



SOUTHWEST CORRIDOR LIGHT RAIL PROJECT CONCEPTUAL DESIGN REPORT

CDR WORKING GROUP **DRAFT** | 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 as well as identify remaining challenges. A summary of feedback from the public engagement process will inform a final report in mid-2020 and 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 summer 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



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Additional acknowledgements 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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PHOTO CREDITS

All photos taken by TriMet unless otherwise noted.

Executive Summary

After nearly a decade of planning, TriMet, Metro, Oregon Department of Transportation, Washington County, and the Cities of Portland, Tigard, Tualatin and Durham have developed a conceptual design for the Southwest Corridor Light Rail Project. The project is essential to offering alternatives to congested roadways by expanding the transportation choices in our region. 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 anticipates 75,000 new residents and 65,000 new jobs by 2035 projections. 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**). The project also contributes to the local economy: Twenty seven 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 over 20,000 jobs.

This draft Conceptual Design Report (CDR) illustrates the project being analyzed in the Final Environmental Impact Statement (FEIS). The FEIS should be referenced for details of technical information about the project, such as traffic, wetland impacts and mitigation strategies. The CDR 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 as well as identify remaining challenges. A summary of feedback from the public engagement process will inform a final report in mid-2020 and ongoing

design efforts in the coming years.

The CDR begins by outlining project principles, goals and objectives developed with input from a variety of project stakeholders. To be truly successful, the project must support the transportation, urban design, environmental, social and economic goals of the region, and the diverse communities living along the alignment. Collectively, the principles, goals and objectives help guide design choices, promote project accountability, articulate values and priorities and identify the greatest project benefits.

Building on community input generated throughout project planning, the \$2.8 billion Southwest Corridor Light Rail Project scope was refined to propose an 11-mile extension of the region's MAX light rail system. Thirteen stations will connect Downtown Portland, Southwest Portland and the cities of Tigard and Tualatin in Washington County.

Station area concepts currently include:

Gibbs Street Station

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.

Marquam Hill Connector

Marquam 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 Marquam Hill to land at SW Terwilliger Blvd. Two technologies are described in the CDR, including:

- **Inclined Elevators:** An inclined elevator may provide a new form of transportation in Portland. Two elevator cabs would run on parallel tracks to move people up the steep slope toward OHSU. Small shelters at the upper and lower landings would protect riders from the elements as they board and alight. A potential adjacent staircase could provide a route for those who prefer to walk.
- **Bridge and Elevators:** An elevator tower and pedestrian bridge may provide a "tree walk" experience, framing city, Mt. Hood and Mt. St. Helens views from Terwilliger Parkway to OHSU's campus. Multiple elevators and a stairway provide redundancy and reliable access for what will be a heavily used connector.

Hamilton Street Station

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.

Custer Drive Station

Custer Drive Station is located on the east side of the West Hills and is the gateway to the SW Barbur Blvd commercial corridor. Adjacent to a Fred Meyer store 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.

19th Avenue Station

19th Avenue Station is nested within a neighborhood serving the 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 Multnomah Village. A number of schools, housing and parks are clustered near this station.

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.

Barbur Transit Center

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

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.

68th Parkway Station

Positioned south of Pacific Hwy/99W, the station's prominent presence atop a natural amphitheater above Red Rock Creek provides views over the 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 make it a quick and easy transfer point for people coming from King City, Sherwood and other communities southwest of Tigard.

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.

Hall Boulevard Station

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.

Bonita Road Station

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

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

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, direct 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 SCOPE

The project scope includes improvements for people walking, biking, taking the bus, and driving. Examples include:

- 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 and bike parking, including areas with shared streets, raised protected bike lanes and protected intersections to encourage both bicycle commuting and access to transit.
- Up to 2,000 Park & Ride spaces along the alignment.
- 1.6 miles of shared transitway, allowing buses to travel within light rail guideway to enhance the speed, reliability and convenience of bus routes serving Hillsdale and other Southwest communities.
- A new operations and maintenance facility to support fast, reliable and cost effective MAX service in the corridor and bringing up to 150 new jobs to Tigard.
- SW 70th Ave improvements to 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 to 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 in Tualatin to facilitate Bridgeport Transit Center becoming the portal to MAX service for people walking, biking, taking the bus and driving from communities throughout the Southwest.

In addition to the scope of the Southwest Corridor Light Rail Project, the CDR also describes opportunities for multiple transportation investments that would provide complementary mobility benefits in the corridor. The project partners seek input from stakeholders to help prioritize these related transportation investments as they seek additional funding for construction. These opportunities include:

- Station access improvements. These are additional pedestrian and bicycle facilities that would improve access to the light rail stations.
- SW Naito Parkway Main Street. This investment will not only improve connections for regional commuters and reduce cut-through traffic but will also open up publicly owned land for development of much needed housing. Redirection of traffic and improvements for people walking and biking will restore local connections between South Portland neighborhoods.

Lastly, this document defines a set of projects planned by relevant agencies. During previous outreach efforts, these projects were often referred to by the community as important investments for the corridor. While these projects are planned, designed, funded and constructed entirely by partner agencies, and are not part of the project, they have been included on pages in each station area for context. These projects further demonstrate the benefits of the Southwest Corridor Light Rail Project, to act as the backbone of high-capacity transit, leverage further investments and improve regional mobility.

Moving forward, the project will publish a final CDR in summer 2020. The final CDR will capture remaining mitigations identified in the FEIS and input received

during community engagement conducted in early 2020. Following the final CDR, the project will seek to secure 30 percent of local funding commitments through a potential 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.

The Southwest Corridor Light Rail Project is key to shaping the future of our region in line with Metro's 2040 Growth Concept. By 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.





1

INTRODUCTION

VISION FOR SOUTHWEST CORRIDOR

EXAMPLE: HAMILTON STATION



A mix of existing and future uses are easily and safely walkable and bikable from the station



Wayfinding elements are highly visible from both the station platforms and from the surrounding street



Streetscapes introduce best stormwater practices and native planting palette into SW Barbur Blvd



Raised protected bike lanes and wide sidewalks create a more complete multimodal network

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 were 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



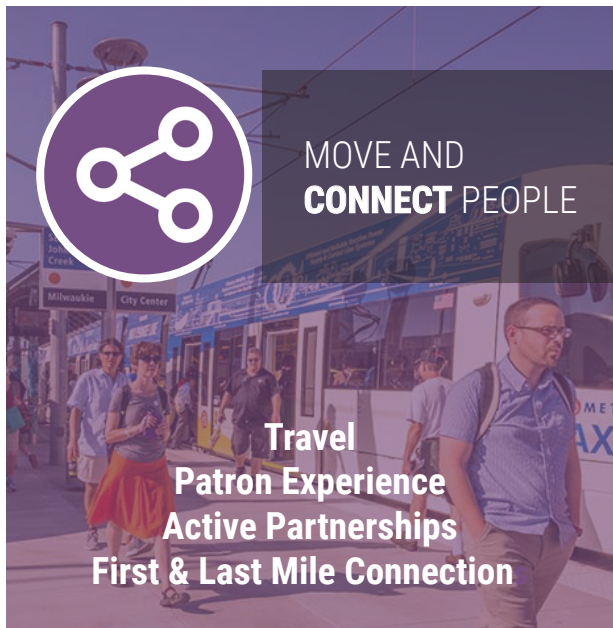
3. **Preserve and Restore Natural Environment** to preserve wildlife habitat, support the natural environment, and improve connections to nature, recreation and green spaces.
4. **Design for the Future** to build flexible, resilient infrastructure, support community sustainability, minimize the project's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

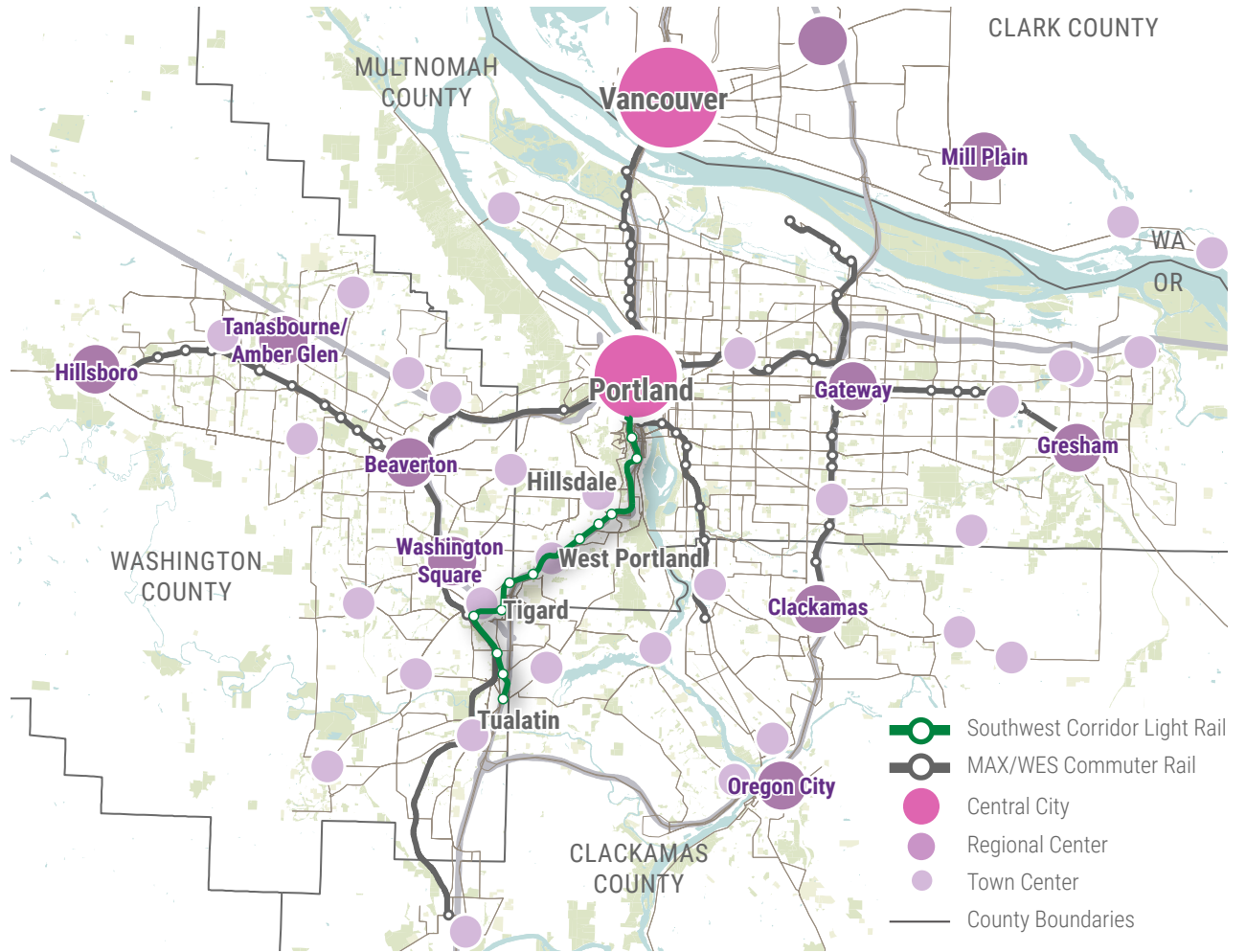


Figure 1.1: Metro Growth 2040 Components



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 11-mile 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, including 20 percent of 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 in 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 70 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.

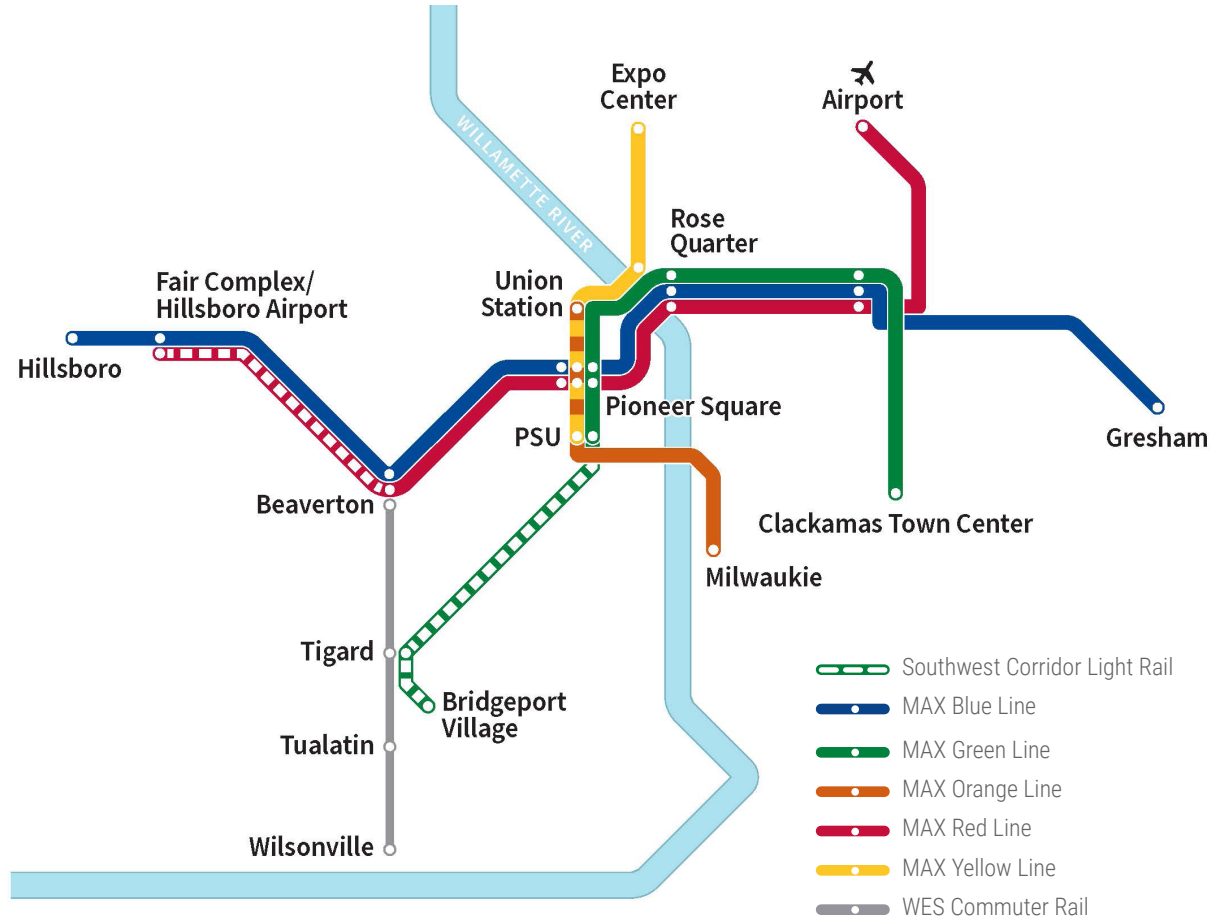


Figure 1.3: TriMet Rail System Map

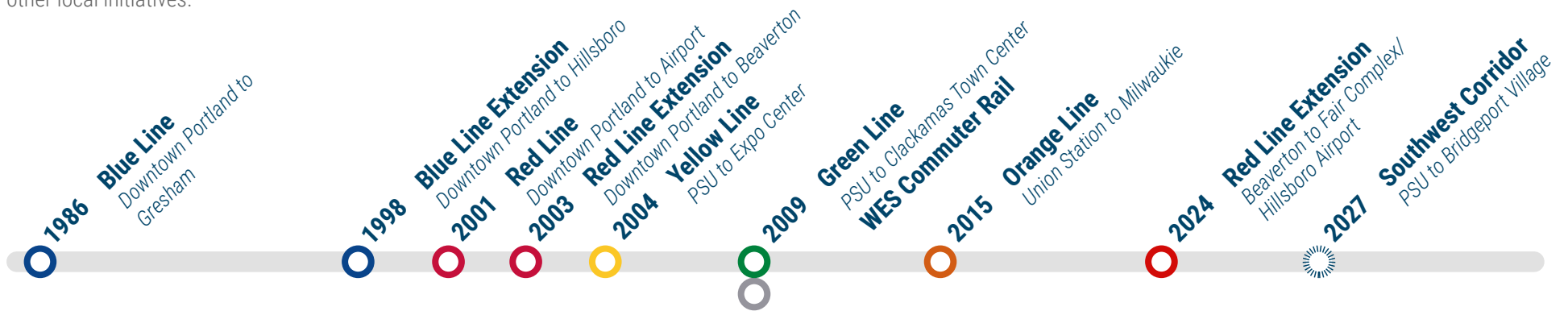


Figure 1.4: TriMet Rail System Timeline

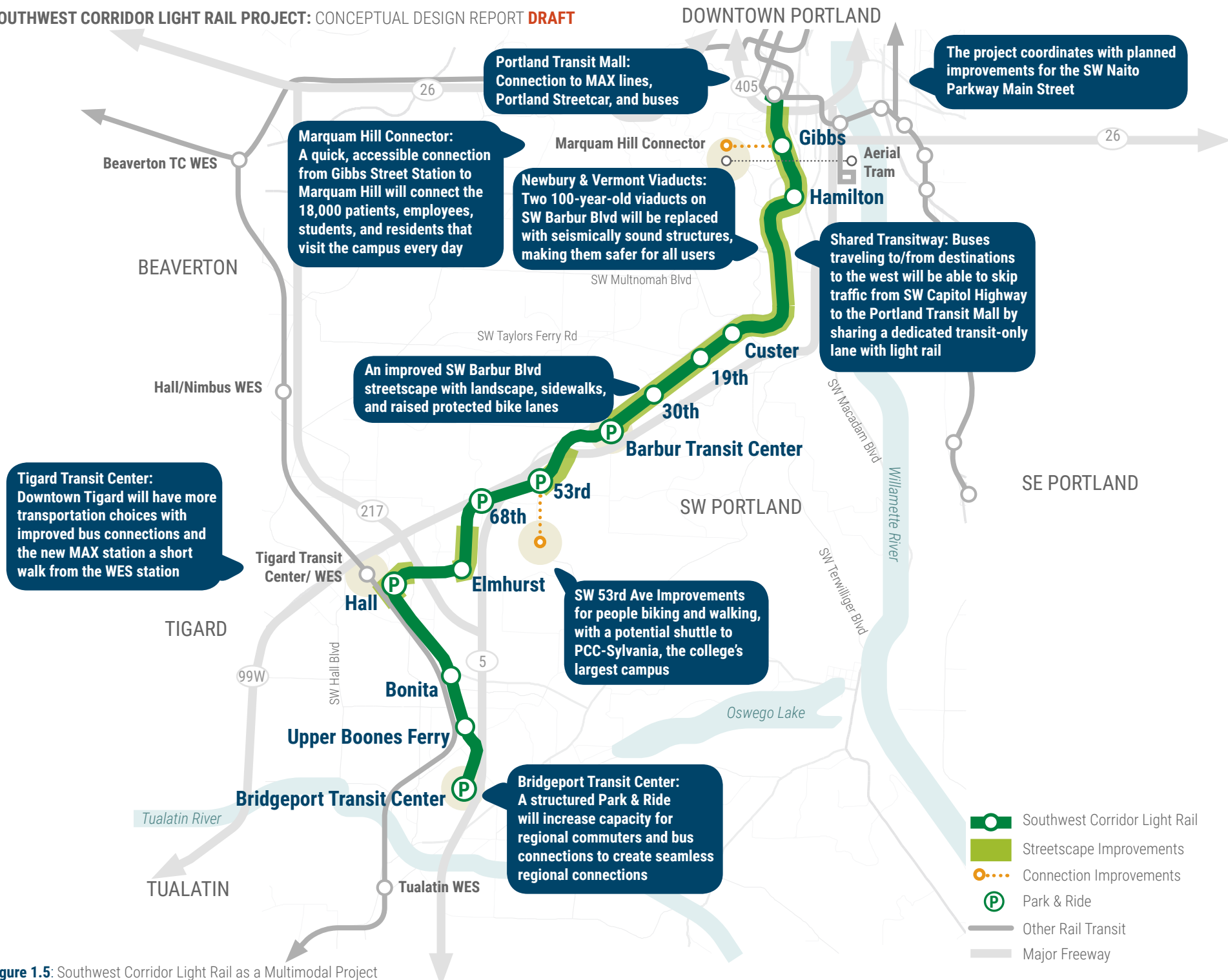


Figure 1.5: Southwest Corridor Light Rail as a Multimodal Project

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:

23,600 people commuting between Portland and Tigard/Tualatin

By 2035, we could see:

37,500 additional light rail trips on an average weekday

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 auto
-vs-
30 min light rail
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



"The Southwest Corridor is growing – with growth comes congestion, and getting around will only become more difficult if solutions are not implemented now"

-Metro

IMAGE SOURCE: TRIMET FLICKR

SOUTHWEST CORRIDOR PROJECT BY THE NUMBERS



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.



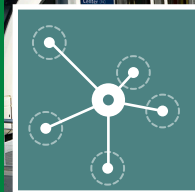
Stations as Destinations

Stations can be a place that people travel to for the services and opportunities at the station's front doorstep.



Stations That Define Place

Stations can embody qualities of the community through their architecture and placement within the neighborhood fabric.



Stations as Connections

Stations can be a point of arrival into the community, designed to help connect people to where they need to be.



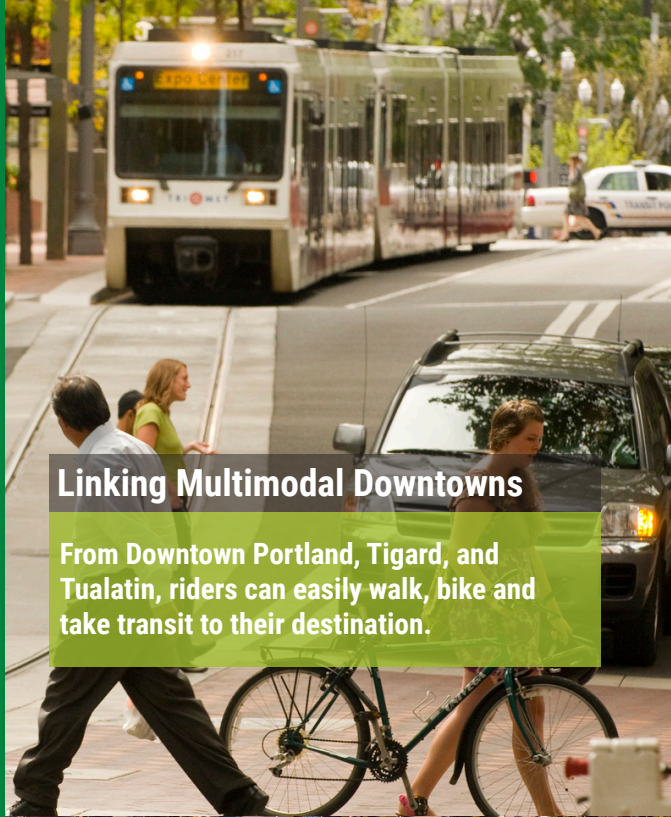
Stations That Add to Place

Stations can create new plazas and landscape features that are places for people to enjoy, stay and linger.

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



Linking Multimodal Downtowns

From Downtown Portland, Tigard, and Tualatin, riders can easily walk, bike and take transit to their destination.



Park & Rides Facilities

Park & Ride locations make transit a convenient choice for riders who prefer to access transit via car.



Regional Access

Extension of the MAX Green Line provides riders with access to major regional destinations and improved connections to East Portland.



Commuter Connections

A WES Commuter Rail station in Tigard allows riders to connect to Beaverton and Wilsonville.

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:

- MAX runs on electricity and uses **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:

21 percent of residents are people of color

18 percent of residents are living on low incomes

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

Partners are committed to:



supporting the Southwest Equitable Development Strategy

950

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 min

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

20,000

new jobs expected to be generated by the project

27

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

11,200 WORKERS

PORTLAND

23,600 people commute between Portland and Tigard/Tualatin

TIGARD & TUALATIN

12,400 WORKERS

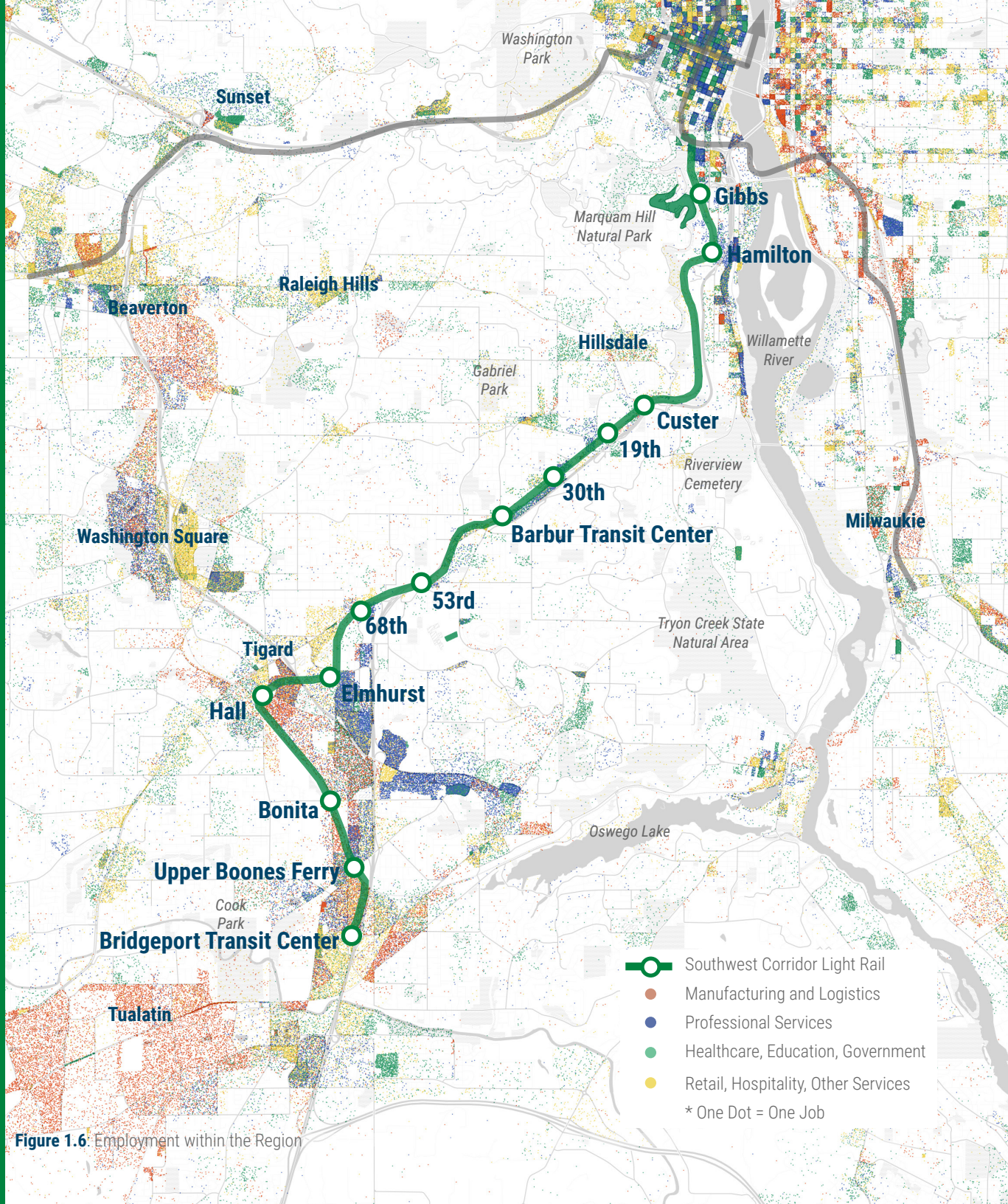


Figure 1.6: Employment within the Region

DATA SOURCE: 2017 ONTHEMAP DATA (CENSUS LEHD)

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



2

PROCESS

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 summer 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.

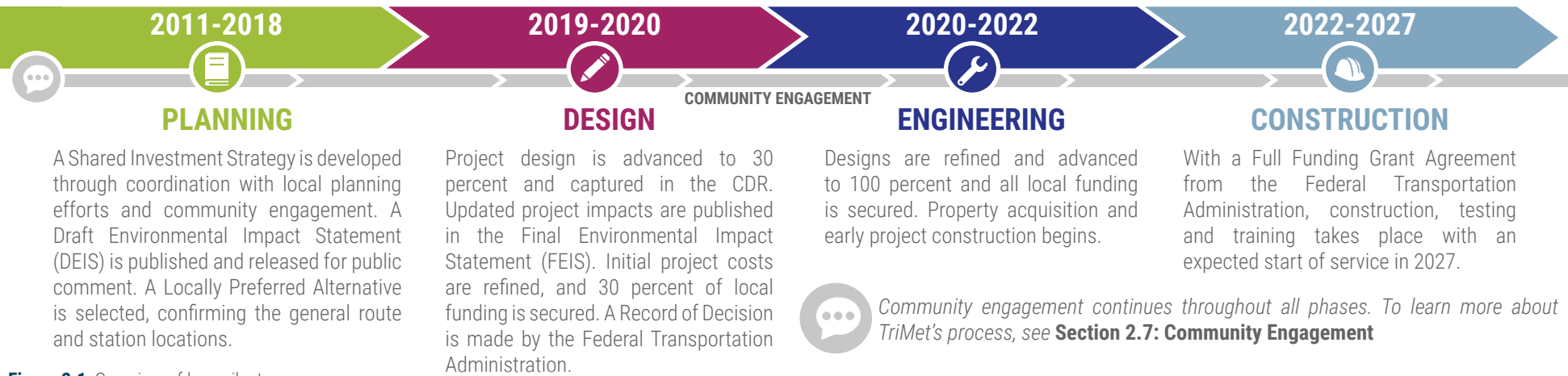


Figure 2.1: Overview of key milestones

<p>JUL 2013</p> <p>A Shared Investment Strategy was adopted to coordinate projects that make it safer and easier to walk, bike, drive and take transit along the Southwest Corridor</p>	<p>JUN 2018</p> <p>A Draft Environmental Impact Statement was published with an opportunity for the public to comment on the document.</p>	<p>2019</p> <p>Community engagement helped further evaluate and refine route alignment.</p>
<p>MAY 2016</p> <p>The Steering Committee decided on the basic outline of the 11-mile transit corridor from Portland to Tualatin using light rail, rather than bus rapid transit.</p>	<p>NOV 2018</p> <p>The Metro Council adopts the Locally Preferred Alternative as recommended by the project's Steering Committee.</p>	<p>JAN 2019</p> <p>The draft Conceptual Design Report is published, illustrating preliminary designs for the project.</p>

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 Marquam 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

The City of Portland and ODOT have an Intergovernmental Agreement to transfer right of way currently under ODOT ownership and maintenance to the City of Portland. This agreement 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 transit-oriented 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. Alignment-wide, 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 potential 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.

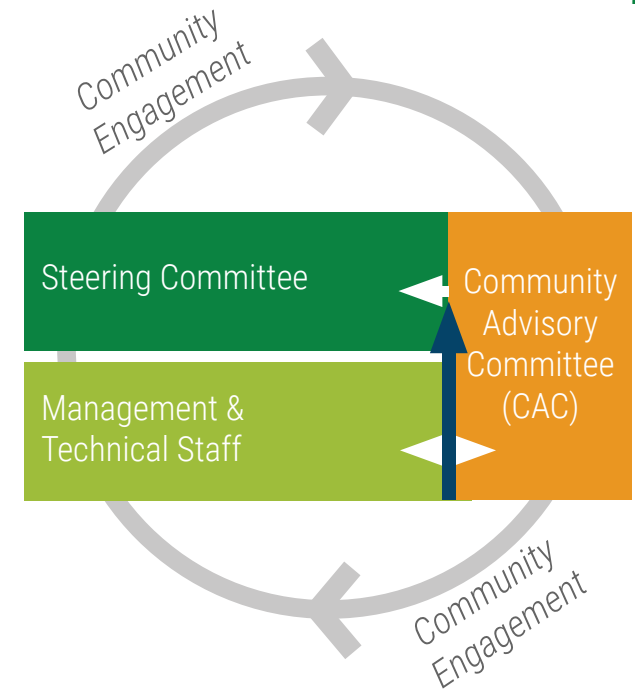


Figure 2.3: Decision-making process



IMAGE SOURCE: METRO

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.

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.



IMAGE SOURCE: METRO

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

PROJECT SCHEDULE

Major Milestones	Expected Date	
Community Engagement (Ongoing)	Final Environmental Impact Statement (FEIS) - Published	Summer 2020
	Record of Decision on FEIS	Summer 2020
	Potential Regional Transportation Funding Measure	Fall 2020
	Engineering Phase Begins	2021
	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.

POTENTIAL REGIONAL TRANSPORTATION FUNDING MEASURE

The Metro Council is working with partners and the community to develop a potential 2020 transportation funding measure to help people go places reliably and safely in a growing, increasingly congested region. These investments would be focused on safer streets and better transit for everyone. Among other regional projects, the measure would include a critical

component of Southwest Corridor Light Rail Project's local funding.

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 draft 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.

ACQUISITION 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.

A green-tinted photograph of a transit corridor. In the background, a bus with the number 314 and the text 'City Center' is visible. In the foreground, several people are riding bicycles on a paved path. A pedestrian is walking on the right side of the path. The scene is overlaid with a semi-transparent green filter. A white square containing the number '3' is positioned in the center of the image.

3

CORRIDOR CONTEXT

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 white 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

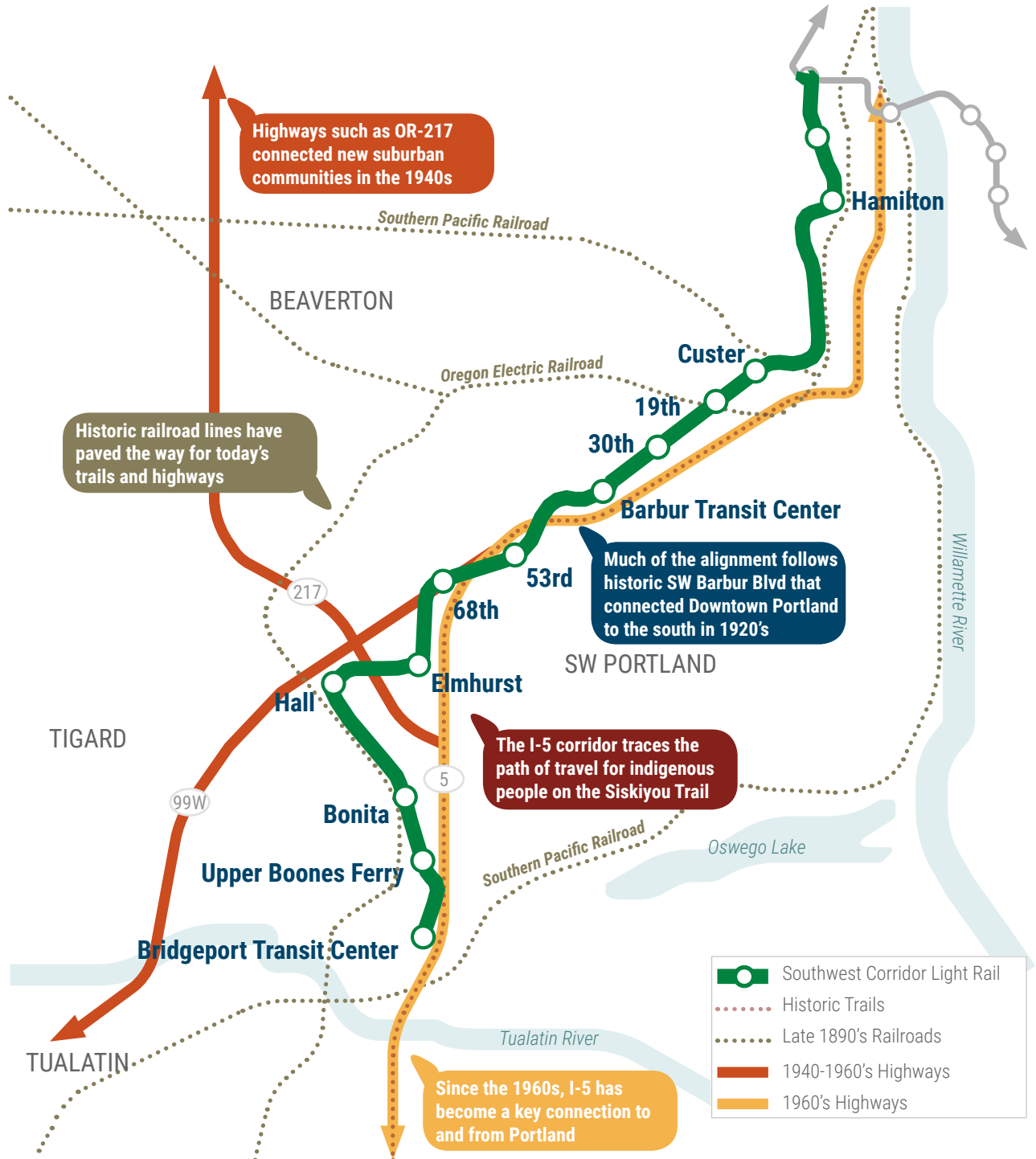


Figure 3.1: The Southwest Corridor Light Rail Project alignment responds to the corridor's rich transportation and cultural history

3.2 Connecting Neighborhoods



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

INNER PORTLAND

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.

OUTER PORTLAND

Barbur Blvd Historic District and the West Portland Town Center are mixed-residential neighborhoods that include single family and naturally 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.

TIGARD

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.

TUALATIN

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.

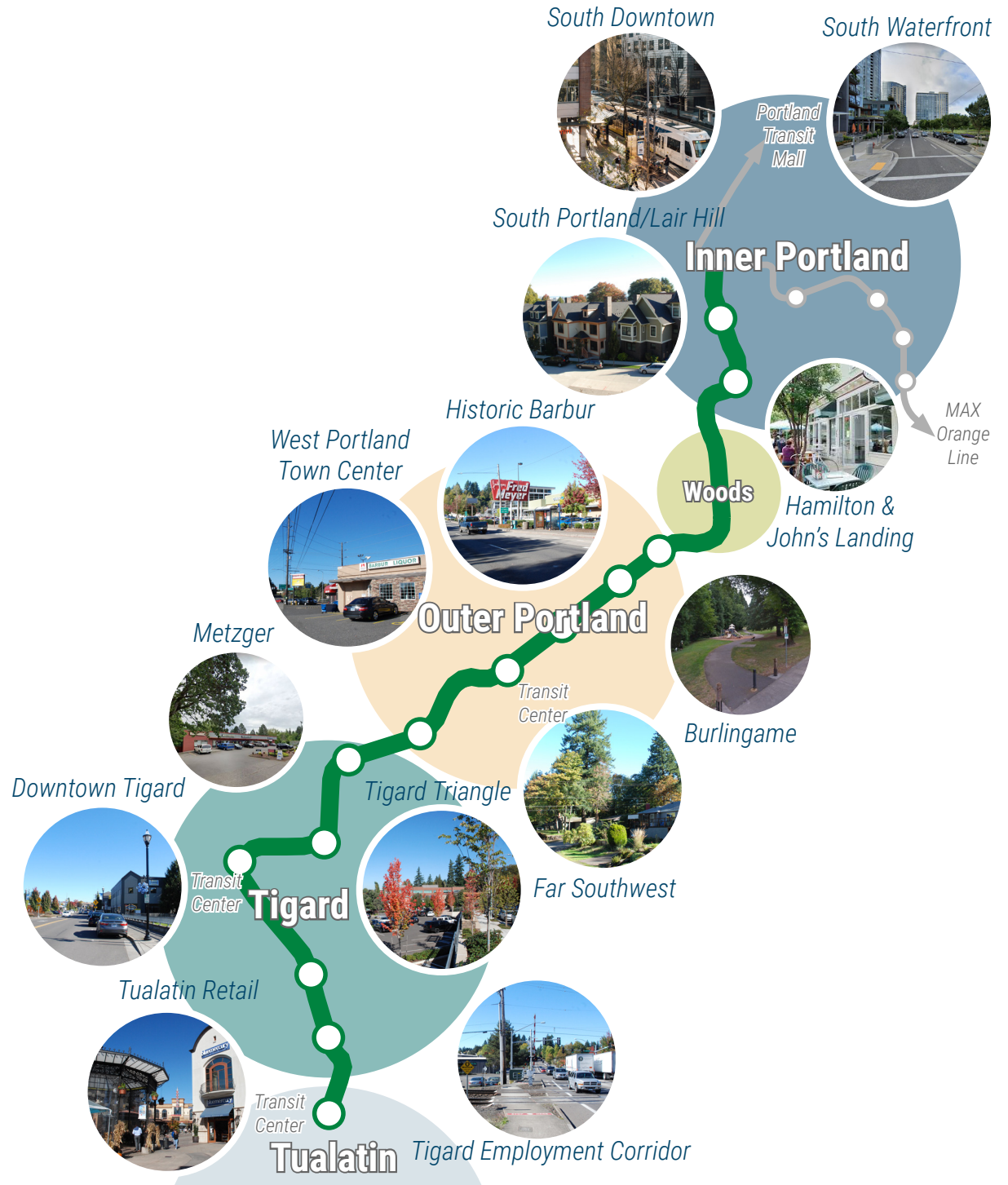


Figure 3.2: The Southwest Corridor Light Rail Project will connect between neighborhoods along the corridor

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.

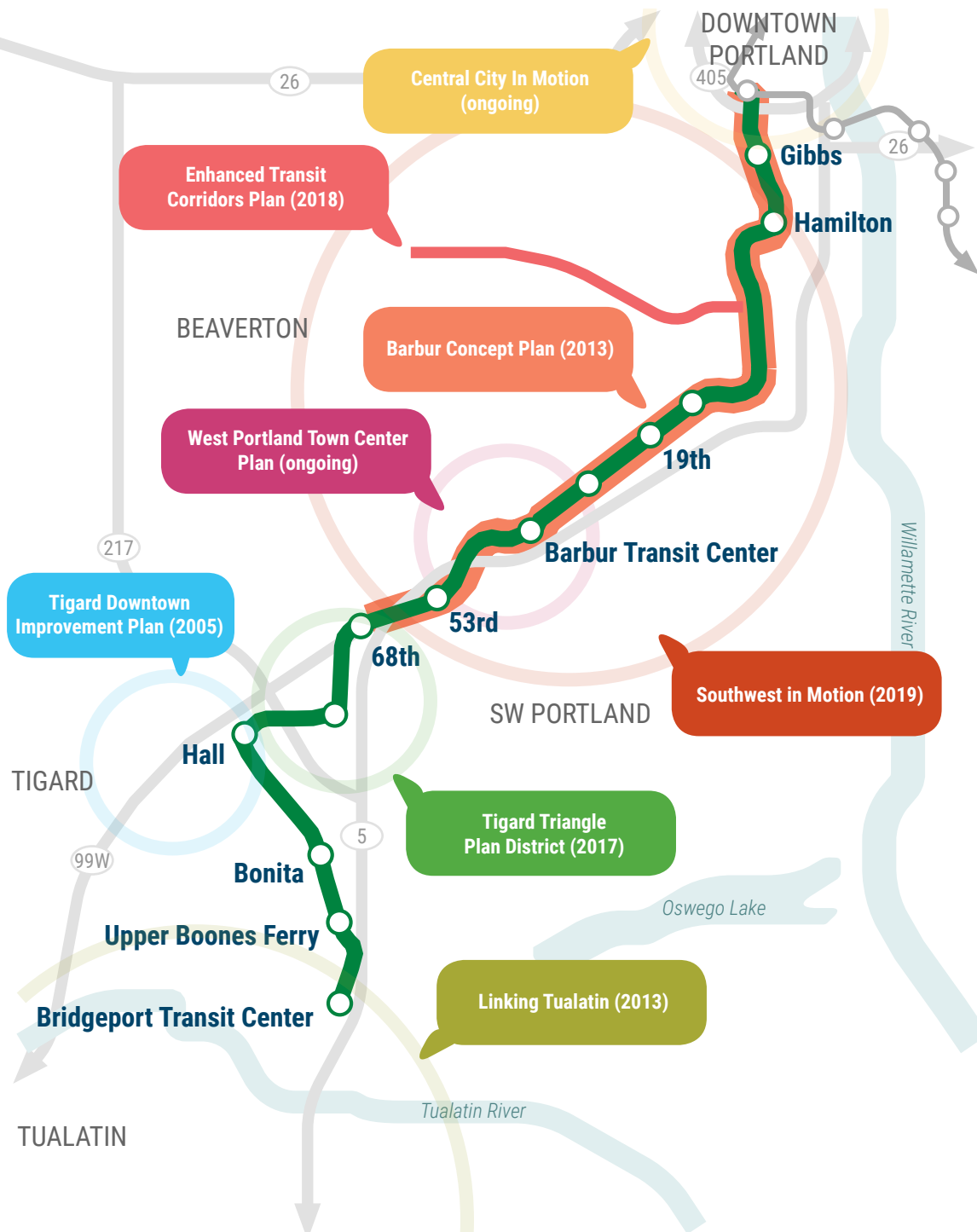


Figure 3.3: The Southwest Corridor Light Rail Projects regional vision is derived from a number of local plans

3.4 Natural Features

The project works to protect and improve the rich natural environment within 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. These could include improving park features such as trail upgrades or restoring important habitat areas.
- The light rail 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 70 acres of existing impervious surface – all currently unmanaged in the corridor.
- As part of the Section 4(f) process, the project is in consultation with the FTA and local jurisdictions to identify mitigation opportunities for natural area impacts. As an example, opportunities on past local light rail projects have included restoration of creeks, wetlands and improved access to natural areas. As part of the MAX Orange Line construction, large woody debris were installed in Johnson Creek to improve salmon habitat and restore the urban creek, and public access was improved with an interpretive boardwalk and signage. The same project included restoration for over 3,000 square feet of wetlands at Crystal Springs Creek.

