormwater management

regulations, this corridor is located in an area of the City that is particularly complex due Although the LRT project will be designed to comply with all federal, state and local to topography, extensive vegetation cover and multiple stream corridors.

- management practices and comply with City's Stormwater Management Manual, The City of Portland concurs that LRT project will be designed based on best as stated in the DEIS. <u>(a</u>
- agencies responsible for ownership and maintenance of stormwater infrastructure. As the LRT project moves forward more detailed asset inventory and assessment of stormwater infrastructure is required in the corridor leading to identifying **(Q**)
- the coming years. Some of these projects, or portions of these projects, will likely benefit the SW Corridor LRT project and should be eligible for the City's local The City of Portland will be undertaking various capital projects in the corridor in <u>ပ</u>
- system for I-5 and share outfall infrastructure. LRT project development should de-Currently existing stormwater systems that convey runoff from Barbur Blvd join the couple the Barbur Blvd stormwater system from I-5. **p**

Other Priority Actions

I. Affordable Housing

a purpose statement that says: Ensure benefits and impacts promote community equity. affordable housing will be made in conjunction with commitments toward funding for the Light Rail transit project. The project Purpose and Need as stated in the DEIS includes It is the City Council's expectation that regional commitments toward opportunities for

- Memorandum of Understanding regarding the Southwest Corridor and Affordable Council support for the Preferred Alternative is based on implementation of the
- It is the Council's expectation that additional funding for affordable housing will be made available at the regional level, and it is Council's intent that a portion of City funds derived from that source will be directed in an amount sufficient to enable a meaningful contribution toward the stretch goals identified in the Southwest Corridor Equitable Housing Strategy. **(**q)

2. Design Review

completion of the LRT project the currently approved standard transit elements in public Continue long term coordination with City of Portland's Design Review Commission as project elements are being defined in keeping with prior projects' processes to obtain right-of-way would be updated to reflect new elements added with this LRT project. input and advice on non-standard transit elements in public right-of-way. Upon Replacement of Newberry and Vermont viaducts by the LRT project will be

design review but will receive input and advice from the Design Review Commission in improvements that meet the City Engineer's standards and as such are exempt from conjunction with the rest of the project.

3. Historic Landmarks Review

Continue coordination with the City of Portland's Historic Landmarks Commission where detailed alignment decisions may impact historic or contributing resources.

4. Affordable Locally-owned Businesses

commercial and office businesses, especially those serving nearby residents, providing The Light Rail project should promote preservation and commercial viability of family-wage jobs, and locally-owned businesses.

Healthy, Connected, and Inclusive Communities in the SW Corridor 36 94 PE \$ 145 B Appendix F

Southwest Corridor Inclusive Communities Project

The City of Portland is leading an ongoing multi-year land use planning and community development effort to Portland Town Center Plan and SW Naito Parkway Main Street Project. When the light rail project funding is plan for healthy, connected, and inclusive communities along the Southwest Corridor beginning with a West secured, the City will expand this project to include planning for station areas at Southwest 53rd, 30th, 19th Avenues, and Southwest 13th, Hamilton, and Gibbs Streets.

communities of color shape future development, in addition to addressing their near-term needs for community stability and economic opportunity. Government partnerships will be strengthened to achieve the community's This first phase of place-specific planning will give developers and the community the clarity about what form and community benefits future development should achieve. Publicly-owned opportunity sites will feed into a development pipeline of market-rate and affordable housing for low er-income households. Increased community capacity will ensure all voices are heard and the priorities of low-income households and vision of an equitable future.

Building from past plans

The City of Portland has adopted numerous local plans and policy documents informing the City's current planning effort. Most recently, the City Council approved the Locally Preferred Alternative for the light rail alignment and a Southwest Corridor Equitable Housing Strategy (EHS).

The EHS is rooted in the priorities of low-income households and communities of color, most notably the Community Solutions* developed by tenant leaders and community-based organizations in the West Portland Town Center. One EHS strategy is to "Regulate land use and zoning to create affordable and market rate housing." The Inclusive Communities Project is designed to implement this strategy.

THE PORTLAND SOUTHWEST THE PORTLAND SOUTHWEST CORRIDOR PLAN SOUTHWEST CORRIDOR INCLUSIVE COMMUNITIES PROJECT CORRIDOR PLAN SOUTHWEST CORRIDOR INCLUSIVE COMMUNITIES PROJECT CORRIDOR PLAN SOUTHWEST COMMUNITIES PROJECT CORRIDOR PLAN SOUTHWEST COMMUNITIES PROJECT COMMUN

how the City plans for workforce and small business development along the corridor. Development Strategy (SWEDS) is also informing Metro's recently completed Southwest Equitable

*https://beta.portland.gov/sites/default/files/2019-09/community-based-solutions 0.pdf

Inclusive Communities Project outcomes

- housing choices, thriving business districts, healthy and connected built environments, and strong social Plans adopted by Portland City Council for complete and inclusive communities with a full range of networks and institutions. Plans will include urban design plans, infrastructure plans, and increased zoning code entitlements with accompanying framework for public benefits and investments.
- Updated South Portland Historic Design Guidelines that apply to alterations, additions, and new construction within the historic district. \sim i
- Development concept plans for two publicly-owned opportunity sites suitable for mixed-income housing and mixed-use commercial development: the Barbur Transit Center and parcels made available for development from the proposed re-alignment of the Ross Island Bridgehead. 3
- Understanding (Appendix C) between TriMet, City of Portland, Washington County, City of Tigard, An inter-jurisdictional workgroup to execute the responsibilities detailed in the Memorandum of and Metro to coordinate equitable transit-oriented development (TOD) along the corridor. 4.
- Community Grants Program for capacity building and engagement activities by community-based advise project decisions, build organizational relationships, and help the City and its public partners to organizations (CBO) working on anti-displacement initiatives in Southwest Portland. These CBOs deepen ties with communities vulnerable to displacement pressures. 5.

West Portland Town Center Plan

town center and an action plan to meet the diverse needs and of current and future residents and businesses. The The West Portland Town Center (WPTC) Plan will lay out a vision for a healthy, connected, and multi-cultural planning process will result in a proposed plan to the Portland City Council in late 2020.

Tenants, UniteOregon, and HAKI are funded to engage to low-income renters, immigrants, and people of color community-wide events including walking tours, design workshops, and open houses. Community Alliance of Community engagement is underway with an established Community Advisory Group and a series of large through focus groups, educational workshops, and door-to-door canvassing.

Hundreds of community members have participated in the formation of overarching goals for "Strong Communities and People" and "Great early town center growth concepts to achieve the community's two Places with Equitable Access."

addition to an analysis of broader existing condition. Findings from the proposed health equity framework that will provide the foundation of disparities exist within the town center. These findings informed a A Health Equity Assessment of the town center was conducted in assessment show significant racial, economic, and geographic the town center plan.

and presented a new curriculum for fair housing and equity trainings to As part of this project, the Fair Housing Council of Oregon developed



June 2019 walking tour of the West Portland Town Center

training.

A Barbur Transit Center redevelopment concept was developed by City staff with input from the Community Advisory Group and community priorities generated during a June 2019 community walking tour. The redevelopment concept will inform ongoing conversations between the City, TriMet, ODOT, and the community about the future of the site.

SW Naito Parkway Main Street Planning

Transportation (PBOT) are working with community members to develop transportation and land use plans in South Portland, featuring a SW Naito The Bureau of Planning and Sustainability and Portland Bureau of Parkway Main Street Concept Plan.

review of the harm done by past land use and transportation infrastructure projects in the area. Urban renewal, redlining, multiple Ross Island Bridge particularly harmed low-income renters and immigrants. The City aims to An existing conditions analysis of South Portland included a historical access ramp expansions, 1-5, and I-405 divided the neighborhood and redress past harms through these current planning projects.

improvements for the South Portland neighborhoods adjacent to the Ross bridge access ramps and multi-modal access and local street connectivity ramps and a new complete street design concept for Naito Parkway. The measure is anticipated to provide funding for implementation of the new PBOT is planning for the re-alignment of the Ross Island Bridge access transportation planning and multimodal urban design concepts will be Moving regional transportation measure. This transportation funding included in a summary report in support of the November 2020 Get Island Bridge.



November 2019 Community Open House for the SW Naito Parkway Main Street Project

available as a result of a new alignment of the bridge access ramps. The land use planning will result in updates Land use planning includes evaluation of three acres of publicly-owned developable land that will be made redevelopment concepts for the three acres of public land. These plans will be brought to the Portland City to the South Portland Design Guidelines, a land use and urban design plan for Naito Parkway, and Council in late 2020.

and design workshops provide the primary opportunity for the community to inform the Ross Island Bridgehead design and Naito Main Street Plan. The first open house was held in November 2019. Planning will continue A Community Advisory Group exists to guide the historic design guidelines update. A series of open houses through 2020.

SWC-0710 CP.5624.P.301.840

MEMORANDUM OF UNDERSTANDING REGARDING CONSTRUCTION OF THE SOUTHWEST CORRIDOR LIGHT RAIL PROJECT IN TIGARD CITY LIMITS

Appendix G

This Memorandum of Understanding ("MOU") is between the City of Tigard ("Tigard") and Tri-County facilitating housing preservation and development, employment preservation and enhancement, and Metropolitan Transportation District of Oregon ("TriMet"). The intent of this MOU is to demonstrate a commitment to collaborate to ensure that the improvements associated with the Southwest Corridor Light Rail Transit Project ("SWC Project" or "Project") address regional transportation needs while redevelopment land preservation and creation in the City of Tigard.

effects on Highway 99W, at-grade light rail crossings of Hall Boulevard in two locations, acquisition of unregulated apartment buildings that appear to serve lower income households, and allows a logical district. This station location requires focused attention on pedestrian connectivity across and along commonly understood station area development principles. It also avoids significant adverse traffic Alternative that serves downtown Tigard by placing a station east of Hall Boulevard in an industrial Hall Boulevard and urban design considerations to ensure development near the station supports The Southwest Corridor Steering Committee ("Steering Committee") recommended a Preferred and efficient route to a Bridgeport terminus.

This MOU memorializes the commitment of both parties to address the land use, transportation, redevelopment, economic and fiscal impacts that result from the Preferred Alternative selection.

Recitals

existing and forecasted travel demand in this corridor and support the region's 2040 Growth Concept Whereas, all parties support the extension of light rail in the Southwest Corridor to address the and Tigard's land use vision.

including light rail as the transit mode, the Preferred Alternative as the route, and Bridgeport Village Whereas, all parties recognize the recommendations of the Steering Committee in support of the region's 2040 Growth Concept and the Regional High Capacity Transit System ("HCT") Plan, as the desired terminus.

funding the SWC Project must score competitively on multiple metrics to compete for federal funding, Whereas, all parties recognize that federal funding via the Federal Transit Administration's ("FTA's") New Starts program is necessary to sufficiently finance the SWC Project, that to qualify for such and that such metrics emphasize lower capital and operational costs and higher ridership.

Whereas, all parties recognize that the FTA provides guidance for private, commercial development on property purchased with federal funds under Circular 7050.1A, "FTA Guidance on Joint Development."

Whereas, all parties recognize that the FTA must review and approve all transactions for properties purchased with federal funds, including dispositions and Joint Development applications.

connectivity and transit-oriented development. TriMet will collaboratively look for approaches to siting provide opportunities to enhance transit ridership within the City of Tigard by facilitating enhanced Whereas, TriMet and Tigard seek to improve mobility, ensure high quality transit operations, and

transit facilities to minimize the impacts on current development and maximize future residential development and job potential. TriMet will look for opportunities to partner with Tigard on development near future stations.

transportation enhancements and catalytic development opportunities can occur in conjunction with downtown redevelopment, including its Comprehensive Plan, and recognizes that multimodal Whereas, Tigard seeks to advance implementation of assorted plans and policies focused on the SWC Project.

Agreements

The parties agree to cooperate on the following items of interest:

- recommend to the Steering Committee that the Project will locate at least four light rail stations one serving the southern portion of the Tigard Triangle; (3) one serving downtown Tigard; and in the City of Tigard as follows: (1) one serving the northern portion of the Tigard Triangle; (2) If the SWC Project terminates at Bridgeport in the City of Tualatin, Tigard and TriMet will (4) one serving the 72nd Avenue corridor. The final location of the terminal station at Bridgeport may be an additional station in Tigard.
- below. The following concepts will be included in a draft and final Conceptual Design Report With regard to the station serving downtown Tigard, the project must meet the conditions to be presented to the City Council for acceptance: 'n
- In consultation with Tigard, TriMet will lead planning and design studies to determine the transit passengers, for consideration by the Steering Committee. TriMet and Tigard will work to jointly agree to the final location of such facilities for consideration by the Steering Light rail station platform(s) will be located immediately south and east of Hall Boulevard. optimal location of bus transit facilities and park and ride facilities to optimize pedestrianize the downtown station area for Tigard residents, employees, visitors
- are important to achieving the goals of creating an active station, fostering transit ridership, and facilitating connections to residences and businesses. Design of pedestrian for clear, safe multimodal access to a light rail station on Hall Boulevard and share this Pedestrian access and multimodal connectivity to the Downtown Tigard station platform connections along and across Hall Boulevard are of considerable importance to achieving these goals and the parties acknowledge that Hall Boulevard, in its current state, impedes safe and convenient multimodal use and crossing. TriMet and Tigard recognize the need a priority. The parties agree to work together with ODOT on a redesign of Hall Boulevard in the light rail station area, from the freight railroad to Hunziker Street, and that the Hall Boulevard redesign will be presented to the Tigard City Council at 15, 30 and 60 percent of Project completion. Eligible Project elements within the station area will be funded as part of the Project. For other elements, TriMet and Tigard will jointly seek funding from ODOT and others to include as Project betterments. The parties also agree to seek a jurisdictional transfer of Hall Boulevard. Ь.
- Tigard desires transit-oriented development ("TOD") to occur around the Downtown Figard station and recognizes that the construction of parking facilities is a financial hurdle ပ

to TOD's feasibility. In conjunction with a Station Optimization Study, the parties will This proposal will be informed by the Steering Committee's decision on the location and size consider additional non-transit parking at the structure that supports transit-oriented transit uses and the funds for any additional non-transit parking will need to be provided by sources outside the SWC Project. Based on Tigard's findings, the park and ride parking structure will be designed and constructed accordingly. Upon adoption of the Land Use Final Order, the parties will begin negotiating a Shared Use Agreement to be completed development. The parties understand that the FTA will not fund parking facilities for nonprior to the Engineering phase of the Project, which will define the obligations of each party related to the financing, construction, operations, maintenance, and use of the structure. of park and ride facilities along the alignment.