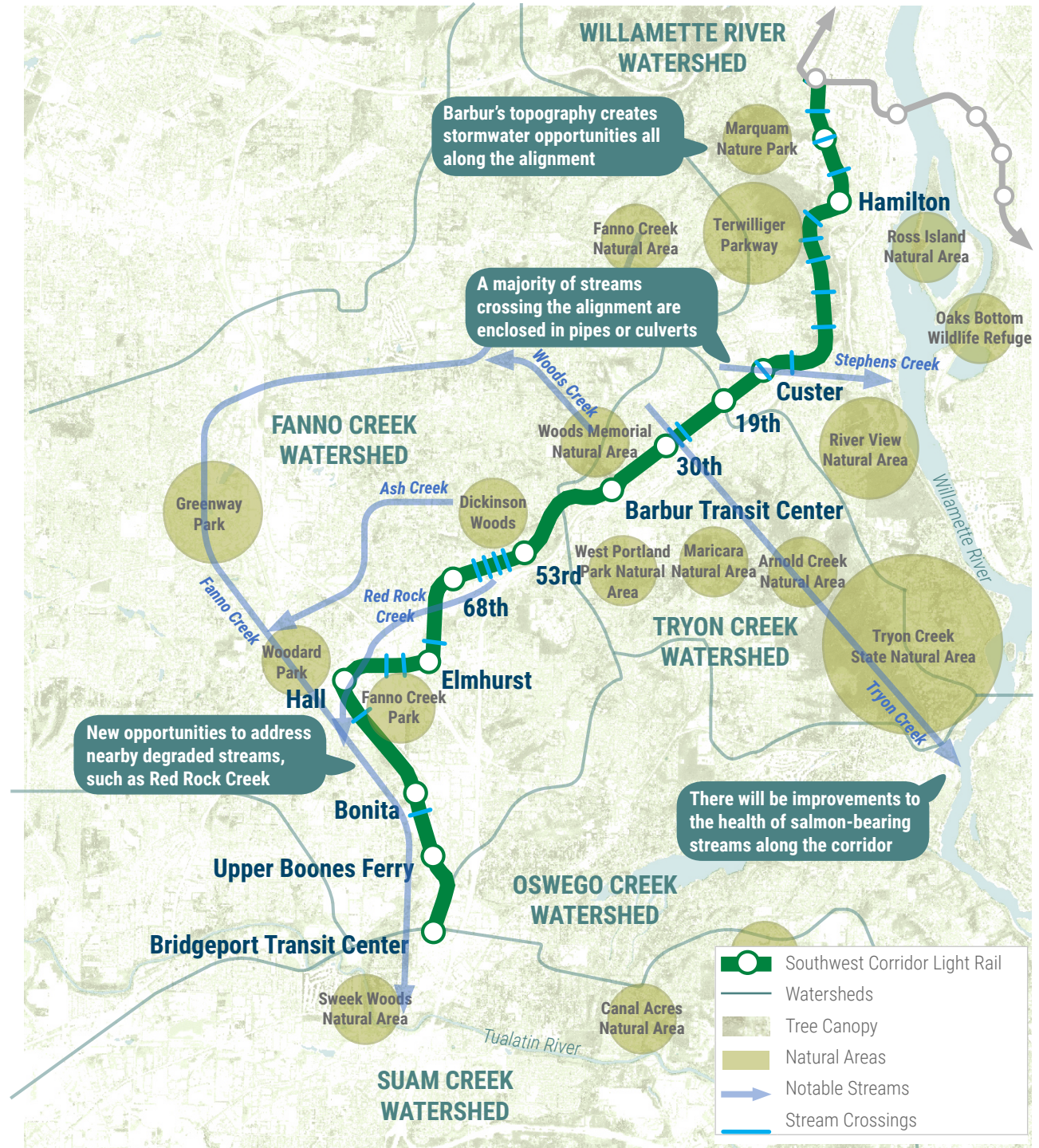


Figure 3.4: The Southwest Corridor Light Rail Project connects a system of diverse habitats, watersheds, and waterbodies

3.5 Trails and Parks



The project will provide access to the variety of parks, 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.



IMAGE SOURCE: METRO

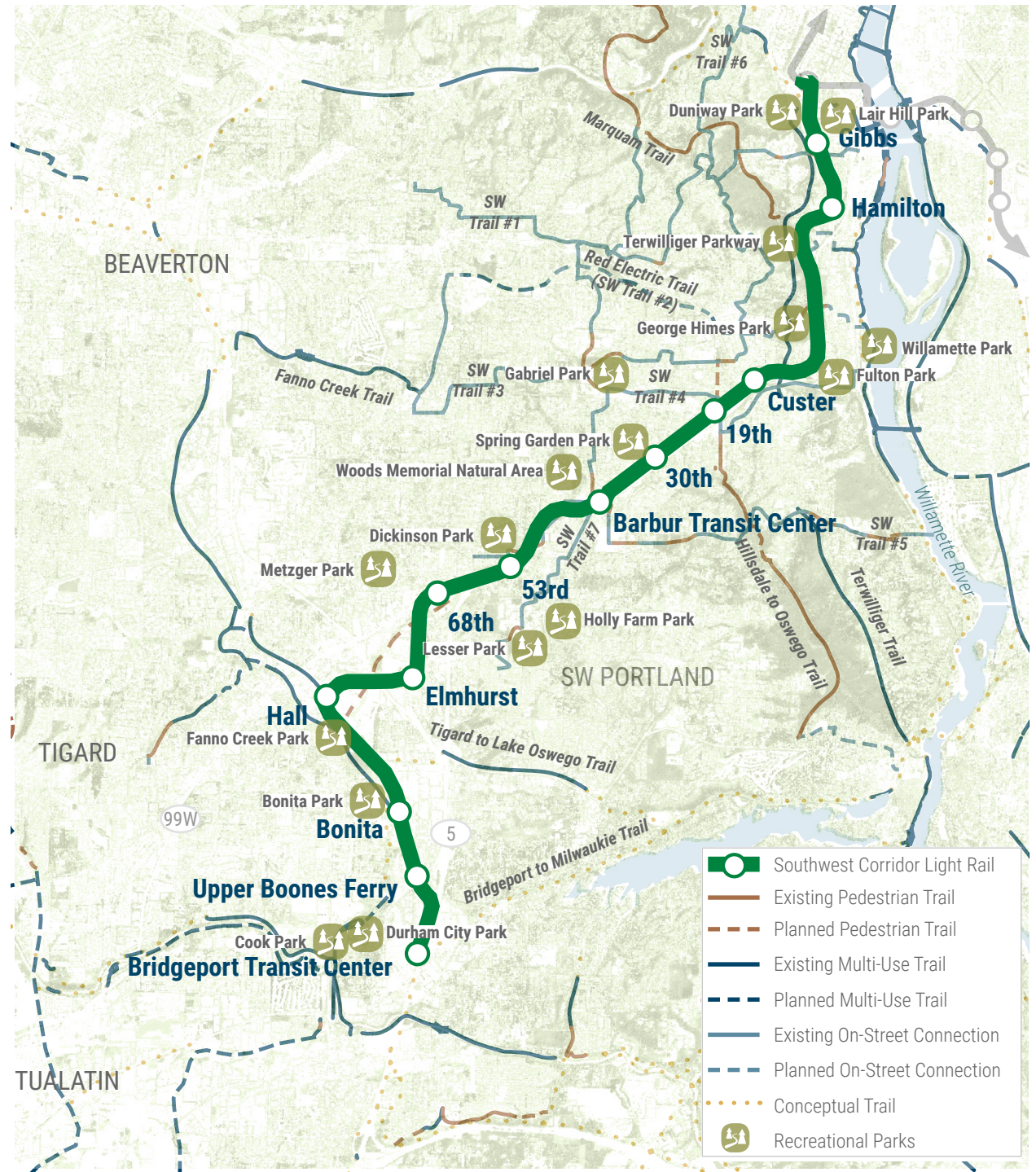


Figure 3.5: The Southwest Corridor Light Rail Project connects parks through a system of planned and existing regional trails

Project Description

3.6 Connecting Riders to Their Destinations

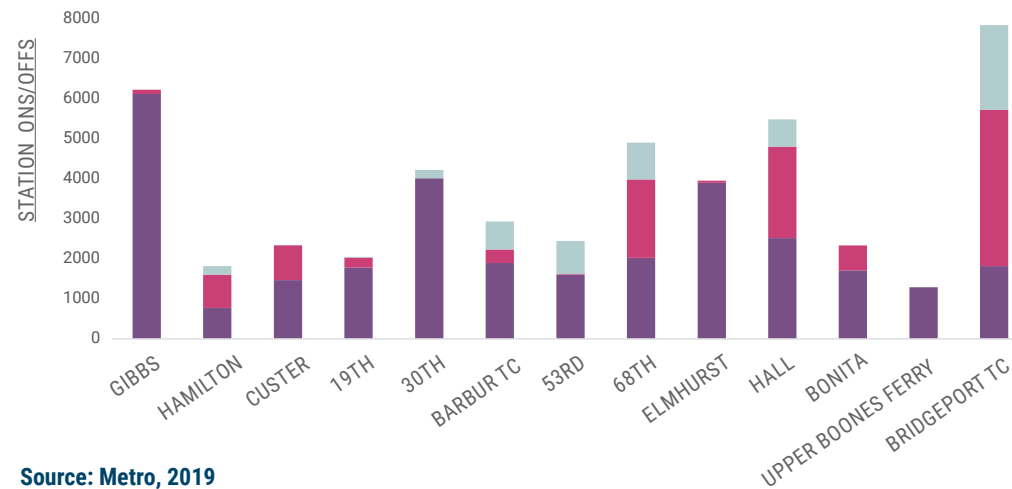
STATION ACCESS HIERARCHY

To support ongoing decision making and station design, the Southwest Corridor Light Rail Project has adopted a modal hierarchy for station access. This hierarchy informs investment decisions and the allocation of both resources and space. The hierarchy targets a shift in mode share toward transit and active transportation. Access improvements for all modes will be planned, delivered and managed in collaboration with project partners.

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. Subsequent planning efforts created an Action Plan, identifying principles to guide actions that are equitable, data driven and ensure accountability. The Southwest Corridor Light Rail Project is committed to a transportation system that is centered around safety to achieve these same goals. Street improvements will modernize roadways creating safe access to transit, increasing permeability of high traffic roadways, protecting bicyclists and supporting safe routes to schools.

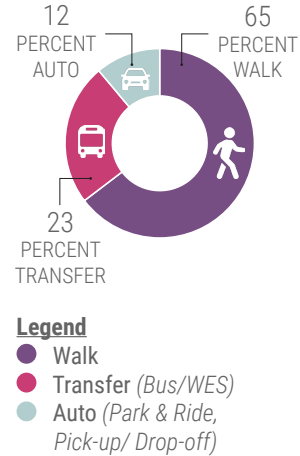
2035 STATION ACTIVITY AND ACCESS



Source: Metro, 2019

Figure 3.6: By 2035, 37,500 annual light rail trips are expected on the Southwest Corridor Light Rail system, with the overall highest project ridership activity at Bridgeport Transit Center, Gibbs Street Station and Hall Boulevard Station.

Total Mode of Access (Ons/Offs)



Legend
 ● Walk
 ● Transfer (Bus/WES)
 ● Auto (Park & Ride, Pick-up/ Drop-off)

STATION ACCESS HIERARCHY






- 
1. WALKING
 Provide on-site pedestrian connections that are designed to support direct, safe and convenient access into the station while minimizing conflicts.
- 
2. BIKING
 Provide safe cycling facilities with reduced conflict with cars and pedestrians.
- 
3. TRANSFERS
 Provide seamless, convenient and legible transfer options between the light rail station and other transit modes such as local bus and WES Commuter Rail.
- 
4. PICK-UP / DROP-OFF
 Provide safe areas for passenger drop off.
- 
5. PARK & RIDES
 Provide convenient places to park vehicles and access the station.

Figure 3.7: The projects station access hierarchy emphasizes safe access to and from the station for transit and active transportation modes

38 SOUTHWEST CORRIDOR LIGHT RAIL

WALKING

Walking represents a sizable portion of how people access stations. A walkshed analysis assessed existing barriers and constraints to stations including traffic safety and conflicts, and the condition of sidewalk and crossing facilities. Walkshed assessments have also coordinated with station demographics and local land use to understand the relative demand for walking.

The project will contribute to a more fully connected, safe street network, with design treatments such as new mid-block crossings and sidewalk facilities. **See Chapter 5-7 for more detail on each station.**

BIKING

A corridor-scale bicycle access study was performed to understand the degree to which streets are viable for station access. This included topography, human-created barriers, likely rider behavior and proximity of other stations. The assessment helped the project understand the relative demand for cyclists traveling through or to a station, as well as highlight areas that would benefit from greater investment.

In addition to new on-street facilities, future stations will accommodate secure locations to store and park bicycles with more space dedicated at stations demonstrating greater biking demand. The number of bike parking spaces at each station will be determined in Final Engineering. The design process is also considering both traditional and emerging forms of bicycle mobility, from personal bicycle use to e-bikes and dock-less bike share (See **Section 3.7: Getting Around**).

Additional project investment opportunities for walking and biking in coordination with local jurisdictions are listed in **Section 4.12: Station Access Projects**

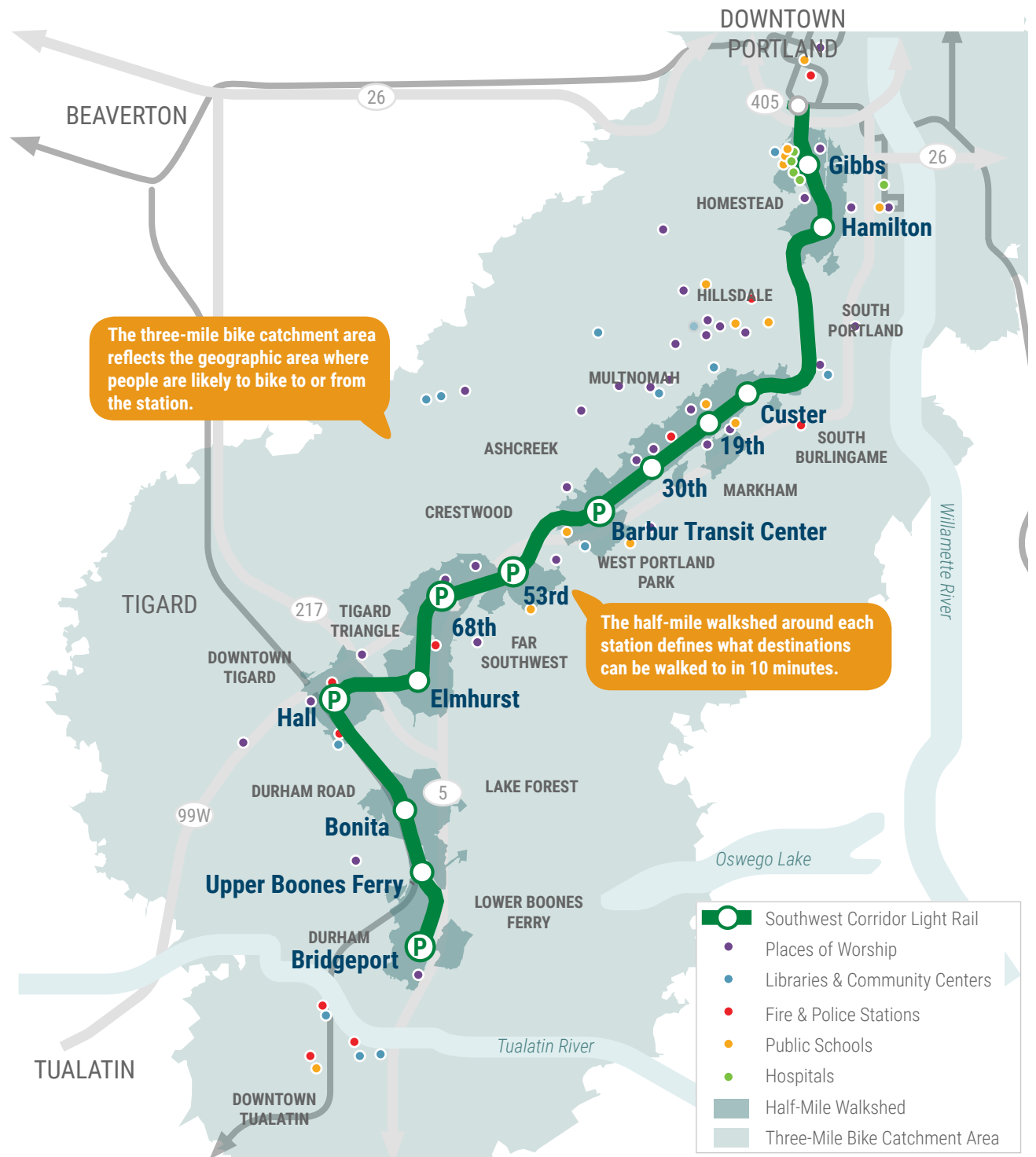


Figure 3.8: The Southwest Corridor Light Rail Project connects community assets and neighborhoods

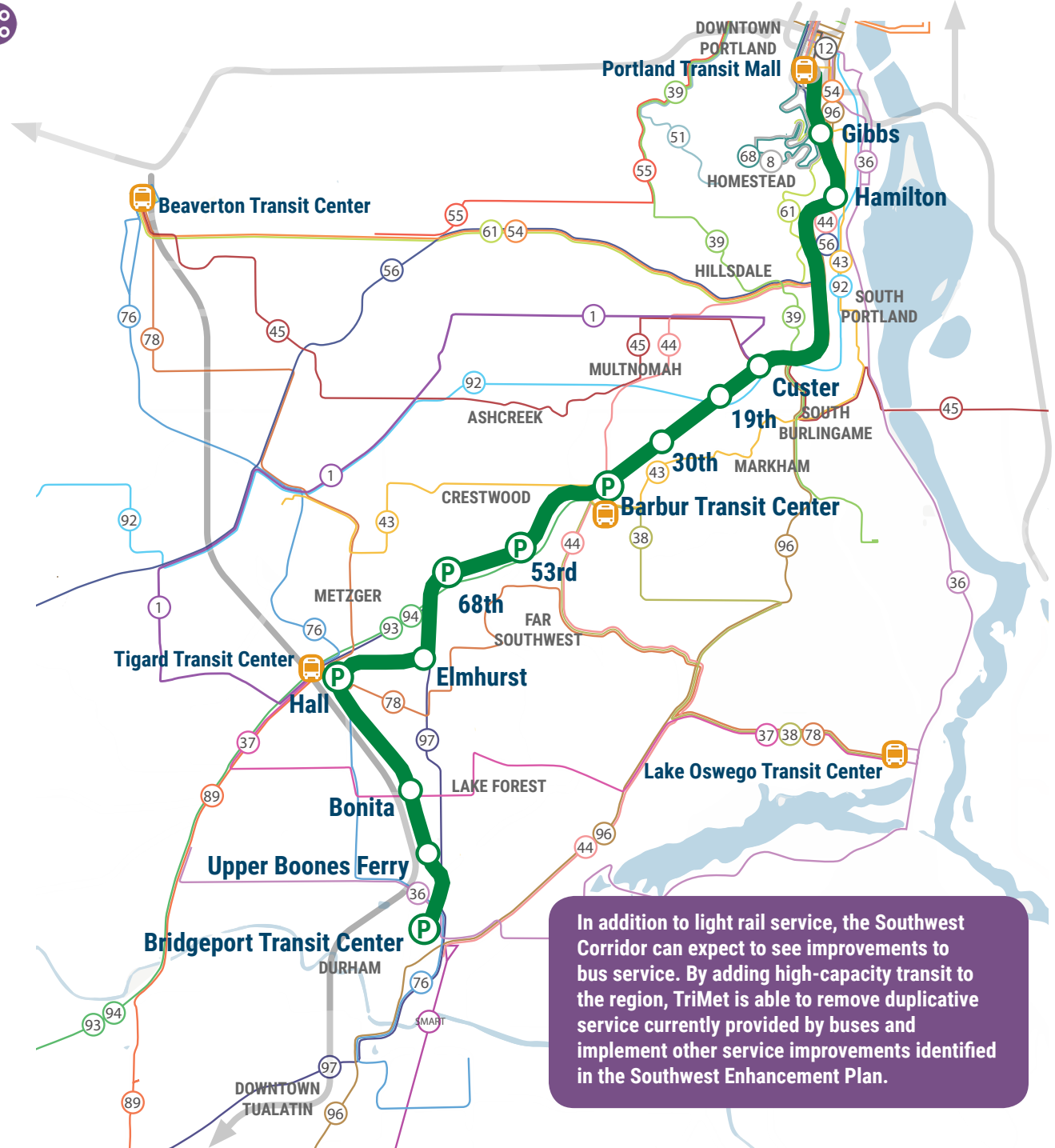
TRANSIT & TRANSFERS

The Southwest Corridor Light Rail Project will provide connections 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 stations will continue through Downtown Portland onto MAX Green Line
- TriMet buses (nearly every station)

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 (SW SEP), which was developed from an extensive public engagement process in 2015. 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.



In addition to light rail service, the Southwest Corridor can expect to see improvements to bus service. By adding high-capacity transit to the region, TriMet is able to remove duplicative service currently provided by buses and implement other service improvements identified in the Southwest Enhancement Plan.



Figure 3.9: Potential bus network with the Southwest Corridor Light Rail Project

DRIVING

The Southwest Corridor Light Rail Project will provide a more reliable travel option between Portland State University (PSU) and Tualatin. In 2013, studies found that in order to be on time 90 percent of the time traveling by car between PSU to Tualatin during the weekday PM peak (5-6 P.M.), one would need to allow 58 minutes. By comparison, light rail utilizes an exclusive right of way, and offers a consistent 30-minute travel time.

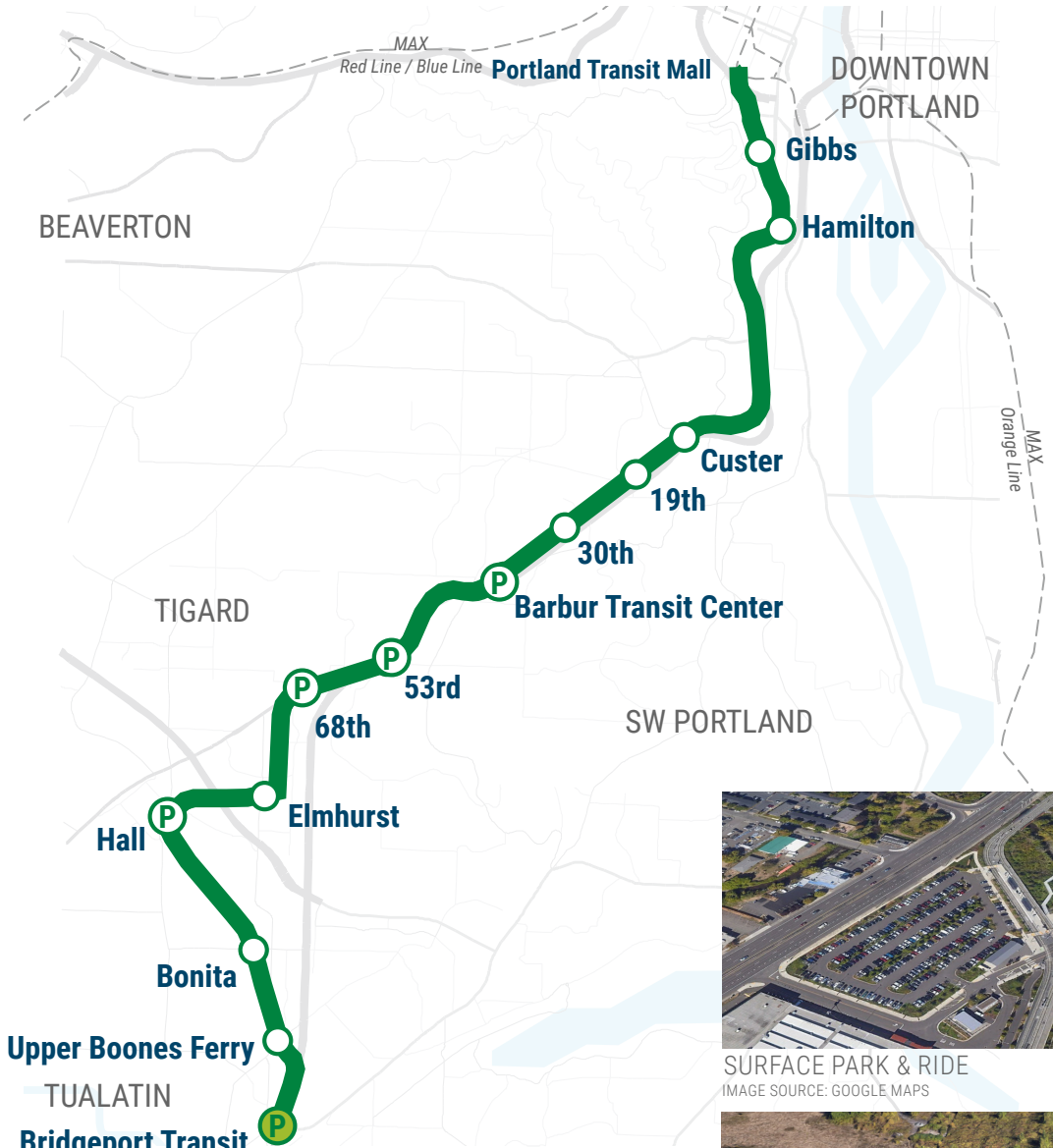
Park & Ride facilities serve riders traveling from farther distances or from locations without convenient transit service to access the light rail system. Community engagement in Spring 2019 helped define the quantity, locations and type of Park & Rides in the Final Environmental Impact Statement (FEIS). 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.

TYPES

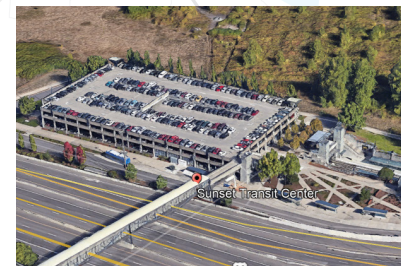
-  **Surface Park & Ride**
-  **Structured Park & Ride**

Station Name	Existing	Proposed Maximum Quantity	Description
Barbur Transit Center	368	up to 300	surface
53rd Avenue	0	up to 310	surface
68th Avenue	0	up to 350	surface
Hall Boulevard	0	up to 100	surface
Bridgeport Transit Center	368	up to 960	structure
Total Spaces		up to 2,020	

Notes:
The proposed design does not include Park & Rides at the Gibbs Street, Hamilton Street, Custer Drive, 19th Avenue, 30th Avenue, Elmhurst Street, Bonita Road or Upper Boones Ferry Road Stations. Final Environmental Impact Statement process to refine proposed quantities and associated traffic mitigations.



SURFACE PARK & RIDE
IMAGE SOURCE: GOOGLE MAPS



STRUCTURED PARK & RIDE
IMAGE SOURCE: GOOGLE MAPS

Figure 3.10: Proposed Park & Ride Locations

NEIGHBORHOOD ACCESS

In addition to active mobility infrastructure for people walking and biking, many riders will access the stations by car. 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 access and cut through issues, as well as potential mitigations. The results will be used to inform project designs. Proposed traffic mitigations, signals and design of intersections to support u-turns and turning movements will be refined to provide adequate vehicular circulation, maintaining access to neighborhoods, minimizing the impacts of neighborhood cut-through traffic and ensuring that local streets remain as local service streets. 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.

New enhanced pedestrian crossings will be added throughout the project, significantly improving the pedestrian safety and crossing opportunities along the alignment (Figures 3.11- 3.19). 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.

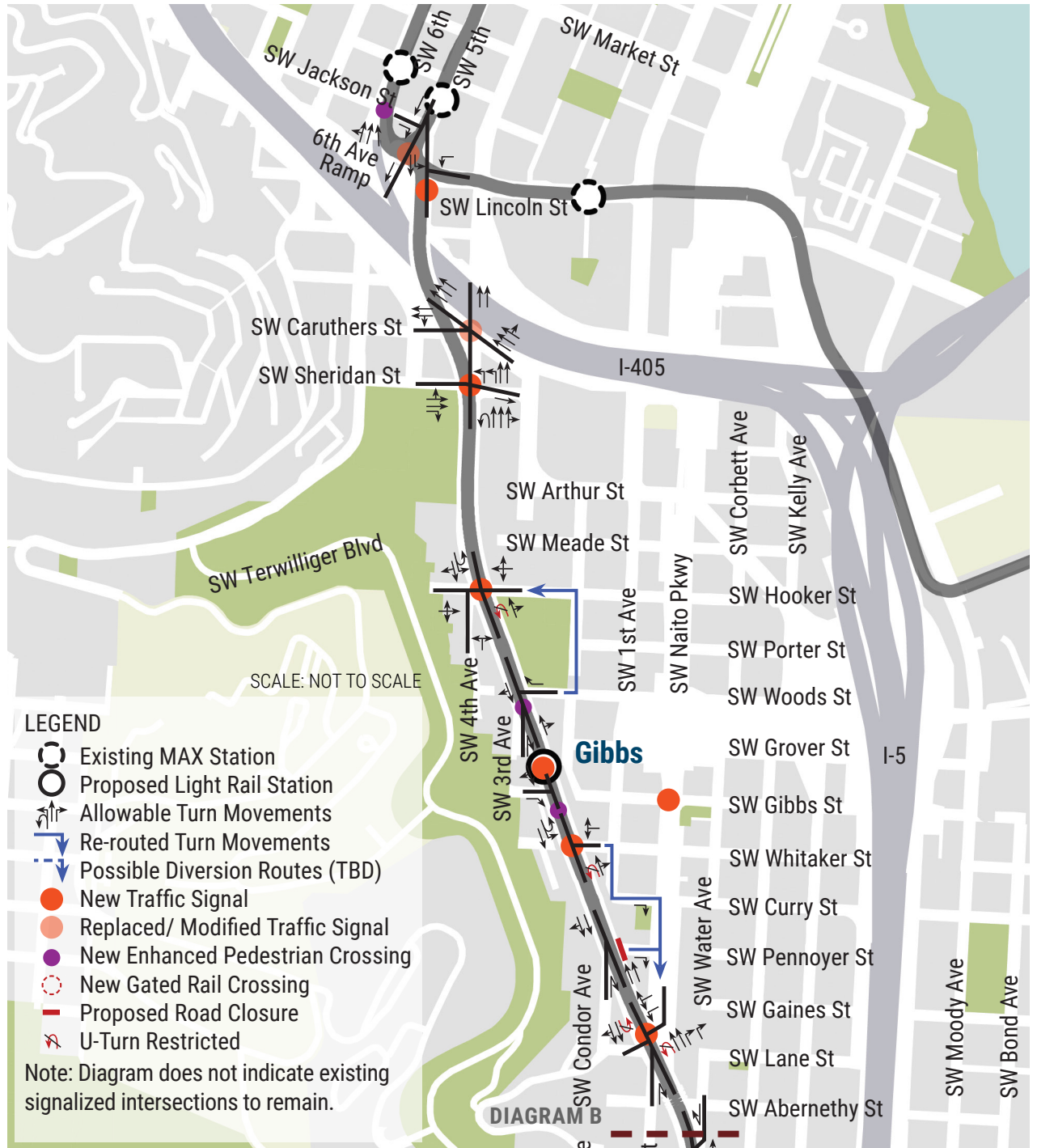


Figure 3.11: Diagram A - Proposed Vehicular Circulation



Figure 3.12: Diagram B - Proposed Vehicular Circulation



Figure 3.13: Diagram C - Proposed Vehicular Circulation



Figure 3.14: Diagram D - Proposed Vehicular Circulation



Figure 3.15: Diagram E - Proposed Vehicular Circulation



Figure 3.16: Diagram F - Proposed Vehicular Circulation



Figure 3.17: Diagram G - Proposed Vehicular Circulation

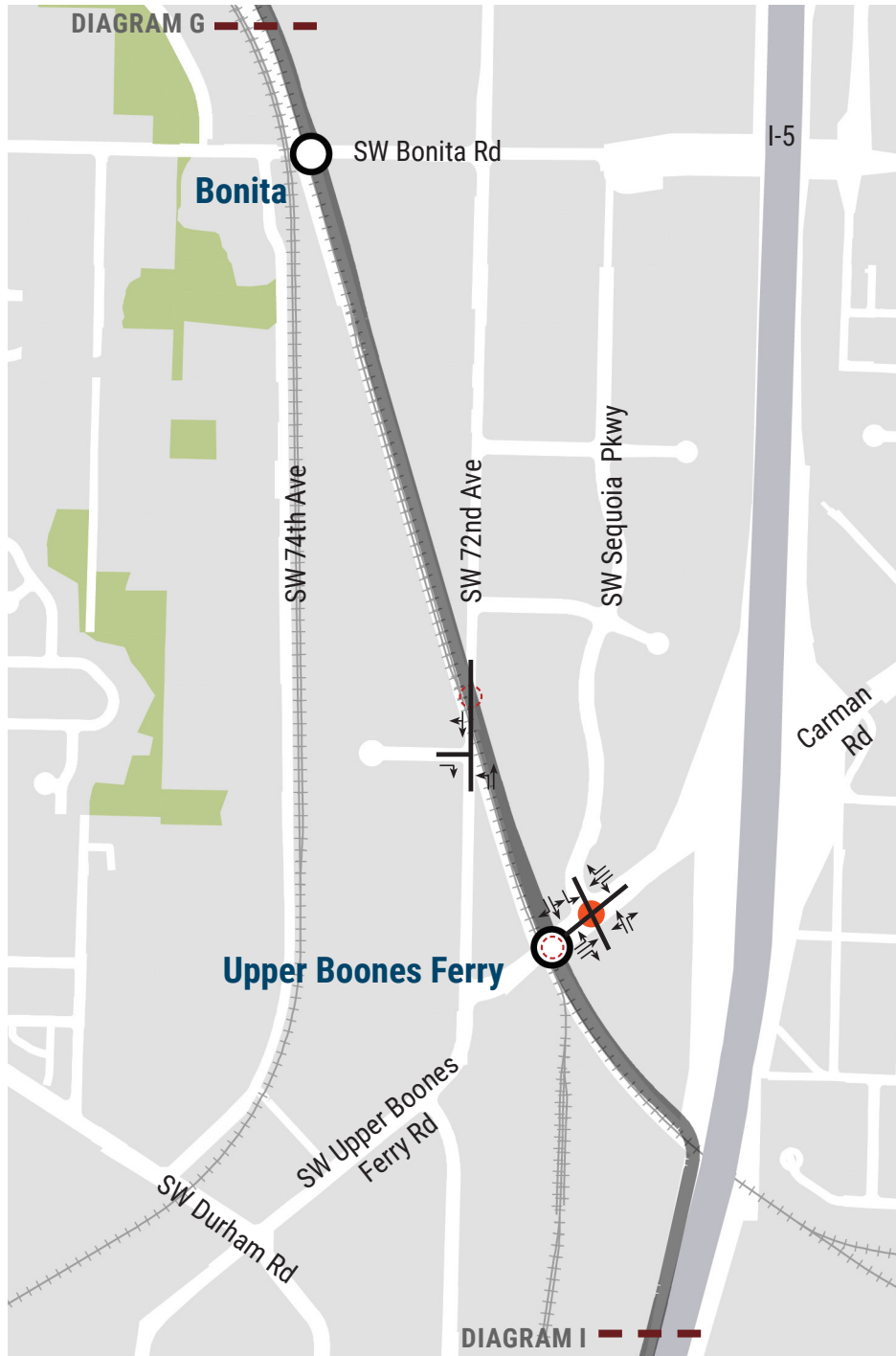


Figure 3.18: Diagram H - Proposed Vehicular Circulation

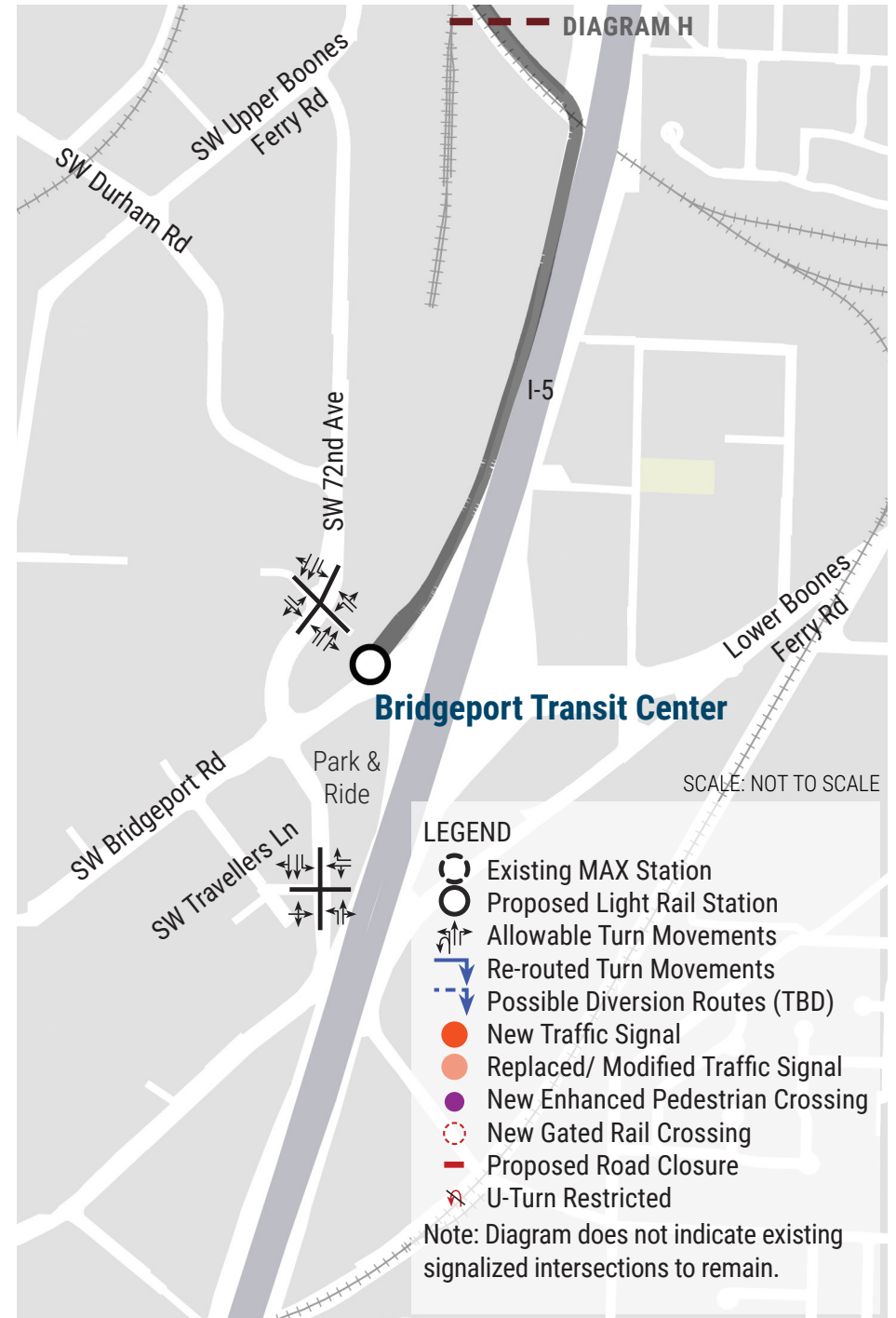


Figure 3.19: Diagram I - Proposed Vehicular Circulation

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 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.

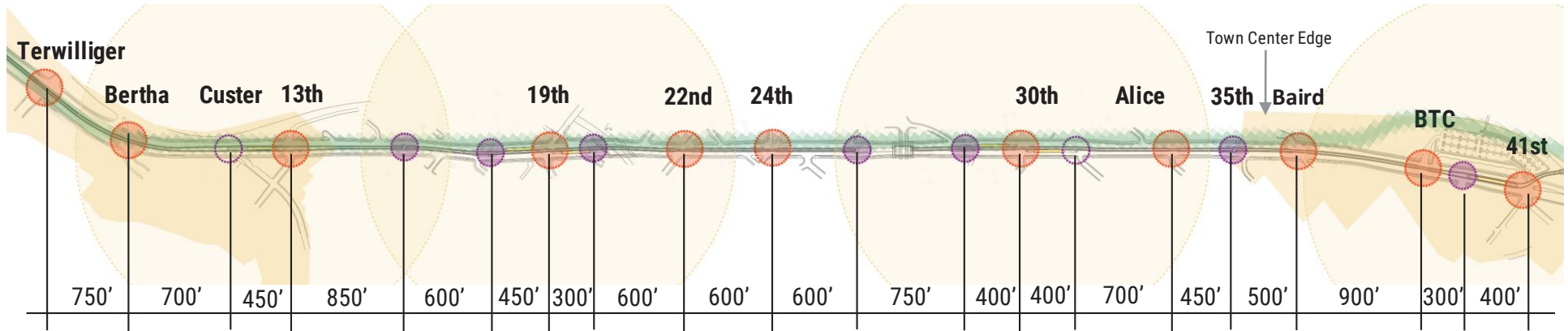
LEGEND

- 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



PROPOSED PEDESTRIAN CROSSINGS



3.7 Getting Around

Emerging ways of getting around at stations can help encourage and promote transit use. A key design feature for Southwest Corridor stations will be the flexibility to evolve and accommodate the changing mobility needs of the community, especially in this period of shift in transportation from single occupancy vehicles to multiple modes and options. Each light rail station is being evaluated to determine which of these options (see a partial list at right) will be most successful in connecting people to the station, both on opening day and in the future.

Adapting stations to various travel choices is especially important for vulnerable populations (older adults, economically disadvantaged and people with disabilities). TriMet recognizes that more and better travel choices can increase the comfort and convenience of transit service for all.

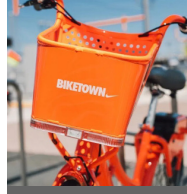
Accommodating these emerging travel options will require coordination with local jurisdictions. For example, curbspace zones near to key stations may be allocated for dock-less bicycles, or electric scooters, and car share spaces may find convenient accommodation outside the station footprint.

TriMet will coordinate with private sector companies who own or operate these services and will continue to assess and evolve options for mobility services as part of Final Engineering.

NEW OPTIONS TO CONNECT

BIKE SHARE

Bike sharing is a system of bicycles available to users to access as needed for point-to-point or round-trip trips.



BIKE SHARE

Site Requirements:

- Space for dock, within or near to the station.

CAR SHARE

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



CAR SHARE

Site Requirements:

- Marked parking space or zone

MICROTRANSIT

Microtransit is a shuttle service that can be on-demand in real-time or fixed route service updated frequently.



MICROTRANSIT

Site Requirements:

- Curb space for passenger pick up or drop off

E-SCOOTERS

Scooter share is a system of electric scooters whereby users use an app to rent and ride to their destination.



E-SCOOTERS

Site Requirements:

- Parking area or zone, within or near to the station.

ON DEMAND-RIDE SHARE

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



ON-DEMAND
RIDE SHARE

Site Requirements:

- An organized, flexible zone for drop off and pick up. Ride share services are often located with passenger pick up drop off and taxi services.

AUTONOMOUS VEHICLE (AV) SHUTTLES

AV shuttles operate on pre-defined, fixed routes in controlled environments.



AV
SHUTTLES

Site Requirements:

- Curb space zone for passenger pick up or drop off.



4

DESIGN ELEMENTS

4 Design Elements

SOUTHWEST CORRIDOR DESIGN GUIDANCE

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.

1 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.

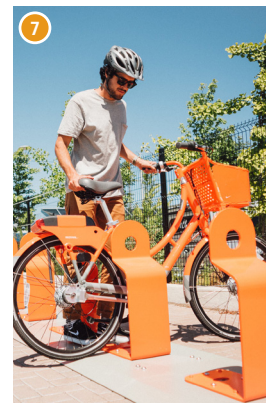
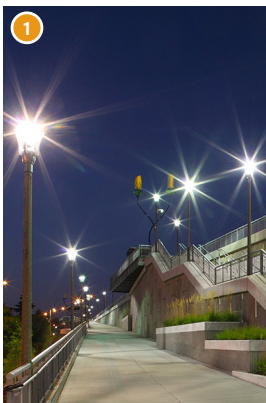


IMAGE SOURCE: TRIMET FLICKR (ALL)



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

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 Trackway and Alignment
- Section 4.4 Operations Facilities
- Section 4.5 Walls
- Section 4.6 Overhead Structures

- Section 4.7 Bike Facilities and Protected Intersections
- Section 4.8 Light Rail Intersections
- Section 4.9 Stormwater Features
- Section 4.10 Urban Design Elements

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 systemwide 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 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™ card or read transit information.

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

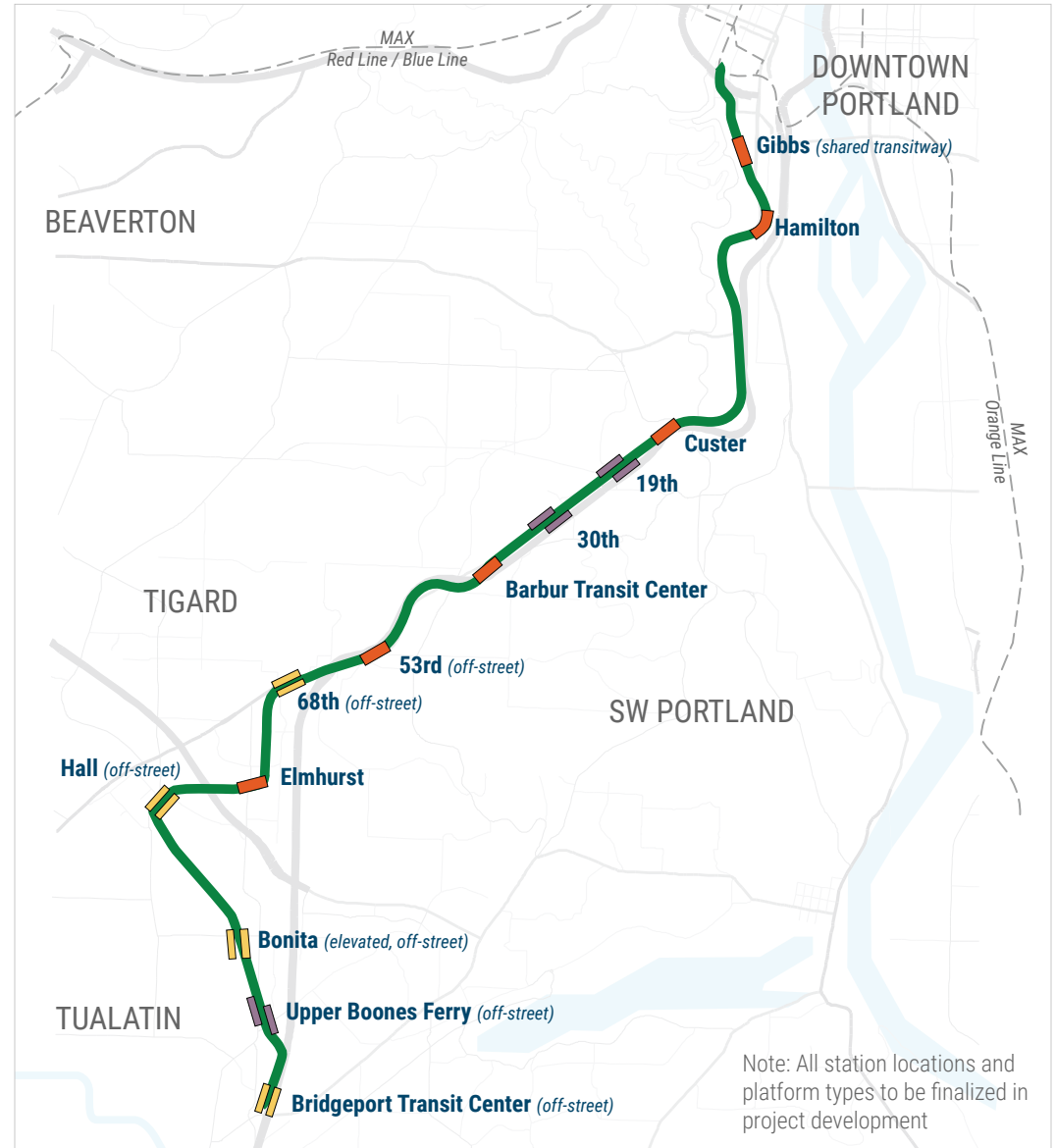


Figure 4.2: Platform Configuration Locations

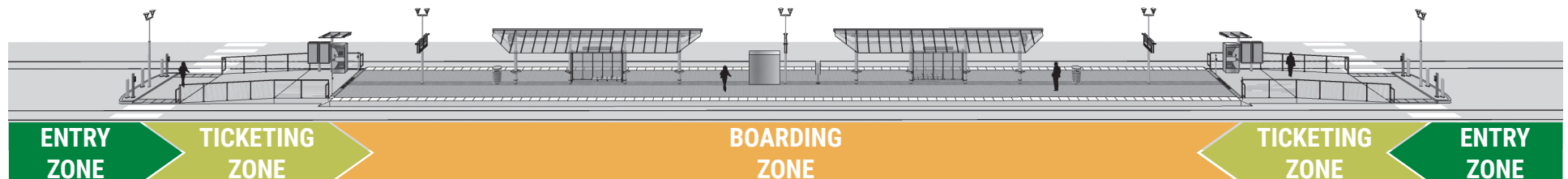


Figure 4.3: Typical Platform Zones with entries on both sides. Not all stations will have entries on both sides.

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 queuing
- 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

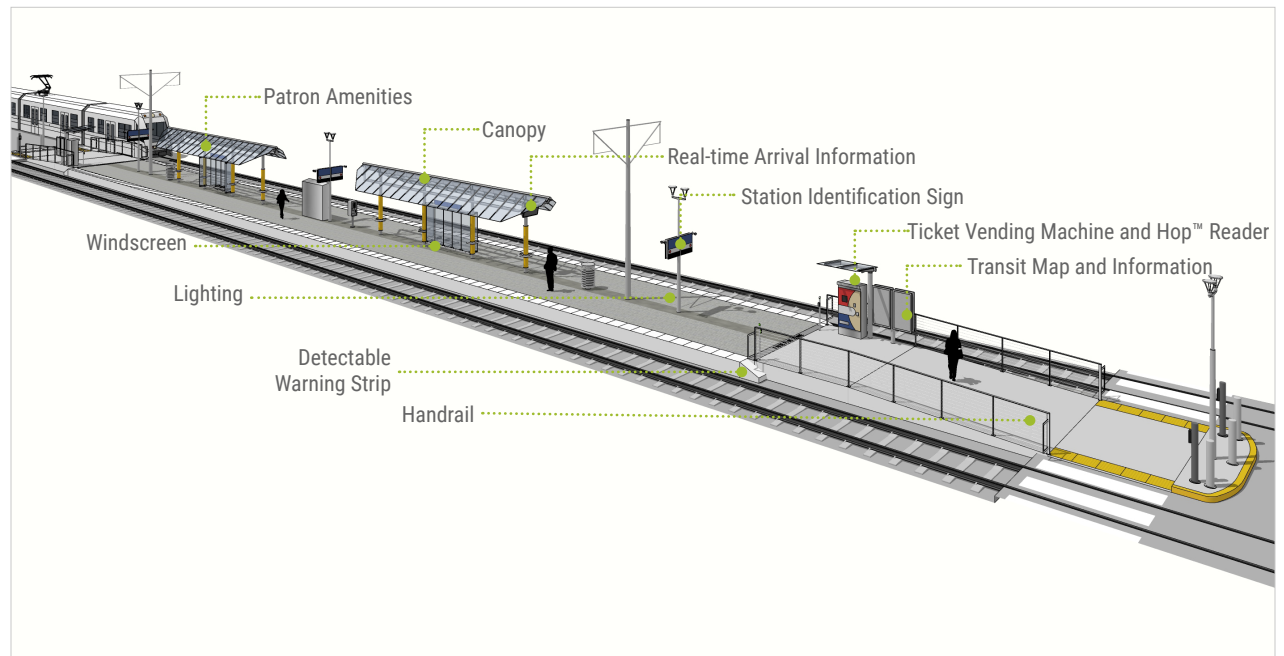


Figure 4.4: Center Platform Components

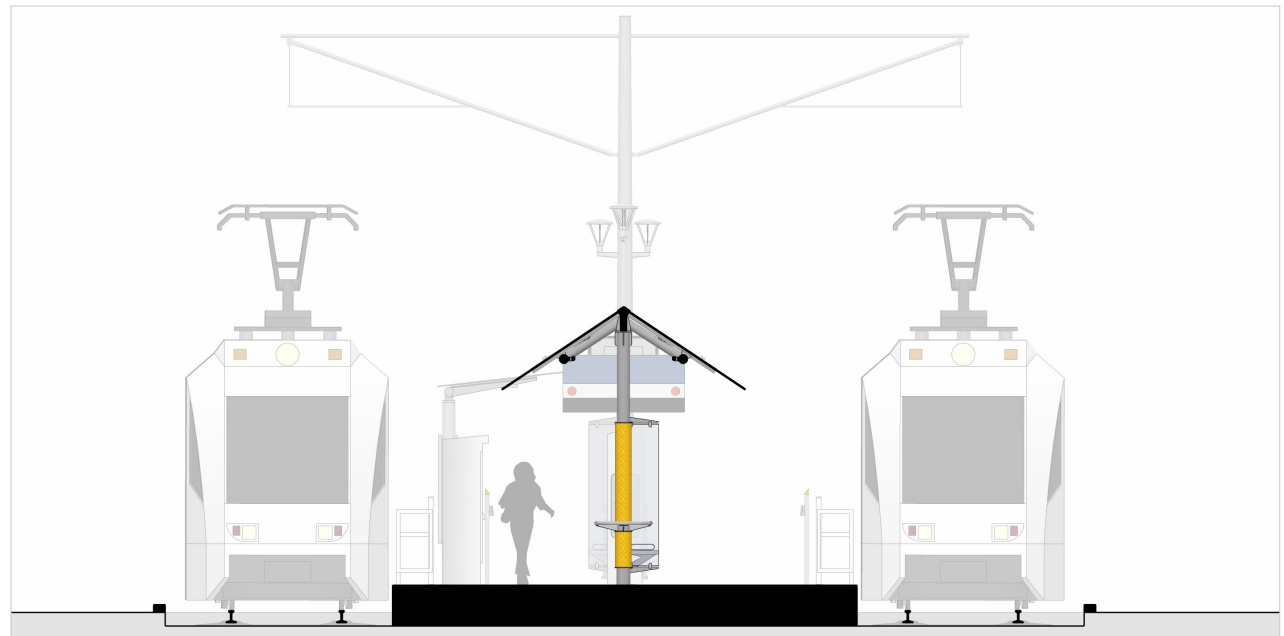
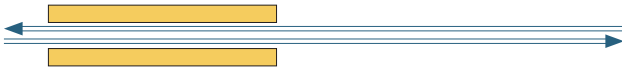


Figure 4.5: Center Platform Components



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

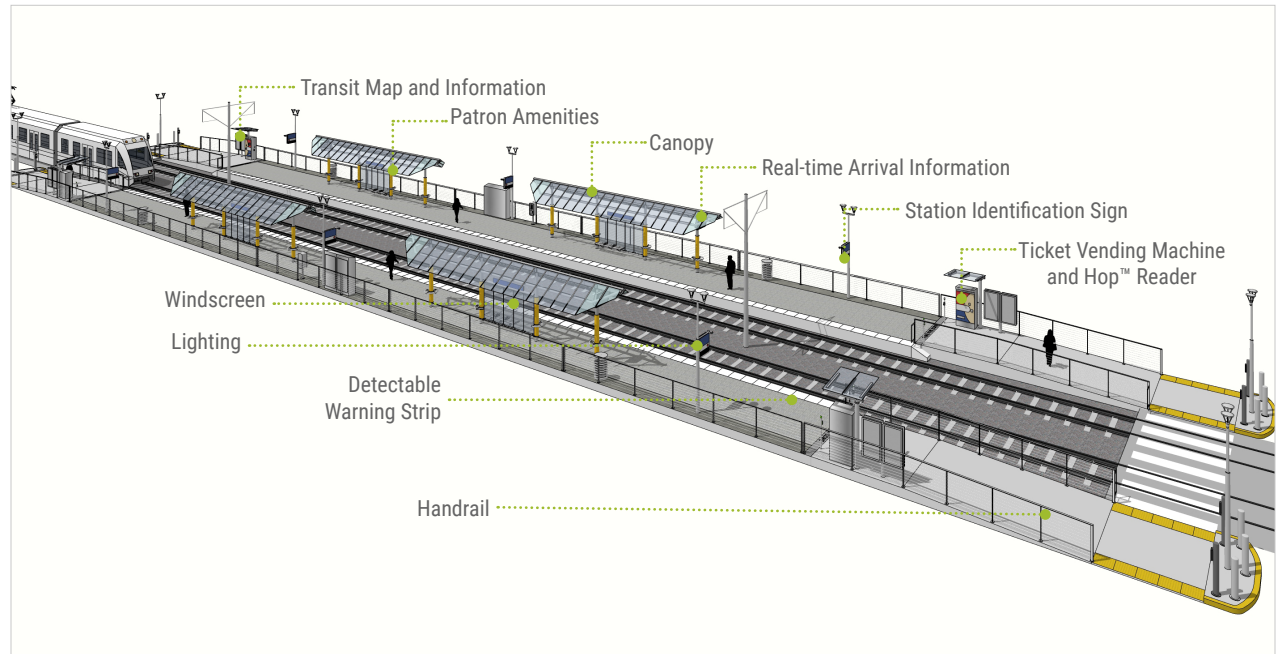


Figure 4.6: Side Platform Components

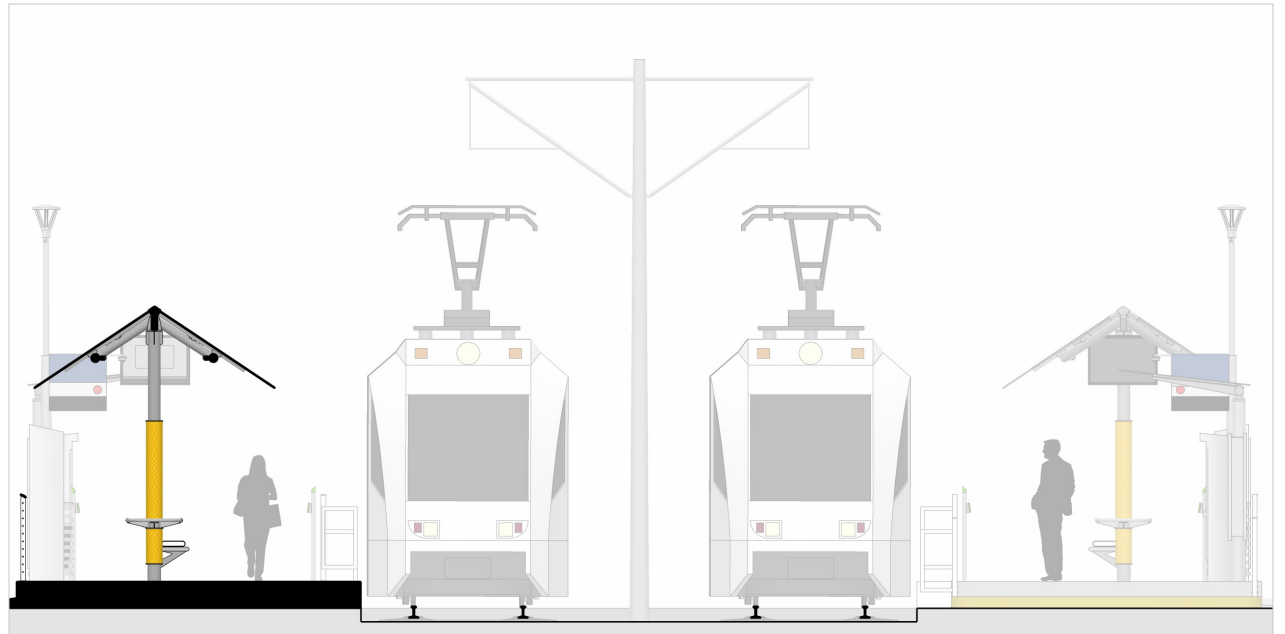





Figure 4.7: Side Platform Components




4.3 Trackway and Alignment

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 bikeways 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

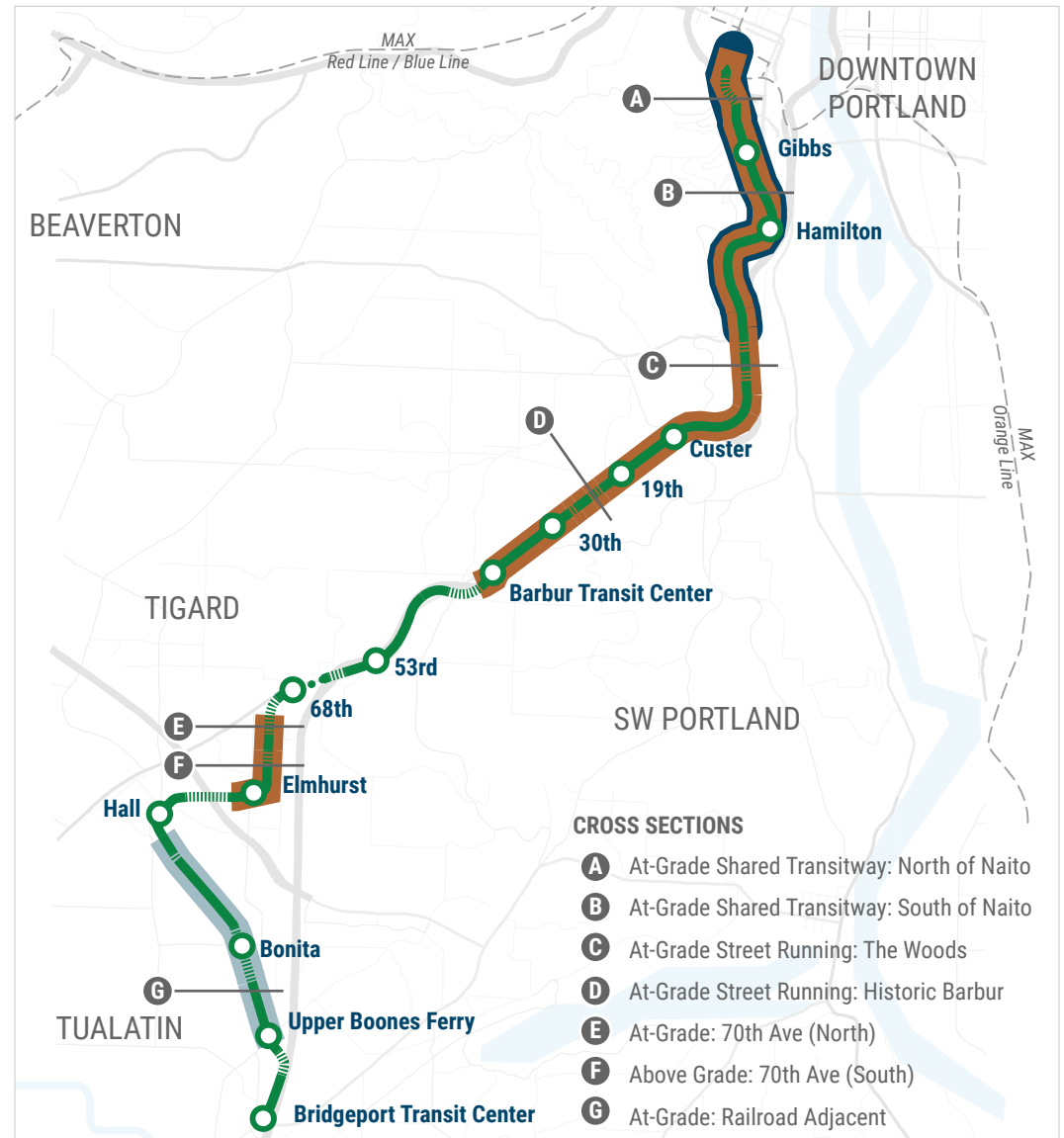
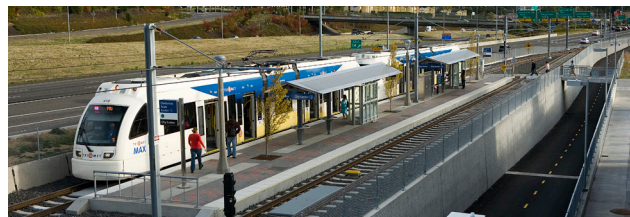


Figure 4.8: Types of Trackway Alignments



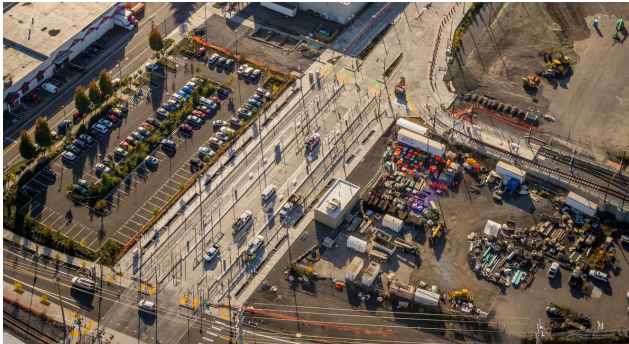
AT-GRADE TRACK
IMAGE SOURCE: TRIMET FLICKR



ABOVE GRADE TRACK
IMAGE SOURCE: TRIMET FLICKR



BELOW GRADE TRACK
IMAGE SOURCE: TRIMET FLICKR



SHARED TRANSITWAY
IMAGE SOURCE: TRIMET FLICKR



STREET RUNNING
IMAGE SOURCE: TRIMET FLICKR



RAILROAD ADJACENT
IMAGE SOURCE: TRIMET FLICKR

SOUTHWEST CORRIDOR: CROSS-SECTIONS

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

A AT-GRADE SHARED TRANSITWAY: NORTH OF NAITO

The shared transitway for buses and light rail along 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.

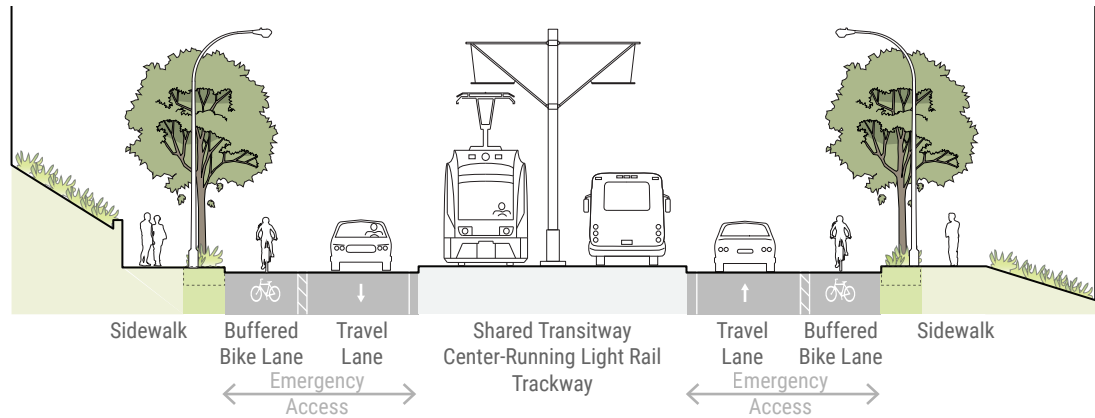


Figure 4.9: At-grade shared transitway north of Naito Parkway

B 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 Barbur Blvd while minimizing shared traffic congestion with vehicles.

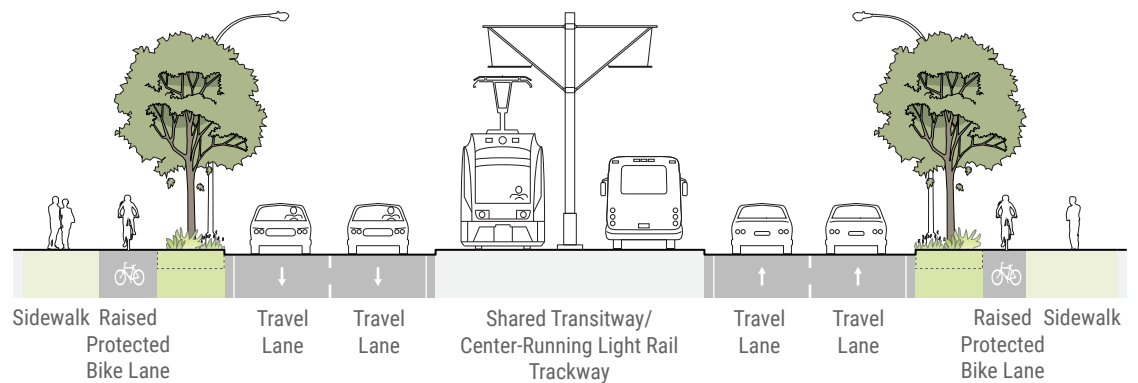


Figure 4.10: At-grade shared transitway south of Naito Parkway

C AT-GRADE STREET RUNNING: THE WOODS

The project will also rebuild two historic viaducts. A typical cross-section of a new viaduct shown 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.

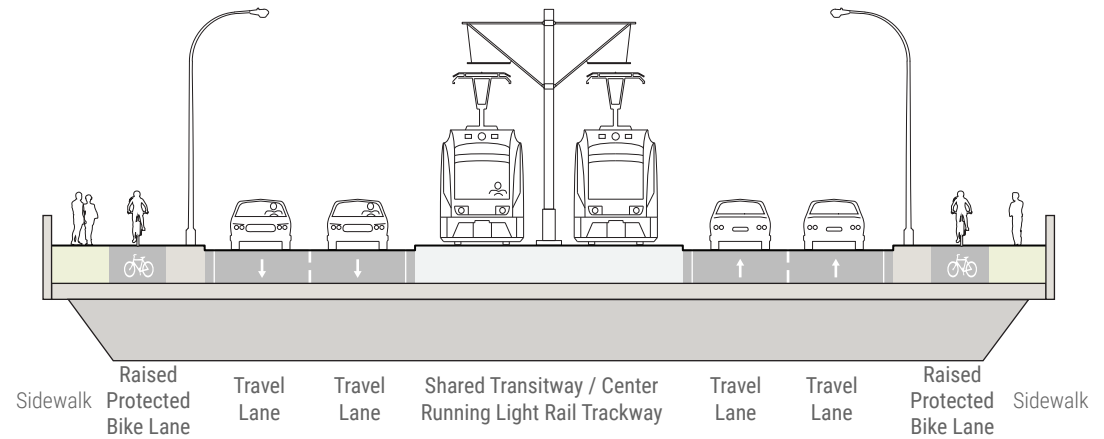


Figure 4.11: At-grade center-running light rail trackway through the Woods segment at a viaduct location

D AT-GRADE STREET RUNNING: HISTORIC BARBUR

South of the Woods, the streetscape shares characteristics as the Barbur 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 and transitions into a bridge crossing I-5.

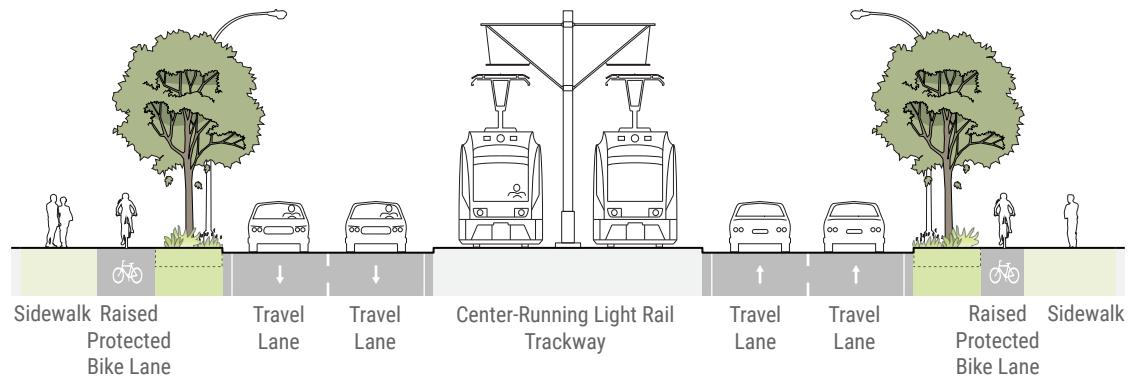


Figure 4.12: At-grade center-running light rail trackway through Historic Barbur

E AT-GRADE: SW 70TH AVE (NORTH)

The SW 70th Ave streetscape 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.

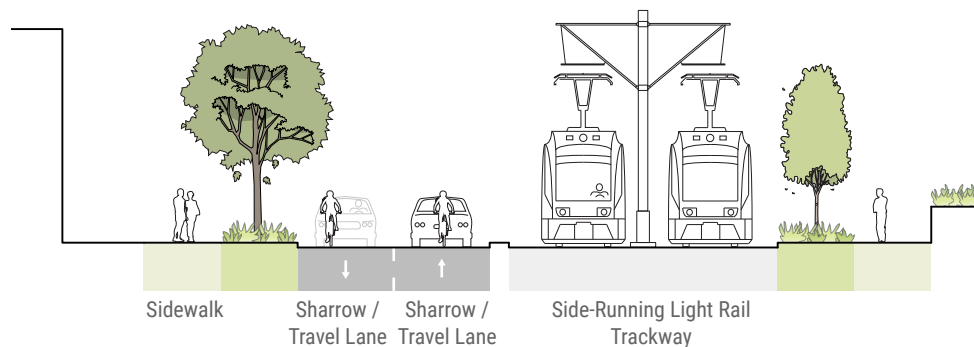


Figure 4.13: At-grade side-running light rail trackway through SW 70th Ave

F ABOVE GRADE: SW 70TH AVE (SOUTH)

SW 70th Ave has a side-running light rail trackway that is elevated to avoid an at-grade crossing at SW Dartmouth St, which is the 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 any 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.

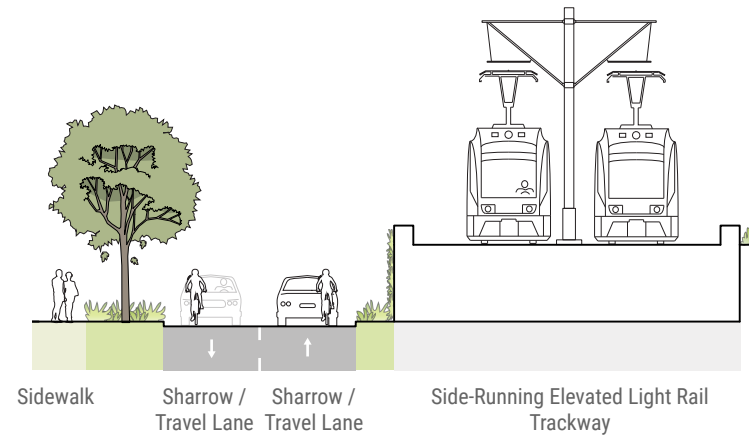


Figure 4.14: Above-grade side-running light rail trackway through SW 70th Ave

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 the Bonita Road Station be used for Bonita 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.

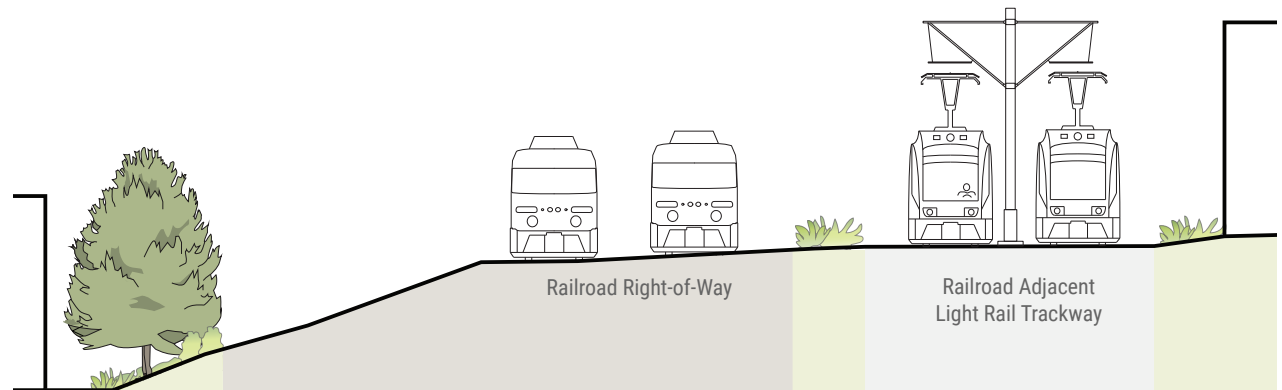




Figure 4.15: At-grade light rail trackway adjacent to existing railroad right-of-way

4.4 Operations Facilities

The transit system is supported by operations equipment with signal, communication, and powering functions. The most frequent and visible element are Overhead Catenary System (OCS) poles that carry overhead wires to power the light rail system. Poles are located along the entire alignment. Operations facilities are enclosed structures located in areas that allow for ease of maintenance vehicle access, and connected to the system by a third track. While their primary function is utility, they can be designed and located in a way that contributes positively to the station area environment. This is best achieved through screening opportunities such as high-quality facade treatments, landscaping and attractive fencing. These structures can also be integrated into the design and layout of plazas, buildings and other future redevelopment sites.

OPERATIONS FACILITIES & COMPONENTS

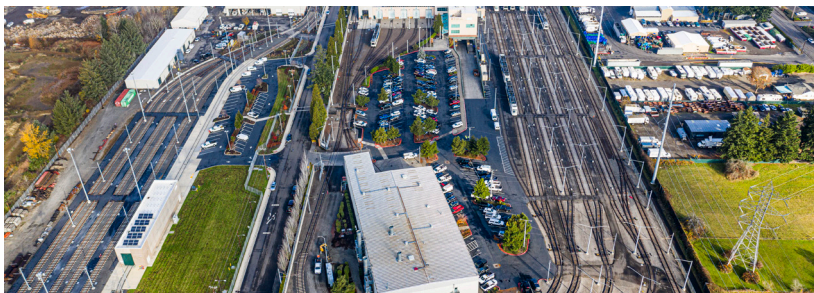
-  **Substations and Signal Buildings:** Structures that house power distribution and communication functions for the light rail system
-  **Operations and Maintenance Facility (OMF):** Structure and rail yard for cleaning and maintaining light rail vehicles
- N/A **Overhead Catenary System (OCS):** A support system that supplies the light rail vehicle with electricity - located systemwide



SUBSTATION
IMAGE SOURCE: MEG ADAMSON



OVERHEAD CATENERY SYSTEM



OPERATIONS AND MAINTENANCE FACILITY (OMF)



Figure 4.16: Operations Facilities Locations

4.5 Walls

The light rail project travels through areas with dynamic topography. In some locations along the alignment, large retaining walls will be required. Where these walls are unavoidable and visible from the public realm, various treatments and styles will be applied to mitigate their visual impact. Height and length of all proposed walls will be finalized in Final Engineering.

WALL TYPES

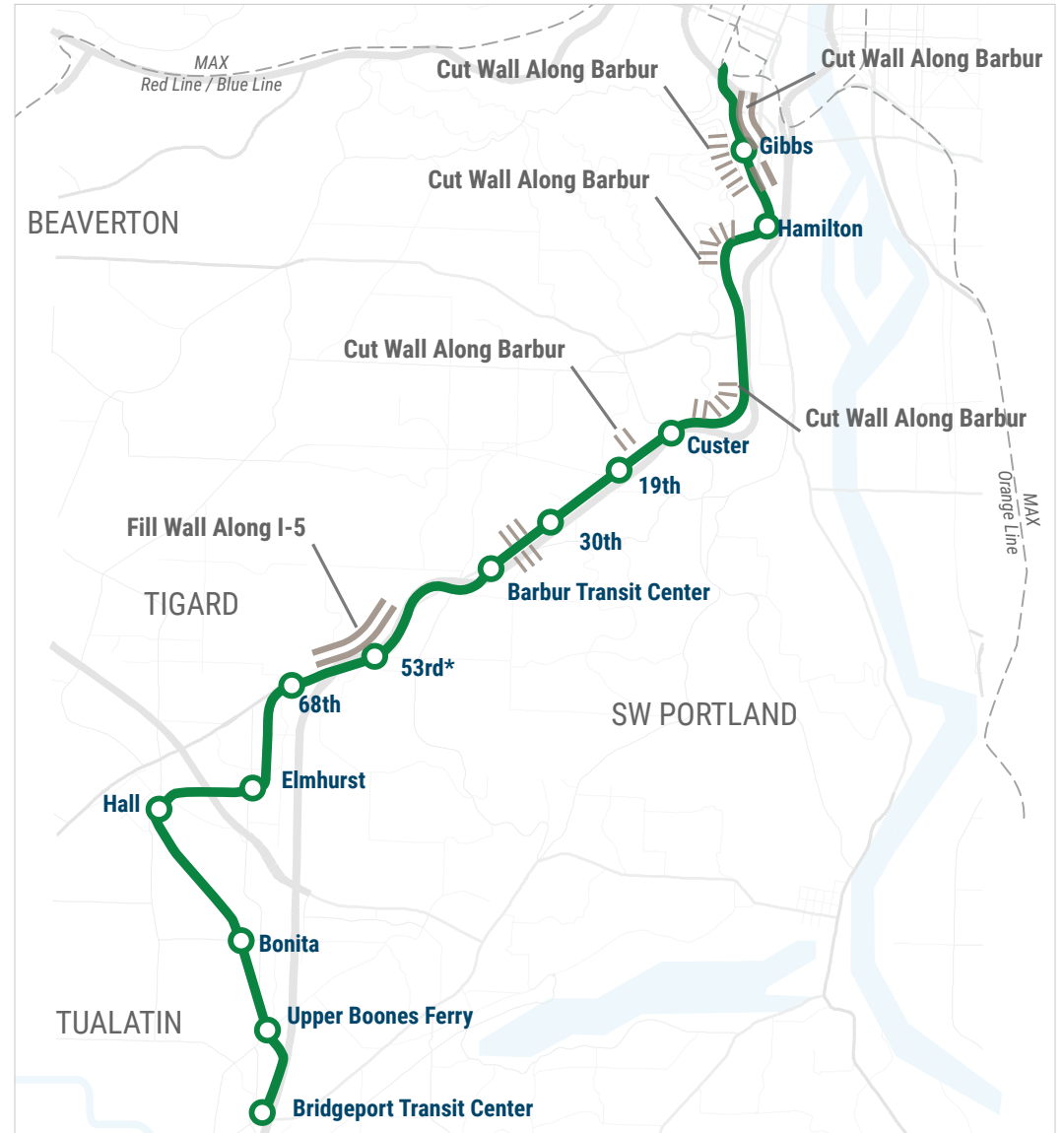
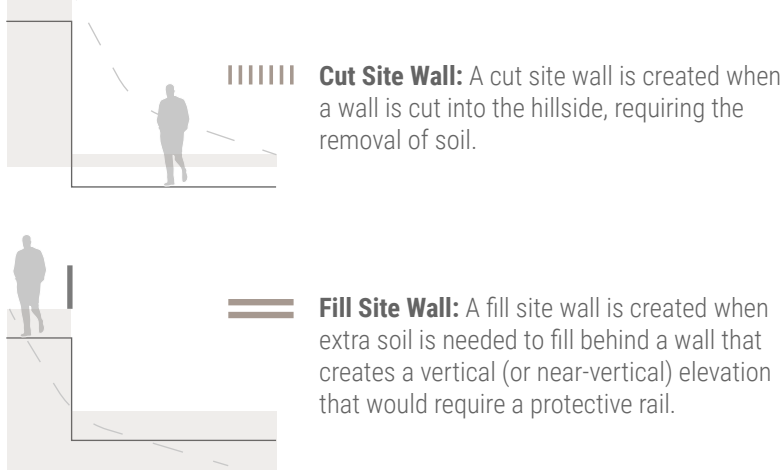


Figure 4.17: Wall Type Locations



ABUTMENT WALL AND STAIRCASE
IMAGE SOURCE: TRIMET FLICKR



TREATMENT ALONG ROADWAY
IMAGE SOURCE: GOOGLE EARTH



TREATMENT ALONG THE TRACKWAY
IMAGE SOURCE: PETER EHRLICH



TREATMENT WITH PROTECTIVE RAIL
IMAGE SOURCE: DAVID EVANS AND ASSOCIATES

4.6 Overhead Structures

Overhead structures are required where there are existing freeways, streets and railroad tracks that the trackway must cross over. Both the overhead trackway and supporting columns have significant visual impacts to the surrounding area, which can be mitigated by a design that considers existing views and topography. Both the columns and the space beneath the trackway can be designed to better integrate with the community and leave room for potential transit facilities, open spaces or stormwater facilities beneath.

LIGHT RAIL STRUCTURES

- **Bridges:** Structures that allow the track to cross over a roadway, waterway or other rail tracks
- **Elevated Stations:** Stations elevated above grade, primarily to avoid at-grade roadway crossings at the station
- **Viaduct Replacement:** The project will replace the existing Newbury and Vermont Viaduct structures in the Woods

OTHER STRUCTURES

- * **Pedestrian Walkways:** Pedestrian-only walkways that are part of project but not integral to the light rail infrastructure



BRIDGE SIMILAR TO CROSSROADS
IMAGE SOURCE: GOOGLE EARTH



ELEVATED STATION
IMAGE SOURCE: GOOGLE EARTH



PEDESTRIAN BRIDGE SIMILAR TO BRIDGEPORT
IMAGE SOURCE: MIKE MAGUIRE



EXISTING VIADUCT
IMAGE SOURCE: STRUCTURAE.NET

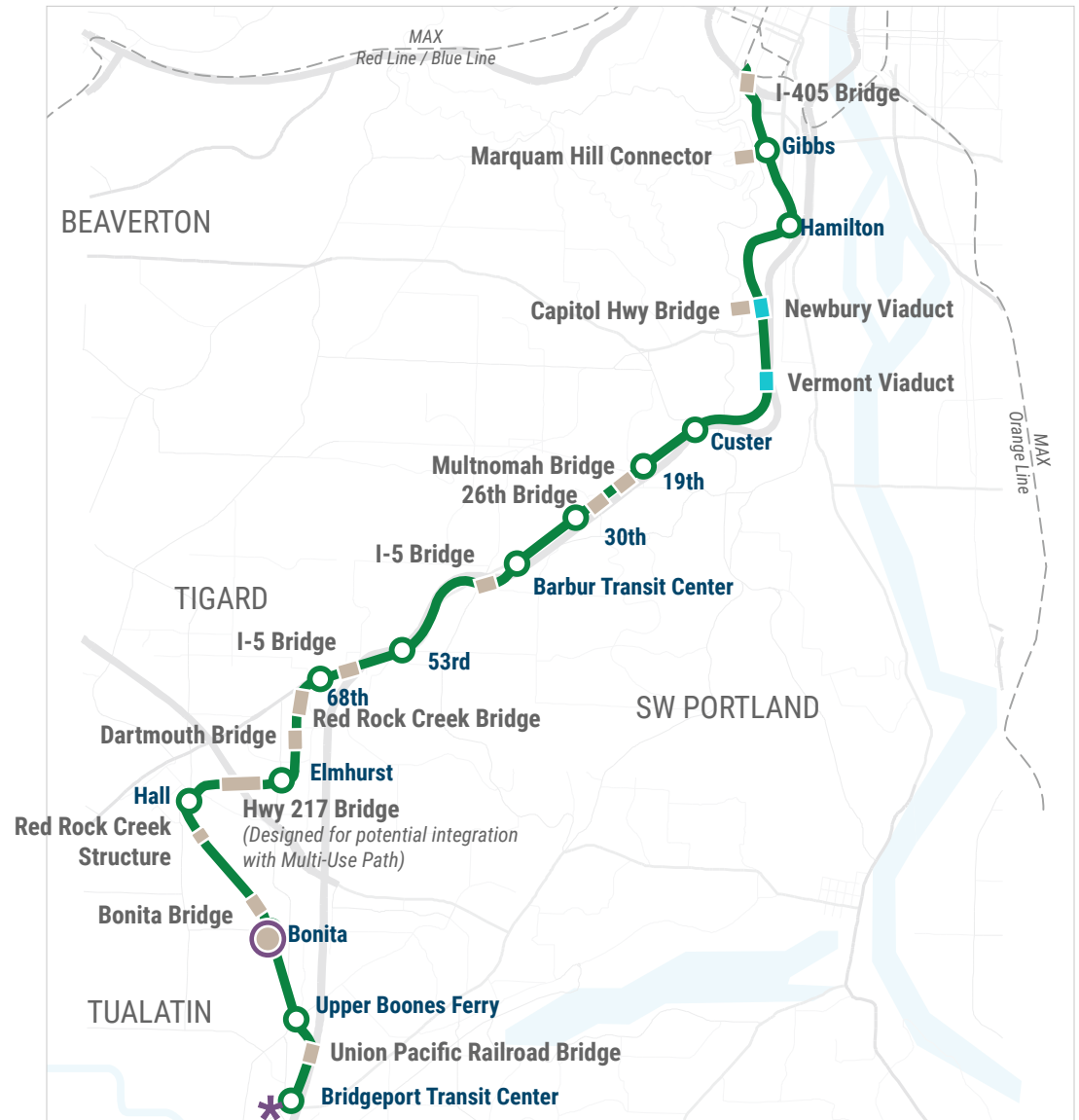


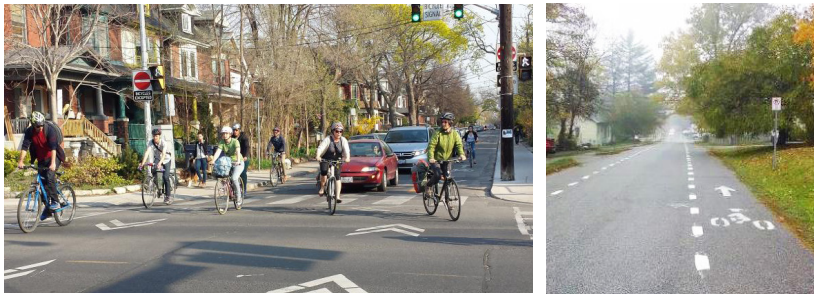
Figure 4.18: Overhead Structures Locations

4.7 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.