- include physical and visual connections to its surrounding environment wherever Tigard seeks to enhance urban design, redevelopment potential, and the potential for station area density around the downtown station. To that end, TriMet agrees to locate, design, construct, and operate any Operations and Maintenance Facility ("O&M Facility") The O&M Facility will be located and designed to complement adjacent development and in Tigard city limits to maximize the redevelopment potential of the downtown station area. 0
- The goal is to TriMet will help mitigate business impacts in the Hunziker Industrial Core through standard federally required mechanisms in the Uniform Relocation Act, and through the proactive development of an Employment Transit Oriented Development District which achieve an overall employment density increase in the Hunziker Industrial Core after the TriMet will, through its planning and design efforts, help to effectuate. Project is constructed as compared to before. ல்
- if the Project does not terminate at Bridgeport in Tualatin, Tigard and TriMet will recommend to (1) one serving the northern portion of the Tigard Triangle; (2) one serving the southern portion the Steering Committee three light rail stations will be located in the City of Tigard as follows: Bridgeport Village. Should the extension to Bridgeport Village be done in phases, TriMet will of the Tigard Triangle; and (3) one serving downtown Tigard. With regard to the downtownserving station, TriMet and Tigard will work jointly to agree to the design and location of an use its best efforts to ensure such completion occurs as quickly as possible, with a strong MOS station prior to Steering Committee action in advance of the FEIS publication. The ultimate goal of the Project, whether as one process or in phases, is for a terminus at preference for within 10 years from the completion of the first phase. ო
- conducting a study of the nexus of this crossing with the Project and considering inclusion of new crossing as a Project betterment. Tigard will identify up to two existing public crossings the new crossing in the Project's Rail Order. TrilMet will support Tigard's efforts to fund the crossing across the existing freight tracks by furthering Tigard's interest in this crossing in TriMet will demonstrate support for Tigard efforts to establish a multimodal Ash Avenue Project negotiations with ODOT Rail and the railroad companies. This may be done by that Tigard will close at Tigard's cost as part of an agreement with ODOT Rail. 4
- This establish an active transportation connection between downtown and the Tigard Triangle. TriMet will study and design the Project to accommodate bicycle and pedestrian travel to S.

multi-use path will be a betterment and both parties agree to be co-applicants for grants to fund the bicycle and pedestrian infrastructure.

- To capitalize on real estate value created by the light rail project, TriMet will work with Tigard on a Joint Development Project Proposal that focuses on significant residential and employment (i.e. ridership-enhancing) development opportunities 6
- Understanding Between the City of Portland, City of Tigard, Metro, Washington County and the consistent with FTA requirements and Tigard agrees work to implement the Equitable Housing Affordable Housing" ("Affordable Housing MOU"). As parties to the Affordable Housing MOU, Tri-County Metropolitan Transportation District of Oregon Regarding Southwest Corridor and The parties seek to preserve and develop affordable housing in the city limits in proximity to corridors for streetcar and bus operations. Tigard anticipates using tax increment financing ridership in the SW Corridor, which the parties recognize as encouraging enhanced transit Strategy, facilitate construction of affordable housing, and work with TriMet to encourage TriMet agrees to use Project property to encourage development of affordable housing and potentially other funds for the development of affordable housing at or near TriMet the Project. TriMet and Tigard are both parties to the executed "Memorandum of ~
- TriMet and Tigard will develop an IGA to define the scope and budget necessary for City staff participation in Project activities. ထ
- act together to achieve the goals set out herein. This MOU may not be judicially enforced and on detrimental reliance or any other theory. The concepts in this MOU may be refined through may not be relied upon as a basis for a contract by estoppel or be the basis for a claim based This MOU is a statement of cooperation between the parties, setting out the parties' intent to additional intergovernmental agreements. တ်

IN WITNESS WHEREOF, the parties have executed this MOU to be effective as of the date last executed. The parties attest that the signatories to this MOU have the authority to enter into this agreement on behalf of their respective agencies.

Sy: Mactyle Sy:

By: Starth

Print Name: Martha Wine

Print Name: Steve Witter

As Its: City Manager

As Its: Executive Director, Capital Projects

ite: 11.13.2018

Date: Nov 14, 2018

Appendix H



DRAFT Conceptual Design Report - Engagement Summary (Spring 2020)

Southwest Corridor Light Rail Project Conceptual **Design Engagement Report**

Updated July 2, 2020

This Engagement Report documents the community feedback on the draft Conceptual Design Report (CDR) that we received during engagement activities from January 2020 to July 2020. The contents of this report will inform a final conceptual design, as well as future design in later stages of the project.











Table of Contents

Executive Summary3
Purpose and Goals4
Engagement Activities Overview
Open Houses 5
Feedback by Topic7
Station-Specific Comments17
Public Presentations32
Multicultural Community Engagement38



Executive Summary

embarked on a public engagement campaign to share the project's conceptual designs and gather feedback from during the CDR public engagement campaign and the feedback collected. Some of the key themes that emerged With the release of the Conceptual Design Report (CDR) in February 2020, the Southwest Corridor project team presentations to solicit feedback from community members. This report documents the activities undertaken the public. The team used a variety of engagement strategies including open houses, focus groups and from this engagement campaign include:

General excitement about the project overall.

person comments. Many of the groups that received in-person presentations including the Swahili focus group Over 160 comments indicated support for the project, making it the most popular topic for online and inindicated general support and excitement for the project.

Strong interest in the Marquam Hill Connector; preference for an inclined elevator. A

The Marquam Hill Connector was the second most popular topic of comments, with 120 comments from the online and in-person open houses. This project feature was frequently discussed at public presentations throughout the corridor. Overall, there was a preference for the inclined elevator option.

Park & Rides are most polarizing topic.

The majority of open house comments about Park & Ride indicated a preference for more spaces. However, a considerable minority voiced concern about too many Park & Ride spaces. Interest in more Park & Ride facilities was most prevalent in Tigard and Tualatin.

Excitement about bike improvements, but more desired.

desire for bike and pedestrian access on the bridge over Highway 217 was one of the most common requests The online and in-person comments suggest that there is general excitement about the bike improvements. However, there was also strong support for funding and building the station access projects. In Tigard, the during public presentations. A lack of a raised protected bike lane along Barbur Boulevard north of Naito Parkway was a notable concern for the Portland Bicycle Advisory Committee.

Concern about mobility flow and safety around Barbur Transit Center. A

spaces. There was also a desire for additional improvements for pedestrians around this area, particularly if it Barbur Transit Center generated the most comments of any of the 13 light rail stations. There was concern about the potential increase in traffic around this intersection, along with a desire for more Park & Ride will be the hub of the future West Portland Town Center.

Concern about connections to major destinations.

There was expressed concern about the lack of connectivity to major destinations along the corridor. The concerns focused on three areas:

- A desire for the Marquam Hill Connector to connect further west than Terwilliger Parkway 0
- Interest in a shuttle or better connection to Portland Community College (PCC) Sylvania 0
- Concern about the distance between the Hall Boulevard Station and the existing Tigard Transit Center. 0

Strong desire for grade separation at Upper Boones Ferry Road. A

At public presentations in Tigard and Tualatin, there was strong support for grade separating the light rail from vehicle traffic at the Upper Boones Ferry Road Station. The station received some of the lowest ratings in the online open house due to this concern.



Purpose and Goals

Corridor Light Rail Project. Building on the alignment decision in October 2018, the CDR provides details The draft CDR is a public-friendly document outlining preliminary design concepts for the Southwest about how the light rail project will integrate with the streets and neighborhoods along the route.

The goals of the CDR outreach are:

- Awareness and communication. Provide a clear understanding the current status of project design to as many stakeholders and community members as possible.
- Input and feedback. Gather input from stakeholders about designs, impacts, and opportunities related to the project to inform the continued design process. 7

Engagement Activities Overview

Community Affairs staff used a variety of engagement strategies including open houses, focus groups and presentations to solicit feedback from community members. $^{\mathrm{1}}$

Postcards	\bullet $$ 41,000 total – all property owners and households within $\%$ mile of the alignment.
Social Media Engagement (Flyover video)	Twitter: 46,000 views(2nd most "liked" tweet)Facebook: 33,000 views (3rd most "liked" post)
In-person Open Houses	 Four Open Houses 306 Sign-ins 117 comment cards collected Spanish language open house*
Online Open House	 18,800 total views 372 commenters 806 comments 632 CDR PDF downloads
Public Presentations	22 completed
Focus Groups	HAKI (English/Swahili) – 12 participantsTwo with Muslim Educational Trust (English and Arabic)*
TV Jam Spanish Video	11,300 total views31 comments147 shares

 $^{^{\}mathrm{1}}$ Activities with a $^{\mathrm{*}}$ are items that were postponed due to the COVID-19 Crisis.



Open Houses

The project team held four in-person open houses and an online open house. The in-person open houses included information on each of the 13 stations, as well as general project info including project goals, major structures, bus, bike, walk, and Park & Ride access, and station access projects and circulation. Staff were also available at each open house to answers questions and concerns. Attendees were asked to fill out comment cards with concerns and questions. More than 300 people signed in at the four in-person open houses.

The online open house was open from February $3^{\rm rd}$ to March $30^{\rm th}$, and mimicked the format of the inperson open houses. Those that viewed the online

topic's webpage. There were 327 people that made one or more comments on the online open house. version were able explore the stations and project information and make comments directly on each



Open House Demographics

In both the online and in-person open houses, attendees were asked, though not required, to fill out demographic information.

- In-person open houses: 47 of 306 (15%) attendees filled out demographic information
- Online open house: 122 of 327 (45%) attendees filled out demographic information

houses, significantly more people were non-riders (52%) compared to the online open house (10%). The in-person open house attendees were also slightly older and were more likely to live directly within the Based on these evaluations, the primary difference between attendees was that at the in-person open SW Corridor area.



Ridership Frequent/Regular Rider Occasional/Infrequent Rider Non-rider	In-person	Online N-165
Ridership Frequent/Regular Rider Occasional/Infrequent Rider Non-rider	N=47	COTIN
Frequent/Regular Rider Occasional/Infrequent Rider Non-rider		
Occasional/Infrequent Rider Non-rider	39%	44%
Non-rider	%6	44%
	25%	12%
Access to Transit		
Drive	35%	39%
Walk	41%	44%
Bike	2%	10%
Other	4%	%9
Gender		
Female	21%	22%
Male	41%	40%
Non-Binary	2%	2%
Race/Ethnicity		
Non-Minority	%68	87%
Minority	11%	13%
Age Average	51	47
Geographic Region of Attendees		
SW Portland 97219, 97239, 97221, 97201	44%	39%
Tigard 97223, 97224	27%	19%
Tualatin 97062	13%	4%
Outer SW Region 97035, 97034, 97068, 97070, 97140	4%	10%
Outer West Region	2%	%9
Outer East Region	%0	3%
SE Portland/Milwaukie	2%	%6
N/NE Portland	2%	%9
Other	4%	4%



Open House Comments: An Overview

With the in-person and online open houses combined, 926 comments were submitted, 168 of which are positive with little to no concerns. The feedback we received is organized into both topic area and station.

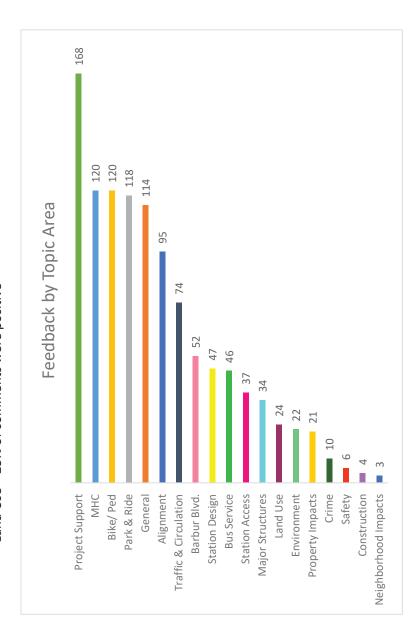
Feedback by Topic

Project Support

"You have done a wonderful job creating and fine tuning this project. I'm looking forward to riding it from the first day." Of the 926 comments, 168 (or 18.1%) of them were positive, with little to no suggestions or concerns.

Not including general comments, the following topics had the largest share of positive comments:

- Major Structures 53.1% of comments were positive
- Barbur Blvd. 30.7% of comments were positive
- Land Use 25% of comments were positive



General Comments



topic area. Of these, 50.9% (58) were enthusiastically positive, and 15.8% (21) were negative. Other There were 114 general comments about the project that mentioned neither a specific station nor a general comments included suggestions about map edits and community outreach strategies.

Feedback by Topic Area

Not including project support or general comments, the five most common topics that respondents commented on were, in order:

- Marquam Hill Connector
- Bike and pedestrian infrastructure
- Park & Rides
- The project alignment
- Traffic and circulation

Please note that some comments have been categorized into multiple topics.