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 pedestrian and cycling route linking the station with Red Rock Creek development in the center of 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 separation between cyclists and automobiles at street level
- 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 1** (existing or planned bike facility on minor street)
- Target Locations for Type 2 or 3** (all other intersections)

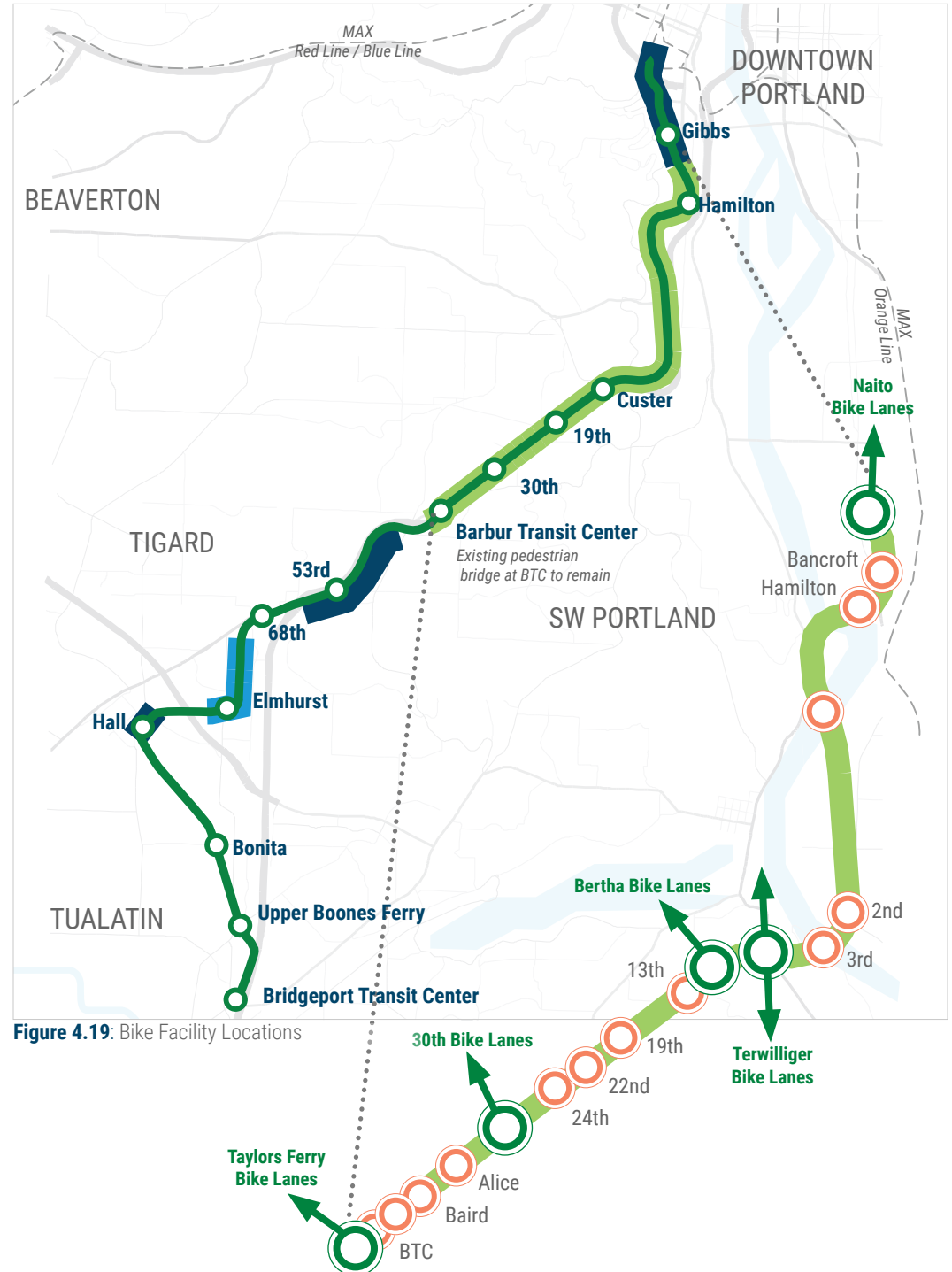


Figure 4.19: Bike Facility Locations

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 curb-protected 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.

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)

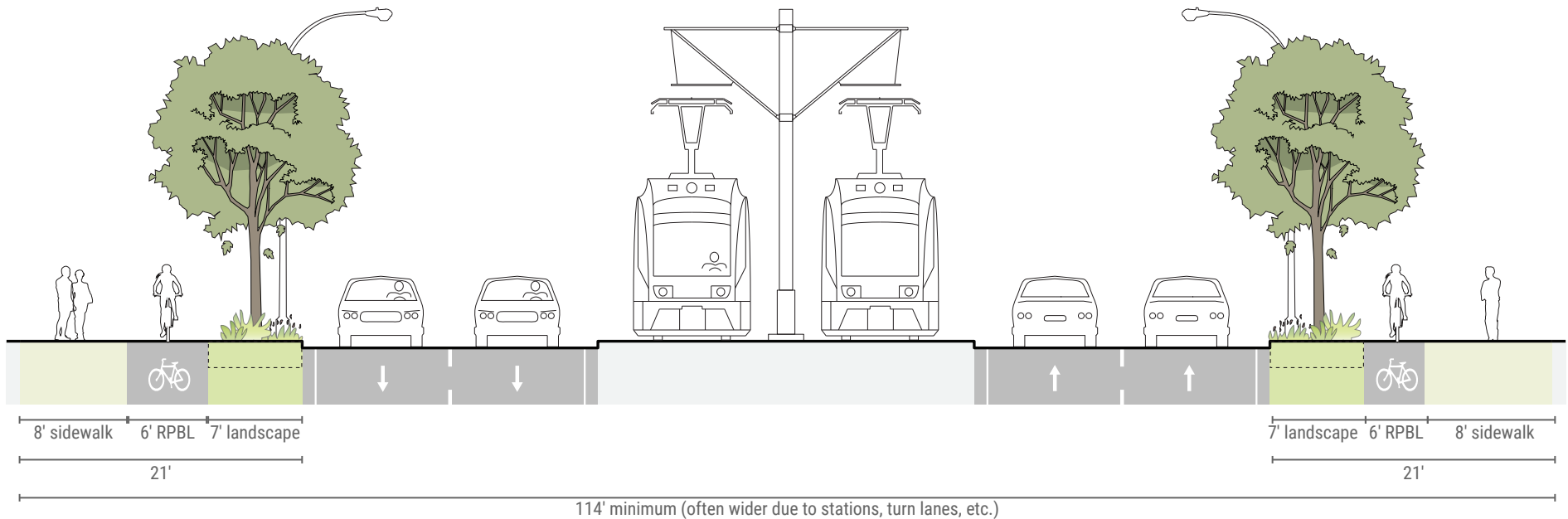


Figure 4.20: Typical cross-section of street with raised protected bike lanes

PROTECTED INTERSECTIONS

Protected intersections protect both people walking and biking from traffic. Protected intersections that are signalized may have right, left and/or through 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 2) provides separation and protection for people walking and biking in every direction. This design also requires 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
- Additional space
- ADA standards
- Traffic volumes
- Existing bike facilities
- Turning movements
- Planned bike facilities
- Topography

PROTECTED INTERSECTION TYPES

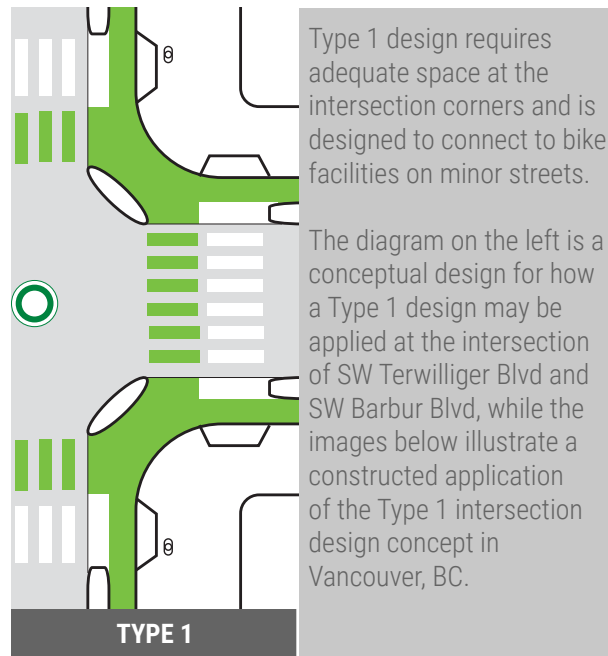
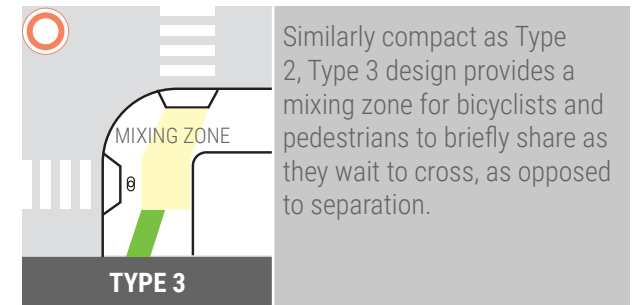
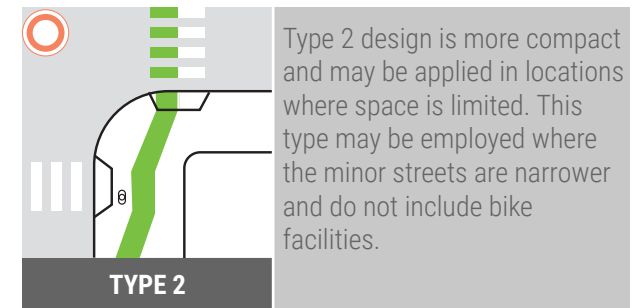
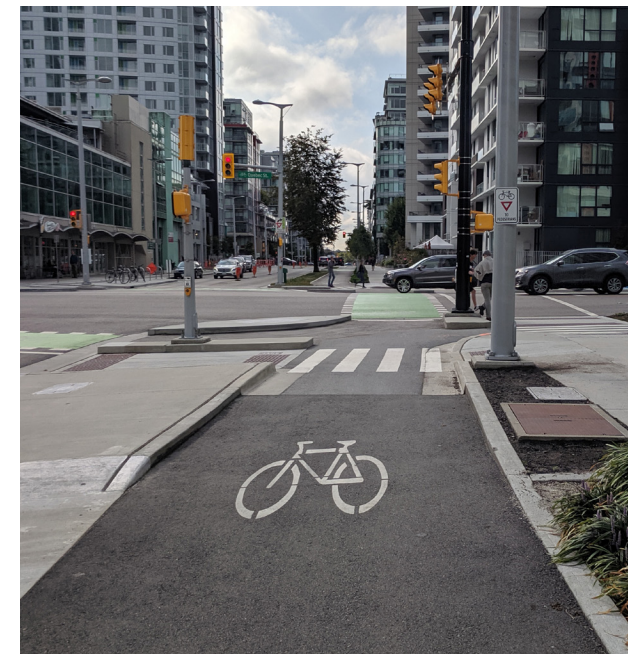


Figure 4.21: Protected intersection types



EXAMPLE OF TYPE 1 INTERSECTION

IMAGE SOURCE: DALE BRACEWELL







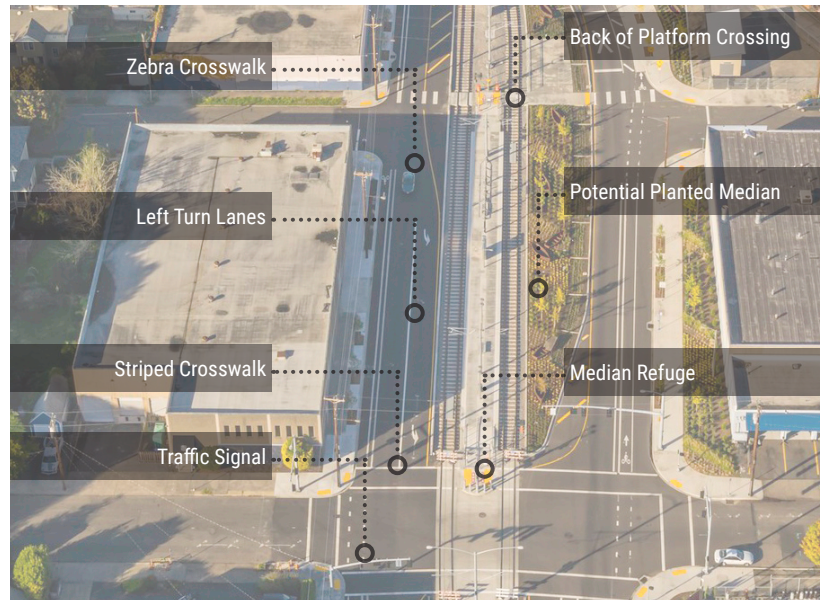
4.8 Light Rail Intersections

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 SW Barbur Blvd, in particular, will create more regular spacing for a more pedestrian-oriented environment with connections to desired locations.

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 side-running light rail**



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

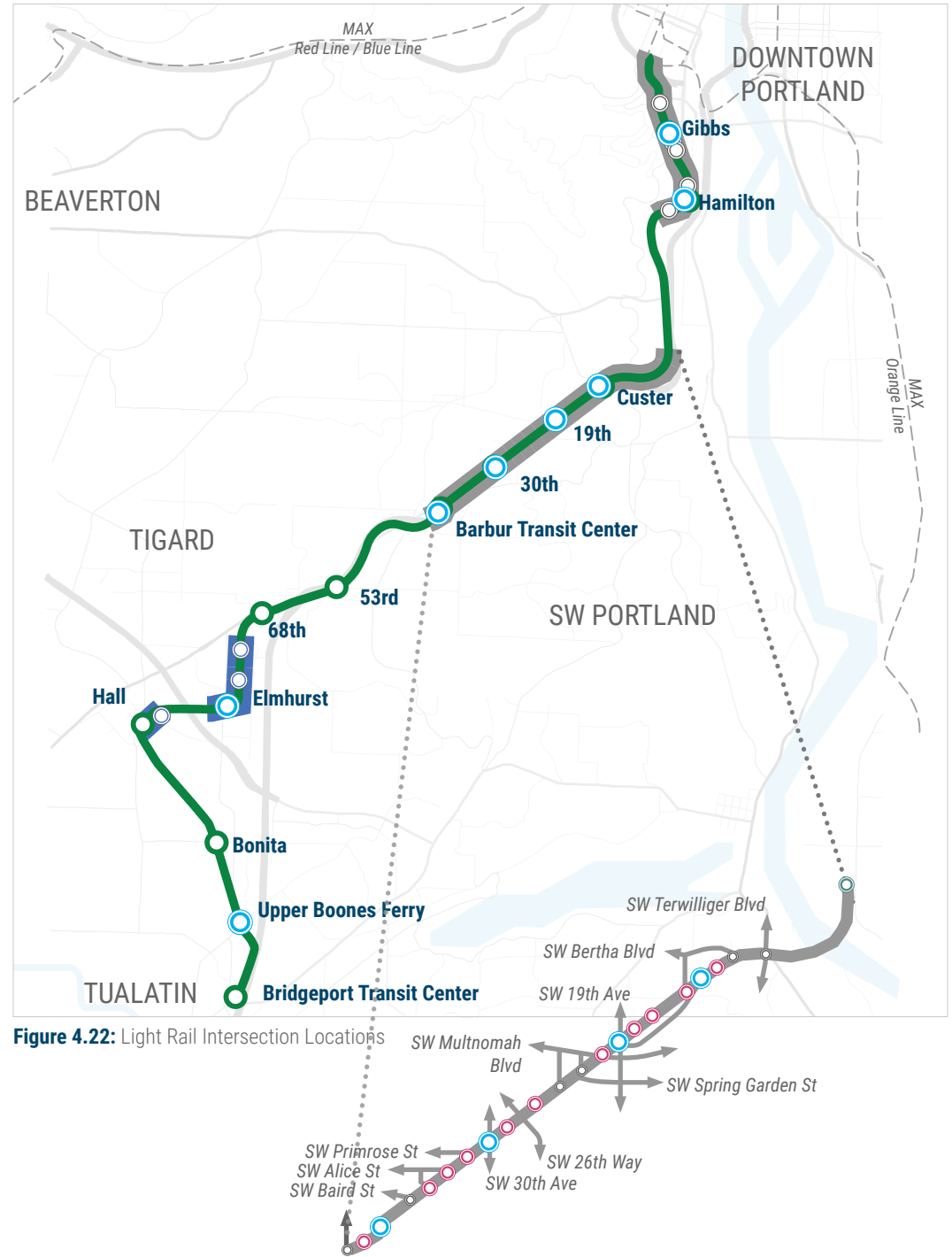
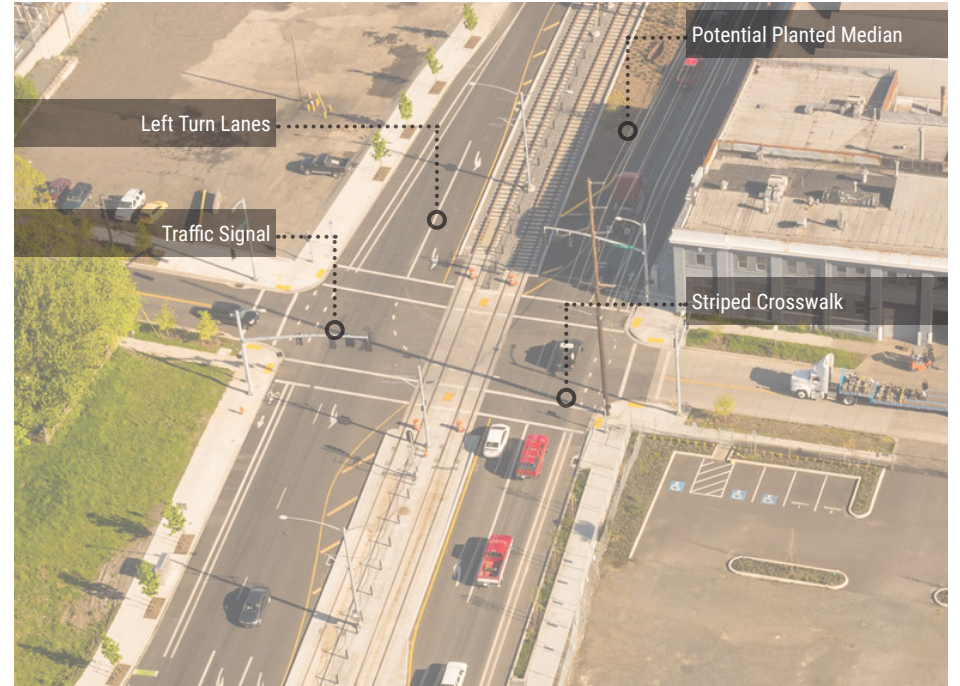


Figure 4.22: Light Rail Intersection Locations



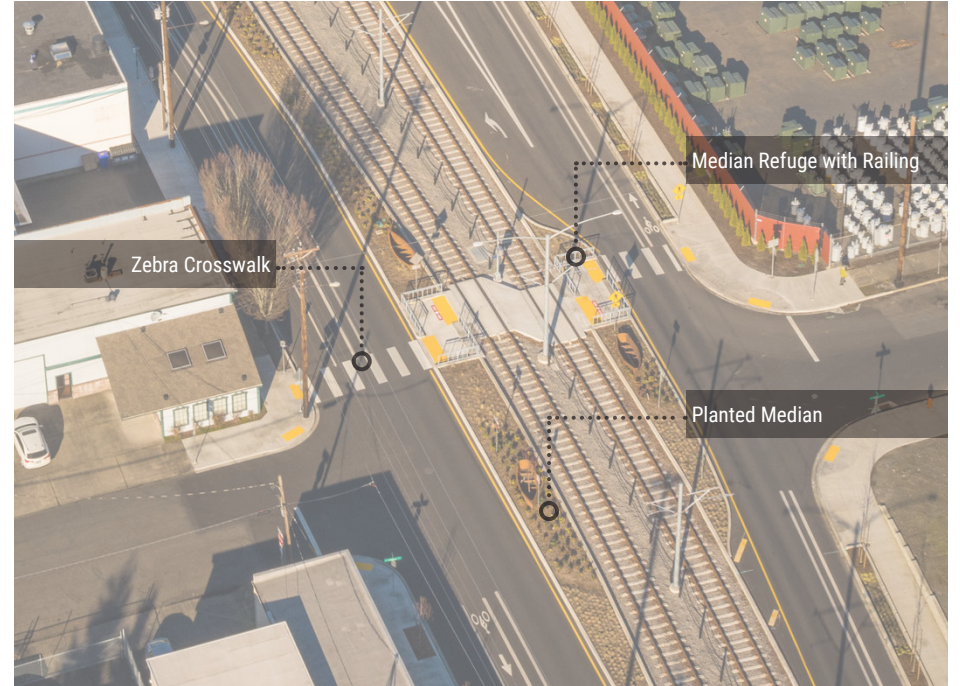
SIDE-RUNNING LIGHT RAIL INTERSECTION (NE HOLLADAY ST & NE 7TH AVE)



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



SHARED LIGHT RAIL-RAILROAD INTERSECTION (DOWNTOWN MILWAUKIE)



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

4.9 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 4.23) along the Southwest Corridor show that different stormwater solutions will be needed to mitigate runoff and integrate it into existing spaces.

Figure 4.24 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 slow the rate of infiltration, 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.

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. There are no wastewater treatment sites south of SW 3rd Ave. Barbur will generate large quantities of runoff, but can also be designed to capture large quantities of runoff.

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.

Figure 4.23: Southwest Corridor Stormwater Conditions

SOUTHWEST CORRIDOR LIGHT RAIL PROJECT - STORMWATER TOOLKIT




1
GREEN ROOFS

Functions:

- Water quality
- Detention

Potential Project Application:

- Systems buildings
- Parking structures



5
SWALES

Functions:

- Water quality
- Detention
- Parking wall structures

Potential Project Application:

- Parking lots
- Under structures
- Stations




9
CONSTRUCTED WETLANDS

Functions:

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

Potential Project Application:

- Surface lots
- Tigrard



2
**TERRACING/
FLOWING PARK**

Functions:

- Water quality
- Detention
- Steep areas

Potential Project Application:

- SW Barbur Blvd
- The Woods
- Stations




6
INFILTRATION BASINS

Functions:

- Water quality
- Detention
- Retention planters

Potential Project Application:

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




10
NATURAL AREAS

Functions:

- Existing, naturally occurring
- Habitat restoration

Potential Project Application:

- Parks
- Greenspaces
- Vegetated corridors



3
CREATIVE CONVEYANCE

Functions:

- Conveyance

Potential Project Application:

- Stations



7
STORMWATER TREES/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



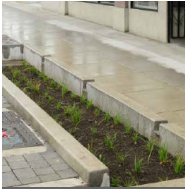
11
STORMWATER PARK

Functions:

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

Potential Project Application:

- Operations and maintenance facility
- Upper Boones Ferry



4
FLOW-THROUGH PLANTERS

Functions:

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

Potential Project Application:

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



8
POROUS PAVEMENT

Functions:

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

Potential Project Application:

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



12
STREAM RESTORATION

Functions:

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

Potential Project Application:

- Stream crossings

Figure 4.24: Stormwater Toolkit

4.10 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. These elements comprise a variety of items including; lighting, wayfinding, architectural treatments on walls, screening elements, paving treatments, railings, benches, bike amenities, planting areas, street trees, and stormwater facilities. The type, size, and location of these items will be reviewed with the public, to guide final design of the project.



STREET TREES, PLANTING AREA, AND STORMWATER TREATMENT



ARCHITECTURAL TREATMENTS



TRANSIT SHELTERS



WAYFINDING AND SIGNAGE



LIGHTING



BICYCLE AMENITIES

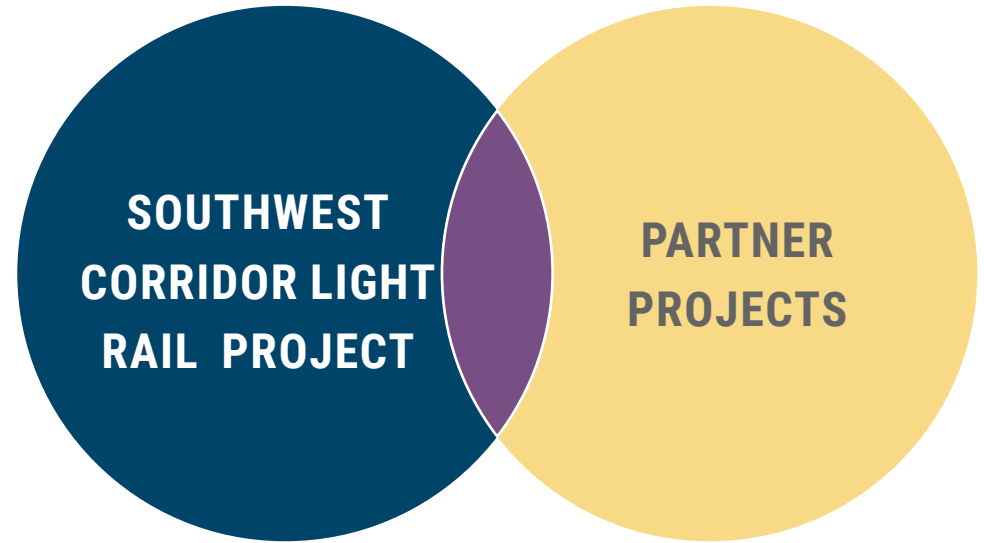


PAVING TREATMENTS

4.11 Project Design and Coordination

The scope of the light rail project includes 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.

Chapters 5-7 will illustrate the location of TriMet light rail infrastructure and improvements for each station area. Each chapter will end with a map of all opportunity projects and partner projects that may be coordinated with the Southwest Corridor Light Rail Project design.



AREAS OF RESPONSIBILITY



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

- 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.



STATION ACCESS PROJECTS

STATION ACCESS PROJECTS

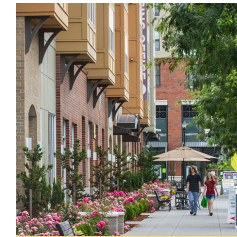
- Station access projects are a range of investments that would make it safer and more convenient for people to walk and bike to the Southwest Corridor Light Rail Project. These projects were advanced through the Shared Investment Strategy and are seeking environmental clearance. These projects are funded by others and are not in the light rail project budget. Project partners will pursue these improvements separate from the light rail funding strategy.



PUBLIC TOD OPPORTUNITIES

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.



PARTNER PROJECTS

PARTNER PROJECTS

- Projects are planned projects led entirely by jurisdictions. 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. These are included for context only to inform station area decisions.
- Examples: Southwest in Motion (SWIM)

**SOUTHWEST
CORRIDOR
LIGHT RAIL
PROJECT**

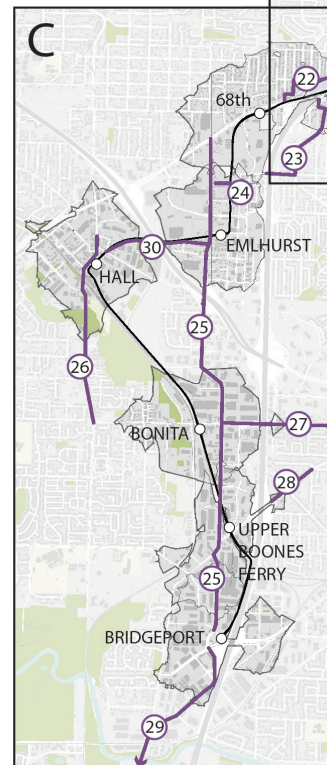
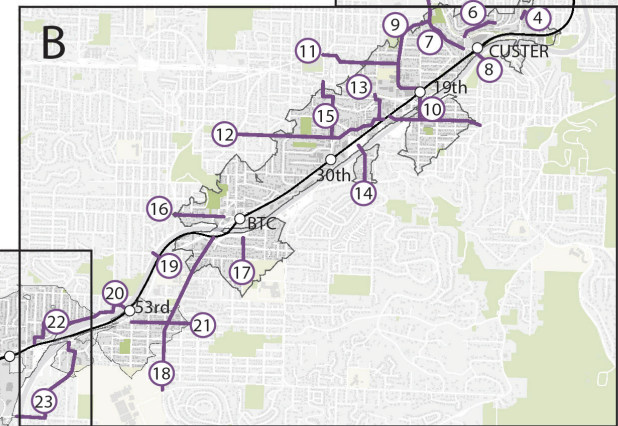
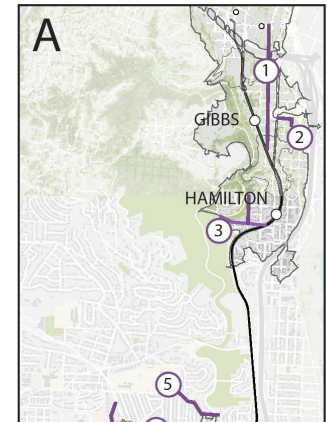
4.12 Station Access Projects

In 2012, project partners assembled a comprehensive list of planned local projects that increase connectivity and support land use in the Southwest Corridor. The Shared Investment Strategy adopted in 2013 by the project Steering Committee, recommended a narrow list of strategic roadway, bike and pedestrian projects that could be part of the 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 project light rail alignment. These projects will be included in the FEIS to seek environmental clearance. These FEIS station access projects are not in the Southwest Corridor budget, but 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 projects are prioritized for potential implementation. A full map of station access projects are represented here.

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 include top tier projects and second tier projects. For more information on this planning effort, please visit: portlandoregon.gov/transportation/SWIM.

See sections 5-7 for more information and details about station access projects.

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
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



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

Figure 4.25: Southwest Corridor Station Access Projects

STATION ACCESS PROJECT PRIORITIZATION

Shared Investment bicycle and pedestrian projects were subjected to criteria to narrow the number of projects included in the DEIS. Revisiting the criteria helped filter remaining projects to those relevant to the light rail route selected in the LPA. Project staff then assessed each project's ability to achieve project goals to prioritize station access projects within each jurisdiction.

CORE QUESTIONS

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

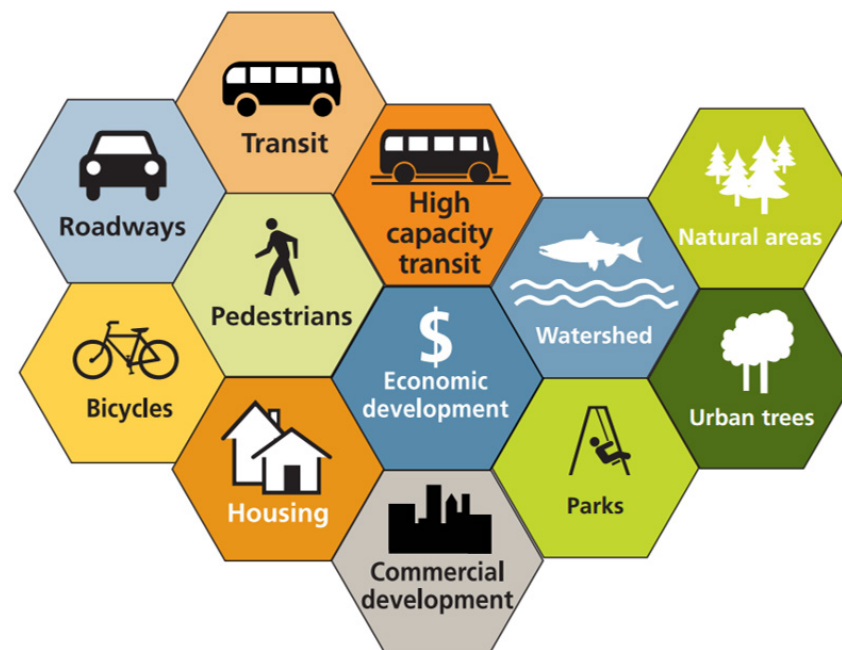
- **Proximity:** Does it connect directly to a proposed station?
- **Amenity Access:** Does it serve a community asset?
- **Equitable access:** Does it serve low income and disadvantaged communities?
- **Barriers:** Does it cross physical barriers with potential to increase ridership?

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, suggest 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

ID	Project Name	Ranking criteria							Reference criteria			Priority	Comments
		Proximity	Amenity Access	Equitable Access	Overcomes Barrier	Higher Auto Volume	Crash History	Plan Priority	Risks/ Impacts	Costs	Funding		
Portland Projects Segment A & B													
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	No	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	Complete Fall 2021.	
8	Custer Walk/Bike Bridge	Yes	Medium	Medium	High I-5	Over Interstate	N/A	Not in adopted plans	High; 4F & Constructability	High		Medium	
9	Capitol Hill Sidewalks & Bikeway	Yes	Medium	Medium	Low	Major collector	Low to None	Top Tier SWIM	Medium	High	Portions Funded	High	Funded portions complete by 2021/22. 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	Top Tier SWIM	Medium	Low	Funded	Complete 2020/21	
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	Active project	Low	Medium	Funded	Complete Fall 2021.	
14	26th Sidewalks & Bikeway	No	Medium	Medium	High I-5	Local	Medium	Active project	Medium	Medium	Portions Funded	Medium?	Funded portions complete Fall 2021. 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 project D; SW 30th Barbur to Dolph
16	Taylor's Ferry Sidewalks & Bikeway	Yes	Low	Low	Medium Traffic	Minor Arterial	High	Top Tier SWIM	High; E-Zone & Creek	High		High	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 complete Fall 2021. High priority gap; Huber to Wilbard.
18	Capitol Sidewalks & Bikeway	No	High	Medium High	Medium Traffic	Major collector	High	Active project	Medium	High	Portions Funded	High	Funded portions complete Fall 2021. 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	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	High Risk. Relates to SA project # 22. Redundant to walk shed for 68th Station.
21	Pamona Sidewalks & Bikeway	Yes	High	High	Medium Traffic	Major collector	Medium	2 nd tier SWIM	Medium	High	Portions Funded	High	Funded portions complete 2021/22. 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	
Tigard Projects Segment C													
24	Baylor Sidewalks	No	None	No	Low	Local	low to none	Not in adopted 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	Medium	High		Low	
28	Carmen Sidewalks & Bikeway	No	None	No	Low	Major collector	Medium	Not in adopted plans	Medium	High		Low	
29	OR-217 Multi-use Pathway	Yes	Medium	High	High 217	Over highway	High	High Priority	High: Constructability	High		High	
Tualatin Projects Segment C													
29	Lower Boones Ferry & Boones Ferry Bikeway	Yes	High	High	High River & Traffic	High	High	High Priority	Medium	High		High	

* SWIM is defined as SouthWest In Motion

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

Figure 4.26: Southwest Corridor Station Access Project Prioritization Matrix

A photograph of a light rail station platform, overlaid with a semi-transparent green filter. In the background, a light rail train is visible on the tracks. The platform features directional signs for 'City Center' and 'Clackamas'. A large white square with the number '5' is centered in the upper half of the image. The overall scene is a modern transit hub.

5

DESIGN CONCEPTS: INNER PORTLAND

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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 animated 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 Hillside 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. Southwest Corridor Light Rail Project will support City-led projects, such as 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 buses 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

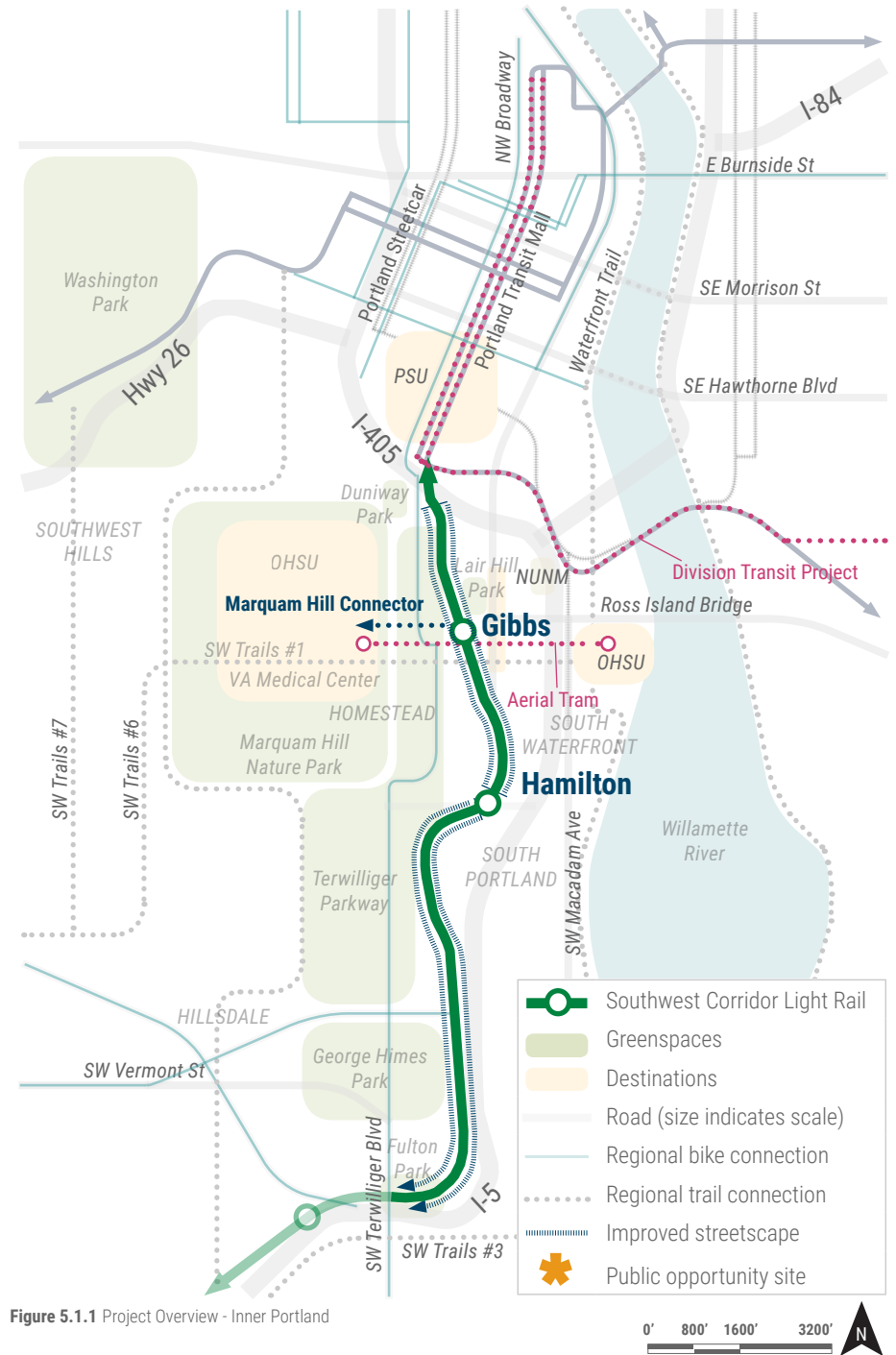


Figure 5.1.1 Project Overview - Inner Portland

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 separates neighborhoods along SW Barbur Blvd and the Southwest Corridor Light Rail from the South Waterfront.

The Southwest Corridor Light Rail Project will improve 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 OHSU's 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.

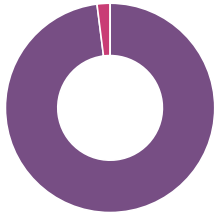
Seamless access improvements require close coordination between all project partners. Southwest Corridor Station Access planning has been developed in concert with Portland's Transportation System Plan (TSP), Southwest in Motion (SWIM) strategy and Safe Routes to School program. A list of partner-led 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.



INNER PORTLAND: 2035 STATION RIDERSHIP

Source: Metro, 2019

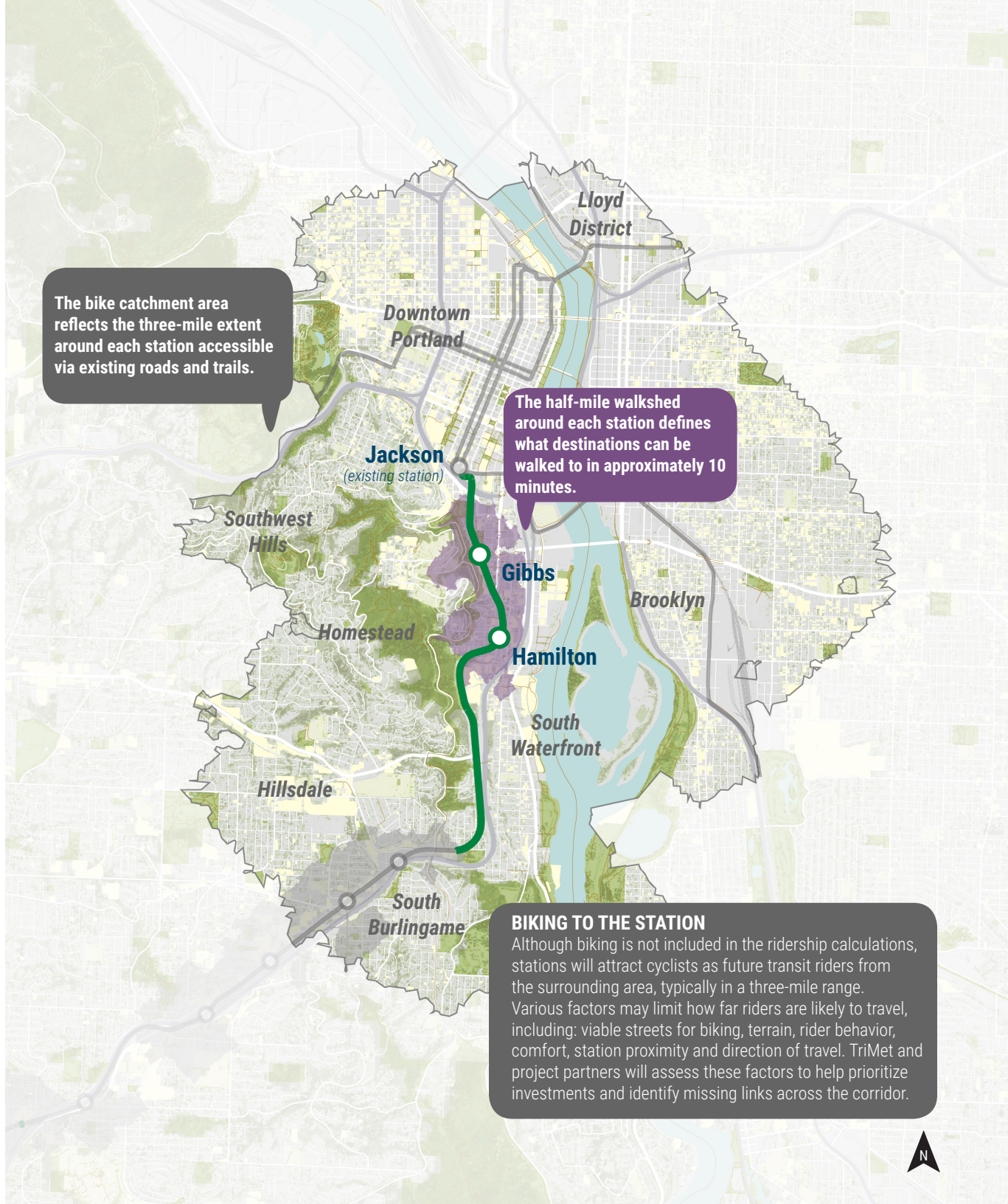


GIBBS*
6,200 Daily Riders
 98 Percent Walk
 2 Percent Transfer
 0 Percent Auto

* An additional **7,600 riders** 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 Daily Riders
 43 Percent Walk
 46 Percent Transfer
 12 Percent Auto



The bike catchment area reflects the three-mile extent around each station accessible via existing roads and trails.

The half-mile walkshed around each station defines what destinations can be walked to in approximately 10 minutes.

BIKING TO THE STATION
 Although biking is not included in the ridership calculations, stations will attract cyclists as future transit riders from the surrounding area, typically in a three-mile range. Various factors may limit how far riders are likely to travel, including: viable streets for biking, terrain, rider behavior, comfort, station proximity and direction of travel. TriMet and project partners will assess these factors to help prioritize investments and identify missing links across the corridor.



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

- 1 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)

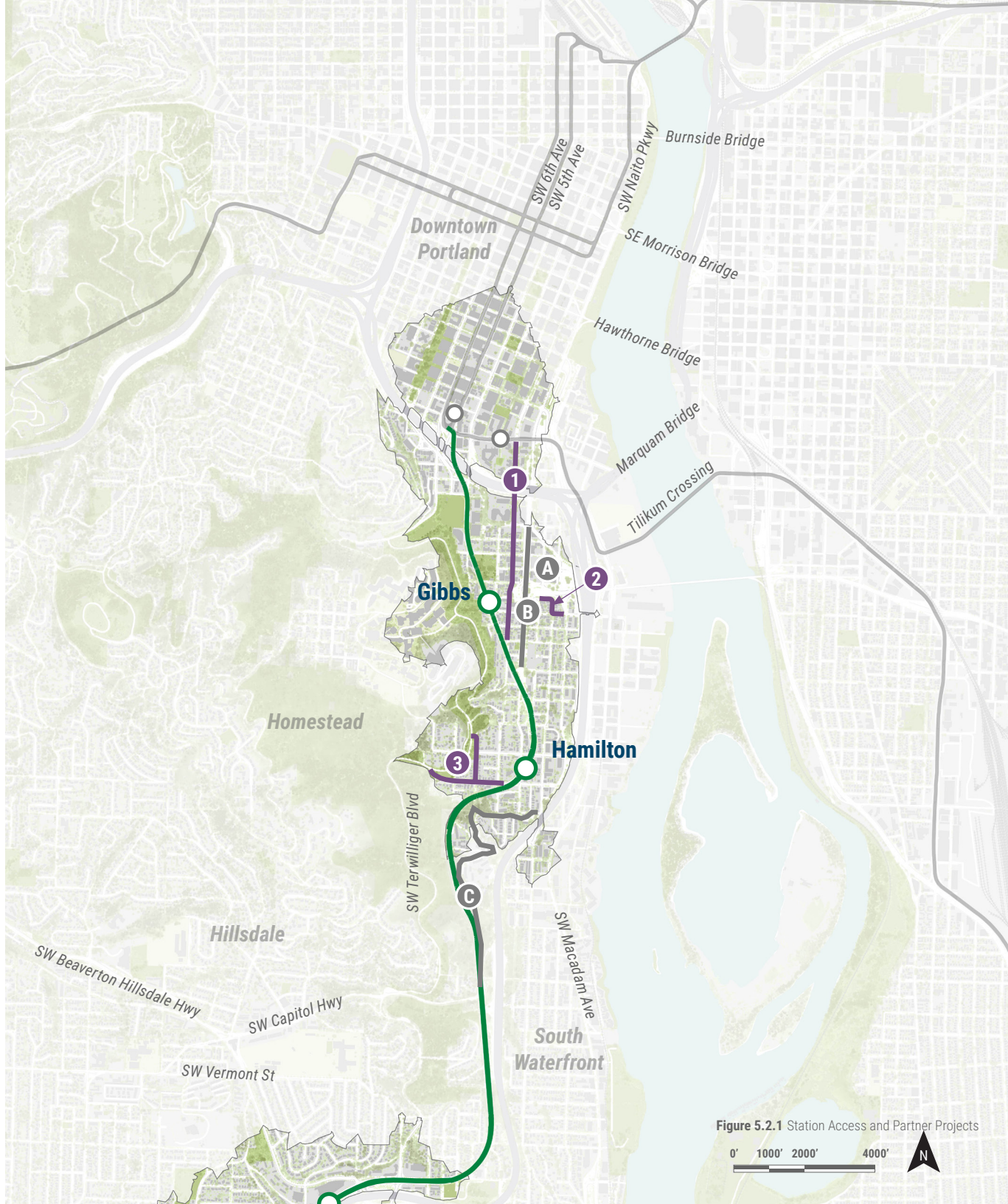
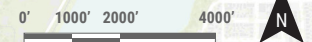


Figure 5.2.1 Station Access and Partner Projects



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5.3 Downtown Tie-In

The 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 on-going coordination for improvements such as The Green Loop, Central City in Motion and Southwest in Motion projects.

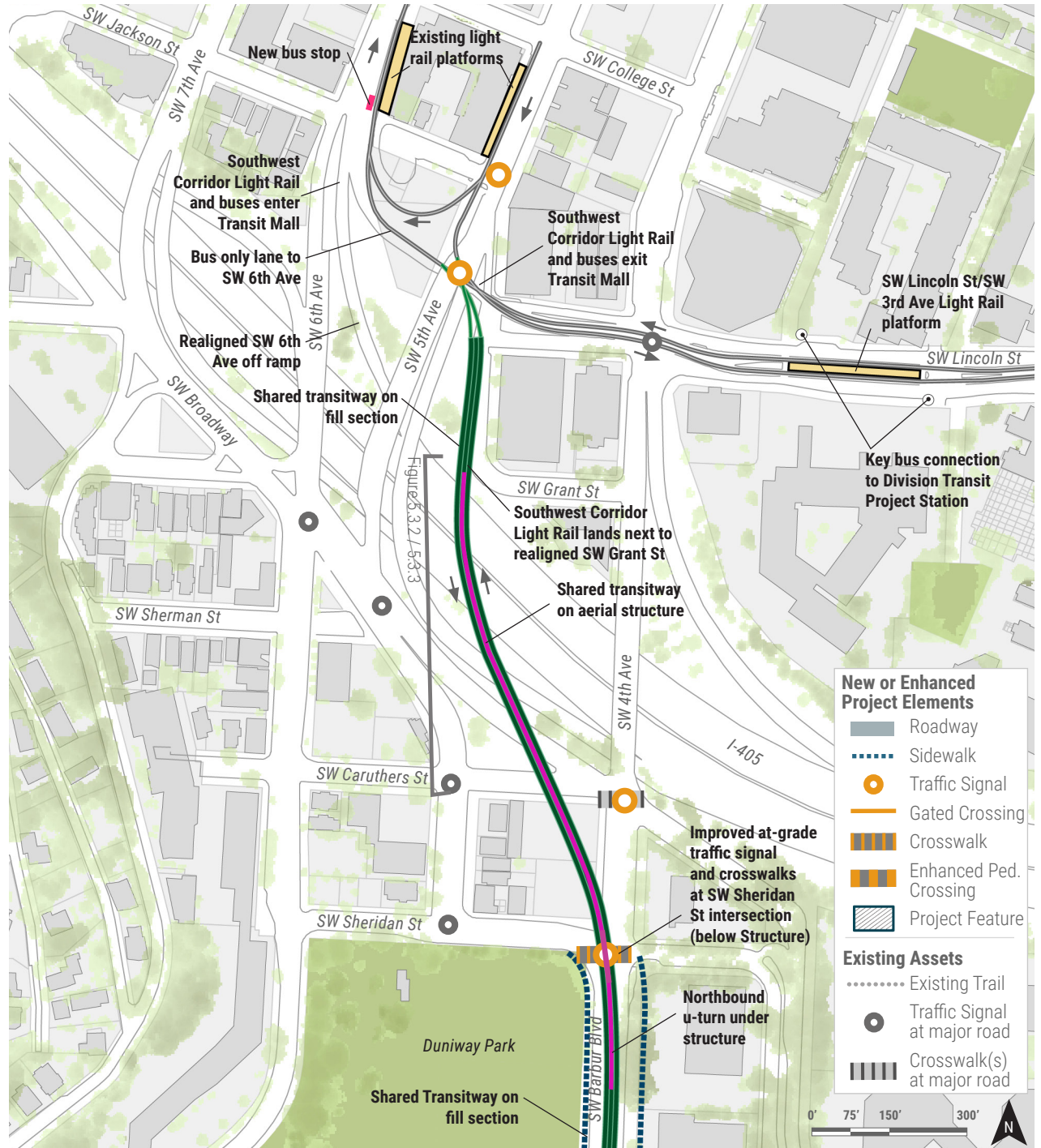


Figure 5.3.1 DRAFT Downtown Tie-in overview

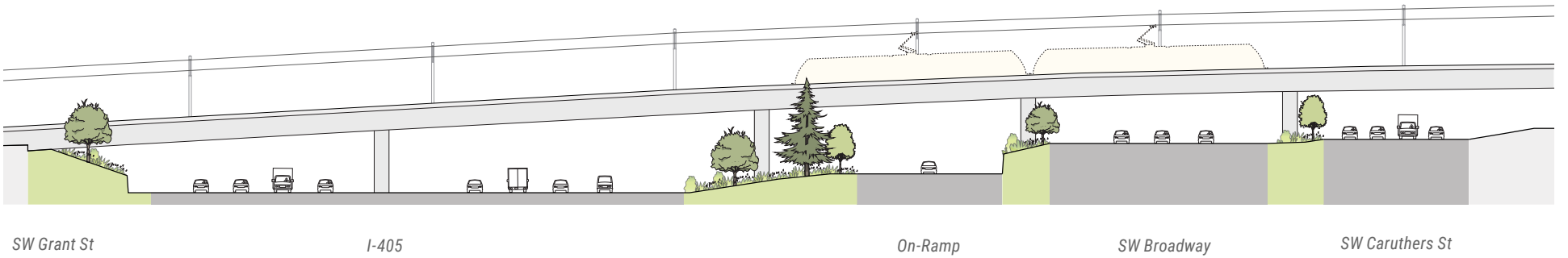


Figure 5.3.2 DRAFT Downtown Tie-in cross section



5.4 Gibbs Street Station



Ridership: High
Access: Walk and Transfer
Destination: Institution

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 crossing 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
- Re-designed Barbur-Naito intersection for safer bike and pedestrian mobility
- 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

PRESERVE AND RESTORE NATURAL ENVIRONMENT

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

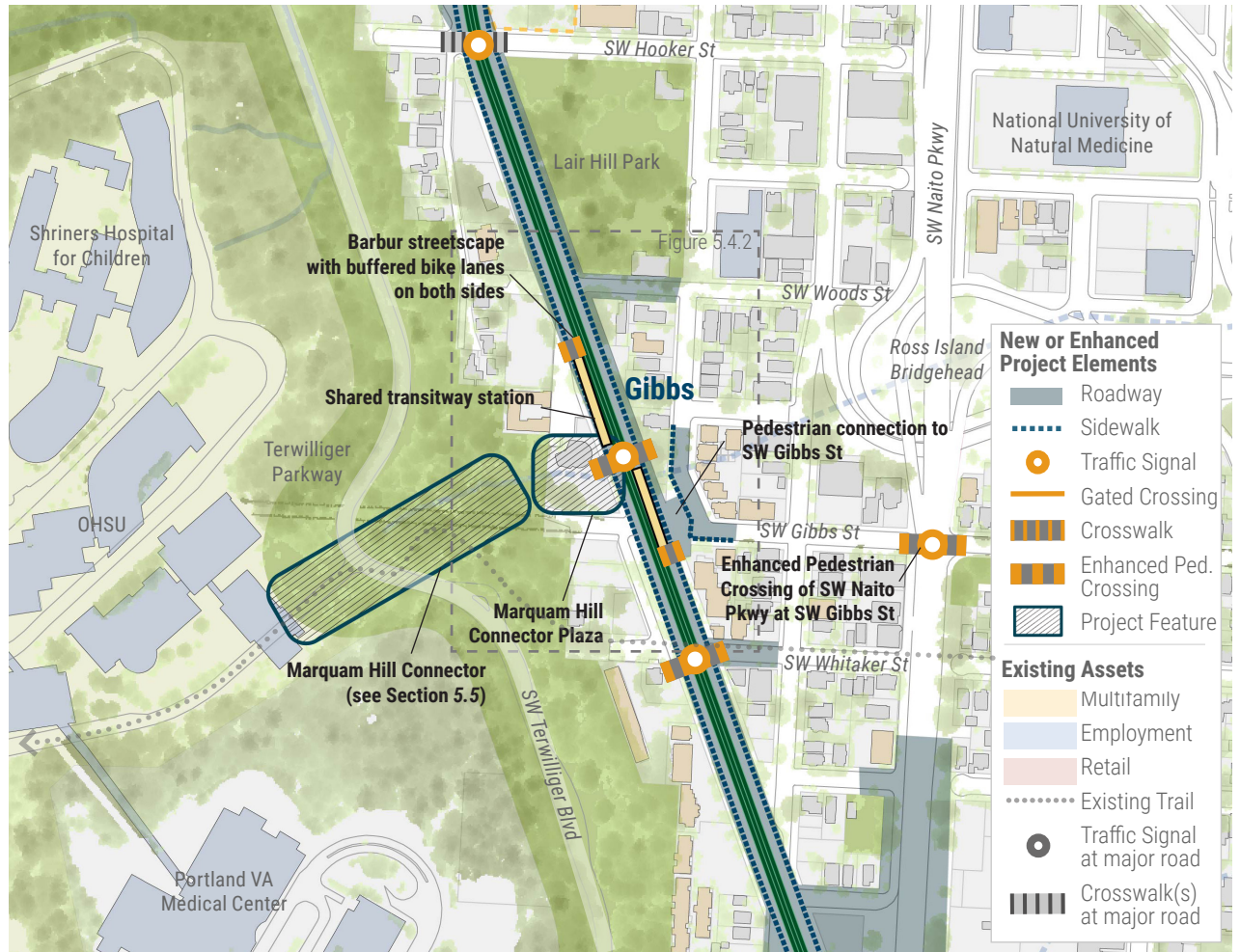


Figure 5.4.1 DRAFT Gibbs Street Station overview

DESIGN VALUE STATEMENTS

- 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
- Facilitate connections to the planned SW 4th Ave bike lanes, the Green Loop, and critical Southwest in Motion bicycle and pedestrian projects in South Portland with buffered bike lanes on SW Barbur Blvd
- 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



STATION FEATURES

- ① Station environment for circulation to and visibility of Marquam Hill Connector (MHC)
- ② Synagogue building
- ③ Wide pedestrian crossings
- ④ New/Enhanced traffic signal
- ⑤ Pedestrian island
- ⑥ Buffered bike lanes
- ⑦ Potential pick-up/drop-off
- ⑧ Shared transitway platform
- ⑨ Existing stair to be rebuilt at new grade
- ⑩ Potential systems building location

- | | |
|--------------------------------|-----------------------|
| Platform | Project Boundary |
| Landscape | Track |
| Potential Stormwater Treatment | Crossing Gate |
| New/Improved Sidewalk | Existing Right of Way |
| New/Enhanced Traffic Signal | New/Improved Roadway |
| Enhanced Pedestrian Crossing | Shared Transitway |
| | Ballasted Track |

Figure 5.4.2 DRAFT Gibbs Street Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

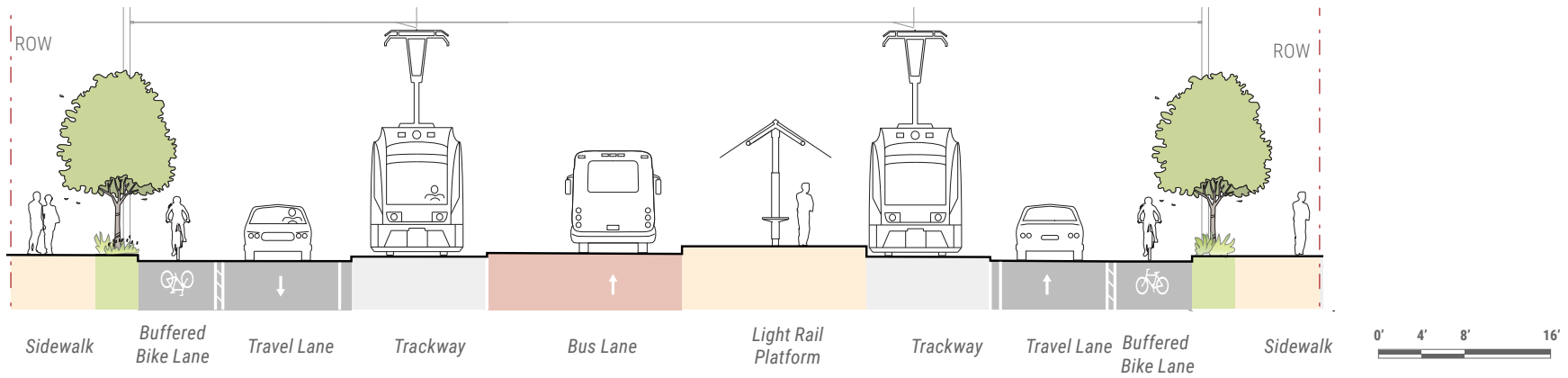


Figure 5.4.3 DRAFT Gibbs Street Station Cross Section



Figure 5.4.4 DRAFT Gibbs Street Station Access Projects

STATION ACCESS PROJECTS

- 1 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

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5.5 Marquam Hill Connector

Marquam 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 Marquam Hill to land at SW Terwilliger Blvd. By 2035, this new connection is expected to serve 10,000 trips per day from riders on both the new MAX line and bus routes, making it a paramount component of the project.

The short but steep distance up the wooded terrain requires some combination of pathways and mechanical facilities. In early 2019, a "Green Ribbon" committee (GRC) made up of design professionals, key project partners, and Marquam Hill stakeholders, explored a wide variety of connector types including bridges, gondolas, escalators, tunnels and more. The GRC was also tasked with ensuring the connector type fit into the natural and historical context of the unique setting, and provide convenient access up the 100' elevation gain. Based on findings from conceptual designs and feedback from community engagement efforts, the GRC and the project Steering Committee narrowed to two technologies: an inclined elevator and a bridge and elevators.

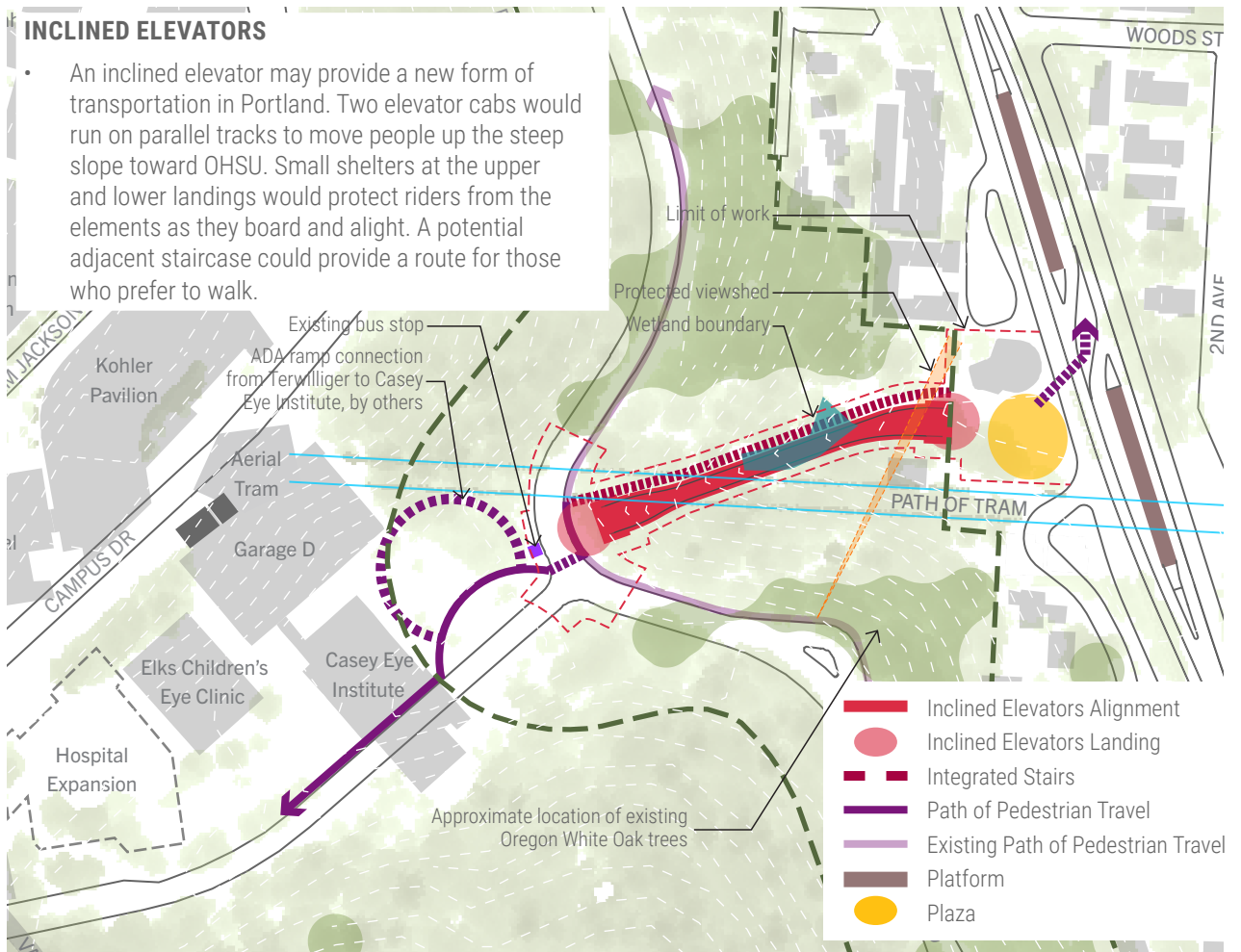


Figure 5.5.1 Major corridors, neighborhoods, and destinations on Marquam Hill

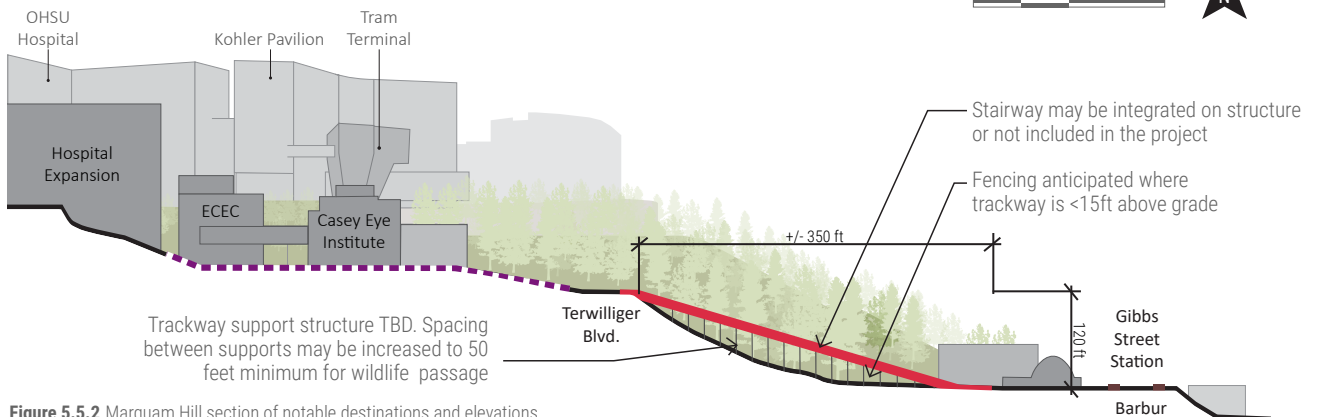
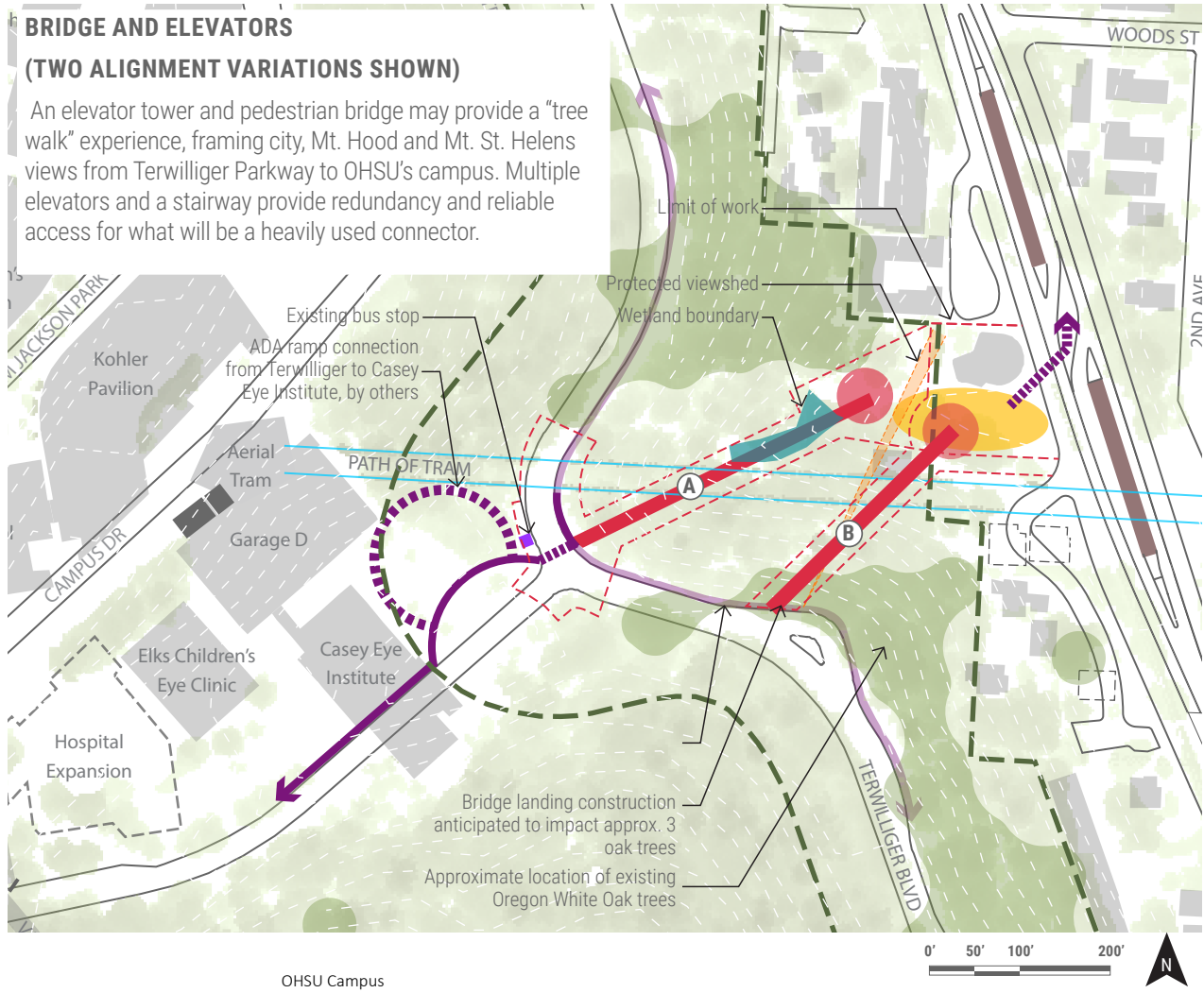


Figure 5.5.2 Marquam Hill section of notable destinations and elevations

INCLINED ELEVATORS

- An inclined elevator may provide a new form of transportation in Portland. Two elevator cabs would run on parallel tracks to move people up the steep slope toward OHSU. Small shelters at the upper and lower landings would protect riders from the elements as they board and alight. A potential adjacent staircase could provide a route for those who prefer to walk.



TriMet has evolved a concept for each technology in consultation with Portland Parks & Recreation. These options address input received from the GRC, Steering Committee and community, and follow federal law (Section 4(f) of the U.S. Department of Transportation Act) in working to minimize harm to a public park.

The next step is identifying potential actions that could mitigate impacts to the park and historic resources, and gathering public input on these mitigation measures.

This information, along with potential funding agreements, will help inform which connector the project will build.

- Bridge and Elevators Alignment
- Bridge and Elevators Landing
- Integrated Stairs
- Path of Pedestrian Travel
- Existing Path of Pedestrian Travel
- Platform
- Plaza

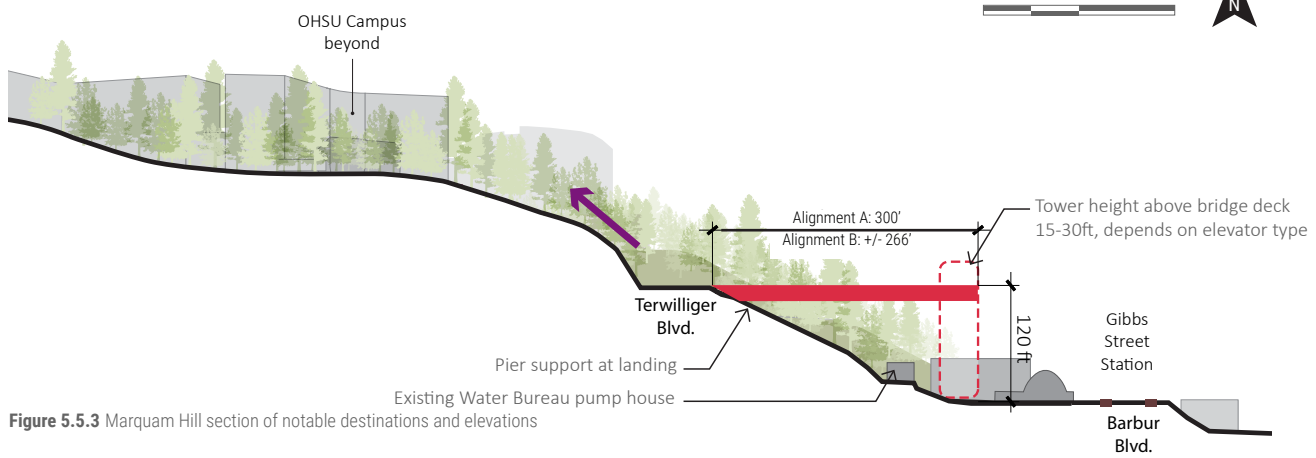


Figure 5.5.3 Marquam Hill section of notable destinations and elevations

5.6 Barbur - Naito Street Network

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. Together, these partner projects provide an opportunity to reconnect South Portland to SW Naito Pkwy with pedestrian and bicycle improvements and land uses that contribute to a healthy, connected community. Additionally, they open up publicly owned land for development opportunities (See Appendices C and E).

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 project partners and the community are also underway with various street design concepts for a "Main Street" including improved pedestrian and bicycle facilities. To link the pedestrian and bicycle facilities, the improvements of the Southwest Corridor Light Rail Project will be closely coordinated with partner projects.

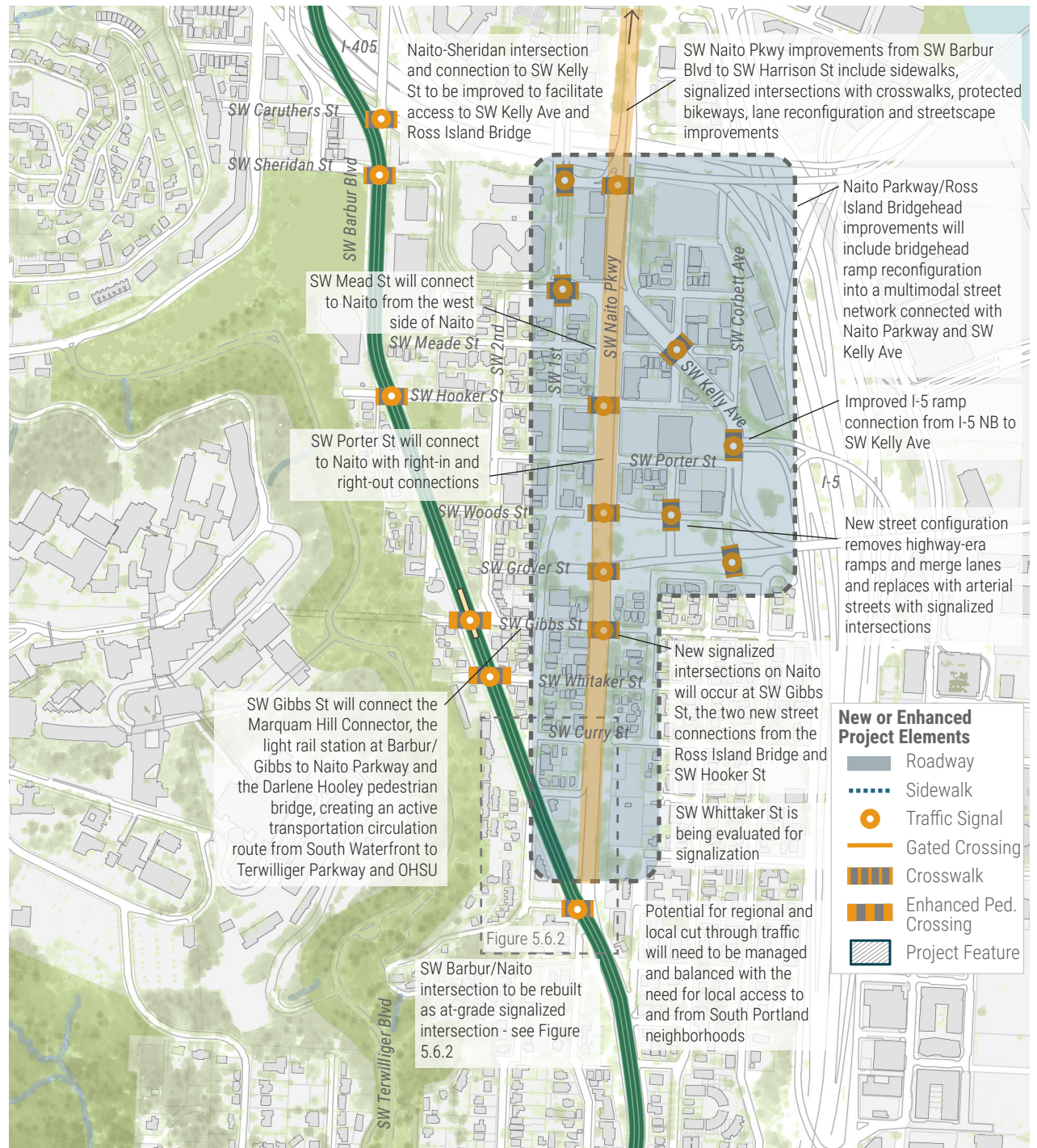
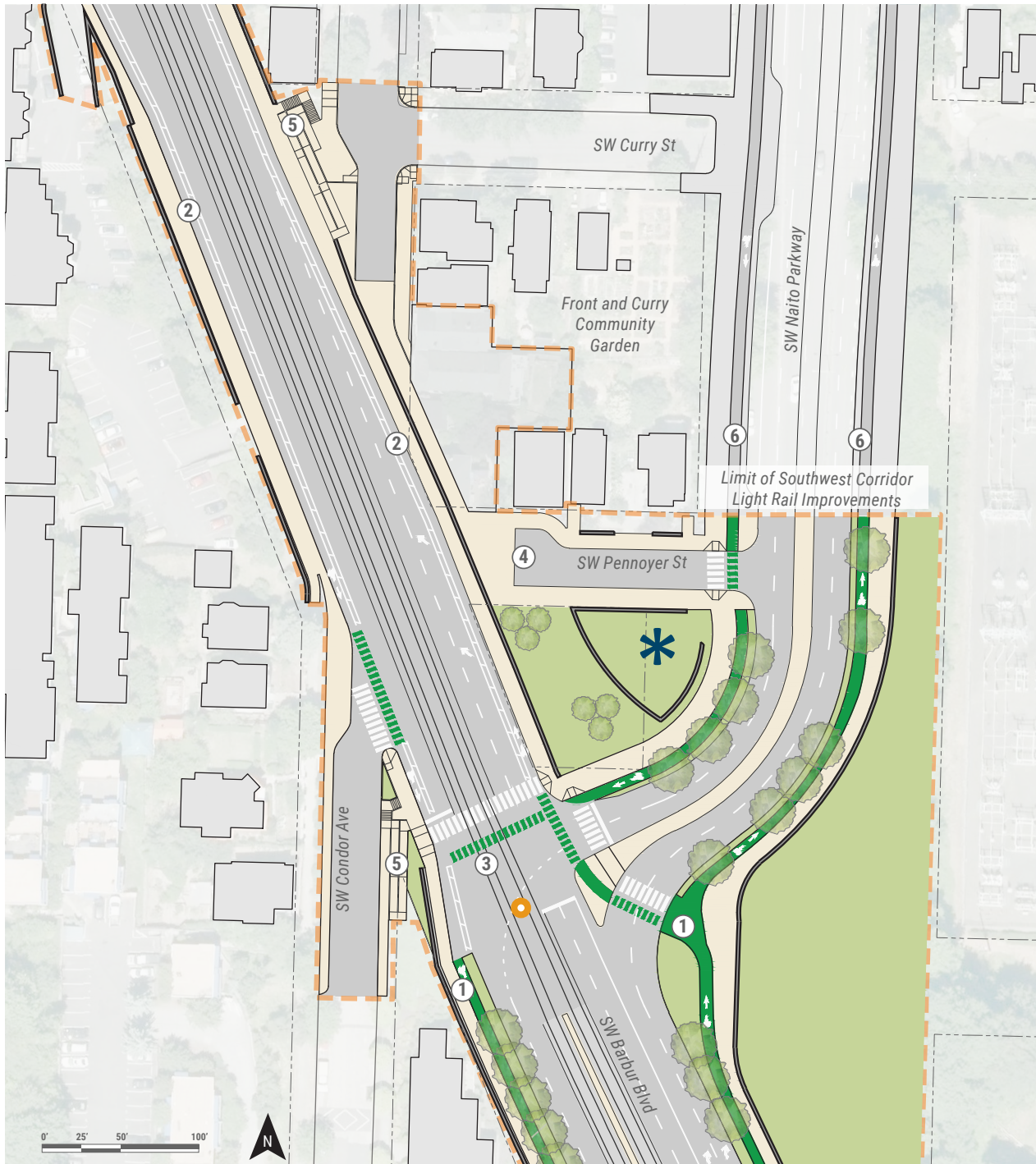


Figure 5.6.1 DRAFT Barbur - Naito Street Network Area Plan



INTERSECTION FEATURES

- ① Raised protected bike lane
- ② Buffered bike lane
- 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 St Project - protected bikeway, final design TBD

- | | |
|--------------------------------|-----------------------|
| Platform | Project Boundary |
| Landscape | Track |
| Potential Stormwater Treatment | Crossing Gate |
| New/Improved Sidewalk | Existing Right of Way |
| New/Enhanced Traffic Signal | New/Improved Roadway |
| Enhanced Pedestrian Crossing | Shared Transitway |
| | Ballasted Track |

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

5.7 Hamilton Street Station



Ridership: Low
Access: Walk and Transfer
Destination: Neighborhood

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.

See draft vision of Hamilton Street Station in Figure 5.7.5

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, 44, 54, 56 and 96
- 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

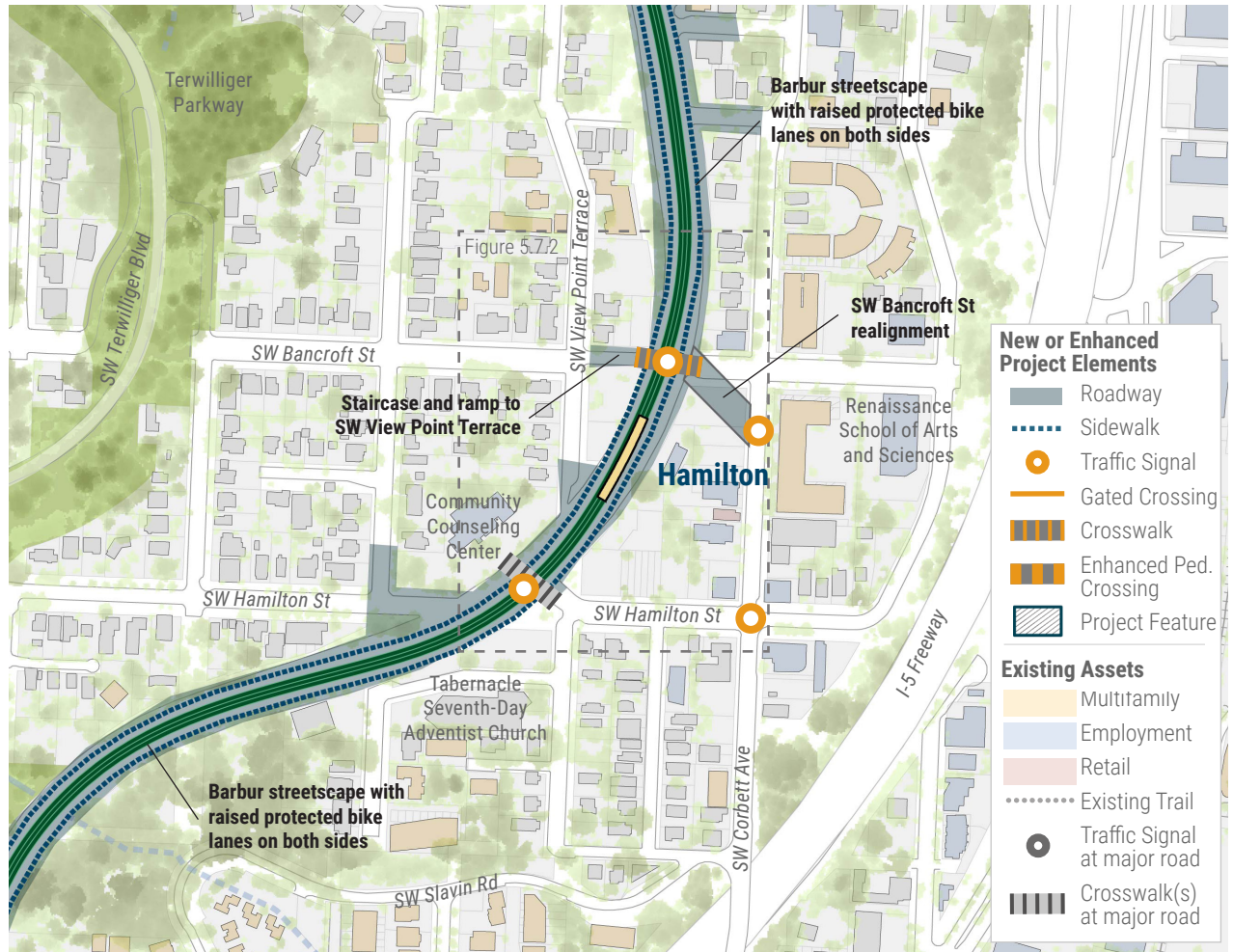


Figure 5.7.1 DRAFT Hamilton Street Station overview

DESIGN VALUE STATEMENTS

- 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
- 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



STATION FEATURES

- ① Pedestrian walkway to platform with barrier railing
- ② Raised protected bike lanes
- ③ Pedestrian stairs to SW Bancroft St
- ④ SW Bancroft St realigned to SW Barbur Blvd
- ⑤ Potential bus stop location
- ⑥ Shared transitway
- ⑦ Potential systems building location

- | | |
|--------------------------------|-----------------------|
| Platform | Project Boundary |
| Landscape | Track |
| Potential Stormwater Treatment | Crossing Gate |
| New/Improved Sidewalk | Existing Right of Way |
| New/Enhanced Traffic Signal | New/Improved Roadway |
| Enhanced Pedestrian Crossing | Shared Transitway |
| | Ballasted Track |

Figure 5.7.2 DRAFT Hamilton Street Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

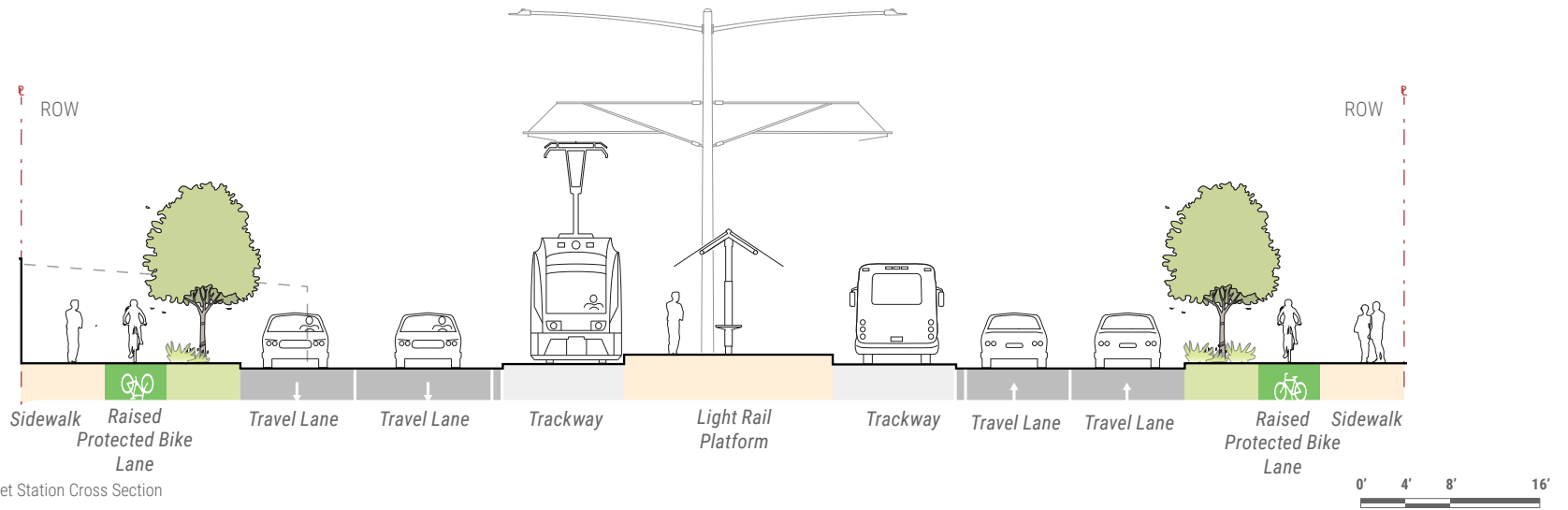


Figure 5.7.3 DRAFT Hamilton Street Station Cross Section



Figure 5.7.4 DRAFT Hamilton Street Station Access Projects

STATION ACCESS PROJECTS

- ③ Hamilton Sidewalks and Bikeway

PARTNER-LED PROJECTS

- Ⓒ SW Slavin Rd Connector (City of Portland TSP)



Figure 5.7.5 DRAFT Vision of Hamilton Street Station

5.8 Viaduct Replacements

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 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 east-west habitat corridor and enhancing the view opportunities.