1. Marquam Hill Connector

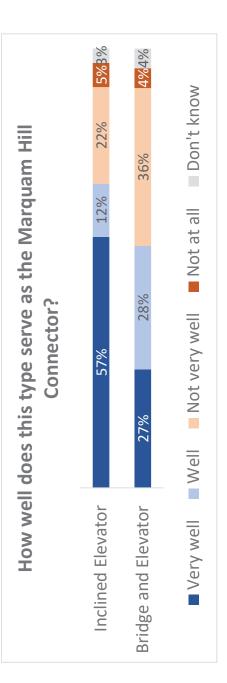
There were a total of 120 comments about the Marquam Hill Connector.

directly access OHSU and other Marquam Hill destinations. Overall, there was greater public preference have the least impact on Terwilliger Parkway. There was also concern that any of the alignments do not OHSU, and confidence that either alternative would provide a unique experience for OHSU employees, There was a lot of excitement about having a mechanism for moving people quickly up the hill toward students, patients and visitors. There was strong preference for choosing the alternative that would for the inclined elevator.

"I support which ever option impacts Terwilliger parkway the least.

Ratings

There were 91 ratings received related to the Inclined Elevator and 89 ratings received related to the Bridge and Elevator.





Inclined Elevator Comments

There were 59 comments received specifically about the Inclined Elevator. Common themes include:

- Better for disabled access (9 comments)
- Stairway should be included (6 comments)
- Better protection against the elements (6 comments)
- Innovative and new transportation method that will attract visitors (6 comments)
- Would have less impact on Terwilliger Parkway (6 comments)
- Better capacity for moving people up the hill more quickly (5 comments)
- Should be open all hours (5 comments)
- Too expensive (5 comments)
- More aesthetically pleasing than Bridge & Elevator (3 comments)

Bridge and Elevator Comments

There were 45 comments received specifically about the Bridge and Elevator. Common themes include:

- Concerns with reliability and/or capacity (6 comments)
- Better option because it is inexpensive (5 comments)
- Support because it is accessible and open at all hours (4 comments)
- Doesn't have protection against elements (4 comments)
- Support for the views it would provide (3 comments)
- Would enjoy the Inclined Elevator just as much (3 comments)

Other themes

- Neither option provides direct access to OHSU (8 comments)
- Both options have negative impacts on Terwilliger Parkway (3 comment)

2. Bicycle & Pedestrian Infrastructure

majority had to do with suggestions or concerns. Eighty-nine of these comments were about specific There were a total of 120 comments regarding bicycle and pedestrian infrastructure, and the large stations, and will be talked about more in a later section.

The top three stations recommended for greater bicycle/pedestrian safety improvements are:

- Barbur Transit Center Station at 15 comments
- Gibbs Street Station at 11 comments
- 19th Avenue Station at 10 comments

The following key themes emerged from comments that did not specifically reference a station:



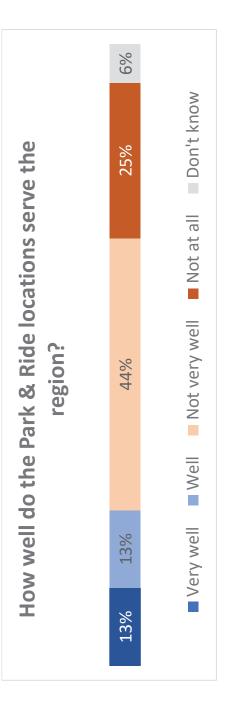
- General excitement about the improved pedestrian and bike infrastructure (13 comments)
- Desire to walk to stations, and an ask for improved sidewalk infrastructure on local neighborhood streets (8 comments)
- More raised protected bike lanes on Barbur and/or 99W (8 comments)
- Eliminate car lanes on Barbur (6 comments)

3. Park & Rides

The options about Park & Rides were, overall, fairly polarized. Either people wanted to see more Park & Ride facilities in general or at specific stations, or they wanted no Park & Ride facilities along the corridor.

Ratings

There were 32 ratings received related to the existing Park & Ride scenario.



General Comments

There were 118 comments received specifically about the Park & Ride facilities and locations.

Comments for more Park & Ride	Comments for <u>less</u> Park & Ride
60 comments	39 comments
 Reasons included: Better for people with limited mobility Without adequate Park & Ride space, people will drive to their destination, or park in adjacent neighborhoods Observations that existing Park & Ride spaces fill up quickly 	 Reasons include: Space could be used for mixed use development or affordable housing The money spent on Park & Rides should instead be invested into pedestrian and bicycle infrastructure or improved bus service Environmental concerns



Location-Specific Park & Ride Comments

When sorted by station, the Park & Ride options were less polarized, and the majority of station-specific Park & Ride comments were about Barbur Transit Center.

	Comments for <u>more</u> Park & Ride	Comments for <u>less</u> Park & Ride
Barbur Transit Center	24	7
53rd Avenue Station	0	œ
68th Avenue Station	2	9
Hall Boulevard Station	9	ហ
Bridgeport Transit Center	80	1

4. Alignment

majority of these were critiques about the alignment. Though the locally preferred alternative has been determined, it is useful to understand these critiques order to determine where to prioritize pedestrian, A predominant amount of comments (95) were about the alignment of the project itself, and the bicycle and bus access to key destinations.

Common themes about alignment:

- Concern about the lack of a direct connection to WES Commuter Rail, particularly between the Hall Boulevard Station and Tigard Transit Center (15 comments)
- Some respondents state the alignment improves the access to Portland Community College (PCC), but the majority of comments regarding PCC suggest that this connection does not adequately serve students (8 comments)
- There is a desire for the new MAX line to extend beyond Bridgeport to Downtown Tualatin, or Wilsonville, and/or a desire to make this extension available in the future (5 comments)
- A desire for the **13th Avenue** Station to be closer to the Terwilliger Blvd. and Barbur Blvd. intersection (5 comments)



- A desire for better connectivity between the station and OHSU; concern that Marquam Hill Connector does not help connect close enough to destinations (4 comments)
- Concern that 19th and 13th are too close together (4 comments)

The majority of other comments asked for a completely different route altogether, and/or the removal of specific stations.

5. Traffic and Circulation

particular station, and will be described in more detail in a later section. The majority of comments There were 74 comments made about traffic and circulation. Of those, 57 comments referenced a about traffic and circulation were suggestions or concerns.

The top three stations recommended for enhanced traffic and circulation configurations were:

Upper Boones Ferry Station, with 18 comments. The majority of these comments referenced the negative traffic impacts of not having an elevated station. Barbur Transit Center with 10 comments. Nearly all of these comments were concerning the negative traffic impacts of ODOT's Crossroads Safety Project Hamilton Street Station, with 8 comments. The main concern was the potential traffic impacts related to the realignment of Bancroft.

Other comments referenced the general increase in traffic that a MAX alignment would bring to station intersections, and a general sentiment that automobile driver needs are not being taken into consideration.

Other Topics:

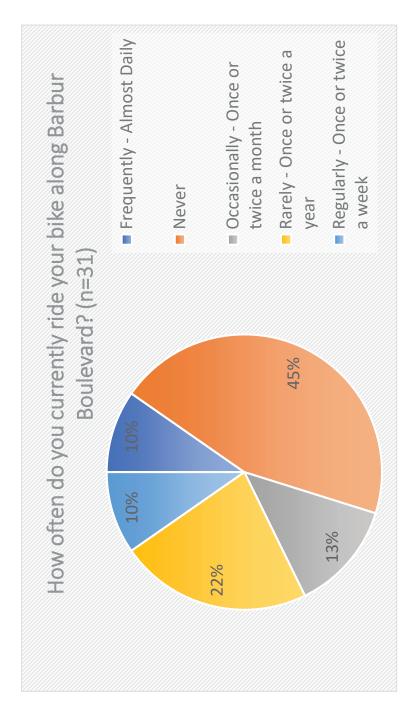
Barbur Blvd. (52 comments)

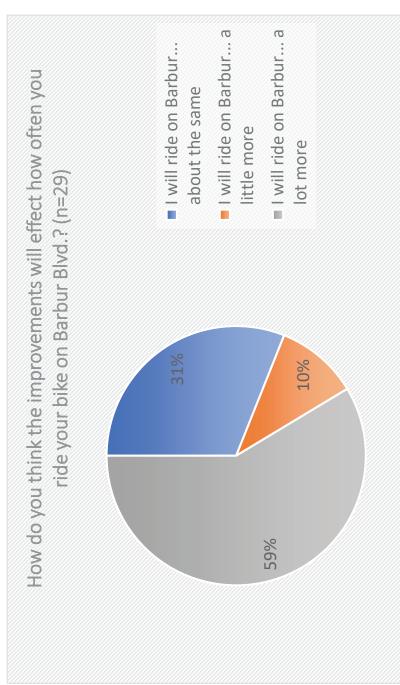
- . "The Barbur improvements are key!"
- General positive impressions of bicycle and pedestrian improvements (9 comments)
- Request to reduce car lanes (8 comments)
- Positive impression of keeping four car lanes (7 comments)
- Lower speed limits (3 comments)

Current bicycle ridership: 45% of respondents said that they never ride their bike on Barbur (see chart



Anticipated bicycle ridership: 59% of respondents indicated that the proposed improvements would encourage them to ride their bike on Barbur a lot more (see chart below)







Station Design Recommendations (47 comments)

Common themes include:

- Desire for better station designs that reflect neighborhood history, identity and culture (6 comments)
- Longer platforms that can support future four-car MAX train consists(5 comments)
- Support for restrooms at each station (5 comments)
- Support for bike needs such as bike parking and secured bike storage (5 comments)

Creative/notable suggestions:

- Include public health safety reminders
- Signs to encourage recycling

Bus Service (46 comments)

Common themes include:

- There should be more feeder buses to stations, especially to Bridgeport (5 comments)
- Focus more on bus connections, less on MAX (5 comments)
- Bus connections should be made adjacent to the Hall Boulevard Station (3 comments)
- Support for changes proposed by the SW Service Enhancement Plan (3 comments)
- Continue bus lines 96 and 12 (3 comments)
- Line 44 should run more frequently, and should stop at the Barbur Transit Center (3 comments)

Station Access (37 comments)

Top Portland Station Access Projects:

In the online open house, we asked respondents to rank their top five Portland Station Access Projects. The follow projects had the largest amount of support:

- Project #16 Taylors Ferry Sidewalks and Bikeway (11)
- Project #9 Capitol Hill Sidewalks and Bikeway (10)
 - Project #18 Capitol Sidewalks and Bikeway (9)
- Project #23 Barbur/PCC to Triangle Connection (8)
- Project #21 Pomona Sidewalks and Bikeway (7)

Top Tigard Station Access Projects:

We asked respondents to rank their top two Tigard Station Access Projects:

- Project #25 New SW 72nd Avenue Sidewalks and Bikeway (16)
- Project #26 –SW Hall Boulevard Sidewalk Improvements (15)
- Project #30 Bike and pedestrian connection over Highway 217 (15)



Common themes from open-ended comments:

- General support for investing more in bicycle and walking access to stations (9 comments)
- Connect Crestwood and Ashcreek Neighborhoods to 53rd Avenue Station via I-5 overpass (4 comments)
- Creative suggestions:
- Develop a mobile app to determine best/safety station access route 0
- Include a shuttle between Tigard Transit Center and Hall Boulevard Station 0

Major Structures (34 comments)

Common themes include:

- Support for Viaduct replacement (7 comment)
- Support for elevated crossing at Bonita (5 comments)
- Support for flyovers and bridges (5 comments)
- Request for multi-use path on 217 bridge (4 comments)
- Improve Barbur Blvd. / Capital Highway Bridge (3 comments)

Notable/ creative comments:

- The Downtown Portland tie-in doesn't address the issues related to underutilized land, traffic congestion, and the potential for bike/pedestrian improvements below. Partner jurisdictions should collaborate to create a better vision for this space
- Keep to current design standards, but don't spend extra money on creating iconic structures invest that money instead on assets that will directly benefit users (sidewalks, bike facilities, environmental assets)

Land Use (24)

Common themes include:

- Excitement about transit-oriented development along the route (7 comments)
- Excitement about West Portland Town Center Plan (5 comments)
- Concern that the general station design is too car-oriented (3 comments)
- Equity considerations regarding land-uses, including:
 - Concern about gentrification (2 comments)
- Excitement about access to jobs, including access to PacTrust employment centers (2 comment) 0



Environment (22)

Common themes include:

- Excitement about green infrastructure, including street trees and bioswales (6 comments)
- Concerns related to stormwater, drainage and flooding (4 comments)
- Noise pollution concerns (3 comments)

Notable comments:

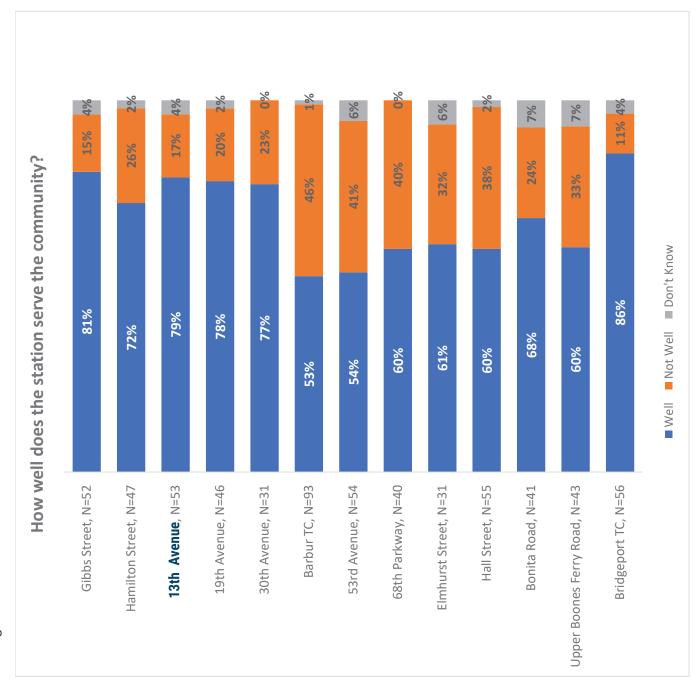
- Save as many trees as possible (2 comments)
- Coordinate with the City of Portland, Bureau of Environmental Service to incorporate native plants into landscaping (2 comments) 1 1



Station-Specific Comments

Station Ratings

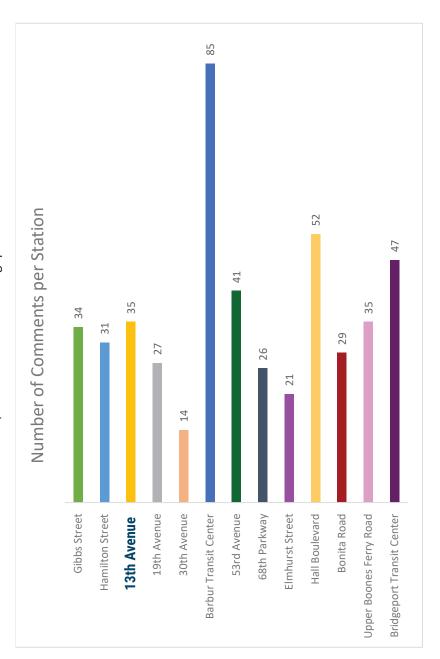
There were 642 ratings combining all of the station ratings. The below table summarizes the results by dividing the comments into "Well" and "Not Well."