Figure 5.8.1 Newbury Viaduct (Image Source: Structurae)



Figure 5.8.2 Vermont Viaduct (Image Source: Structurae)

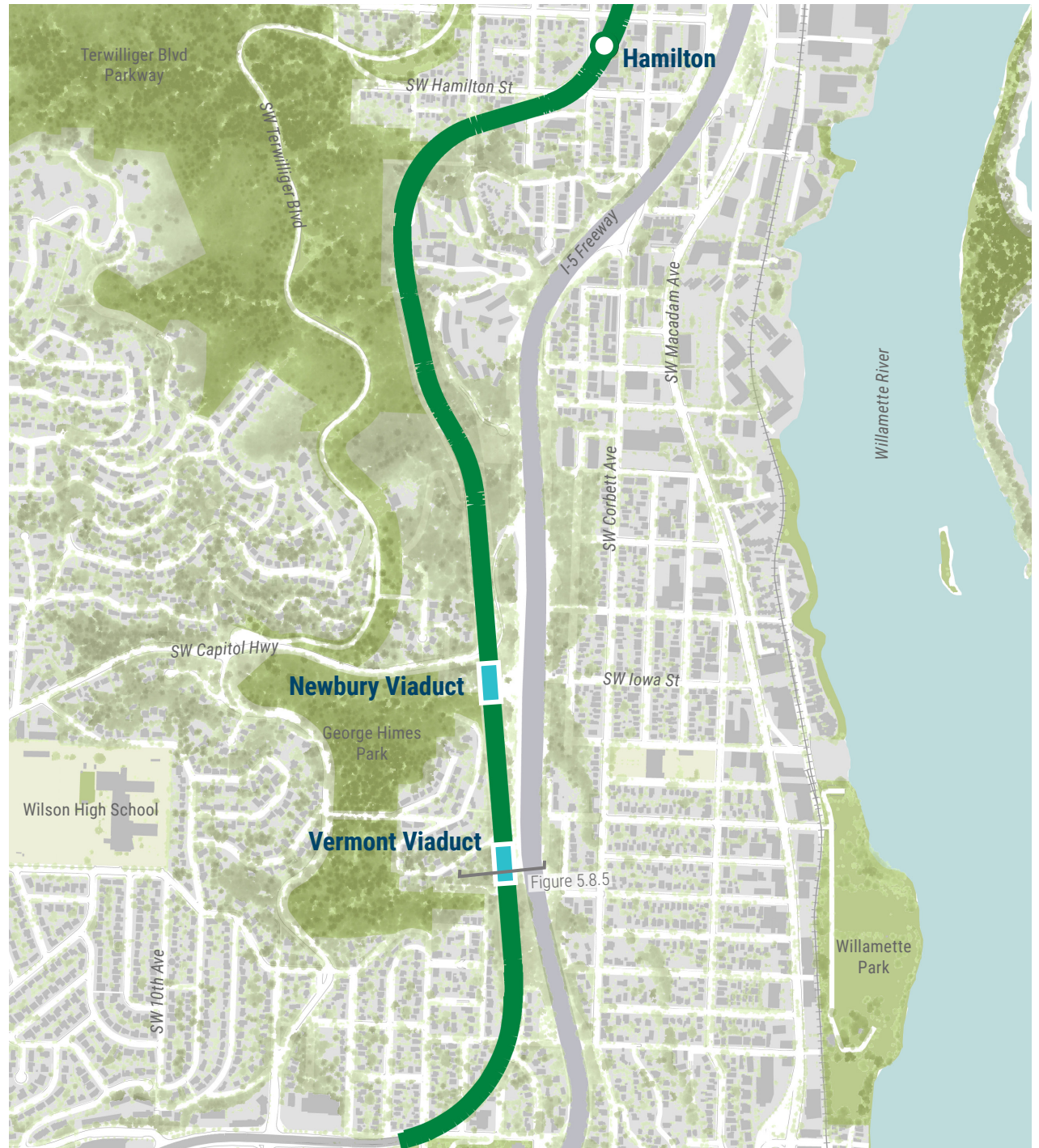


Figure 5.8.3 Location of major viaducts along SW Barbur Blvd, between Hamilton Street and Custer Drive Stations





Figure 5.8.4 Bird's eye view of Harbor Structure, which is similar to the viaduct replacements (Image Sources: TriMet Flickr, Victor von Salza Flickr)

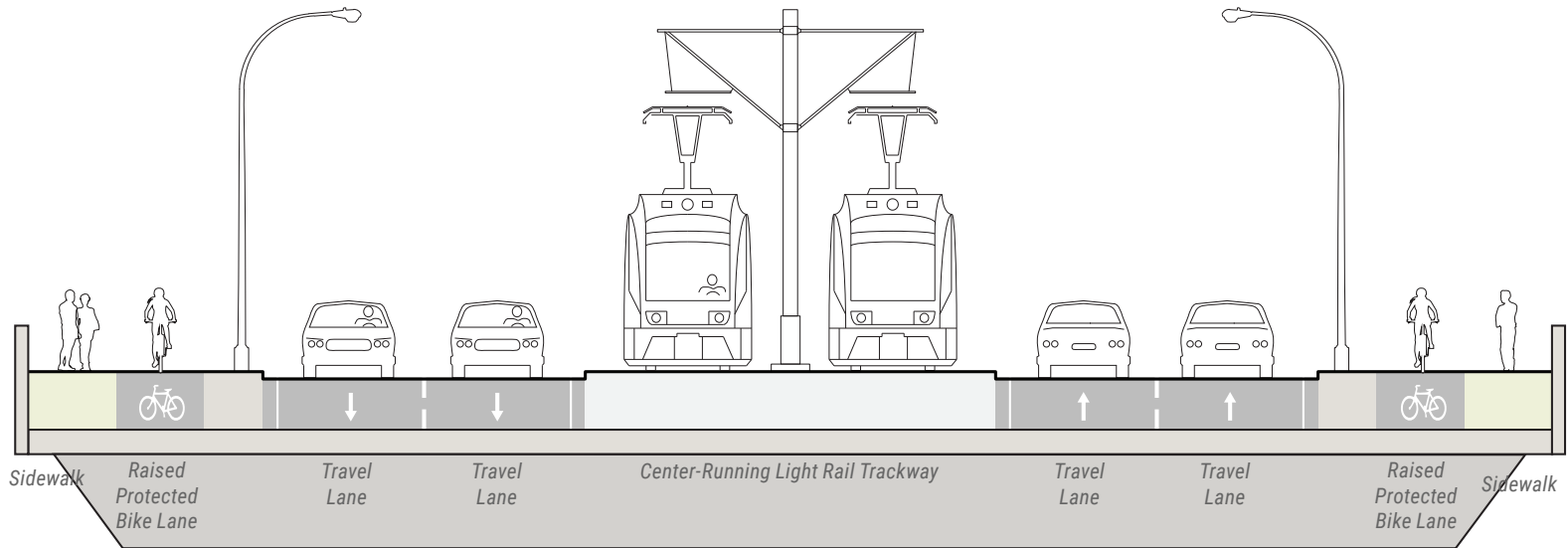


Figure 5.8.5 Typical draft cross-section through SW Barbur Blvd viaducts

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A light rail train is stopped at a station platform. The train is white with a green stripe and has the number 532 on its front. The destination sign above the windshield reads "MILWAUKIE". The platform has a metal railing and a person is visible on the left. The entire image has a green overlay.

6

**DESIGN CONCEPTS:
OUTER PORTLAND**

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6.9 PCC Connection.	127

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 Southwest Corridor 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 SW Barbur Blvd's capacity to move more people through the corridor and enhances safety for all modes with comfortable pedestrian access for people walking and biking.

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, addressing the lack of bike facilities that exist today

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 for people of diverse economic backgrounds to a range of affordable, mixed apartment, single family, and multifamily housing

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, addressing the lack of street trees that exist today and strengthening the Westside Wildlife Corridor

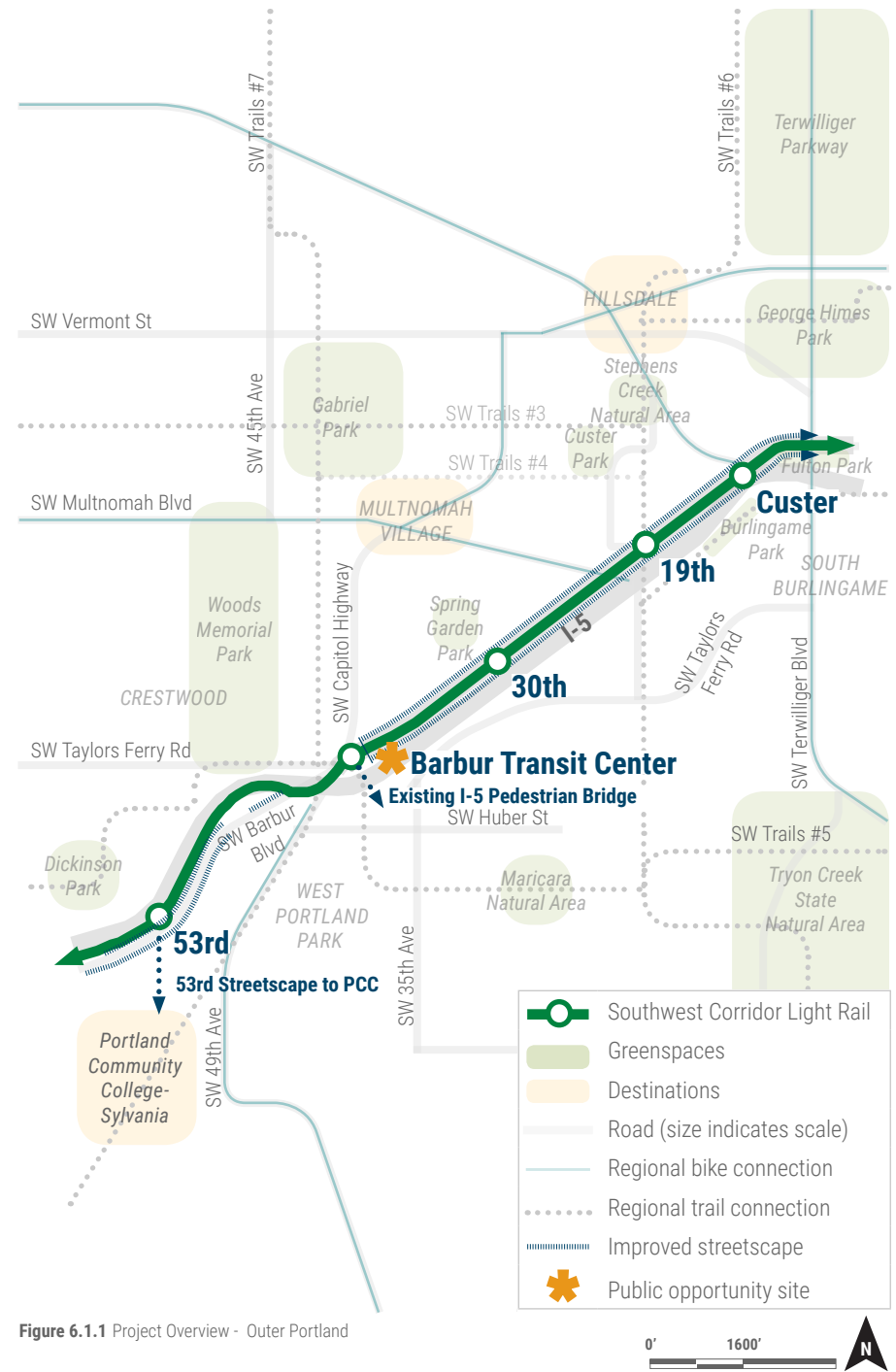


Figure 6.1.1 Project Overview - Outer Portland

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 Custer Drive and 19th Avenue Stations, riders will transfer to routes heading south toward Lewis & Clark College and northwest.
- 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 that provides services 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.

- 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 where light rail is running through.

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 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.

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.



OUTER PORTLAND: 2035 STATION RIDERSHIP

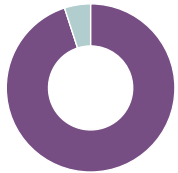
Source: Metro, 2019



CUSTER
2,300 Daily Riders
 63 Percent Walk
 37 Percent Transfer
 0 Percent Auto



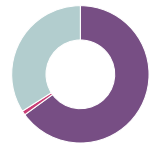
19TH
2,000 Daily Riders
 87 Percent Walk
 12 Percent Transfer
 1 Percent Auto



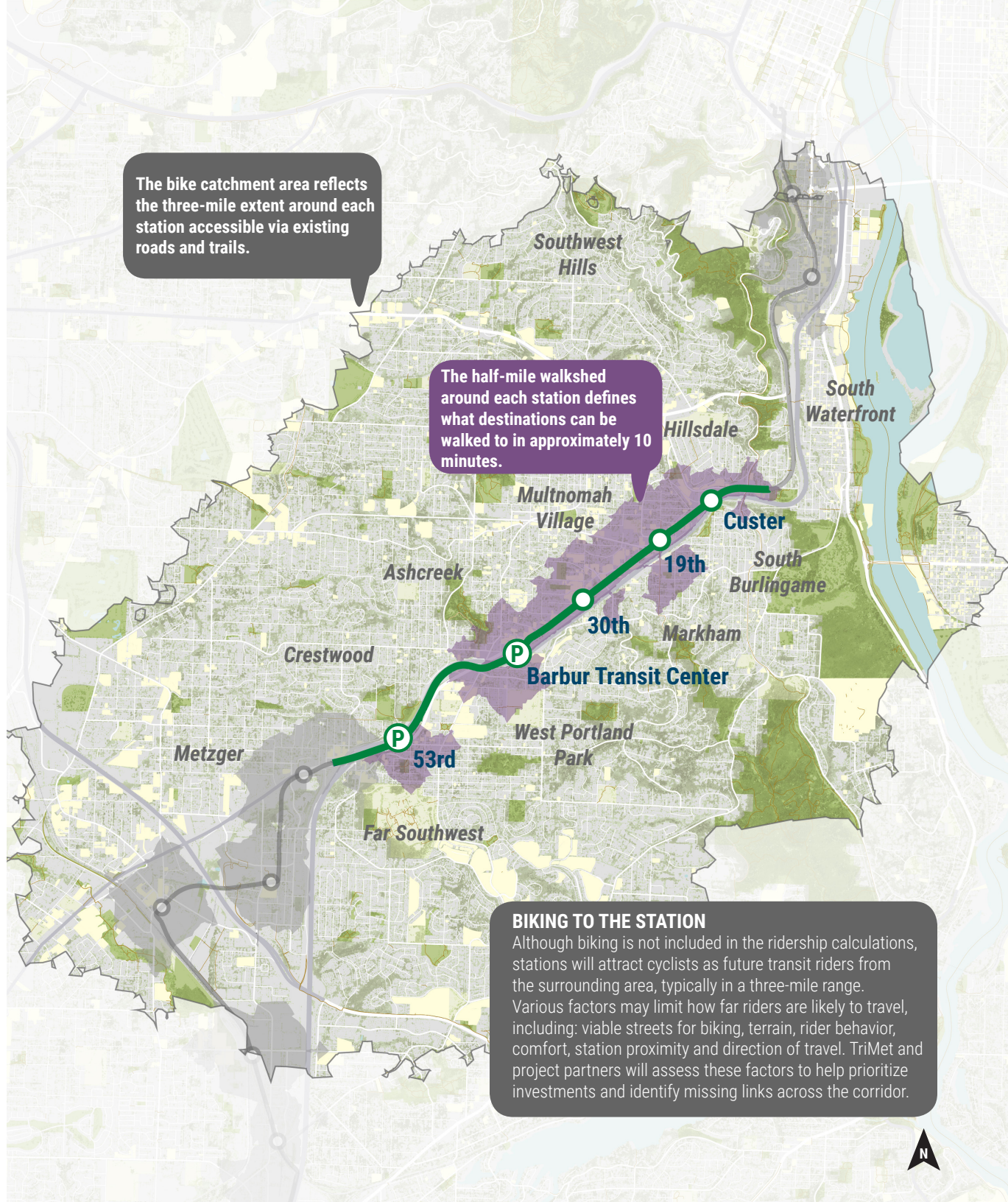
30TH
4,200 Daily Riders
 95 Percent Walk
 0 Percent Transfer
 5 Percent Auto



BARBUR TRANSIT CENTER
2,900 Daily Riders
 65 Percent Walk
 12 Percent Transfer
 24 Percent Auto



53RD
2,400 Daily Riders
 65 Percent Walk
 1 Percent Transfer
 34 Percent Auto



The bike catchment area reflects the three-mile extent around each station accessible via existing roads and trails.

The half-mile walked around each station defines what destinations can be walked to in approximately 10 minutes.

BIKING TO THE STATION
 Although biking is not included in the ridership calculations, stations will attract cyclists as future transit riders from the surrounding area, typically in a three-mile range. Various factors may limit how far riders are likely to travel, including: viable streets for biking, terrain, rider behavior, comfort, station proximity and direction of travel. TriMet and project partners will assess these factors to help prioritize investments and identify missing links across the corridor.



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.

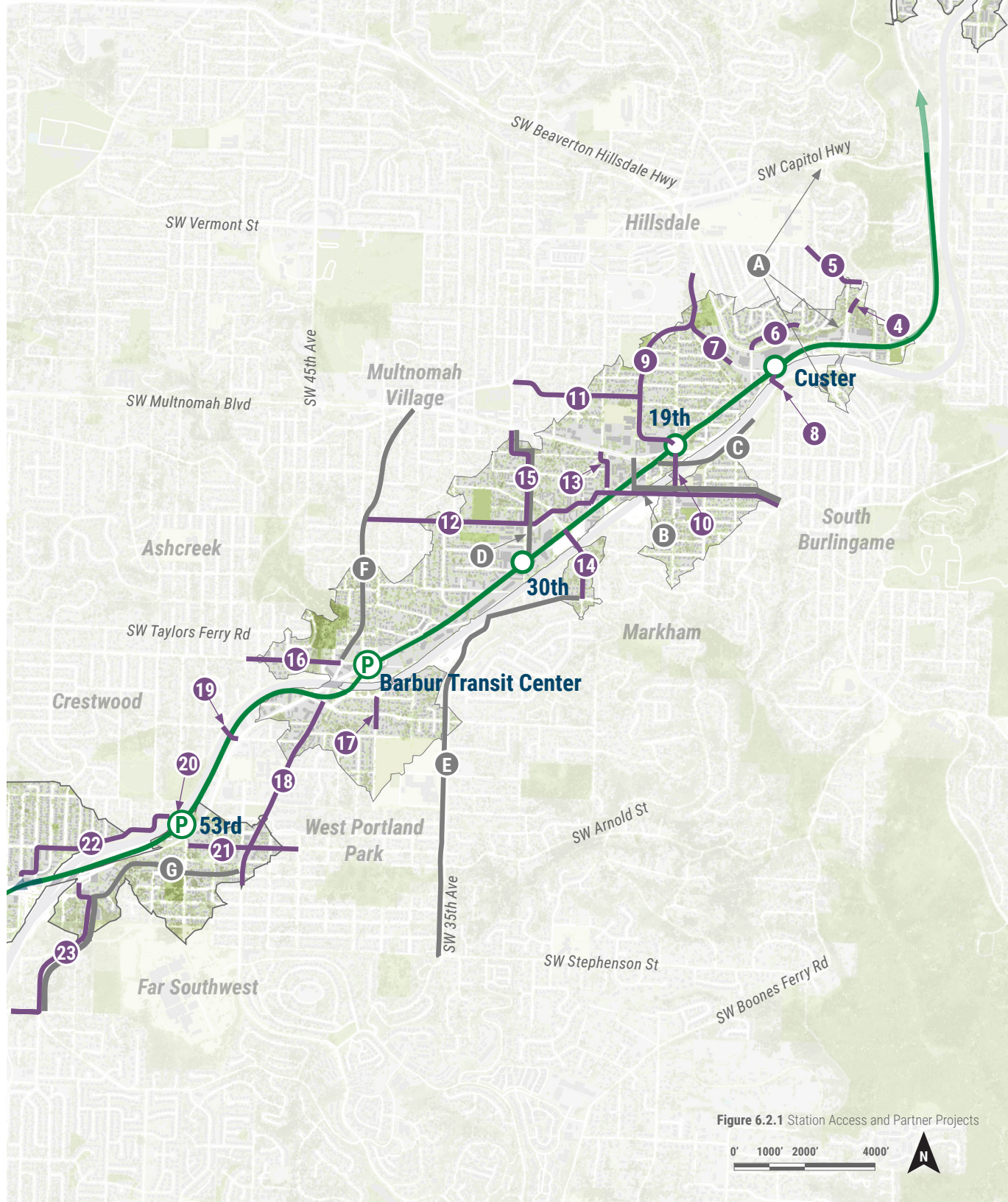


Figure 6.2.1 Station Access and Partner Projects



STATION ACCESS PROJECTS —

- | | | | |
|-----------|---|-----------|--------------------------------------|
| 4 | Terwilliger Bikeway | 14 | 26th Sidewalks and Bikeway |
| 5 | Chestnut Bikeway | 15 | 30th Sidewalks |
| 6 | 13th Sidewalks and Bikeway | 16 | Taylor's Ferry Sidewalks and Bikeway |
| 7 | Custer Sidewalks | 17 | 40th Sidewalks and Bikeway |
| 8 | Custer Walk/Bike Bridge | 18 | Capitol Sidewalks and Bikeway |
| 9 | Capitol Hill Sidewalks and Bikeway | 19 | Luradel Walk/Bike Bridge |
| 10 | 19th Bikeway | 20 | 53rd Walk/Bike Bridge |
| 11 | Troy Bikeway | 21 | Pomona Sidewalks and Bikeway |
| 12 | Spring Garden and Dolph Sidewalks and Bikeway | 22 | Pasadena Sidewalks and Bikeway |
| 13 | 24th Sidewalks and Bikeway | 23 | Barbur/PCC to Triangle Connection |

PARTNER-LED PROJECTS —

- A** Completion of Bikeway Gaps along SW Terwilliger Blvd (City of Portland TSP)
- B** Spring Garden Sidewalk And Bikeway Improvements (City of Portland TSP)
- C** Multnomah Viaduct Safety Improvements (City of Portland TSP)
- D** SW 30th Ave/SW Hume St/SW 31st Ave Sidewalk And Bikeway Improvements (City of Portland TSP)
- E** Inner SW Taylor's Ferry Rd Safety Improvements (City of Portland TSP)
- F** SW Capitol Hwy Corridor Improvements (City of Portland TSP)
- G** SW Lesser Rd Sidewalk And Bikeway Improvements (City of Portland TSP)

6.3 Custer Drive Station



Ridership: Medium
Access: Walk and Transfer
Destination: Neighborhood

Custer Drive Station is located on the east side of the West Hills and is the gateway to the SW Barbur Blvd commercial corridor. Adjacent to a Fred Meyer store 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.

See draft vision of Custer Street Station in Figure 6.3.5

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

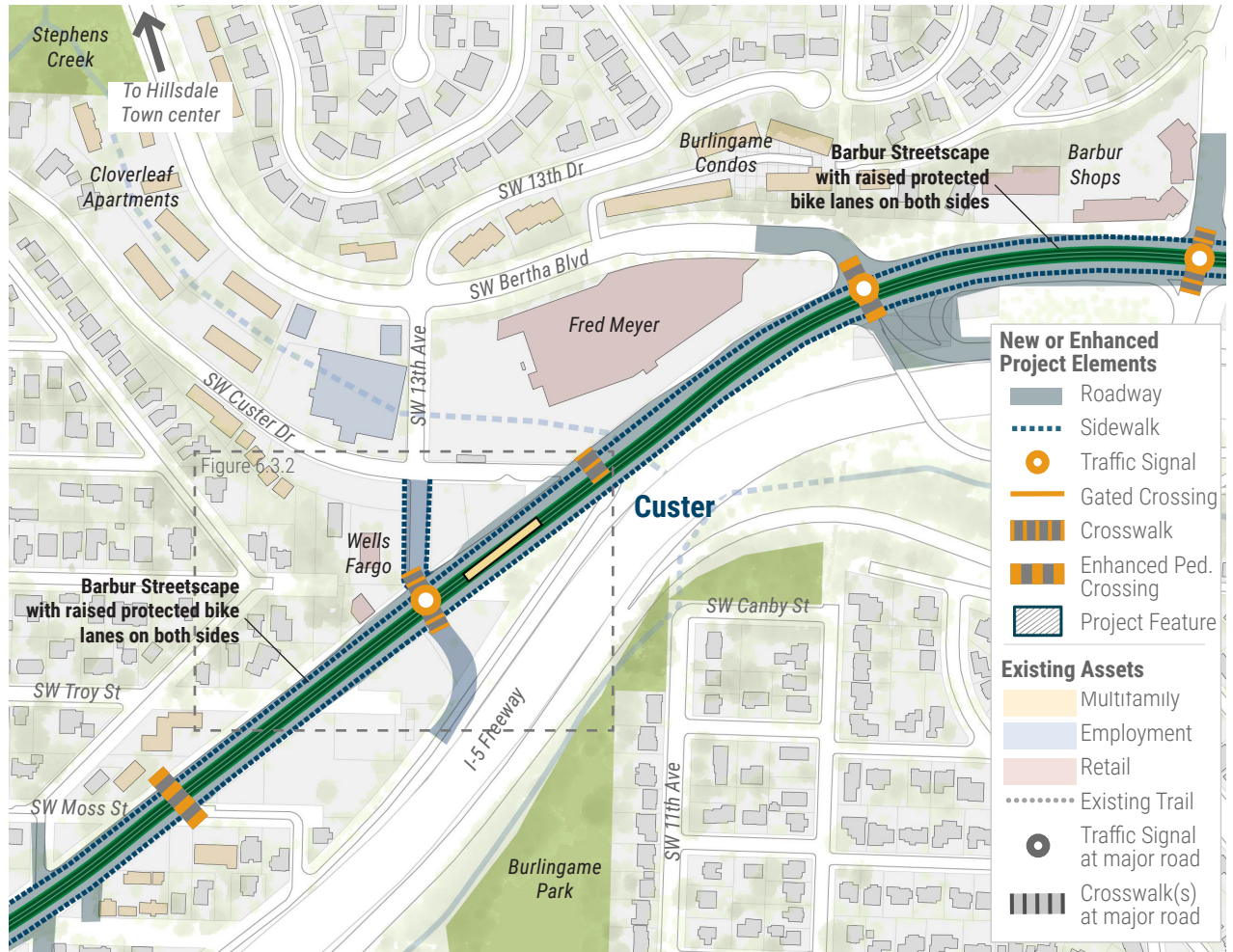


Figure 6.3.1 DRAFT Custer Drive Station Overview

DESIGN VALUE STATEMENTS

- 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

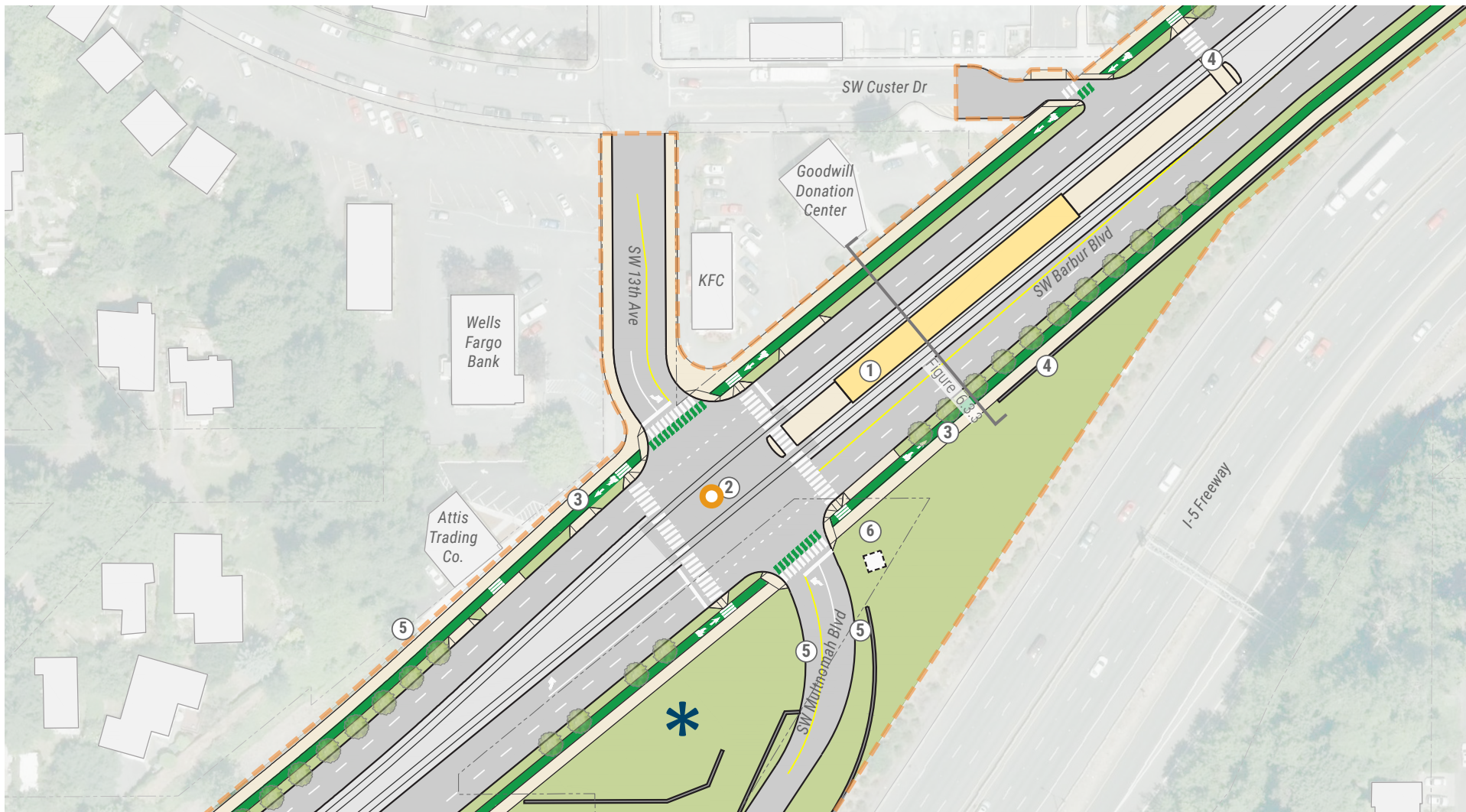





















Figure 6.3.2 DRAFT Custer Drive Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

- | | |
|---|---|
|  Platform |  Project Boundary |
|  Landscape |  Track |
|  Potential Stormwater Treatment |  Crossing Gate |
|  New/Improved Sidewalk |  Existing Right of Way |
|  New/Enhanced Traffic Signal |  New/Improved Roadway |
|  Enhanced Pedestrian Crossing |  Shared Transitway |
| |  Ballasted Track |

STATION FEATURES

- | | |
|--|---|
|  1 Center platform |  5 Retaining wall locations |
|  2 SW Multnomah Blvd realigned to SW Barbur Blvd with new signalized intersection |  6 Potential systems building location |
|  3 Raised protected bike lanes and protected intersection | |
|  4 Back of platform crossing | |



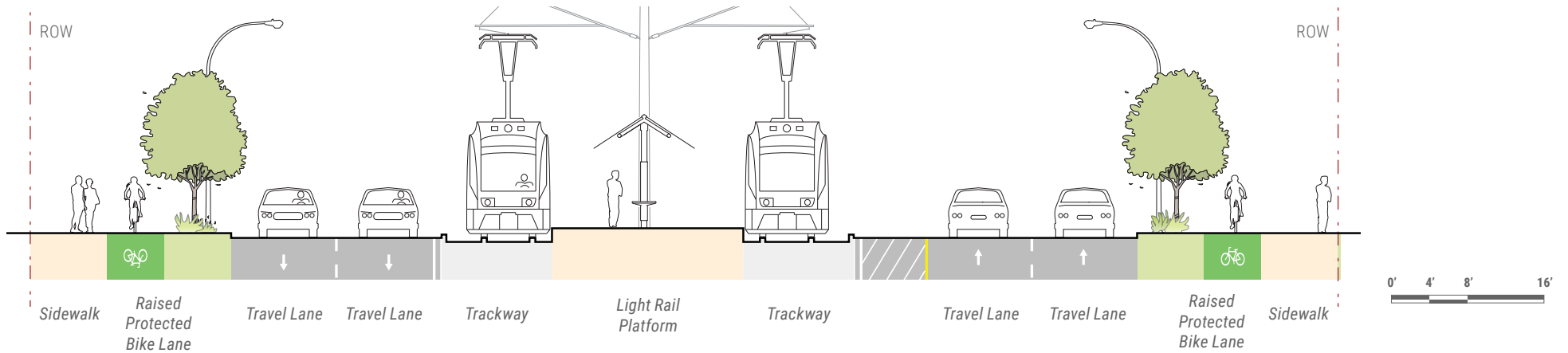


Figure 6.3.3 DRAFT Custer Drive Station Cross Section

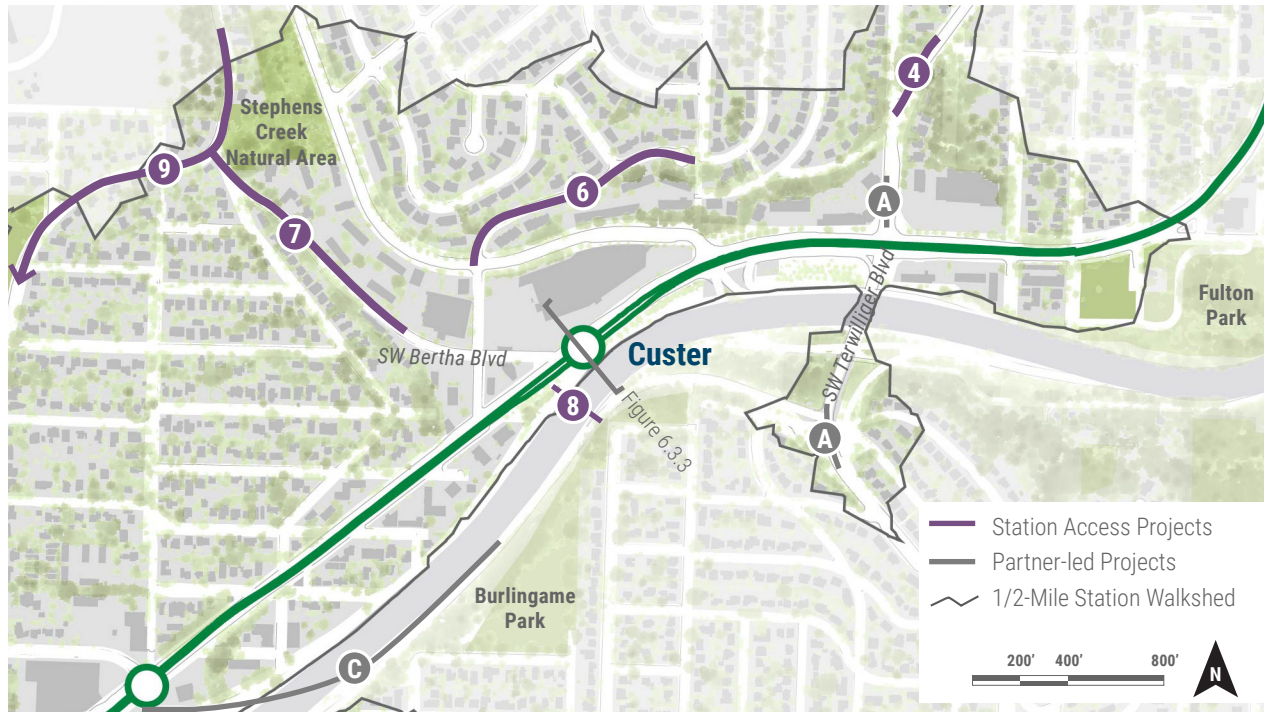


Figure 6.3.4 DRAFT Custer Drive Station Access Projects

STATION ACCESS PROJECTS

- 4 Terwilliger Bikeway
- 6 13th Sidewalks and Bikeway
- 7 Custer Sidewalks
- 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)
- C Multnomah Viaduct Safety Improvements (City of Portland TSP)

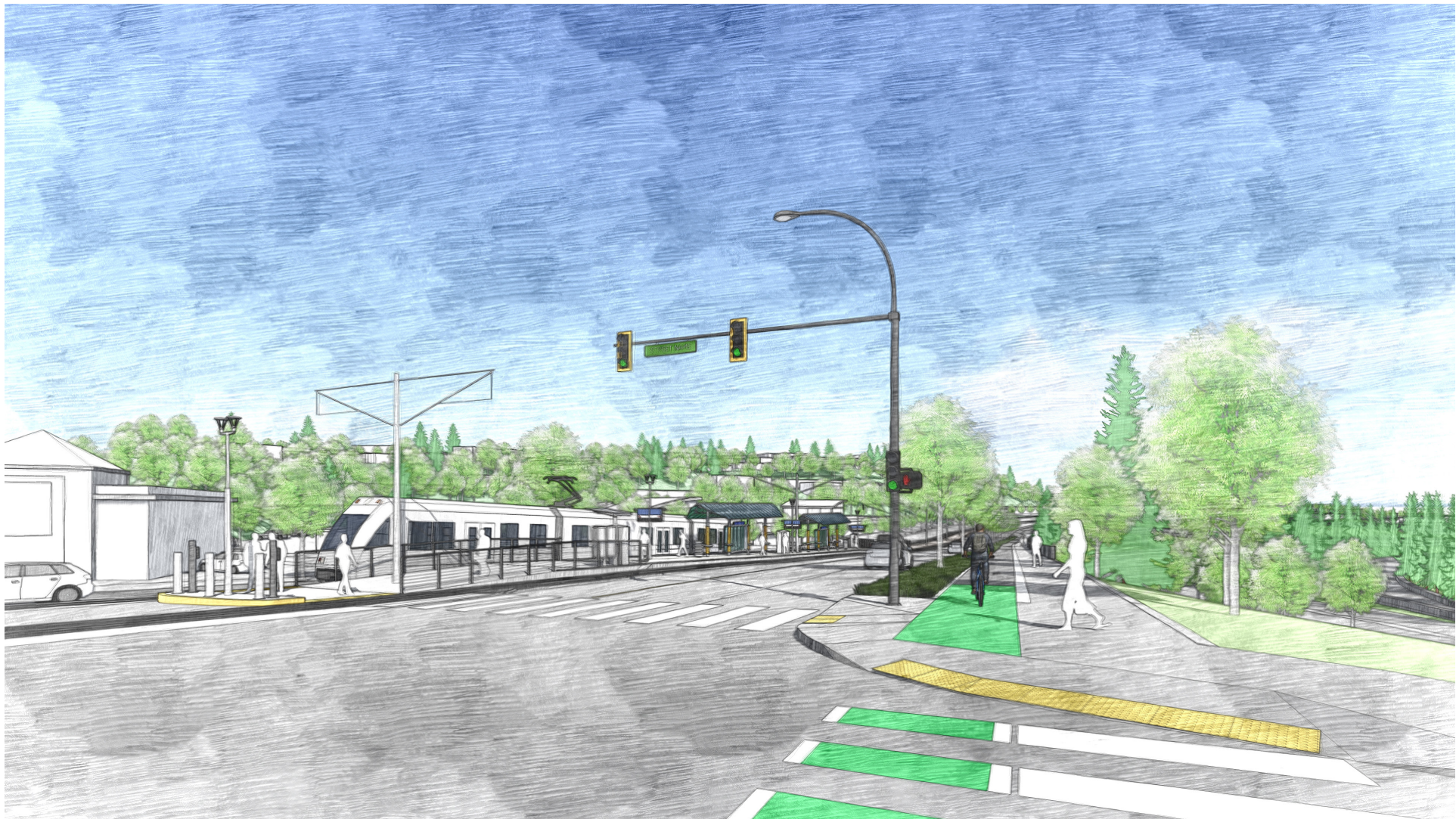


Figure 6.3.5 DRAFT Vision of Custer Drive Station

6.4 19th Avenue Station



Ridership: Medium
Access: Walk and Transfer
Destination: Neighborhood

19th Avenue Station is nestled within a neighborhood serving the 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 Multnomah Village. A number of schools, housing and parks are clustered near this station.