Comments by Station

The table below shows the number of comments per station. The stations that received the most comments were Barbur Transit Center, Hall Boulevard and Bridgeport Transit Center.



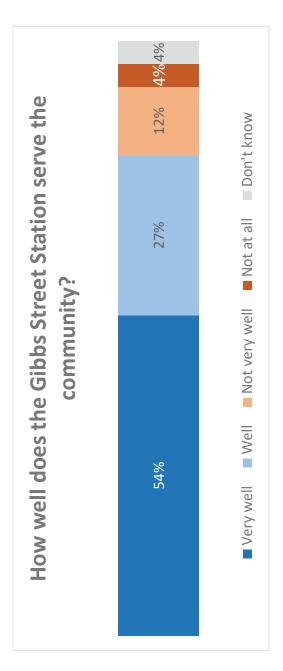
Gibbs Street Station

"Honestly, this cross-section is what every station along the corridor should look like.

The Gibbs Street Station is one of the highest-ranked stations along the SW Corridor. Positive comments about this station included the design of the station itself, the plan to manage stormwater, the plan to Bridgehead/SW Naito Parkway Mainway project. The majority of suggestions about this station were have a shared transit way, as well as positive remarks about the complementary Ross Island regarding bike enhancements, pedestrian crossing, and traffic and circulation



There were 52 ratings received related to the Gibbs Street Station.



Comments

There were 34 comments received specifically about the Gibbs Street Station. Common themes include:

- Desire for two car lanes in each direction in this segment (4 comments)
- Concern about pedestrian safety in crossing Barbur (4 comments)
- Concern about the distance from OHSU (3 comments)

Notable comment:

Use the footprint of the former synagogue for something creative

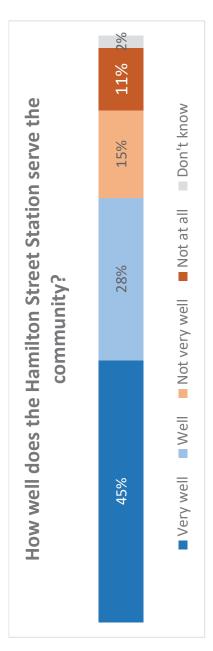
Hamilton Street Station

"These improvements will enhance the livability and safety for the community here. Better for ped and bike safety and for traffic flow. Thank you."

impressions about this station included appreciation for the traffic light at SW Bancroft and SW Corbett, the recognition that SW Bancroft will become less dangerous and a desire for the project to happen Overall, the Hamilton Street Station had an average rating compared to other stations. Positive faster. Predominate concerns about this station had to do with the impacts of the SW Bancroft realignment, and concerns related to bike and pedestrian routes.



There were 47 ratings received related to the Hamilton Street Station.



Comments

There were 31 comments received about the Hamilton Street Station. Common themes include:

- Concern about the realignment of SW Bancroft related to increased traffic and negative impact on surrounding residential properties (8 comments)
- Add bicycle and pedestrian improvements to SW Hamilton between Terwilliger and Corbett, including a protected way to cross Barbur at the Hamilton intersection (3 comments)
- Move the station south of Hamilton to reduce property impacts, eliminate the need to realign Bancroft and avoid pedestrian crossings near Bancroft – a dangerous and busy intersection (3 comments)

Creative/ Notable recommendation:

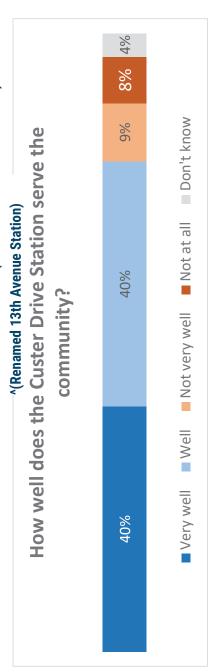
A better connection to Barbur from SW Slavin Road via a walking path

Custer Drive Station (renamed) 13th Avenue Station

"Building a bike/ped bridge over I-5 from South Burlingame from SW 11th would be transformative. is among the highest rated stations, though the majority of comments had to do with either Interestingly, there were several suggestions to rename this station to reference either the historic suggestions or concerns. The most predominate concerns were about parking and station access. Burlingame Transit Center or the surrounding neighborhoods —of Hillsdale and South Burlingame.



There were 53 ratings received related to the Custer Drive Station (Renamed 13th Avenue Station)



Comments

(Renamed 13th Avenue Station)

There were 35 comments received specifically about the Custer Drive Station. Common themes include:

- suggestions include support for moving the station to Terwilliger and/or Station Access Concern about limited station access for the South Burligame neighborhood; potential Project #8 (7 comments)
- Concern about the lack of parking space given the absence of a Park & Ride (4 comments)
- Support for reducing car lanes on Barbur Blvd. (3 comments)

19th Avenue Station

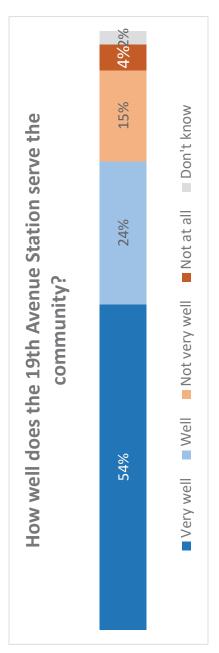
"Perfect for commuters in Multnomah Village and surrounding area.

"I think that there needs to be an increased focus on connectivity to Multnomah Village, since this seems like the primary stop that services the area, even though it's a mile away from the actual center of town."

and pedestrian enhancements in the area. Several people indicated that 19th Avenue Station and Custer stated that the connectivity to Multnomah Village and general safety could be improved with bicycle 19th Avenue Station received medium-high ratings, with positive remarks indicating that this station serves the Multnomah Village community and surrounding area well. However, other respondents Drive Station are too close together.



There were 46 ratings received related to the 19th Avenue Station



Comments

There were 27 comments received specifically about the 19th Avenue Station. Common themes include:

- Suggestions that this slip lane is dangerous to pedestrians and unnecessary considering the Concern about the slip lane from Barbur moving southward onto SW 19th Avenue; existing Barbur-to-Spring Garden connection to the west (3 comments)
- Concern that this station is too close to Custer (3 comments)
- Pedestrian concerns related to the number of lanes and cars that this station would attract, and a suggestion to include a pedestrian bridge at this station (3 comments)

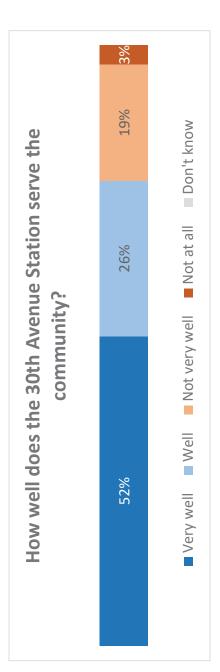
30th Avenue Station

If that could be rectified "This station is surrounded by a number of auto-oriented uses." through up-zoning it could be a pretty good station.

intersection. A predominate share of respondents mentioned the car-centric nature of this station, both favored, one respondent expressed appreciation of the realignment of 30th Avenue to connect with the This station received higher ratings and received relatively few comments. Of the aspects people in terms of land-use and design.



There were 31 ratings received related to the 30th Avenue Station.



Comments

There were 14 comments received specifically about the 30th Avenue Station, the fewest of any station. Key themes included²:

- Concern about two car lanes in each direction on Barbur Blvd. (4 comments)
- Desire for mixed used development and up-zoning to transform the car-centric nature of this station (2 comments)
- Request for better bike connectivity with station access projects:
- Extend bike lane to Spring Garden (2 comments)
- Extend 26th Avenue improvements to connect with Dolph (2 comments) 0

Barbur Transit Center

"If you really want to encourage the use of public transportation, you must provide many more parking spaces at the transit centers." Barbur Transit Center is the lowest ranked station and also received the largest number of open-ended comments. Positive comments included appreciation of the raised protected bike lane, the fact that Barbur World Foods will be preserved and the plan for transit-oriented development at this site.

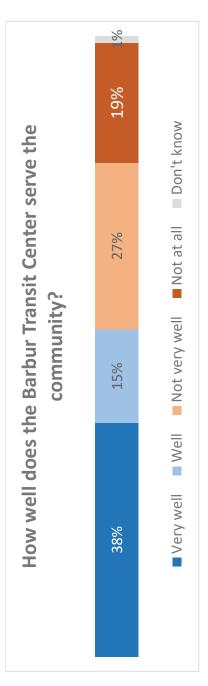
² Usually key themes are defined as three or more comments, but because there were few overall comments for this station, we included suggestions that had two or more comments.



Concerns about the Park & Ride were most predominating, and were polarized. There were also comments related the ODOT Crossroads Safety project.

Ratings

There were 93 ratings received related to Barbur Transit Center, the most of any station.



Comments

There were 85 comments received about Barbur Transit Center, the most of any station. Common themes include:

The addition of more Park & Ride spaces, and/or a parking structure (24 comments)

The following are the reasons for why people requested more parking:

- The current parking lot fills up by 8 a.m.
- There is a current lack of pedestrian and bike connectivity to the station, leaving few multi-modal alternatives, especially for those with limited mobility 0
- The parking will overflow into nearby businesses and residents
- access, bicycle and pedestrian safety, and traffic. The underlying suggestion is to keep the Concern about the ODOT Crossroads Safety project design related to Barbur World Food left turn lane from Capital Highway to I-5 South (9 comments)
- Request for fewer Park & Ride spaces (7 comments)
- Positive support for West Portland Town Center Plan (5 comments)
- Concern that the Station Access Projects stop too short of the station and don't provide adequate connectivity (4 comments)
- Suggestion to move the station south towards the transit center (4 comments)



- Concern about the negative visual and noise impact that the flyover would have on nearby residences and businesses (3 comments)
- Concern about the lack of improvement to the Capital Highway/ Barbur Blvd. bridge (3 comments)
- There were some notable comments about the station design, including:
- Allow southbound buses to access the transit center (2 comments) 0
- Add a café at the transit center

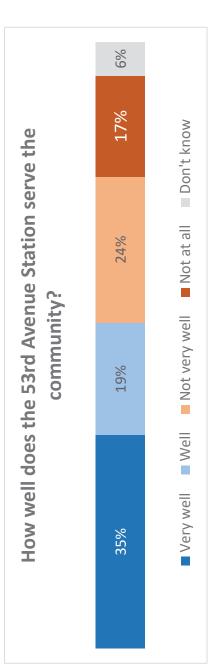
53rd Avenue Station

"Replace the Park and Ride with a mixed-use development. If this station is intended to be a gateway to Far Southwest and PCC Sylvania, then it should be developed as a neighborhood center."

improved access to PCC. However, some respondents indicated that this station does not adequately serve those commuting to PCC, and may be redundant with the nearby stations. There were also a This station is among the lowest ranked stations. Positive impressions of this station included the number negative comments related to the Park & Ride at this station.

Ratings

There were 54 ratings received related to the 53rd Avenue Station.





Comments

There were 41 comments received specifically about the 53rd Avenue Station. Common themes include:

- Replace Park & Ride with other uses such as mixed-use development and/or affordable housing (8 comments)
- Concern that this station does not provide adequate access to PCC (6 comments)
- Concern about lack of station access from neighborhoods north of this station suggestion to add a pedestrian bridge to facilitate this connection (6 comments)
- Suggestion for enhanced pedestrian and bike infrastructure on 53rd Ave. and Pomona St. (5 comments)

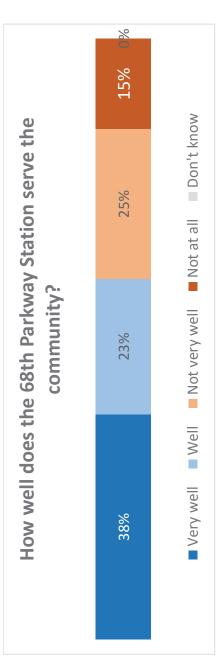
68th Parkway Station

"Remove the park and ride, and replace it with some kind of mixed use (or even commercial) development."

concerns. The most predominant suggestion was reducing the size or removing the Park & Ride facility. This station received medium-low rankings, and the majority of respondents shared suggestions or

Ratings

There were 40 ratings received related to the 68th Avenue Station.



Comments

There were 26 comments received specifically about the 68th Avenue Station. Common themes include:

- Remove Park & Ride and replace it with mixed-use development (6 comments)
- Suggestions to provide bicycle and pedestrian enhancements along 99W such as:
- (6 comments)
- Protected bike lanes
- Sidewalks on the north of 99W



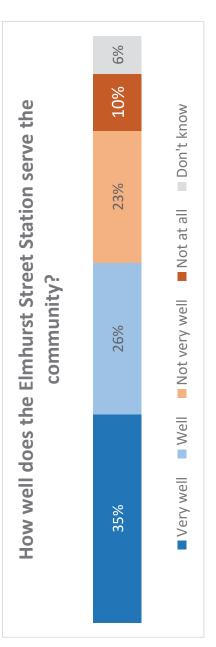
- Extra crosswalk at 99W
- Longer cross times at the intersection of 99W and 68th
- Enhanced pedestrian crossing at SW Coronado
- Signalized crossing at 71st
- Excitement about transit-oriented development potential at this station (5 comments)
- Concern about traffic impacts of this station (3 comments)

Elmhurst Street Station

Elmhurst Street Station received fairly low rankings, and received a lower than average amount surrounding area of this station and how that could spur demand. However, there were several of ratings and comments. Positive impressions included the mixed-use potential for the comments stating that is station would be underutilized given the current use of the surrounding area, and its proximity to the Hall Street Station.

Ratings

There were 31 ratings received related to the Elmhurst Street Station, the fewest of any station.



Comments

There were 21 comments received specifically about the Elmhurst Street Station. Common themes include:

- Concerns about the station location far from shopping opportunities and may have low ridership given current surrounding uses (5 comments)
- Station could catalyze positive changes in Tigard (3 comments)

Notable recommendation:



Remove the elevated crossing over Dartmouth and redirect those funds toward an elevated station at Upper Boones Ferry (2 comments)

Hall Boulevard Station

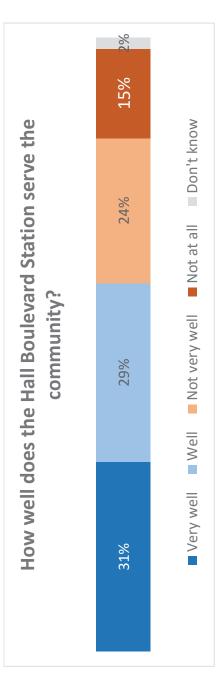
"Emphasize and prioritize pedestrian access between station and the existing Tigard Transit Center to facilitate transfers."

"Seems a little far from the existing Tigard Transit Center.

of this station include the realignment of Hunziker St. The majority of respondents were concerned with Hall Boulevard Station also received fairly low ratings, compared to other stations. Positive impressions station. The opinion on Park & Rides at this station was evenly split between those who prefer more the amount of Park & Ride, or the connection to the Tigard Transit Center and WES Commuter Rail parking spots and those who prefer less parking.

Ratings

There were 55 ratings received related to the Hall Boulevard Station.



Comments

There were 52 comments received specifically about the Hall Boulevard Station. Common themes include:

- Concern for the lack of direct access to the WES station (12 comments)
- Request for more Park & Ride spaces and/or parking garage (6 comments)
- Request for enhanced pedestrian and bicycle infrastructure along commercial to create a better connection to WES (7 comments)



- · Request for fewer Park & Ride spaces (5 comments)
- Concerns about the Operations Maintenance facility being unsightly and/or reducing the potential for transit-oriented development (3 comments)

Notable suggestion:

A shuttle that goes between Hall Blvd and Tigard Transit Center

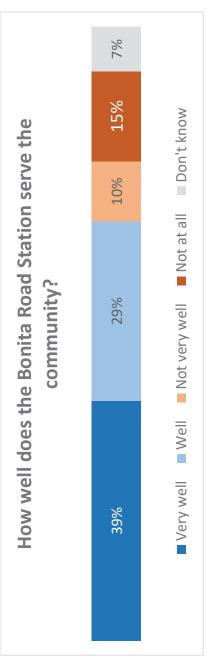
Bonita Street Station

"I'm excited for the first elevated station on the MAX system and it looks to serve somewhat dense development.

comments are in appreciation of the elevated station. Several respondents are excited about the first The Bonita Street Station is the second-highest ranked station in Tigard, and the majority of positive elevation station in the MAX system, and one respondent requested that TriMet "go big" with this design. However, there was a concern about privacy related to the elevated station.

Ratings

There were 41 ratings received related to the Bonita Street Station.



Comments

There were 29 comments received specifically about the Bonita Street Station. There was only one theme (defined as 3 comments or more) that emerged:

Excitement about elevated station (5 comments)

There were a few traffic-related concerns from respondents who didn't realized that the Bonita Station is elevated.



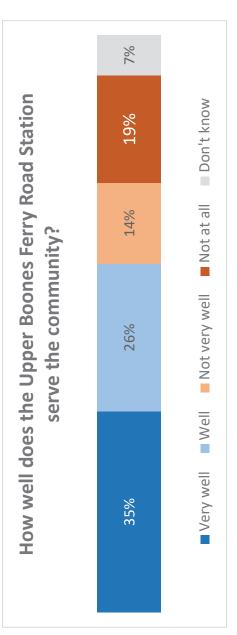
Upper Boones Ferry Road Station

"These crossings are already very congested and are complicated by nearby separate rail crossings. I believe the MAX crossings here need to be elevated."

Upper Boones Ferry was the lowest ranked station in the Tigard/Tualatin area. Positive impressions School and Tigard High School. By far, the most predominate suggestions were to have an elevated included how this station would provide "great access" for students at Creekside Community High station over Upper Boones Ferry and an elevated crossing over 72nd Avenue.

Ratings

There were 43 ratings received related to the Upper Boones Ferry Road Station.



Comments

There were 35 comments received specifically about the Upper Boones Ferry Road Station. Common themes include:

- Concerns that an at-grade crossing would cause traffic issues on Upper Boones Ferry and/or 72nd (16 comments) •
- Concern that without a Park & Ride, this station will be underutilized, considering residential and non-industrial uses (4 comments)



Bridgeport Transit Center

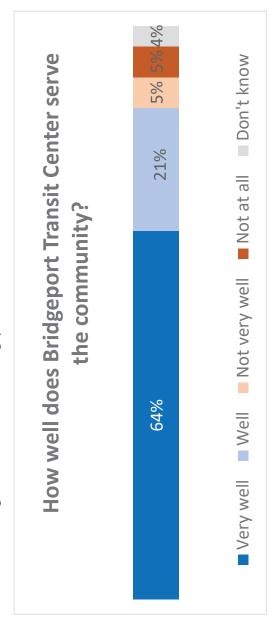
"I've been waiting for a train from Tualatin to downtown Portland! Thank you!"

"This connection to the Bridgeport Transit Center seems essential for connection Tualatin to the rest of the MAX system. Many workers will be able to access employment in the SW Corridor and Portland." Bridgeport Transit Center is the highest ranked station along the alignment. There is general excitement about light rail coming into Tualatin, and the nearby access for other regional residents. There is also excitement that the popular Village Inn will be retained.

There were several comments made about the Park & Ride. The opinions were polarized, with some respondents wanting more spaces and other respondents wanting less.

Ratings

There were 56 ratings received related to Bridgeport Transit Center.



Comments

There were 47 comments received specifically about Bridgeport Transit Center. Common themes include:

- Add more Park & Ride stalls (8 comments)
- Excitement that Village Inn is being retained (4 comments)
- Extend this line and/or design in a way that doesn't prelude extension (4 comments)

Creative/notable comments:

Add fun lighting to the station that could serve as an icon and be seen from the freeway



Public Presentations

other stakeholder groups. The team captured the input and notes from these groups. A summary of that Members from the project team presented in front of 38 committees, commissions, associations and feedback is captured in the table below.

Date	Name Of Group	Feedback
1/21/2020	Urban Design Panel	 Concerns about affordable housing on remainder parcels Interests in place-making developments, synagogue site, stations access projects and collaborative projects (PCC, OHSU, etc.)
2/3/2020	Tigard Planning Commission	 Question about projected number of vehicle reduction by project Concerns about crime, safety, parking need and Park & Ride Question about project's success measurement
2/6/2020	WCCC Transportation Advisory Committee	 Good job at improving project's viaducts, stations and routes Need more information about bus routes and additional structures
2/6/2020	Portland Freight Committee	 Concern about lane widths for specific vehicles Interest in number of Park & Ride spaces Concerns about potential congestion at Barbur and Naito
2/10/2020	Washington County Coordinating Committee	 Question about ownership of the line along WES Suggestion about using transit equity for future projects
2/10/2020	Tualatin Aging Task Force	 Would like to make sure current bus service is maintained, especially direction connection to Portland Increase future bus service/connections to MAX Glad to see Village Inn is not affected



2/10/2020	ligard Youth Advisory Council	 A few would be interested in joining the TriMet Youth Committee Interest in green and sustainable elements Concerns for increased traffic Concerns for crime Support for light rail and transportation
2/11/2020	Transit Equity Advisory Committee	 Concerns about parking fee at Park & Ride and existing affordable housing A need for information about autonomous vehicle shuttle and the Regional Transportation Funding Measure Questions about how to get involved with the Community Advisory Committee, and bike access in station modeling data
2/11/2020	Portland Bicycle Advisory Committee	 Concerns about bike facilities and pedestrians (safety, access, parking) Questions about Station Access projects, neighborhoods' connectivity, Park & Ride facilities
2/13/2020	Committee on Accessible Transportation	 Question about points of contact for broken crossing signal Concerns about elevated stations, OCS poles, platforms' access Suggestions to use inclusive mobility term (accessible, walk and roll) and visual images of project Would like to make sure current bus service is maintained, especially direct connection to Portland Increase future bus service/connections to MAX Glad to see Village Inn is not affected Looking forward to open house in March
2/18/2020	Washington County Commissioners (Work Session)	 Questions about adjusted project ridership (43k to 37k) and the accuracy of project cost (\$2.8B) Clarification on public opportunity site and FEIS approval process Needs for Park & Ride expansion and transit-oriented development
2/18/2020	Pedestrian Advisory Committee	 Questions about ridership, total project cost and Park & Ride cost Concerns about bridge and elevator's safety, stations' accessibility Suggestions to elevate platforms higher, HOP reader's electronic eye system for visually impaired individuals Questions about research on polling, engagement process and Barbur's speed limits for autos



2/19/2020	CM/MI	• Concerns about traffic is traffic safety bus connectivity
	Transportation Committee	and stations' accessibility • Updates for red electric rail, quality index of bike and pedestrian's access to stations • Questions about zoning changes, future projects and ridership projection
2/20/2020	Washington County Community Participation Organization 3 (CPO3)	 Concerns about P&R capacity, neighborhood's street parking and traffic issue Questions about 2027's ridership projection, total project cost and project funding from Metro
2/24/2020	Tualatin City Council	 Questions about station's parking spaces (4,500 needed vs 2,020 provided), bus route (96), bus service Suggestions to increase outreach to State officials, stakeholders and property owners Concerns about Park & Ride capacity, pedestrian safety and traffic issue around stations
2/24/2020	Tabling at Portland Community College	 Lots of support for the project, would like it to be built sooner Request for frequent bus service, especially from the southern and western suburban areas Support for improvements to 53rd for biking and walking Lots of interest in a shuttle, excitement about autonomous vehicle technology possibilities General agreement that project will be well used
2/27/2020	ODOT Barbur Crossroads Safety Project Open House	 Concerns for impacts to Barbur World Foods Need for sidewalks, bike lanes and increased safety projects Concerns for increased auto traffic Concerns for impacts to bus line 43 bus stop on Taylors Ferry Concerns about the ODOT Crossroads project
2/28/2020	PSU Transportation Seminar	 Questions about added traffic signals, regional funding and autonomous vehicle technology Concerns about limited vehicle capacity and speed, housing and commercial developments, and housing unaffordability
3/2/2020	Durham Planning Commission	 Questions about security standards, crime data and use of Eminent Domain Concerns about traffic, homelessness and crime issues Interests in future projects (housing, light rail extension)



3/4/2020	West Portland Town Center Open House	 Concerns for impacts to Starbucks and other gathering places Request for multicultural centers Look at elevating Barbur Transit Center Support for both side and center stations Combine parking and development at Barbur Transit Center Center Concerns about displacement and support for affordable housing
3/5/2020	Tigard Transportation Advisory Committee	 Questions about Hwy 217 MUP cost (\$12M), carpool data and pedestrian safety Interests in bike facility design, use of station's vacant spaces and CWS hydro modification standards
4/1/2020	Hillsdale Neighborhood Association Meeting	 Questions about shuttle/bus access to OHSU Question about auto-lane changes to Bertha and Terwilliger Question about Gibbs Station walkshed methodology Interest in renaming Custer Station to "Burlingame Station"
4/21/2020	Tigard City Council	Would like to see more of the framework for Transit Oriented Development when resolution is brought back to council. Advocating for more parking at Hall station, 100 spaces does not seem enough Emphasize that Hall station is more than a transit only facility; this station will be changing the look and feel of the area. Hall station area will become a valuable area, development and parking need to be addressed, a lot of people have been eager to see the potential for Transit Development in the area Multi Use Path (MUP) is a critical focus for Tigard Operations Maintenance Facility (OMF) needs more discussion; would like to see more about development stage; impacts and mitigations. Appreciates TriMet's partnership
5/6/2020	South Portland Neighborhood Association	 Questions about Bancroft Realignment, and removing the left turn at Hamilton Question about ridership changes due to COVID – 19 – concern that development changes will effect ridership Curiosity about inclined elevator examples



5/11/2020	Ash Creek Neighborhood Association	Support for side running at BTC. Support for Station Access Projects #16, #19 & #20. Request for more sidewalks, bike lanes and access to stations south of BTC. Requests for more parking at BTC. Concerns for funding measure.
5/11/2020	Multnomah Neighborhood Association	Concerns for displacement, residential and business. Concerns for Barbur World Foods. Concerns for increased auto traffic. Concerns for funding measure.
5/12/2020	Arnold Creek Neighborhood Association	Concerns for parking and increased traffic at 53 rd . Request for additional bus service. Support for the project.
5/14/2020	South Burlingame Neighborhood Association	Request to change name of Custer to 13 th – completed. Support for Station Access Project #8. Concerns for bike and ped safety at major intersections like Terwilliger. Concerns for potential of increased crime.
5/18/2020	Portland Historic Landmarks Committee	 Strong interest in protecting character and peak-a-boo views for those moving along Terwilliger Parkway Concern about upper headhouse Would love to see project survey information on historic resources added to Portland Historic Resource Inventory
5/18/2020	SWNI Transportation	 Interest in future rerouting of Line 39, and L&C access to LRT Question about MHC operations Interest in SW trails mitigation improvements Questions about 19th Avenue station placement and stormwater
5/20/2020	TV Jam Meeting	 Questions regarding COVID 19 and changes on TriMet's system Traffic impacts during construction Funding for the project during this time of COVID-19 Who gets the jobs noted How can people make themselves heard if they cannot vote. Questions about station's parking spaces and Park & Ride locations. Questions about future fare increases as well as Low Income Fare eligibility.