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 line 39
- Two lanes retained in each direction along 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

PRESERVE AND RESTORE NATURAL ENVIRONMENT

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

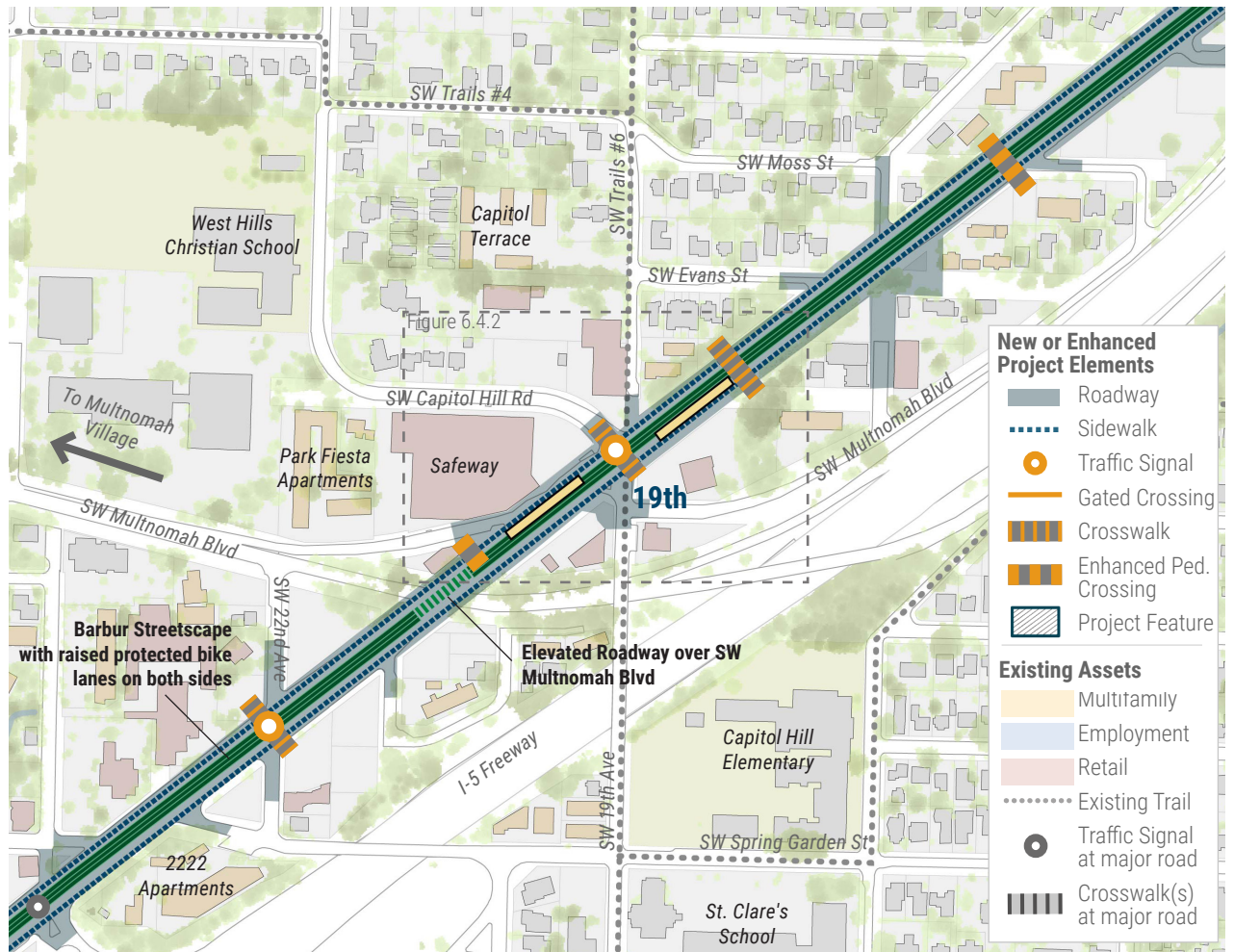


Figure 6.4.1 DRAFT 19th Avenue Station overview

DESIGN VALUE STATEMENTS

- 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

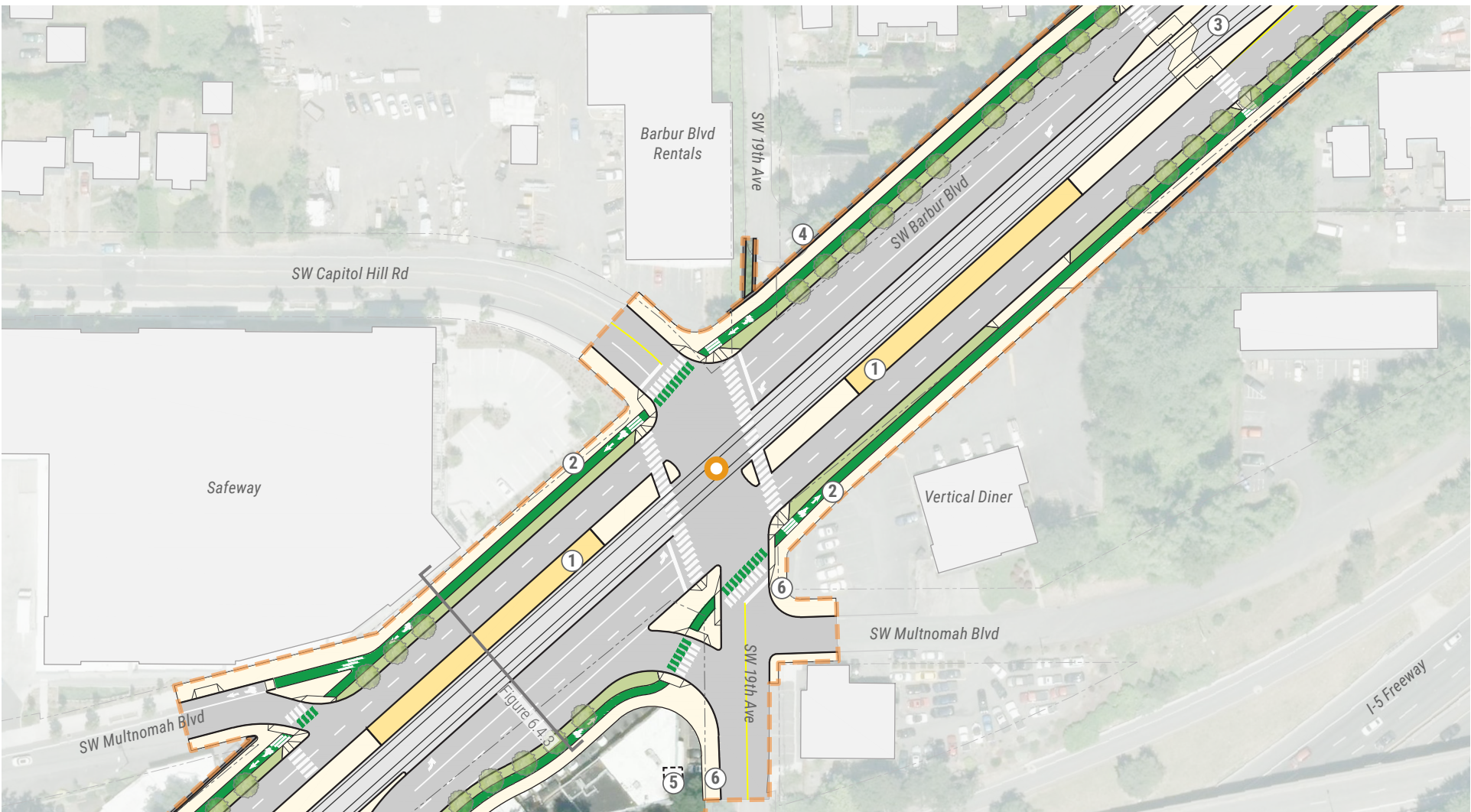


Figure 6.4.2 DRAFT 19th Avenue Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

- Platform
- Landscape
- Potential Stormwater Treatment
- New/Improved Sidewalk
- New/Enhanced Traffic Signal
- Enhanced Pedestrian Crossing
- Project Boundary
- Track
- Crossing Gate
- Existing Right of Way
- New/Improved Roadway
- Shared Transitway
- Ballasted Track

STATION FEATURES

- ① Side platform
- ② Raised protected bike lanes and intersection
- ③ Signalized Pedestrian Z-crossing
- ④ Retaining wall locations
- ⑤ Potential systems building location
- ⑥ Existing bus stops



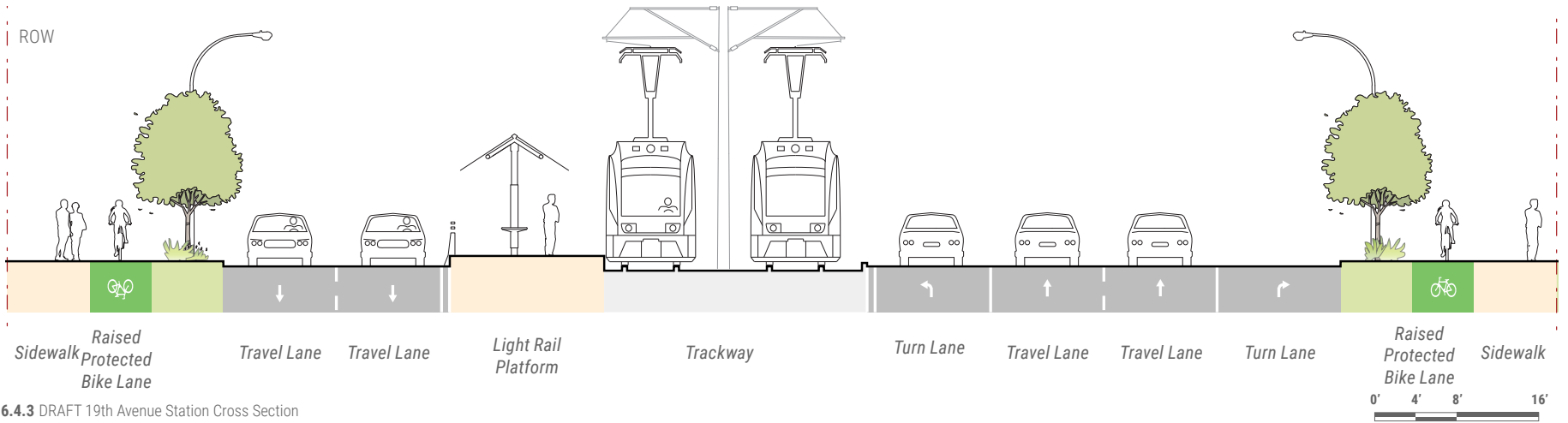


Figure 6.4.3 DRAFT 19th Avenue Station Cross Section

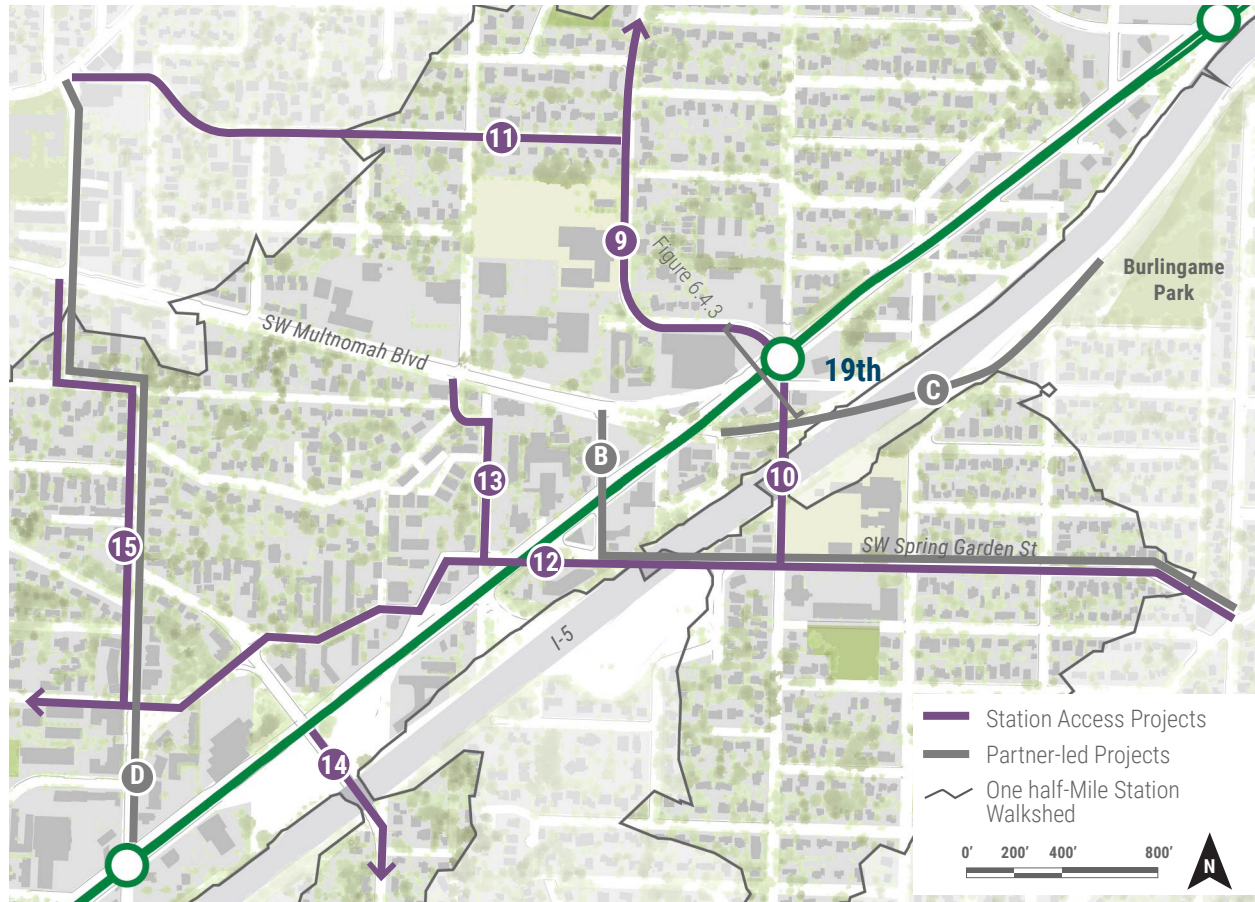


Figure 6.4.4 DRAFT 19th Avenue Station Access Projects

STATION ACCESS PROJECTS

- 9 Capitol Hill Sidewalks & Bikeway
- 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

PARTNER-LED PROJECTS

- B Spring Garden Sidewalk and Bikeway Improvements (City of Portland TSP)
- C Multnomah Viaduct Safety Improvements (City of Portland TSP)
- D SW 30th Ave / SW Hume St / SW 31st Ave Sidewalk and Bikeway Improvements (City of Portland TSP)

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6.5 30th Avenue Station



Ridership: High
Access: Walk and Auto
Destination: Neighborhood

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

MOVE AND CONNECT PEOPLE

- 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

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

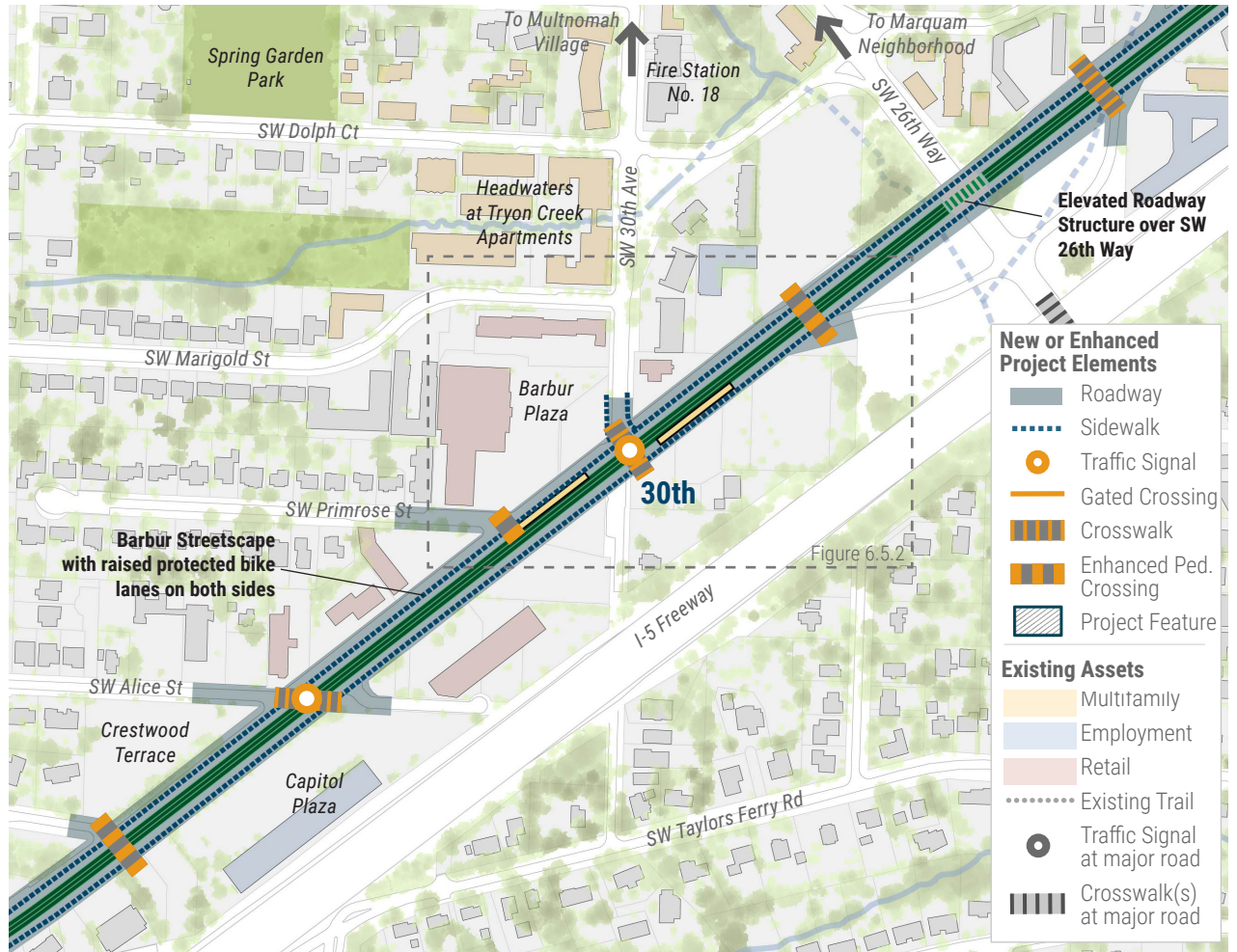


Figure 6.5.1 DRAFT 30th Avenue Station overview

- 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

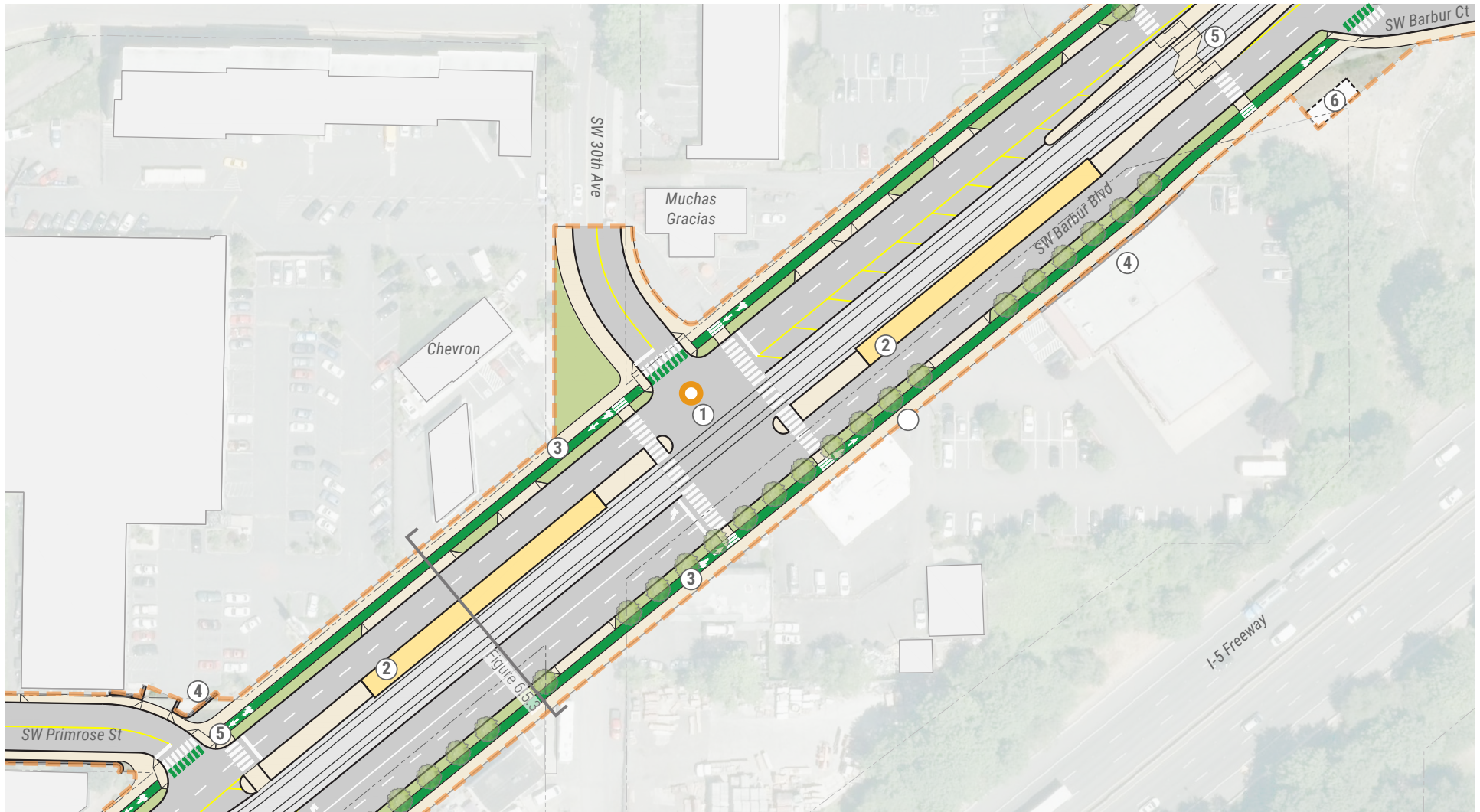
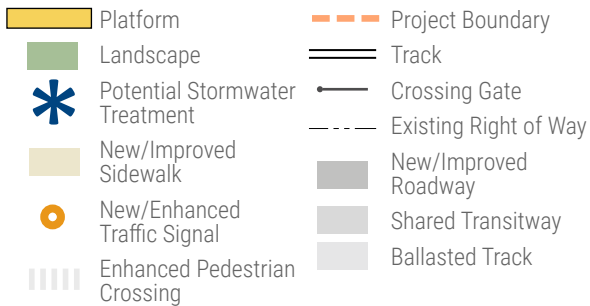


Figure 6.5.2 DRAFT 30th Avenue Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts



STATION FEATURES

- ① SW 30th Ave realigned to SW Barbur Blvd as a three-way signalized intersection
- ② Side platforms
- ③ Raised protected bike lanes and protected intersection
- ④ Retaining wall locations
- ⑤ Enhanced Pedestrian Crossing
- ⑥ Potential systems building location



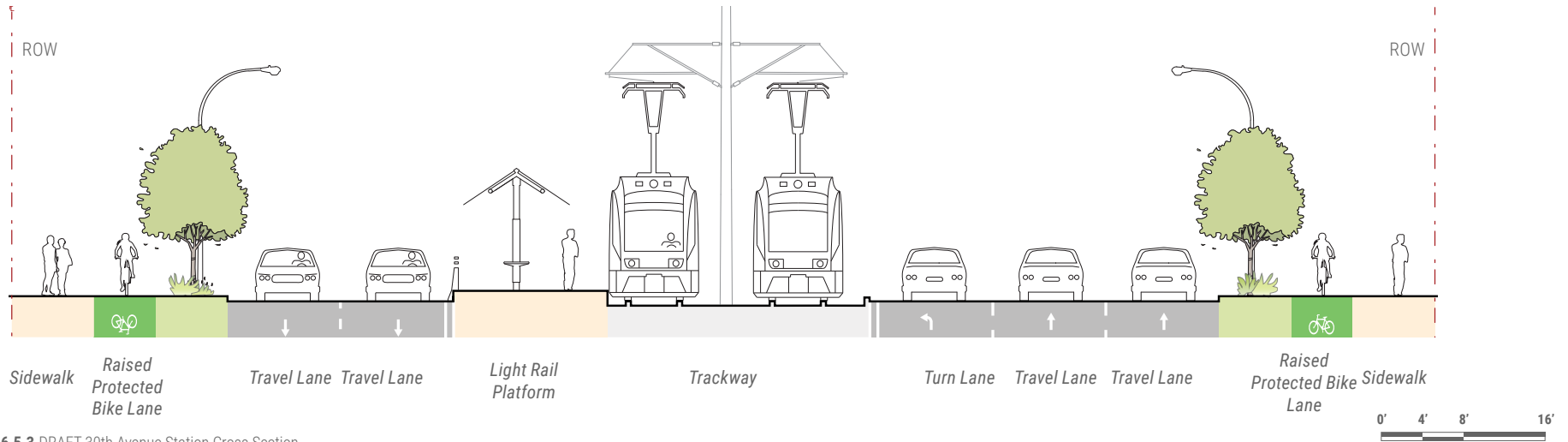


Figure 6.5.3 DRAFT 30th Avenue Station Cross Section

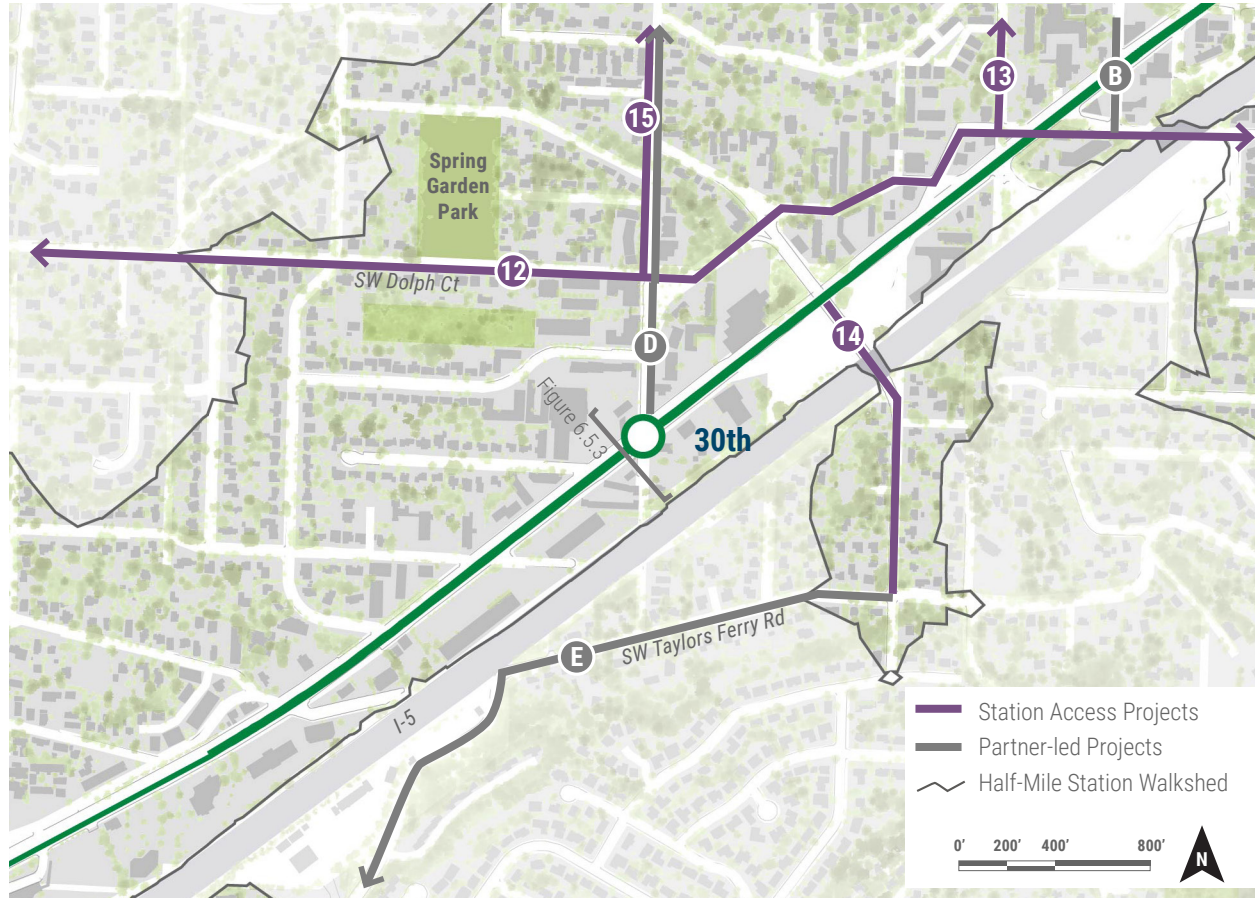


Figure 6.5.4 DRAFT 30th Avenue Station Access Projects

STATION ACCESS PROJECTS

- 12 Spring Garden and Dolph Sidewalks and Bikeway
- 13 24th Sidewalks and Bikeway
- 14 26th Sidewalks and Bikeway
- 15 30th Sidewalks

PARTNER-LED PROJECTS

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

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6.6 Barbur Transit Center



Ridership: Medium
Access: Walk, Transfer, Auto
Destination: Town Center

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.

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, Marquam 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

PRESERVE AND RESTORE NATURAL ENVIRONMENT

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

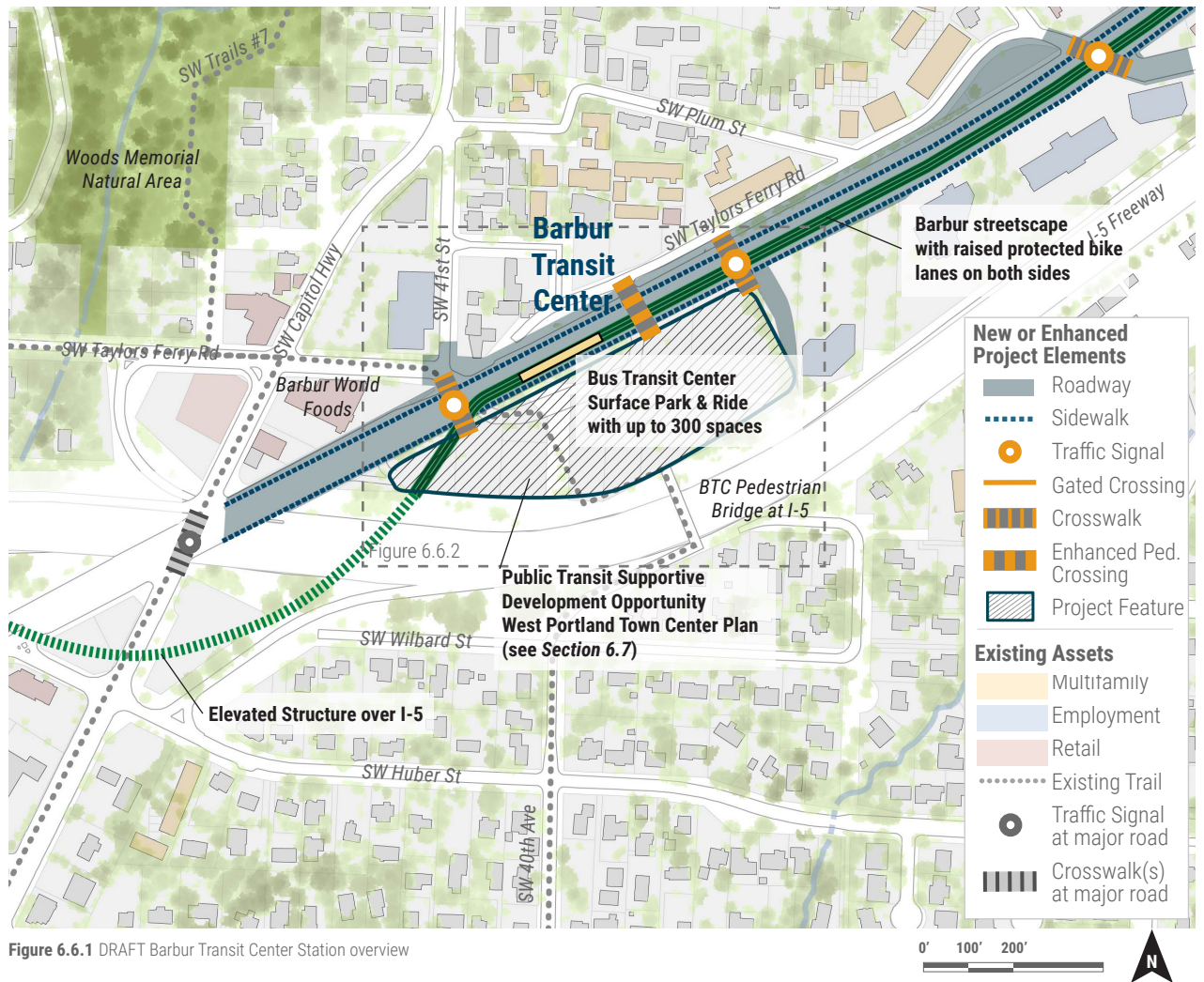


Figure 6.6.1 DRAFT Barbur Transit Center Station overview

DESIGN VALUE STATEMENTS

- 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
- 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

- Platform
- Landscape
- Potential Stormwater Treatment
- New/Improved Sidewalk
- New/Enhanced Traffic Signal
- Enhanced Pedestrian Crossing
- Project Boundary
- Track
- Crossing Gate
- Existing Right of Way
- New/Improved Roadway
- Shared Transitway
- Ballasted Track

STATION FEATURES

- ① Center platform
- ② Connection to existing pedestrian bridge
- ③ Bus transit center
- ④ Surface Park & Ride with up to 300 spaces
- ⑤ Raised protected bike lanes and protected intersection
- ⑥ Existing pedestrian bridge
- ⑦ On-street bike lanes on SW Barbur Blvd
- ⑧ Potential systems building location

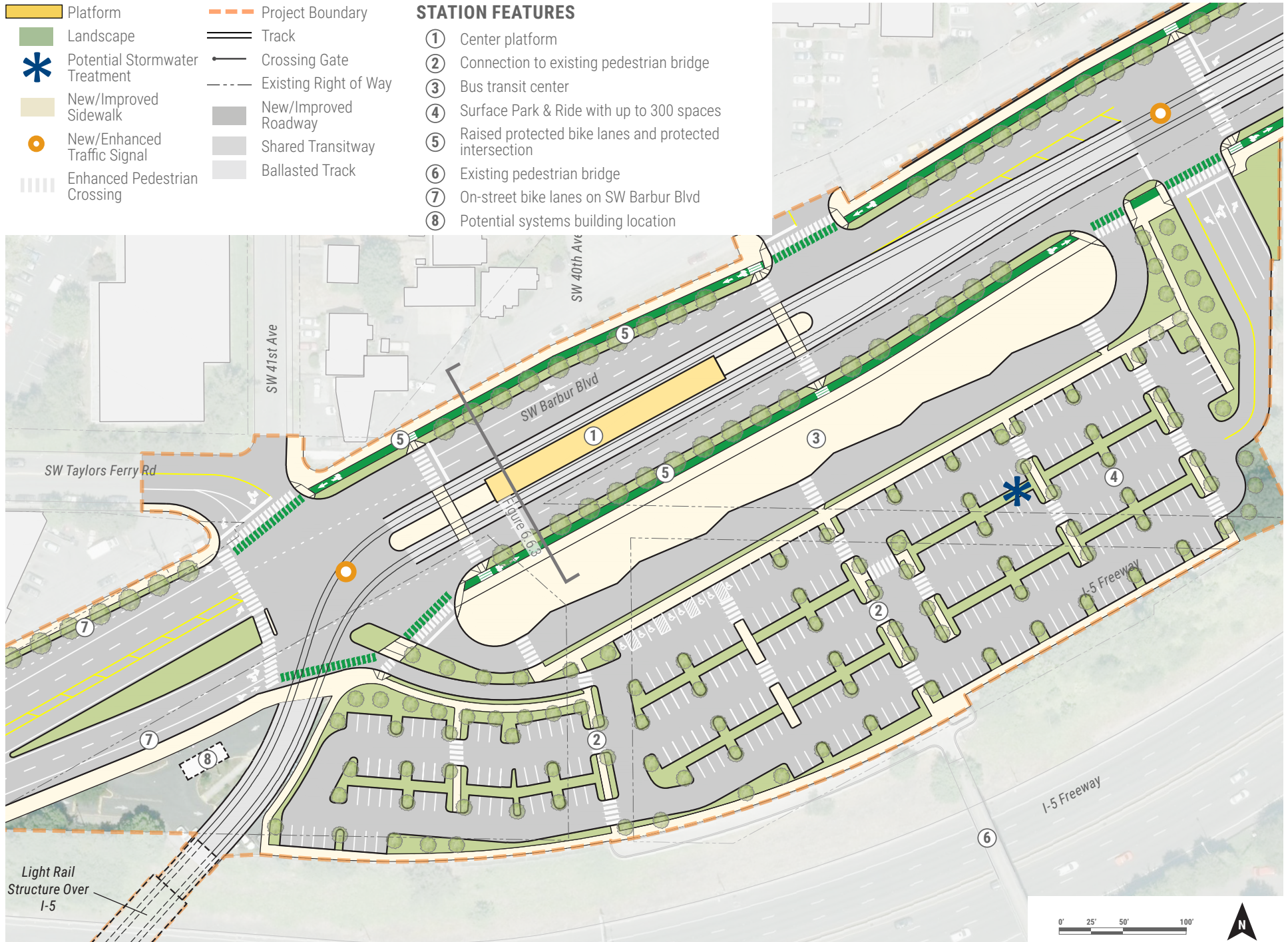


Figure 6.6.2 DRAFT Barbur Transit Center Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

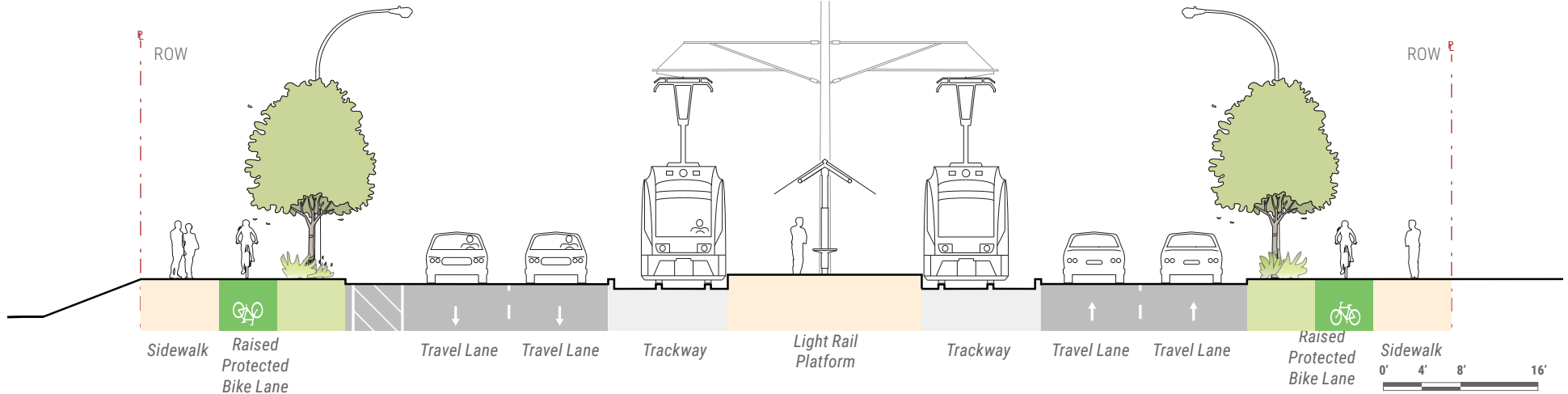


Figure 6.6.3 DRAFT Barbur Transit Center Station Cross Section

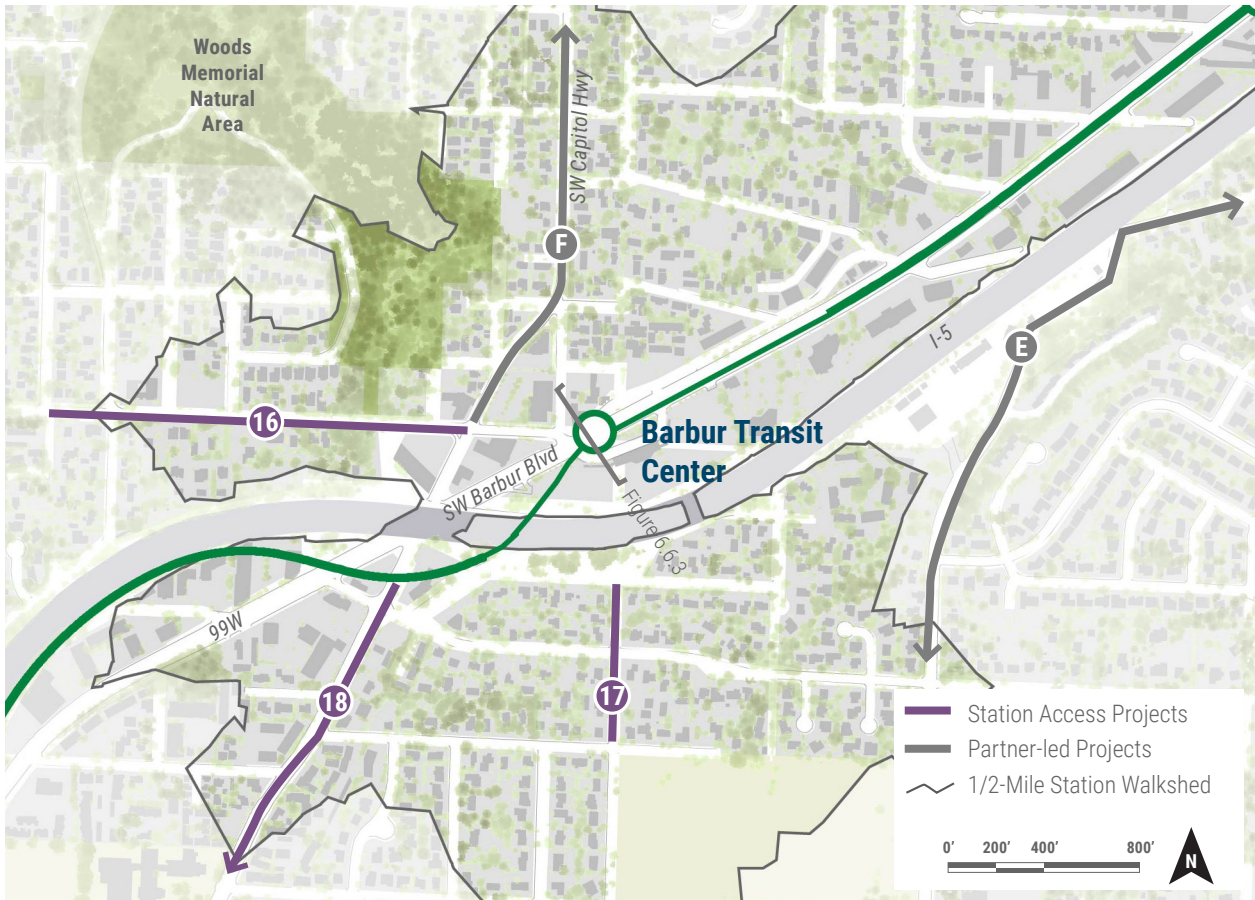


Figure 6.6.4 DRAFT Barbur Transit Center Station Access Projects

STATION ACCESS PROJECTS

- 16 Taylors Ferry Sidewalks and Bikeway
- 17 40th Sidewalks and Bikeway
- 18 Capitol Sidewalks and Bikeway

PARTNER-LED PROJECTS

- E Inner SW Taylors Ferry Rd Safety Improvements (City of Portland TSP)
- F SW Capitol Hwy Corridor Improvements (City of Portland TSP)



Figure 6.6.5 I-5 / SW Barbur Blvd Intersection Crossing

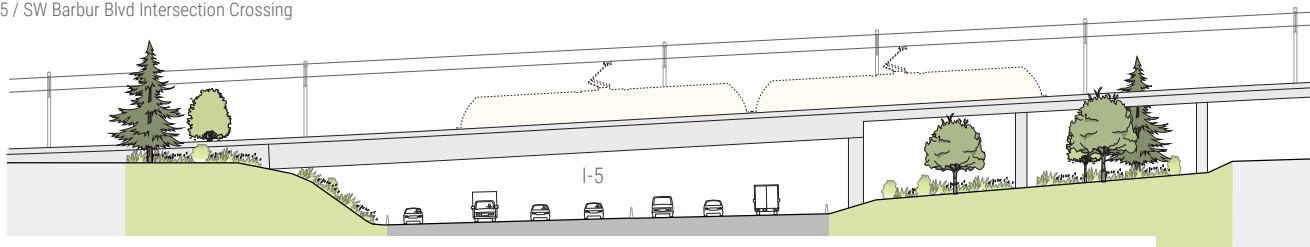


Figure 6.6.6 DRAFT I-5 Crossing Cross Section

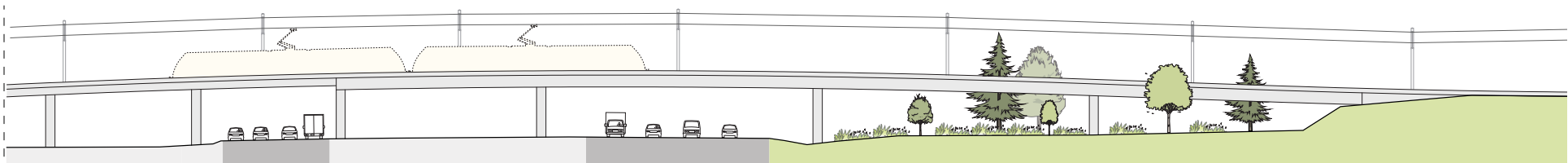


Figure 6.6.7 DRAFT SW Barbur Blvd Section



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 identified community priorities for redevelopment of the site in addition to affordable housing. An initial redevelopment concept incorporated these priorities to achieve equitable transit-oriented 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
- Three floors of parking with 150-250 stalls

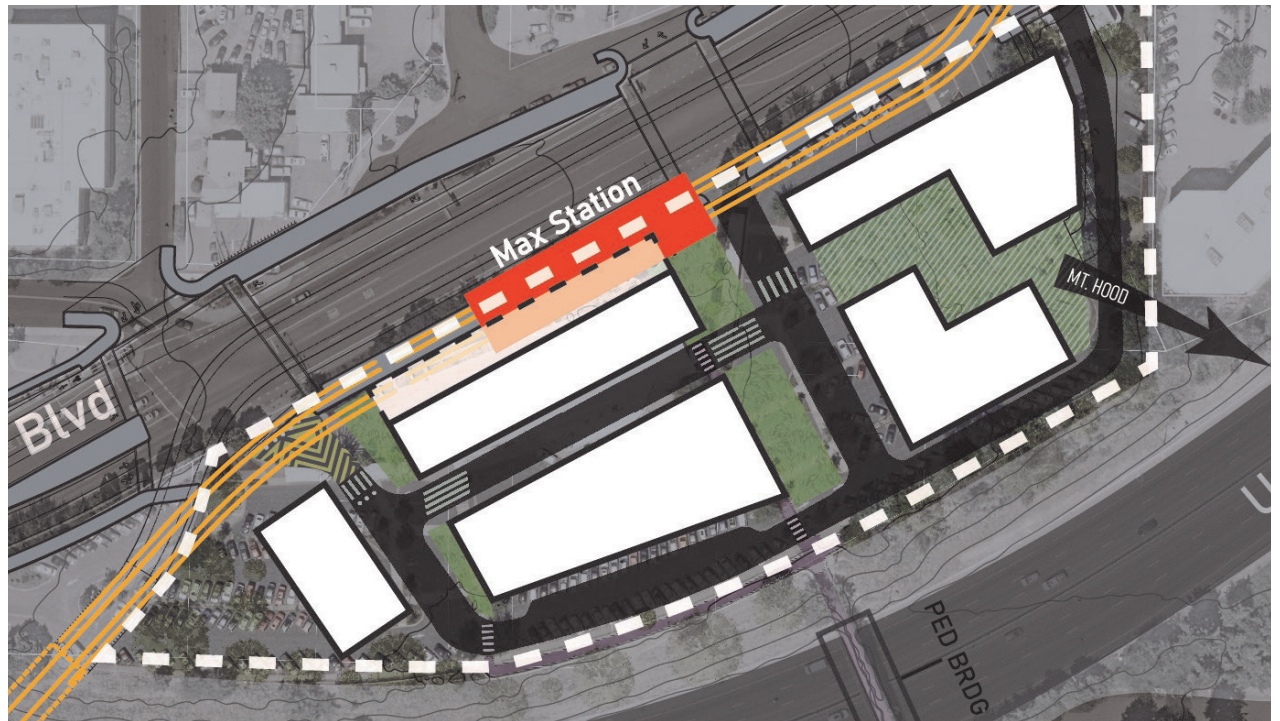


Figure 6.7.1 Barbur Transit Center Public Opportunity Site: Side Running Alignment

DESIGN VALUE STATEMENTS

- 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. multi-cultural market place)
- Outdoor space is aligned to preserve 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