5/21/2020	Metro Joint Policy	- General support for the project
	Advisory Committee on Transportation	 Questions and interest in potential federal infrastructure stimulus Interest in the intersection between transportation and affordable housing/anti-displacement
6/02/2020	Homestead NA	 Support for Inclined Elevator Questions about property impacts & viaduct reconstruction Questions about Bancroft realignment Questions about OHSU Hospital Expansion Project
6/10/2020	Bridlemile NA	 Questions about bus service changes Question about ridership of other MAX lins General Support for project and questions about timeline could it be completed faster?
6/18/2020	SWNI Watershed Committee	Reviewed the topography, current conditions, stormwater toolkit, watershed maps, stormwater approach, improving water quality, erosive control, currently assumed stormwater pond locations and drainage infrastructure.
6/22/2020	Portland Historic Landmarks Commission	 Concerns about removal of the synagogue, and suggestions to look into alternatives, such as adaptive reuse of the building Landmarks Commission would like to review alternatives to synagogue removal offline
6/24/2020	Washington County Community Participation Organization 3 (CPO4M)	 Interests in Transit Oriented Development sites & affordable housing Interest in stormwater detention requirements at Hall Station General concerns for amount of parking along the entire corridor; still want and need to drive to access transit; parking cost Interest in partnerships with Churches and other private property owners to share parking at peak times Questions on Village Inn closure and future design changes
7/1/2020	South Portland NA	- Question about historic resource impacts and Metro funding measure



Multicultural Community Engagement

Cultural and TriMet worked in partnership with the Muslim Education Trust, HAKI and St. Anthony Parish to remove the language barriers and deliver information to the community in their preferred places of culturally appropriate outreach events to various communities. Through this partnership, Centro TriMet collaborated with Centro Cultural de Washington County to design, promote and deliver gathering as well as providing a space for valuable feedback in their native languages.

Swahili Language Focus Group



March 7, 2020 - 12 participants including seniors and kids

- Concerns about traffic, safety and the effect on pedestrians; cars have hit several seniors in the past and there is a growing concern that this will continue to happen with the increase in traffic
- Concern on how wide the road will become with the added the MAX line. Barbur Blvd is a wide road already; concerned for seniors and kids who walk to access schools, stores and public transit
- Concerns about displacement and housing affordability once project opens
- affected by this connection; seniors are likely already walking to get to the station closest to their Preference for Inclined elevator vs Bridge and Elevator; seniors in this community would be most home, some may not be able to walk the distance with the elevator option to get to their appointments
- Request for upgraded bus stops that include shelters, lighting and benches
- Request for restrooms at major transit centers and transfer stations
- Request for safer crossings all along Barbur Blvd, including marked crosswalks, rapid flashing beacons and new traffic lights
- Request for additional green space and access to open space
- Request for cultural centers and gathering places, specifically a replacement coffee/tea shop for the Starbucks at Huber
- Request for TriMet to continue reaching out to small grassroots organizations and include people who live and work in the area



TV JAM Spanish Video

TriMet teamed up with Vive Northwest and their online platform TV JAM to reach the Latinx community and invite Spanish speakers to the all-Spanish open house. The open house was postponed due to COVID-19 concerns. However, the video generated a lot of interest for the project, with people expressing their general support for the project in the Southwest Corridor.

Video Analytics provided by TV JAM:

- Total video views: 11,190
- Total people reached: 29,041
- Total number of video shares: 145.
- Total engagements: 2,560
- Of the total number of people reached, 50.2% were women
- Average age range with most views: 35-44



Pero para poder conseguir la aprobación de este plan es necesario



Muslim Educational Trust

focus groups were postponed due to COVID-19 concerns; however, both organizations are committed in Centro Cultural de Washington County and the Muslim Educational Trust (MET) teamed up to offer two focus groups centered on the Somali and Arab community as well as the community at large. The two re-scheduling the focus groups as both organizations see transportation as a major need for the communities they serve.

Appendix I

Exhibit A to Resolution No. 20-05-23

TriMet

Transit-Oriented Development (TOD) Guidelines

Summary Statement

TriMet is committed to helping make our region one of the world's most inclusive, sustainable, and livable places. which can support growth, sustain and build community, increase transit ridership and access, reduce congestion, TOD is a powerful tool to help achieve this goal by creating equitable development around transit station areas, and bring environmental benefits.

In order to facilitate TOD in the region, TriMet will:

- uses and household incomes to create places where people from all backgrounds and communities want to Promote equitable development at transit stations that includes transit-supportive density and a mix of live, work, play, and visit.
- Promote "mobility hubs" that make development accessible to transit and other forms of transportation, thereby reducing reliance on private automobiles. •
- Promote affordable housing and anti-displacement strategies by engaging with local communities and jurisdictions to leverage their resources and identify specific land-use goals in a given area. Identify strategies that meet regional objectives and are appropriate for each development site.
- Review and prioritize potential TriMet development sites. Create plans and strategic options for each site that best address the needs of the area as determined through consultation.
- Establish regional and neighborhood needs through research and the evaluation of projects through a racial equity lens. This includes transparent and structured consultation with local communities, key stakeholders, and other interested parties.
- Require developers to utilize TOD principles and provide assistance in doing so.
- Encourage local jurisdictions and other government partners to modify regulations to facilitate TOD, including changes to tax and zoning codes. Supportive modifications include changes to height and density restrictions, minimum parking requirements, use restrictions, and tax incentive programs.
- Promote TriMet's TOD Guidelines to public and private sector partners throughout the region. •
- Pursue opportunities that generate revenue or create value for TriMet, which can be reinvested in future TOD projects, or leveraged to deliver tangible benefit to TriMet riders.

These Guidelines are intended to provide a framework for the development of TOD projects on TriMet-owned or controlled property and on third-party-owned property adjacent to TriMet transit station areas

TriMet's TOD Goals and Strategies are set out in full in the following Guidelines.

Exhibit A to Resolution No.: 20-05-23

287

Page 1 of 4

TOD Guidelines

development that gives all residents access to mobility options, and provides complimentary mixes of places to live, be dense, livable, walkable, and provide all residents with a variety of housing, working, services, and recreational opportunities, plus mobility options that encourage a car-free lifestyle. TriMet fully embraces equitable especially with the expected long-term population growth of the region, climate change forecasts, and the physical constraints to expansion in our existing street and highway network. For our region to thrive, TriMet must work to Metro's 2040 Growth Concept, which, among other things, "encourages compact development that uses land and backgrounds and communities want to live, work, age, visit, and play. These transit-oriented communities should TriMet is committed to helping make our region one of the world's most inclusive, equitable, environmentallyincrease the travel mode share and overall accessibility of the transit system. One way to comprehensively and play, and work. Such development significantly helps reduce the overall demand for private automobiles while maximizing the environmental benefits of TOD and minimizing the potential for displacement often caused by intentionally integrate transit with land use is to develop transit-oriented communities where people from all unconstrained urban growth. These Guidelines are designed to support and complement the vision set out in sustainable, and livable places. To do so, we must meet the challenge of providing mobility to all residents, money efficiently."

TriMet's Guidelines toward transit-oriented development therefore include the following goals and strategies.

GOALS:

- Integrated and Multi-Modal- Transit-oriented development should be integrated into TriMet's transit network connectivity, mobility hubs will accommodate a variety of mobility options such as pedestrian and wheelchair as much as possible, in part by creating "mobility hubs" - points in the transportation network that offer different modes of transportation and integrate with nearby TriMet transit services. By maximizing access, bike share, car share, rideshare, and e-scooters. ij
- buildings are involved, physical barriers should be reduced to encourage seamless travel between developments merely "transit-adjacent." This includes consideration for wayfinding, building orientation, and a multi-modal pedestrian-scale design in addition to maximizing exposure to transit and related services. Where multiple User-Friendly to Promote Transit Use- Projects should be "transit-oriented" and "transit-integrated," not and transit services. $\ddot{\circ}$
- Financially viable- Project costs must be justifiable from a project benefit perspective in order to ensure the long-term sustainability of the project and the broader TriMet TOD-program 'n
- Safe, Vibrant, and Accessible-Transit-oriented development should create accessible and vibrant station areas by providing community-oriented services in safe places where anyone who chooses can live, work, and visit. 4.
- includes a variety of housing styles at a wide range of price points, promotion of small business retail and office balance of different uses that provide options for all residents and visitors to live, work, shop, and play. This Balanced Mixed-Uses- Transit-oriented development should include, whenever possible, a complementary space, scalable industrial uses, and other uses. 5.
- Deliver Density- Transit-oriented development should include the principles of density and compatible off-peak secondary uses to create resource-efficient, high-quality, and environmentally-healthy developments that maximize the social and economic returns from constrained infill sites. 6.
- Provide Housing- Transit-oriented development should strive to include as much housing as appropriate, specifically: Γ.
- The appropriate mix of housing types and price points will be thoughtfully considered on a casedeliverables for each site before its sale or development. Proposals should comply with regional Metro standards and should promote efficient density and connectivity so that they address the by-case basis by engaging with local stakeholders to establish specific affordable housing

Exhibit A to Resolution No. 20-05-23

- most pressing needs of the broader region while integrating with the surrounding neighborhood and the communities within it.
- 30% of residential units in existing and future TOD projects on land owned or controlled by TriMet TriMet is extremely aware of the importance of housing affordability to the region and recognizes are for low or very low-income residents with average income ≤60% AMI (area median income). specific site or geographic location, TriMet will apply a portfolio-wide goal that ensures at least the history and risk of displacement. As these are regional problems that are not limited to a Ξ
- TriMet undertakes to work with the communities it serves and its jurisdictional partners to deliver Indigenous, Asian Pacific Islander (API), LatinX, and other People of Color. Planning efforts will affordable housing outcomes that minimize the displacement of low-income people and Black, include the application of a racial equity lens, and consideration of how each development can allow residents to remain in their neighborhoods and have access to housing at the TOD site. (iii)

STRATEGIES:

1. Land Use Strategies

- a. Encourage land assembly and ownership cooperation in the immediate proximity of transit stations and hubs to promote efficient TOD.
- b. Develop station and transit center area plans to proactively consider how to meet regional land use standards and the Goals set out in these Guidelines.
- c. Work with local jurisdictional partners to encourage zoning changes near transit centers that improve financial viability and allow for increased height, density, and a mix of uses, including affordable housing and co-housing options.
- d. Work with local jurisdictional partners to reduce or remove policy barriers to TOD, such as minimum private vehicle-parking requirements and restrictions where transit service levels allow for minimal car
- e. Encourage direct ADA-compliant connections from surrounding developments to TriMet stations and transit centers to promote pedestrian and other environmentally-friendly ways to access transit.
- location of new station or transit center sites, and designs and constructs new station facilities and adjacent f. Evaluate the potential for new TOD opportunities when TriMet acquires properties, determines the
- assesses sites with respect to market conditions, community-need, economic viability, project readiness, g. Develop a prioritization of station and transit center areas for development through a scorecard that project complexity, and other relevant factors. In the absence of other determining factors, TriMet will prioritize projects that will deliver the greatest community-benefit to the region and its residents.
- h. Create strategies, master plans, market analyses, and potential development typologies for prioritized sites. Guide key site criteria such as the projected number of residential units, percentage of affordable units, levels of affordability, the mix of uses, etc.
- development location is unique and may require individual community considerations as well as real estate i. Utilize TOD as a tool to achieve land use and planning goals within the region, but understand each and market adaptations for successful implementation.
- j. Allocate and prioritize limited available resources to projects where development conditions are viable, and partnership conditions allow for market-responsive implementation, maximizing impact.

289

Page 3 of 4

Exhibit A to Resolution No. 20-05-23

2. Process/Partnership Strategies

- meetings to set priorities and discuss resources that may be available for the project to maximize the TOD a. Form sustainable partnerships with public sector partners, including local jurisdictions, transportation organizations, to promote the Goals set out in these Guidelines. This may include pre-development departments, housing authorities or other housing development agencies, and regional planning Goals for the site.
- Goals in these Guidelines to be achieved, robust and focused development partnerships are crucial, and that regional economic stability and growth. Where TriMet does not hold an economic interest in the TOD site, TriMet will support TOD by providing appropriate consultancy services and transit incentives, if available. these partnerships must have clear and defined objectives to deliver a viable project supporting local and housing developers, as well as paratransit and delivery service providers. TriMet understands that for the b. Form sustainable partnerships with private and non-profit sector developers, including affordable
- c. Marketing and partner selection. Generally, proposals for transit-oriented development of TriMet-owned or controlled property should be procured through a competitive selection process or through TriMet's communication on property disposition and development timelines to all stakeholders, and will clearly unsolicited proposal process. To ensure transparency and accountability, TriMet will provide clear define the priority of outcomes desired from each TOD project.
- d. Reporting and accountability. Information about TriMet's TOD projects and initiatives will be reported revision so they can continue to address stakeholder needs in response to changing market conditions and to the TriMet Board on a semi-annual basis. Information will be available for public review via TriMet's including community engagement. To remain contextual, these Guidelines will be subject to periodic website, including TriMet's TOD web page, which will detail TriMet's TOD projects and processes,
- e. Community Engagement. Community planning efforts will address the broadest possible range of equity and displacement considerations to ensure the proposed development has no negative impact on the racial, political, or cultural makeup of the surrounding neighborhoods. Equitable development will be promoted community benefits ranging from M/W/ESB contracting strategies to access to necessary services and through consideration of affordable housing and anti-displacement strategies, and also by promoting

3. Financial Strategies

- recoup the original investment made by the agency when purchasing the property, and to provide additional a. Recycle capital. TOD should create revenue, capture value, or achieve other efficiencies for TriMet to resources needed to promote its TOD Goals and operate its transit system in a cost-effective manner. instances, may, at its discretion, provide economic subsidy if it determines that a project would bring TriMet is committed to providing non-monetary assistance to promote TOD projects and, in certain substantial and unique public good.
- b. Identify and secure subsidies. Work with the development community and jurisdictional partners to identify financial resources that may be available to promote the Goals set out in these Guidelines.
- c. Prioritize resources where development conditions are viable, and partnerships allow for marketresponsive implementation.
- financial parameters and the ability to achieve the Goals set out in these Guidelines. TriMet may, at its generation, lease payments, increased property tax revenue created, parking revenue, leveraging grant discretion, consider the "value capture" component of each project, which might include fare revenue d. Account for non-monetary benefits. The evaluation of proposed projects should be based on sound resources and other financial participation, or other benefits.
- e. Reinvestment in TOD. A portion of the revenue generated from transit-oriented development should be retained by the agency to foster additional TOD opportunities and further the Goals of these Guidelines.

Page 4 of 4

Appendix J

Station Existing Conditions Briefing

Factor	Data Source	Notes
Total Population	ACS 5-Year	
	(2013-2017)	
Total Jobs	LEHD (2017)	Sum of all full and part time jobs around each station.
# of Employment Sites	LEHD (2017)	Total number of employment locations (i.e. restaurant, hospital), each of which may have multiple employees.
Total Households	ACS 5-Year (2013-2017)	
% of Population between ages 5-17	ACS 5-Year (2013-2017)	
% of Population over age of 65	ACS 5-Year (2013-2017)	
% of Jobs with Earnings <\$1,250/month	LEHD (2017)	LEHD reports data for this threshold, which is representative of a full time job at the federal minimum wage.
% with Disability	ACS 5-Year (2013-2017)	
% Minority	ACS 5-Year (2013-2017)	
% Poverty to Income Ratio <1	ACS 5-Year (2013-2017)	A ratio less than 1 means that the income is less than the poverty level. The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty.
% Speaking English less than 'very well'	ACS 5-Year (2013-2017)	
% Zero Vehicle Households	ACS 5-Year (2013-2017)	
PM Peak Traffic Volumes	TriMet and other teaming partners	Volume is rounded Total PM peak hour traffic entering the intersection.
Conflict Potential between modes	TriMet and other teaming partners	Rough estimate of the number of travel modes directly adjacent to the station area, traffic volume, and level of non-motorized infrastructure.
% Perfect Grid (1/2 mile)	TriMet and other teaming partners	Measure of how directly someone can travel on the existing street system compared to if there was a perfectly gridded street network. A high level measure of the connectivity of the street network.
% of acres with Slopes >4% (1/2 mile)	TriMet and other teaming partners	

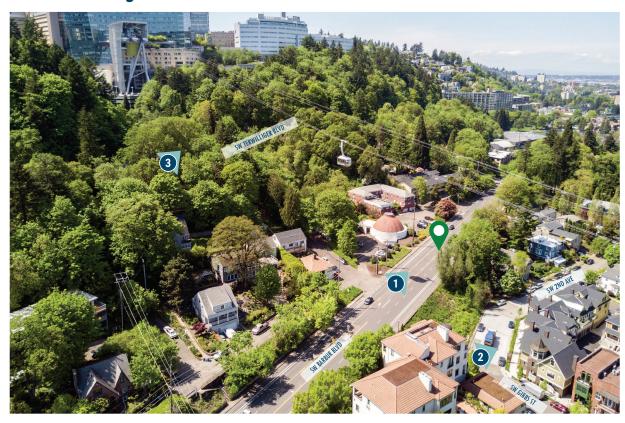
To better understand what new mobility elements are best suited at each station, a detailed demographic analysis was performed using the 1/2 mile walkshed. This walkshed is based on the existing transportation network, not straight-line distance around each station; and is therefore subject to change with future changes to the transportation network and bicycle/pedestrian improvements.

The table on the left highlights factors used to inform suitability and potential market demand for new mobility services. Specific services will be prioritized at each station to meet the unique mobility needs of populations nearby. To provide a comparative assessment across all stations, specific data points are highlighted on the following pages that are average or higher than average compared to other stations.

The primary sources of this data came from:

- American Community Survey (ACS) five-year data (2013-2017) was used to evaluate the
 population and household demographics. Most of the data is available for each Census Block
 Group, though a few categories such as disability status are only available for the larger
 Census Tracts.
- Longitudinal Employer-Household Dynamics (LEHD) (2017) provided employment data for each Census Block Group.
- Land Use, Terrain, Key Destinations, and Transportation network data was provided by TriMet and other teaming partners.

Station Existing Conditions: Gibbs Street Station





The current configuration of Barbur Blvd carries low traffic volumes, with striped buffered bike lanes and midblock pedestrian crossings.



The neighborhood immediately east of the station is part of the Lair Hill Historic District, with local streets connecting Barbur Blvd and Naito Pkwy.



Terwilliger Blvd is located above the station on Marquam Hill, and accessed by a pedestrian connection near the future station.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

DEMOGRAPHIC FACTORS (1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
1,511	20,553	39	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	7%
% of Population over age of 65	19%
% of Jobs with Earnings <\$1,250/	8%
month	
% with Disability	10%
% Minority	25%
% Poverty to Income Ratio <1	10%
% Speaking English less than 'very well'	6%
% Zero Vehicle Households	18%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	1,700 vehicles per hour	
Conflict Potential between modes	Medium	
% Perfect Grid (1/2 mile)	65%	
% of acres with Slopes >4% (1/2 mile)	89%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	No Current Demand	
Bike Share (Dockless)	No Current Demand	
Electric Bike / Scooter Share High Demand		
Microtransit		
On-Demand Shuttles (AV Potential) No Current Demand		
Circulator Shuttles (AV Potential)	No Current Demand	
Car Share		
Car Share No Current Demand		
On Demand Ridehailing High Demand ▲		

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

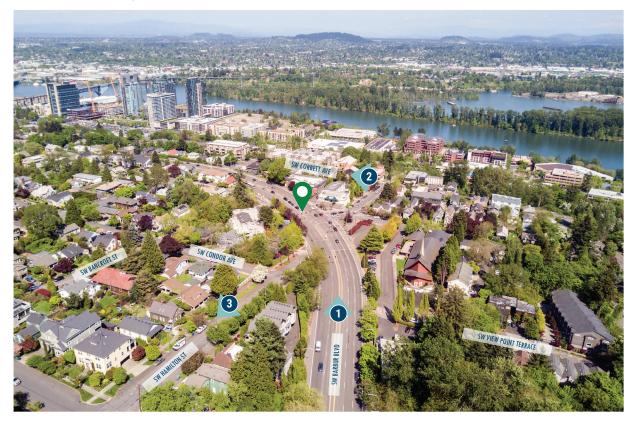
MARKET DEMAND Low Demand

Medium Demand

High Demand



Station Existing Conditions: Hamilton Street Station





The current configuration of Barbur Blvd carries high traffic volumes, with striped bike lanes and sidewalks.



SW Corbett Ave acts as a "main street" parallel to Barbur Blvd with small-scale retail and office, and bus and cycling facilities connecting the station area to John's Landing to the south.



The neighborhood west of the station is primarily single-family residential, with onstreet connections to the Terwilliger Pkwy greenbelt.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

A DEMOGRAPHIC FACTORS (1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
1,210	715	27	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	6%
% of Population over age of 65	20%
% of Jobs with Earnings <\$1,250/	19%
month	
% with Disability	11%
% Minority	22%
% Poverty to Income Ratio <1	10%
% Speaking English less than 'very well'	3%
	4.50
% Zero Vehicle Households	15%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	4,600 vehicles per hour	
Conflict Potential between modes	High	
% Perfect Grid (1/2 mile)	54%	
% of acres with Slopes >4% (1/2 mile)	98%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	No Current Demand	
Bike Share (Dockless)	No Current Demand	
Electric Bike / Scooter Share Medium Demand		
Microtransit		
On-Demand Shuttles (AV Potential)	No Current Demand	
Circulator Shuttles (AV Potential)	No Current Demand	
Car Share		
Car Share	No Current Demand	
On Demand Ridehailing	High Demand	

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND Low Demand Medium Demand High Demand

CONTEXT Station Location

MAP

Street View Location

Station Existing Conditions: 13th Avenue Station





The current configuration of Barbur Blvd carries medium traffic volumes, with striped bike lanes and infrequent pedestrian crossings near the future station.



Bertha Blvd is a crucial connection that moves people between 13th Station and Hillsdale Town Center.



The station area consists largely of surface parking lots for nearby retail and office destinations that are adjacent to the station.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

E DEMOGRAPHIC FACTORS (1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
1,530	804	19	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	12%
% of Population over age of 65	13%
% of Jobs with Earnings <\$1,250/	27%
month	
% with Disability	10%
% Minority	12%
% Poverty to Income Ratio <1	12%
% Speaking English less than 'very well'	2%
	604
% Zero Vehicle Households	6%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	2,800 vehicles per hour	
Conflict Potential between modes	High	
% Perfect Grid (1/2 mile)	59%	
% of acres with Slopes >4% (1/2 mile)	96%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	No Current Demand	
Bike Share (Dockless)	No Current Demand	
Electric Bike / Scooter Share Medium Demand ▲		
Microtransit		
On-Demand Shuttles (AV Potential) Low Demand		
Circulator Shuttles (AV Potential) No Current Demand		
Car Share		
Car Share Medium Demand ▲		
On Demand Ridehailing Medium Demand ▲		

▲ This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

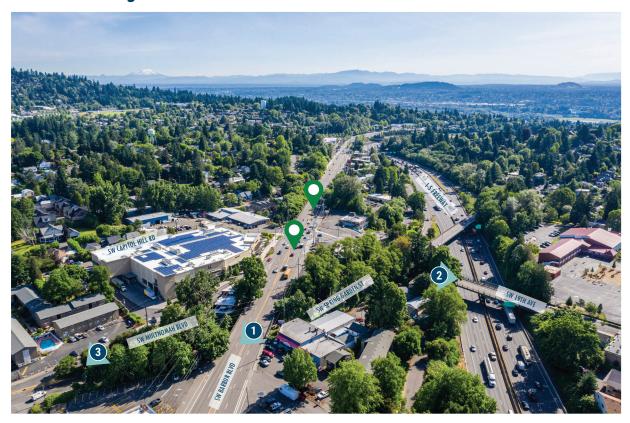
MARKET DEMAND Low Demand Medium Demand High Demand

CONTEXT Station Location

MAP

Street View Location

Station Existing Conditions: 19th Avenue Station





The current configuration of Barbur Blvd carries high traffic volumes, with sidewalk and bikeway gaps along Barbur Blvd as well as intersecting streets.



The I-5 crossings at SW 19th Ave and SW Spring Garden St currently lack adequate bicycle and pedestrian facilities connecting to neighborhoods south of the station.



SW Multnomah Blvd is a crucial connection for all modes between 19th Station and Multnomah Village. The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

DEMOGRAPHIC FACTORS (1/2 MILE WALKSHED OF STATION)

Total Population	Total	# of Employment	Total
	Jobs	Sites	Households
2,140	1,313	35	925

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	13%
% of Population over age of 65	11%
% of Jobs with Earnings <\$1,250/	22%
month	
% with Disability	10%
% Minority	13%
% Poverty to Income Ratio <1	13%
% Speaking English less than 'very well'	2%
% Zero Vehicle Households	6%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	3,600 vehicles per hour
Conflict Potential between modes	High
% Perfect Grid (1/2 mile)	77%
% of acres with Slopes >4% (1/2 mile)	86%

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	No Current Demand	
Bike Share (Dockless)	No Current Demand	
Electric Bike / Scooter Share Medium Demand ▲		
Microtransit		
On-Demand Shuttles (AV Potential) High Demand		
Circulator Shuttles (AV Potential) No Current Demand		
Car Share		
Car Share Low Demand ▲		
On Demand Ridehailing	Medium Demand ▲	

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND Low Demand

Medium Demand

High Demand

CONTEXT Station Location

MAP

Street View Location

Station Existing Conditions: 30th Avenue Station





The current configuration of Barbur Blvd carries medium traffic volumes, with striped bicycle lanes and an existing pedestrian crossing where the future station is located.



The station area consists largely of surface parking lots for nearby retail and office destinations that are adjacent to the station.



There a number of local streets, such as SW Primrose St, that are currently being accessed off Barbur Blvd to connect to nearby residential neighborhoods.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

Page 1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
1 754	1 701	17	814

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	13%
% of Population over age of 65	9%
% of Jobs with Earnings <\$1,250/	25%
month	
% with Disability	8%
% Minority	17%
% Poverty to Income Ratio <1	13%
% Speaking English less than 'very well'	2%
% Zero Vehicle Households	9%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	2,400 vehicles per hour	
Conflict Potential between modes	Medium	
% Perfect Grid (1/2 mile)	59%	
% of acres with Slopes >4% (1/2 mile)	89%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility			
Bike Share (Docked)	No Current Demand		
Bike Share (Dockless)	No Current Demand		
Electric Bike / Scooter Share Medium Demand ▲			
Microtransit			
On-Demand Shuttles (AV Potential) High Demand			
Circulator Shuttles (AV Potential)	No Current Demand		
Car Share			
Car Share	Low Demand A		
On Demand Ridehailing	Medium Demand A		

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND Low Demand Medium Demand High Demand

CONTEXT Station Location

MAP

Street View Location

Station Existing Conditions: Barbur Transit Center





The current configuration of Barbur Blvd carries medium traffic volumes, with striped bike lanes. SW Taylors Ferry Rd is a local access road that runs parallel to Barbur Blvd. station location



The station lies just outside the mixed-use core of the West Portland Town Center, which includes grocery stores and offices.



The convergence of many major arterials and freeway on/off-ramps makes the station area a challenging environment for all modes of travel.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

Page 1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
1,800	1,245	20	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	15%
% of Population over age of 65	12%
% of Jobs with Earnings <\$1,250/ month	29%
% with Disability	8%
% Minority	23%
% Poverty to Income Ratio <1	14%
% Speaking English less than 'very well'	5%
% Zero Vehicle Households	9%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	2,500 vehicles per hour
Conflict Potential between modes	Medium
% Perfect Grid (1/2 mile)	65%
% of acres with Slopes >4% (1/2 mile)	91%

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	No Current Demand	
Bike Share (Dockless)	No Current Demand	
Electric Bike / Scooter Share	High Demand	
Microtransit		
On-Demand Shuttles (AV Potential)	No Current Demand	
Circulator Shuttles (AV Potential)	No Current Demand	
Car Share		
Car Share	High Demand	
On Demand Ridehailing	High Demand	

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND Low Demand Medium Demand High Demand

CONTEXT Station Location

MAP

Street View Location

Station Existing Conditions: 53rd Avenue Station





The current configuration of Barbur Blvd carries medium traffic volumes, with striped bike lanes, no sidewalks, and pedestrian crossings some distance away from the future station.



Existing local roads and low-scale development north of Barbur Blvd will be converted into a Park & Ride to serve the future station.



Streetscape improvements along SW 53rd Ave will create a connection to the PCC-Syvlania campus that will accommodate pedestrian, cycling, and potential AV shuttle movement.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

Page 1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
777	175	11	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	14%
% of Population over age of 65	15%
% of Jobs with Earnings <\$1,250/	33%
month	
% with Disability	9%
% Minority	22%
% Poverty to Income Ratio <1	12%
% Speaking English less than 'very well'	5%
% Zero Vehicle Households	6%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	2,000 vehicles per hour	
Conflict Potential between modes	High	
% Perfect Grid (1/2 mile)	34%	
% of acres with Slopes >4% (1/2 mile)	92%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	Low Demand	
Bike Share (Dockless)	No Current Demand	
Electric Bike / Scooter Share High Demand		
Microtransit		
On-Demand Shuttles (AV Potential) No Current Demand		
Circulator Shuttles (AV Potential)	High Demand	
Car Share		
Car Share	High Demand	
On Demand Ridehailing	Medium Demand	

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND Low Demand Medium Demand High Demand

CONTEXT Station Location

MAP

Street View Location

Station Existing Conditions: 68th Parkway Station





SW 68th Pkwy acts as a gateway into Tigard Triangle, providing a scenic drive through Red Rock Creek natural area.



The current configuration of W Pacific Hwy carries high traffic volumes, with striped bike lanes with nearby bike lane gaps, and minimal pedestrian crossings.



The auto-oriented nature of W Pacific Hwy creates a pdestrian barrier between the station and residential neighborhoods to the north of the station.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

Page 1/2 MILE WALKSHED OF STATION)

Total Popula- tion	Total Jobs	# of Employment Sites	Total Households
994	986	17	421

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	12%
% of Population over age of 65	15%
% of Jobs with Earnings <\$1,250/	19%
month	
% with Disability	13%
% Minority	15%
% Poverty to Income Ratio <1	12%
% Speaking English less than 'very	2%
well'	
% Zero Vehicle Households	11%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	3,800 vehicles per hour	
Conflict Potential between modes	High	
% Perfect Grid (1/2 mile)	61%	
% of acres with Slopes >4% (1/2 mile)	81%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	No Current Demand	
Bike Share (Dockless)	Medium Demand ▲	
Electric Bike / Scooter Share	Medium Demand ▲	
Microtransit		
On-Demand Shuttles (AV Potential) Low Demand ▲		
Circulator Shuttles (AV Potential) Medium Demand ▲		
Car Share		
Car Share	High Demand	
On Demand Ridehailing	Low Demand	

This mode/amenity would help to create connections to the station. however it could be accommodated in a partner agency's right-of-way

Low Demand MARKET Medium Demand DEMAND High Demand



Station Existing Conditions: Elmhurst Street Station





SW 72nd Ave is the primary north-south arterial through Tigard Triangle, and provides access to major retail, hotel, and office destinations.



Parking lots and structures, such as the one located at SW Elmhurst St and SW 70th Ave, are a typical condition east of the station, where there is primarily auto-oriented office and retail.



Existing conditions along SW 70th Ave consist of unimproved roads lacking through connections, consistent sidewalks, and bikeways.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

A DEMOGRAPHIC FACTORS (1/2 MILE WALKSHED OF STATION)

Total Population	Total	# of Employment	Total
	Jobs	Sites	Households
323	2,865	14	167

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	13%
% of Population over age of 65	13%
% of Jobs with Earnings <\$1,250/	17%
month	
% with Disability	23%
% Minority	21%
% Poverty to Income Ratio <1	28%
% Speaking English less than 'very	4%
well'	
% Zero Vehicle Households	17%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	1,700 vehicles per hour	
Conflict Potential between modes	Medium	
% Perfect Grid (1/2 mile)	70%	
% of acres with Slopes >4% (1/2 mile)	72%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	No Current Demand	
Bike Share (Dockless)	Medium Demand 🛦	
Electric Bike / Scooter Share	Medium Demand ▲	
Microtransit		
On-Demand Shuttles (AV Potential)	l) Low Demand ▲	
Circulator Shuttles (AV Potential) Medium Demand ▲		
Car Share		
Car Share	No Current Demand	
On Demand Ridehailing Low Demand		

▲ This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way MARKET DEMAND Low Demand Medium Demand High Demand

CONTEXT Station Location

MAP

Street View Location

Station Existing Conditions: Hall Boulevard Station





The current configuration of SW Hall Blvd has striped bike lanes and sidewalks on only one side of the road. The road carries mixed auto and industrial traffic.



The WES Station is located within 1/4 mile of the station, linking light rail with commuter rail service extending further north and south of the region. The WES rail tracks bisect Downtown Tigard.



SW Commercial St is a gateway into Downtown Tigard from the station, and carries bus service to and from Tigard Transit Center and WES, which connects riders to Beaverton and Wilsonville.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

Page 1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
866	3,331	13	379

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	13%
% of Population over age of 65	13%
% of Jobs with Earnings <\$1,250/	18%
month	
% with Disability	17%
% Minority	28%
% Poverty to Income Ratio <1	23%
% Speaking English less than 'very	7%
well'	
% Zero Vehicle Households	9%



MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	1,400 vehicles per hour	
Conflict Potential between modes	Low	
% Perfect Grid (1/2 mile)	73%	
% of acres with Slopes >4% (1/2 mile)	31%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility			
Bike Share (Docked)	No Current Demand		
Bike Share (Dockless)	Medium Demand ▲		
Electric Bike / Scooter Share Medium Demand			
Microtransit			
On-Demand Shuttles (AV Potential) No Current Demand			
Circulator Shuttles (AV Potential) No Current Demand			
Car Share			
Car Share Medium Demand			
On Demand Ridehailing	Medium Demand		

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET

Low Demand Medium Demand High Demand



Station Existing Conditions: Bonita Road Station





The current configuration of Bonita Rd carries medium traffic volumes, with striped bike lanes and sidewalks on both sides of the road, and great connectivity to neighborhoods west of the station.



The major transit spine through the area is located one block east of the station on SW 72nd Ave, which serves primarily light industrial uses.



Fanno Creek and Bonita Park are located one block west of the station, and will potentially increase non-motirized connectivity through the area with a planned Fanno Creek Trail extension. The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

DEMOGRAPHIC FACTORS (1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
1,093	1,728	14	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	17%
% of Population over age of 65	12%
% of Jobs with Earnings <\$1,250/	10%
monu	
% with Disability	11%
% Minority	26%
% Poverty to Income Ratio <1	17%
% Speaking English less than 'very well'	7%
% Zero Vehicle Households	7%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	2,700 vehicles per hour
Conflict Potential between modes	Medium
% Perfect Grid (1/2 mile)	77%
% of acres with Slopes >4% (1/2 mile)	49%

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility		
Bike Share (Docked)	Low Demand	
Bike Share (Dockless)	Low Demand	
Electric Bike / Scooter Share No Current Demand		
Microtransit		
On-Demand Shuttles (AV Potential) No Current Demand		
Circulator Shuttles (AV Potential) Low Demand △		
Car Share		
Car Share No Current Demand		
On Demand Ridehailing	Medium Demand ▲	

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND Low Demand

Medium Demand

High Demand



Station Existing Conditions: Upper Boones Ferry Road Station





SW Upper Boones Ferry Rd bisects the splitplatform station, with 4 lanes and sidewalks along both sides. The arterial slopes steeply downward to the west from its high point at the I-5 interchange.



SW Upper Boones Ferry Rd acts as a gateway into Tigard from the I-5 on/off ramps, as well as from residential neighborhoods to the east in Lake Oswego.



The major transit spine through the area is located one half block west of the station on SW 72nd Ave, which serves primarily light industrial uses.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

Page 1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
916	4,024	7	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	19%
% of Population over age of 65	7%
% of Jobs with Earnings <\$1,250/	11%
month	
% with Disability	8%
% Minority	35%
% Poverty to Income Ratio <1	14%
% Speaking English less than 'very well'	9%
% Zero Vehicle Households	6%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	2,000 vehicles per hour	
Conflict Potential between modes	Medium	
% Perfect Grid (1/2 mile)	56%	
% of acres with Slopes >4% (1/2 mile)	39%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility				
Bike Share (Docked)	Low Demand			
Bike Share (Dockless)	Low Demand			
Electric Bike / Scooter Share	No Current Demand			
Microtransit				
On-Demand Shuttles (AV Potential)	No Current Demand			
Circulator Shuttles (AV Potential)	Medium Demand ▲			
Car Share				
Car Share	No Current Demand			
On Demand Ridehailing	No Current Demand			

This mode/amenity would help to create connections to the station. however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND

Low Demand Medium Demand High Demand



Station Existing Conditions: Bridgeport Transit Center





SW Lower Boones Ferry Rd acts as a gateway into the confluence of Tigard, Tualatin, Durham, and the lifestyle retail center at Bridgeport Village.



The current configuration of SW 72nd Ave carries low traffic volumes, with striped and partially buffered bike lanes, and sidewalks on both sides of the street.



The area surounding Bridgeport Transit Center consists of an internal network of arterials, access roads, and parking lots that directly serve nearby retail destinations.

The suitability of new mobility services is assessed based on existing land-use, demographic, and physical constraints. Combined, these factors can help indicate the likelihood of success in providing a type of first and/or last mile connection.

Page 12 DEMOGRAPHIC FACTORS (1/2 MILE WALKSHED OF STATION)

Total	Total	# of Employment	Total
Population	Jobs	Sites	Households
1,247	4,859	12	

POPULATION FACTORS (1/2 MILE WALKSHED OF STATION)

% of Population between ages 5-17	20%
% of Population over age of 65	5%
% of Jobs with Earnings <\$1,250/	18%
month	
% with Disability	9%
% Minority	46%
% Poverty to Income Ratio <1	17%
% Speaking English less than 'very well'	12%
% Zero Vehicle Households	5%

MOBILITY ASSESSMENT FACTORS

PM Peak Traffic Volumes	1,600 vehicles per hour	
Conflict Potential between modes	Medium	
% Perfect Grid (1/2 mile)	69%	
% of acres with Slopes >4% (1/2 mile)	25%	

Average or higher than average compared to other stations

ESTIMATED MOBILITY SOLUTION MARKET DEMAND

Micromobility			
Bike Share (Docked)	Low Demand		
Bike Share (Dockless)	No Current Demand		
Electric Bike / Scooter Share	Low Demand		
Microtransit			
On-Demand Shuttles (AV Potential)	No Current Demand		
Circulator Shuttles (AV Potential)	High Demand		
Car Share			
Car Share	Medium Demand		
On Demand Ridehailing	High Demand		

This mode/amenity would help to create connections to the station, however it could be accommodated in a partner agency's right-of-way

MARKET DEMAND Low Demand Medium Demand High Demand

CONTEXT Station Location

MAP

Street View Location