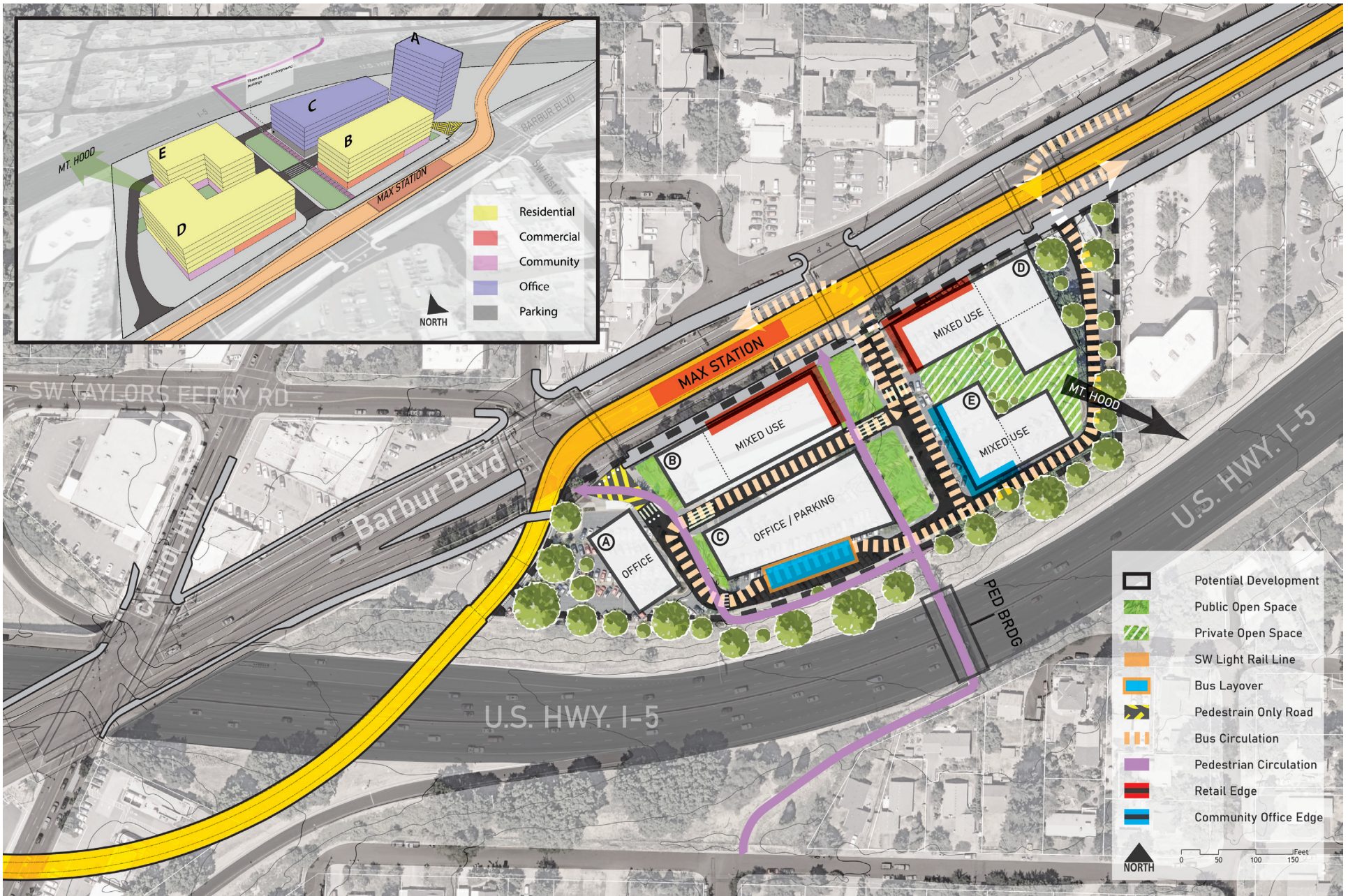


Figure 6.7.2 Barbur Transit Center Public Opportunity Site: Center Running Alignment

6.8 53rd Avenue Station



Ridership: Medium
Access: Walk, Transfer, Auto
Destination: Institution

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

MOVE AND CONNECT PEOPLE

- 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

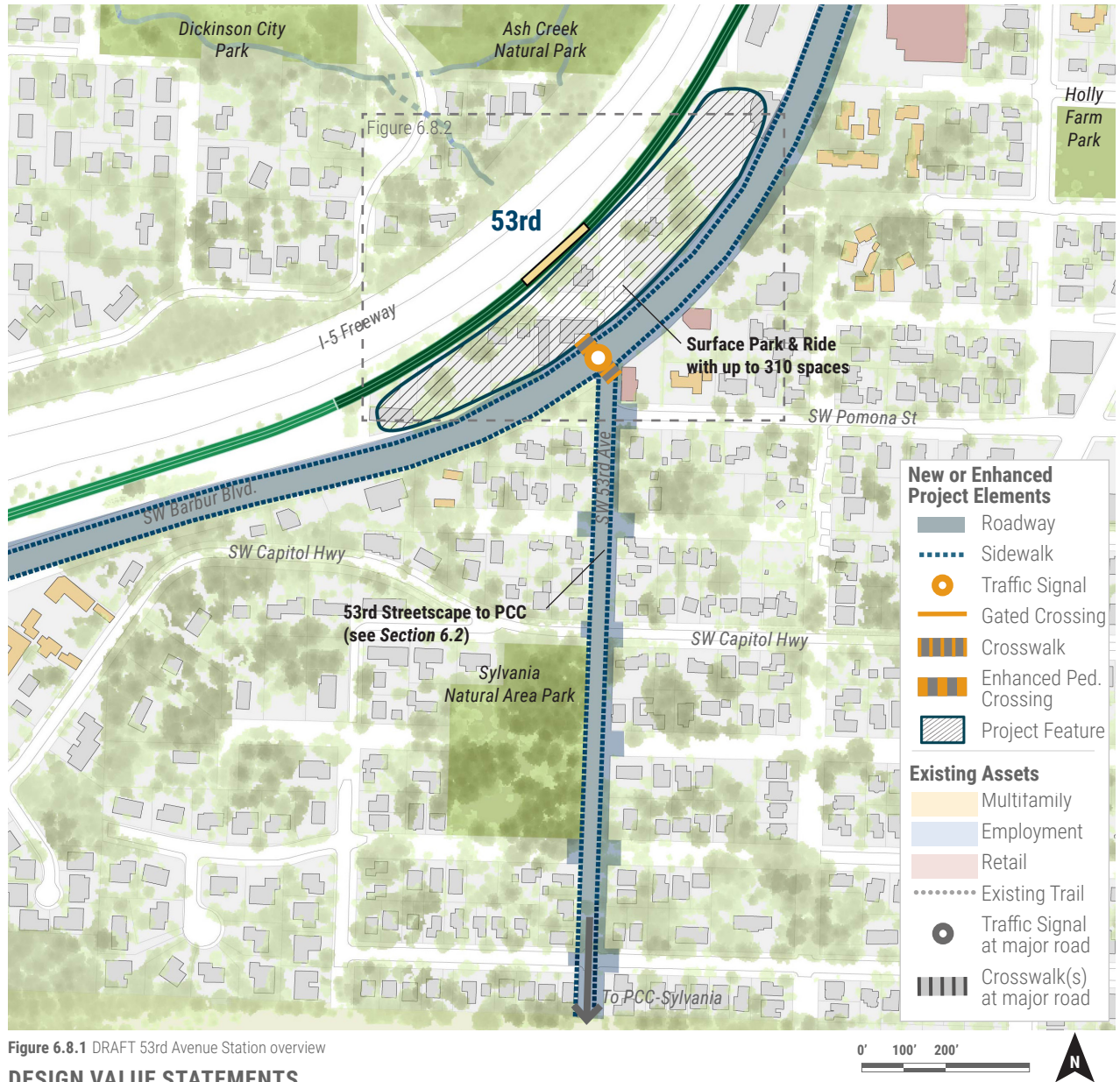















Figure 6.8.1 DRAFT 53rd Avenue Station overview

DESIGN VALUE STATEMENTS

- 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

-  Platform
-  Landscape
-  Potential Stormwater Treatment
-  New/Improved Sidewalk
-  New/Enhanced Traffic Signal
-  Enhanced Pedestrian Crossing
-  Project Boundary
-  Track
-  Crossing Gate
-  Existing Right of Way
-  New/Improved Roadway
-  Shared Transitway
-  Ballasted Track

STATION FEATURES

- ① SW 53rd Ave intersection signalized and realigned perpendicular to SW Barbur Blvd
- ② Center platform
- ③ Surface Park & Ride with up to 310 spaces
- ④ Retaining wall locations
- ⑤ New sidewalks
- ⑥ On-street bike lanes on SW Barbur Blvd
- ⑦ Potential systems building location



Figure 6.8.2 DRAFT 53rd Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

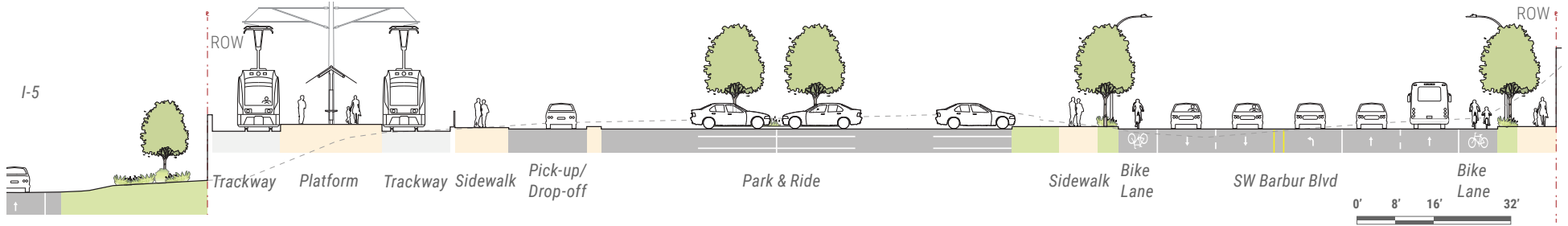


Figure 6.8.3 DRAFT 53rd Avenue Station Cross Section

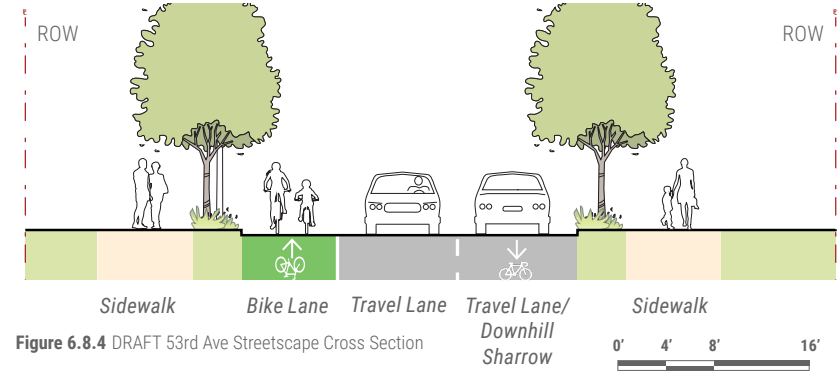


Figure 6.8.4 DRAFT 53rd Ave Streetscape Cross Section

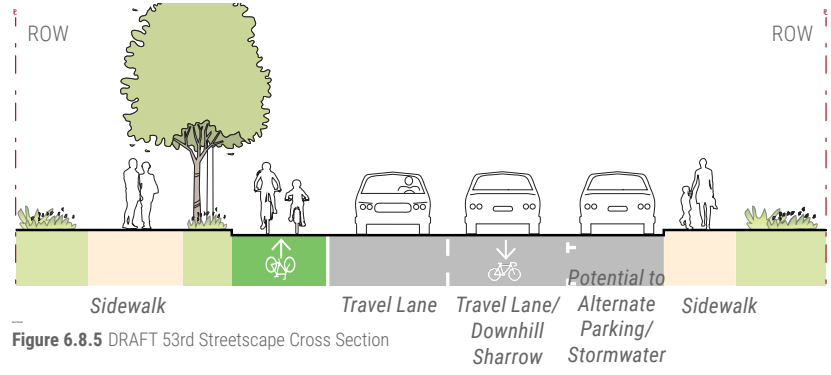


Figure 6.8.5 DRAFT 53rd Streetscape Cross Section

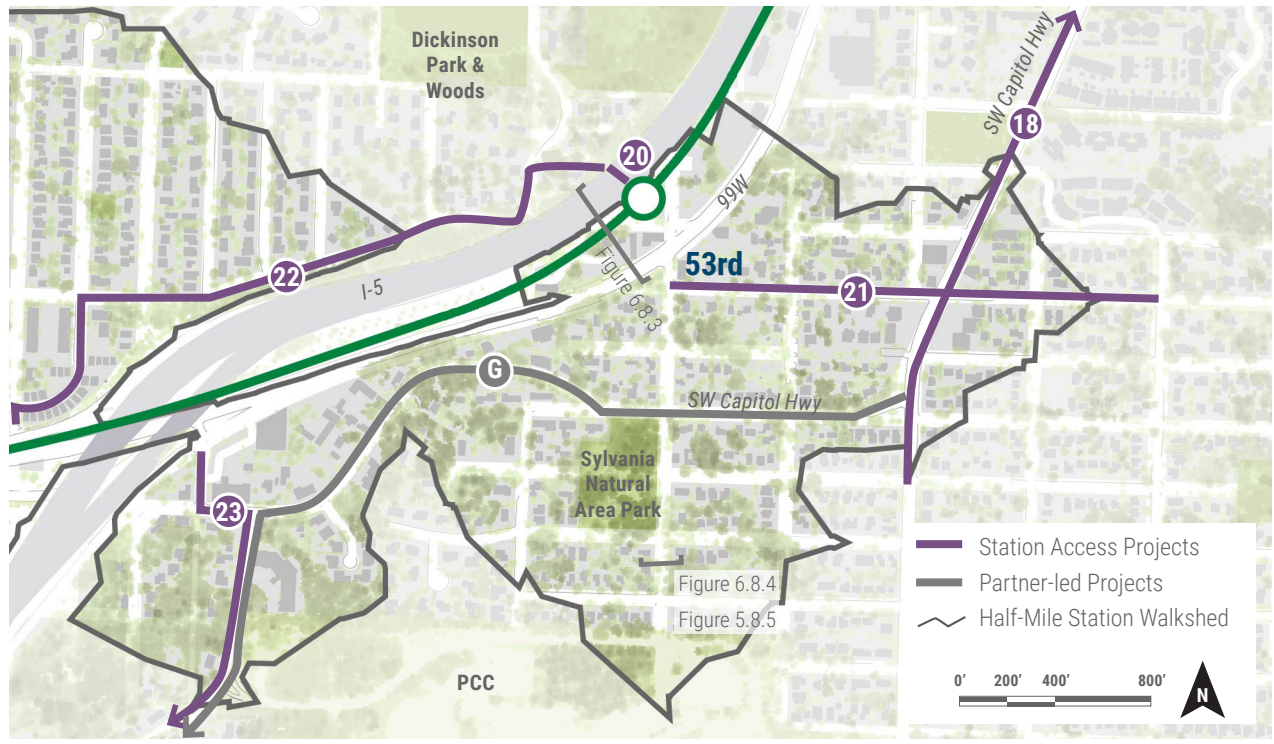


Figure 6.8.6 DRAFT 53rd Station Access Projects

STATION ACCESS PROJECTS

- 18** Capitol Sidewalks and Bikeway
- 20** 53rd Walk/Bike Bridge
- 21** Pomona Sidewalks and Bikeway
- 22** Pasadena Sidewalks and Bikeway
- 23** Barbur/PCC to Triangle Connection

PARTNER-LED PROJECTS

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

6.9 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 53rd Ave street improvements to provide a safe and convenient route for people walking and biking between the 53rd Avenue Station and the PCC campus one-half mile away. Proposed improvements for 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 53rd Ave, minimizing traffic impacts in the neighborhood and improving safety for people walking and biking.

The design team also explored multiple mechanized people-mover 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 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 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 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.

TriMet, PCC, PBOT, and Metro staff have studied a potential

53rd Ave shuttle to address circulation, stop locations, and street cross section designs shared in this document. Ongoing engagement will assist in determining the type of shuttle used, including the potential use of autonomous technologies. Future traffic volumes of the streets adjacent to the 53rd Ave improvements are anticipated to be similar to today.



Figure 6.9.1 DRAFT circulation route of a potential shuttle from PCC to 53rd Avenue Station

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**DESIGN CONCEPTS:
TIGARD & TUALATIN**

DESIGN CONCEPTS: TIGARD & TUALATIN . . . 129

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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 along Pacific Hwy/ 99W, 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.

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 north-south link
- New Park & Ride facilities and easy connections to WES Commuter Rail extend transit access throughout the region



MAINTAIN AND CREATE EQUITABLE COMMUNITIES

- Five 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

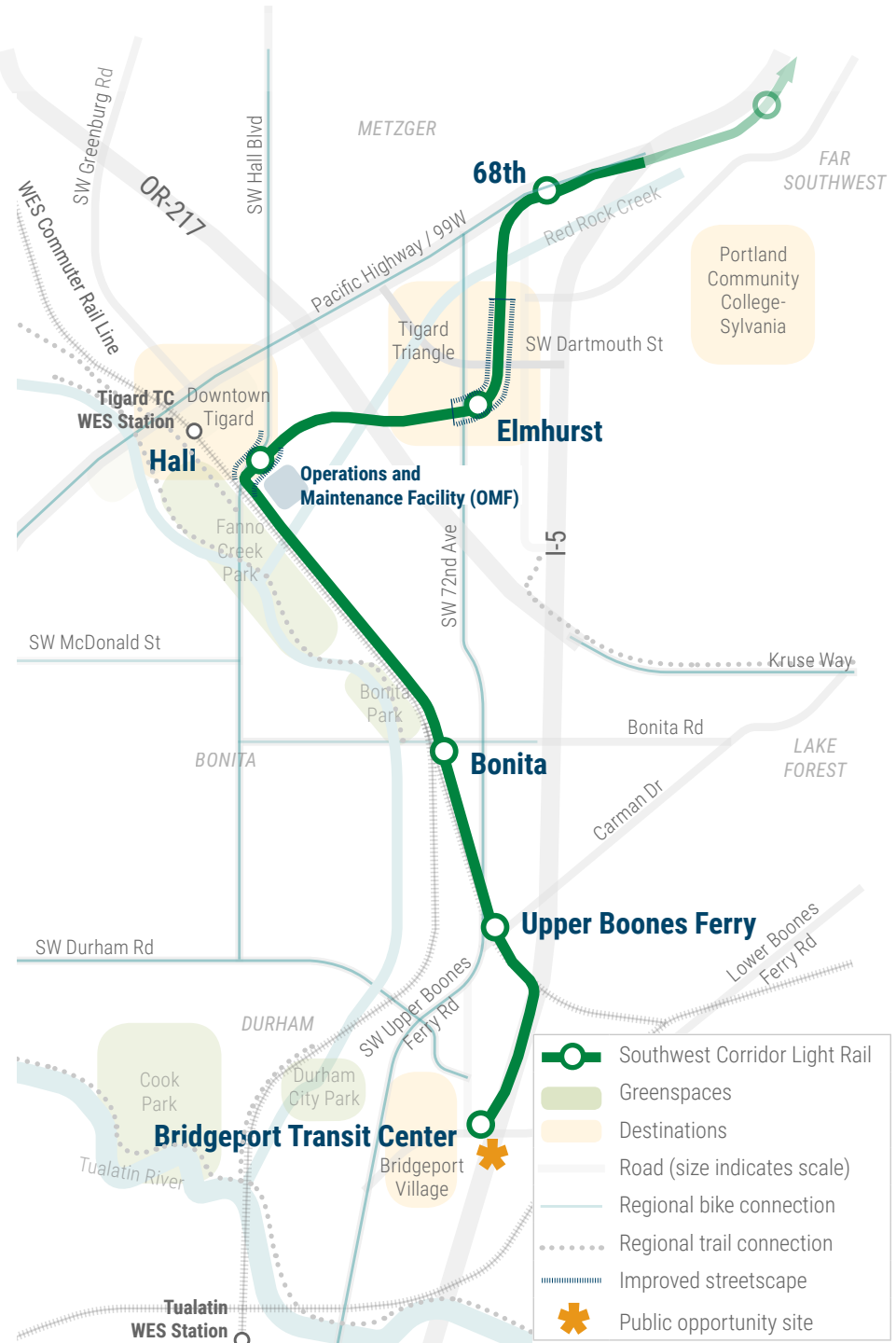


Figure 7.1.1 Project Overview - Tigard & Tualatin



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.

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.



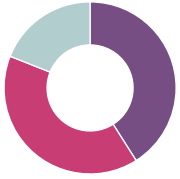
Tigard Employment Corridor



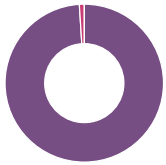
Tualatin Retail

TIGARD AND TUALATIN: 2035 STATION RIDERSHIP

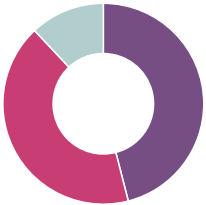
Source: Metro, 2019



68TH
4,900 Daily Riders
 41 Percent Walk
 40 Percent Transfer
 19 Percent Auto



ELMHURST
3,900 Daily Riders
 99 Percent Walk
 1 Percent Transfer
 0 Percent Auto



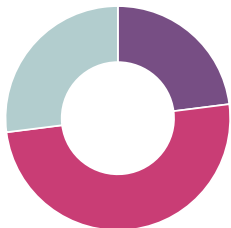
HALL
5,500 Daily Riders
 46 Percent Walk
 42 Percent Transfer
 12 Percent Auto



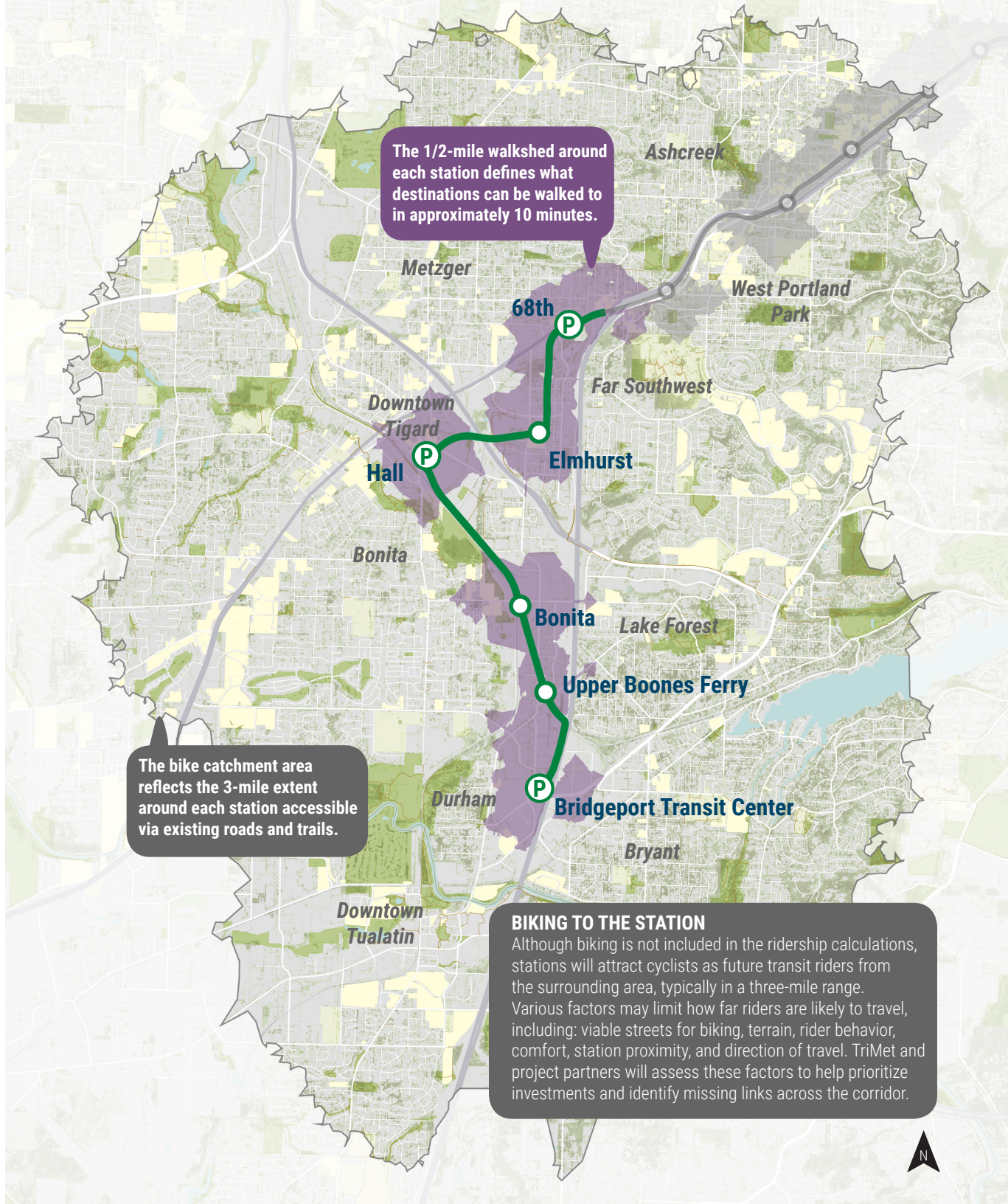
BONITA
2,300 Daily Riders
 73 Percent Walk
 27 Percent Transfer
 0 Percent Auto



UPPER BOONES FERRY
1,300 Daily Riders
 100 Percent Walk
 0 Percent Transfer
 0 Percent Auto



BRIDGEPORT
7,800 Daily Riders
 23 Percent Walk
 50 Percent Transfer
 27 Percent Auto



The 1/2-mile walkshed around each station defines what destinations can be walked to in approximately 10 minutes.

The bike catchment area reflects the 3-mile extent around each station accessible via existing roads and trails.

BIKING TO THE STATION
 Although biking is not included in the ridership calculations, stations will attract cyclists as future transit riders from the surrounding area, typically in a three-mile range. Various factors may limit how far riders are likely to travel, including: viable streets for biking, terrain, rider behavior, comfort, station proximity, and direction of travel. TriMet and project partners will assess these factors to help prioritize investments and identify missing links across the corridor.



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.

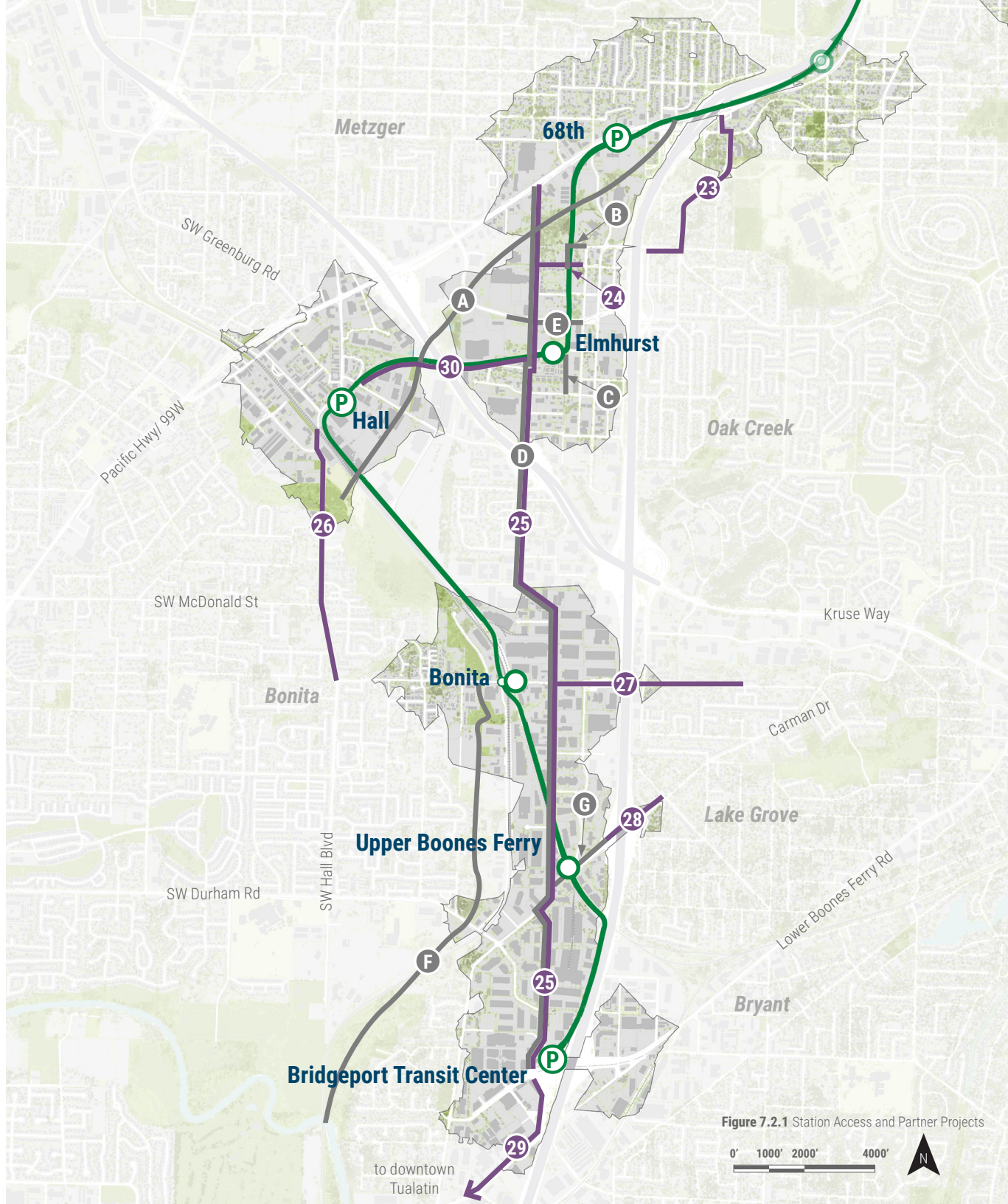


Figure 7.2.1 Station Access and Partner Projects

STATION ACCESS PROJECTS —

- 23 Barbur/PCC to Triangle Connection
- 24 Baylor Sidewalks
- 25 72nd Sidewalks & Bikeway
- 26 Hall Sidewalks
- 27 Bonita Sidewalks & Bikeway
- 28 Carman Sidewalks & Bikeway
- 29 Lower Boones Ferry & Boones Ferry Bikeway
- 30 OR- 217 Multi-use Pathway

PARTNER-LED PROJECTS —

- A New trail along Red Rock Creek
- B SW Atlanta St extension to SW 70th Ave
- C New extension of SW 70th Ave to Beveland St (South of SW Elmhurst St)
- D 72nd Ave Corridor Study (City of Tigard TSP 2035)
- E 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)

7.3 I-5 and Pacific Hwy/ 99W Crossing

Entering into Tigard, the alignment crosses over I-5, then plunges below Pacific Hwy/ 99W between the existing I-5 Southbound off-ramp and Pacific Hwy/ 99W. The alignment emerges in Tigard on the south side of Pacific Hwy/ 99W toward the 68th Parkway Station. While these improvements shift the I-5 off ramps, it does not reduce lanes on Pacific Hwy/ 99W. The project will restripe lanes on Pacific Hwy/ 99W between the I-5 ramps and SW 68th Pkwy, to accommodate the underpass for light rail. The project design will reconfigure the intersection at SW 64th Ave to improve pedestrian crossings. The City of Tigard and ODOT continue to discuss the ability to include a mid-block crossing near SW Coronado St to provide additional safer crossings of Pacific Hwy/ 99W between SW 64th Ave and SW 68th Pkwy.

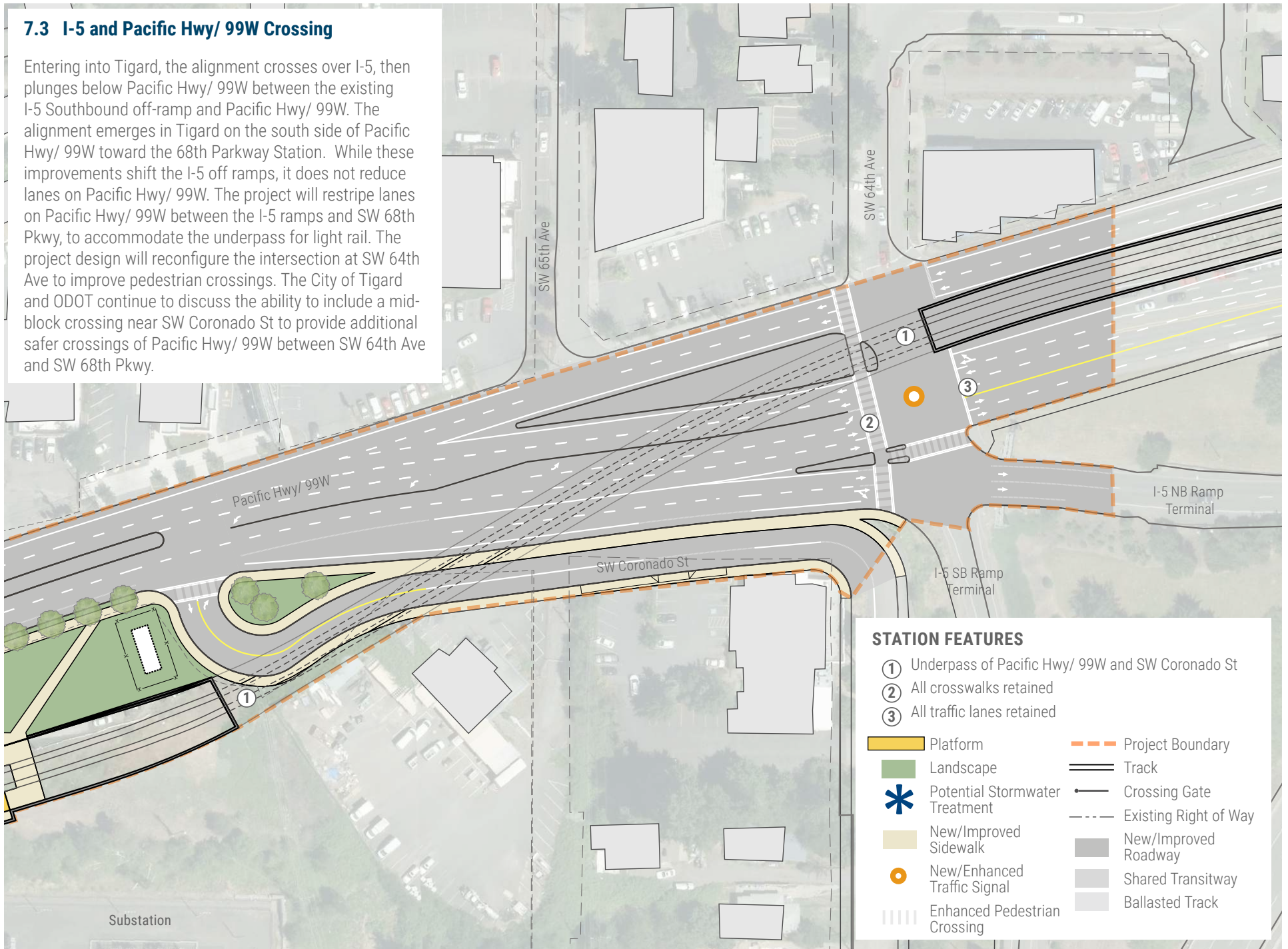


Figure 7.3.1 DRAFT Pacific Hwy/ 99W at SW 64th Ave Plan





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

7.4 68th Parkway Station



Ridership: Medium
Access: Walk, Transfer, Auto
Destination: Neighborhood

Positioned south of Pacific Hwy/99W, the station's prominent presence atop a natural amphitheater above Red Rock Creek provides views over the 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 make it a quick and easy transfer point for people coming from King City, Sherwood and other communities southwest of Tigard.

PROJECT BENEFITS

MOVE AND CONNECT PEOPLE

- 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

MAINTAIN AND CREATE **EQUITABLE COMMUNITIES**

- Helps support the vision of the Tigard Triangle Plan
- Access to Metzger neighborhood and growing Tigard Triangle 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 of station area and Park & Ride

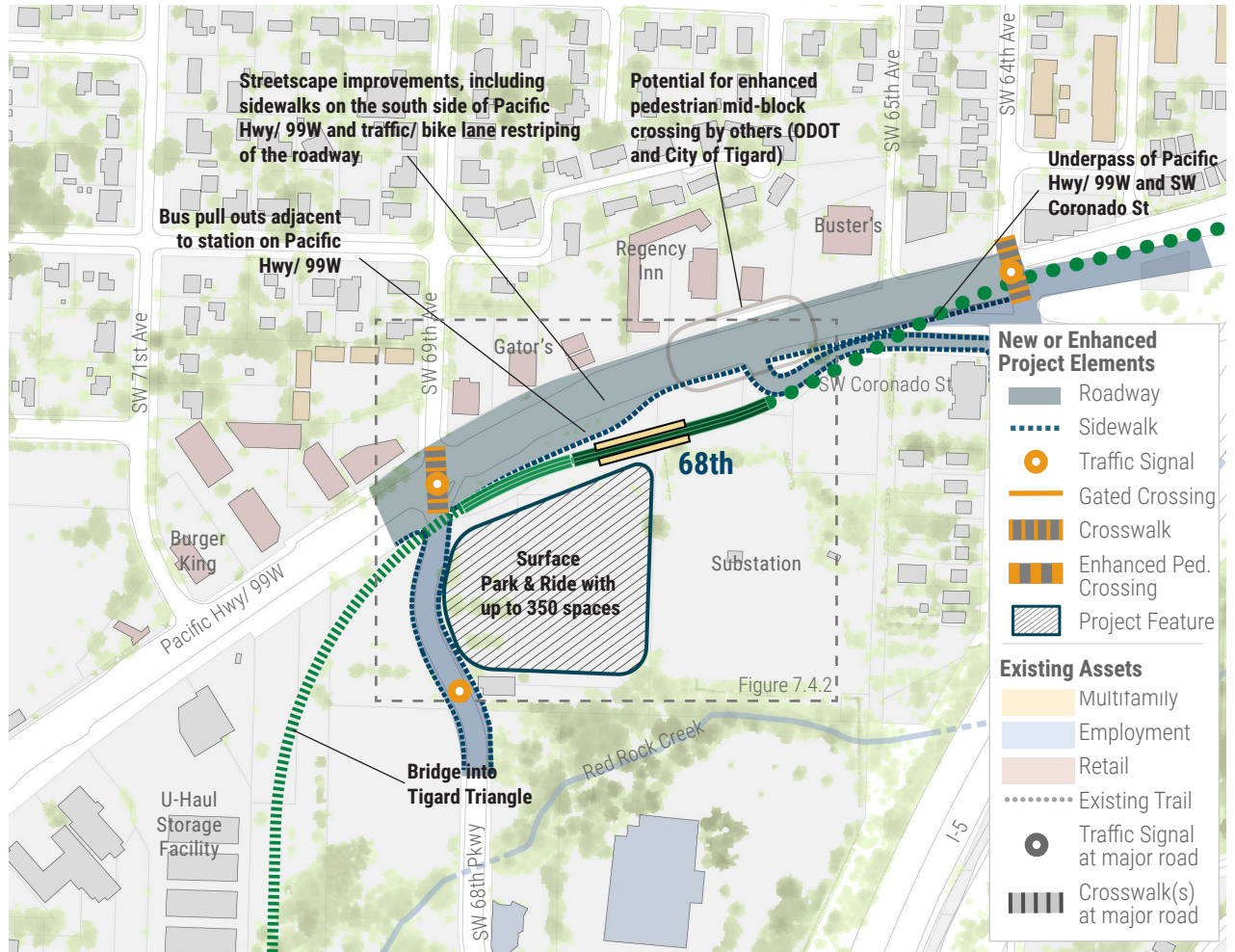
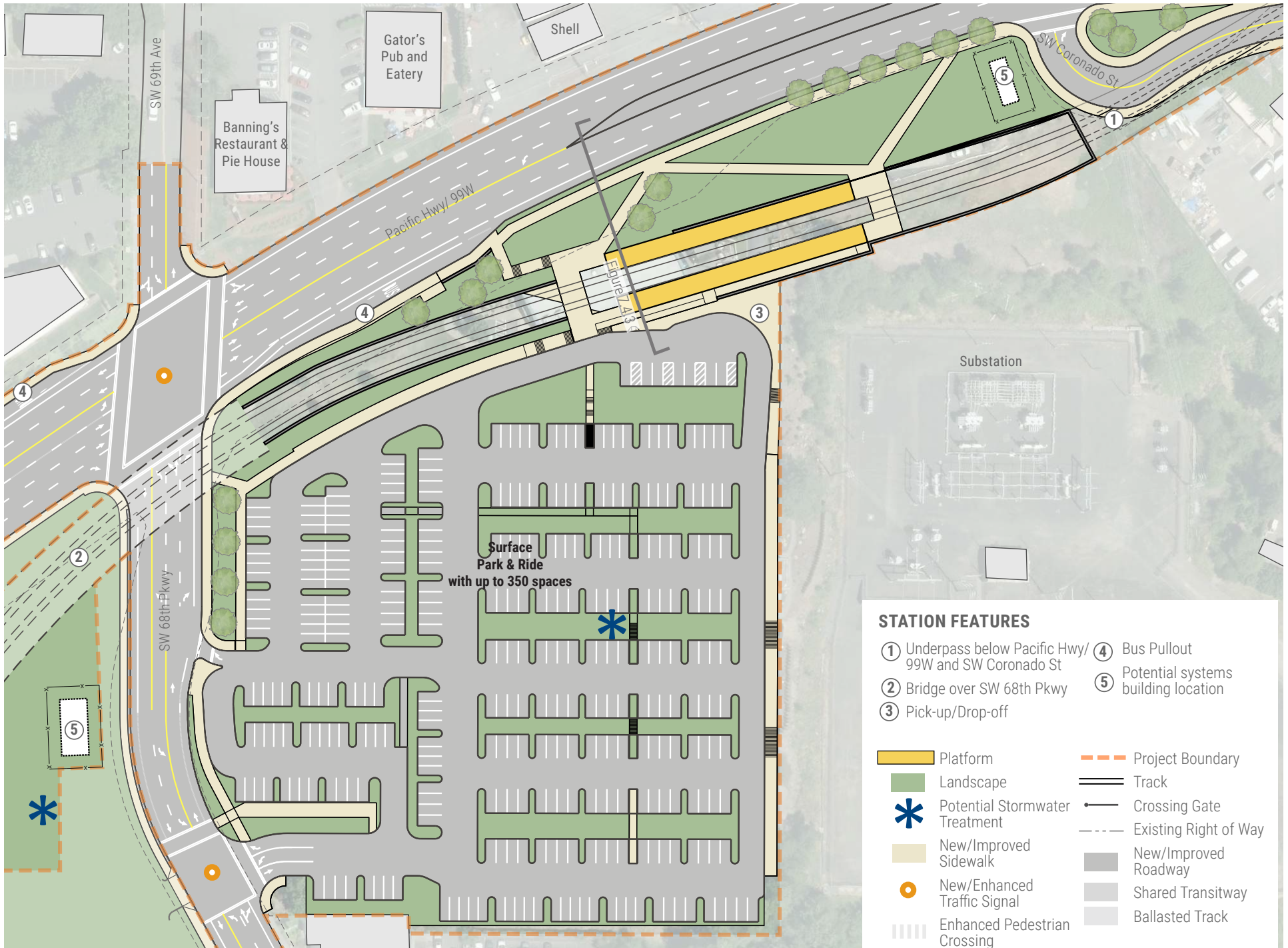


Figure 7.4.1 DRAFT 68th Station Overview

DESIGN VALUE STATEMENTS

- 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 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
- Thoughtful design of light rail structure and site design to emphasize the portal of Tigard Triangle



STATION FEATURES

- ① Underpass below Pacific Hwy/ 99W and SW Coronado St
 - ② Bridge over SW 68th Pkwy
 - ③ Pick-up/Drop-off
 - ④ Bus Pullout
 - ⑤ Potential systems building location
-
- Platform
 - Landscape
 - Potential Stormwater Treatment
 - New/Improved Sidewalk
 - New/Enhanced Traffic Signal
 - Enhanced Pedestrian Crossing
 - Project Boundary
 - Track
 - Crossing Gate
 - Existing Right of Way
 - New/Improved Roadway
 - Shared Transitway
 - Ballasted Track

Figure 7.4.2 DRAFT 68th Parkway Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts



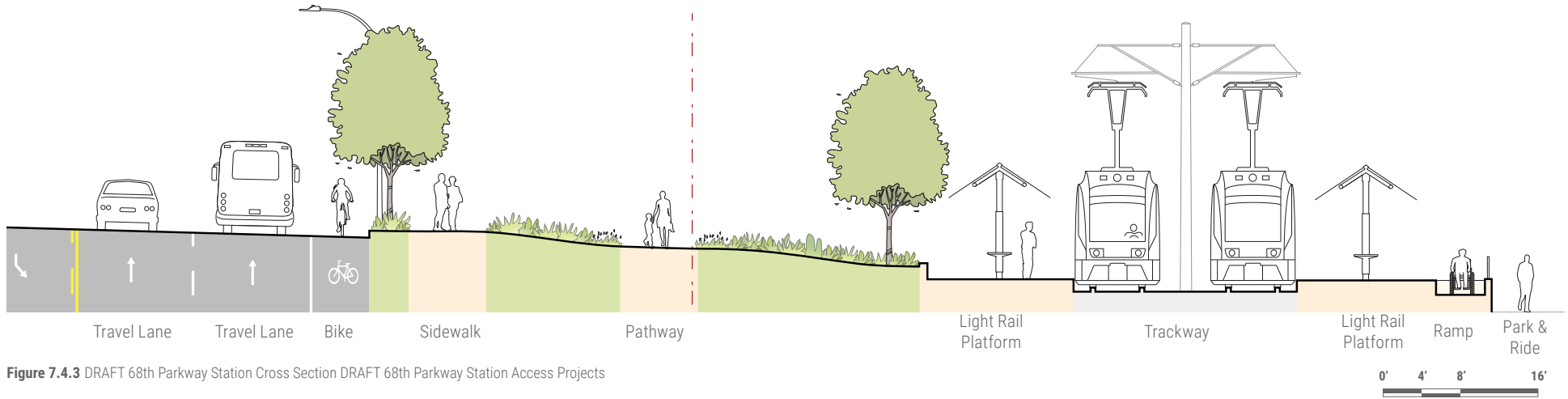


Figure 7.4.3 DRAFT 68th Parkway Station Cross Section DRAFT 68th Parkway Station Access Projects

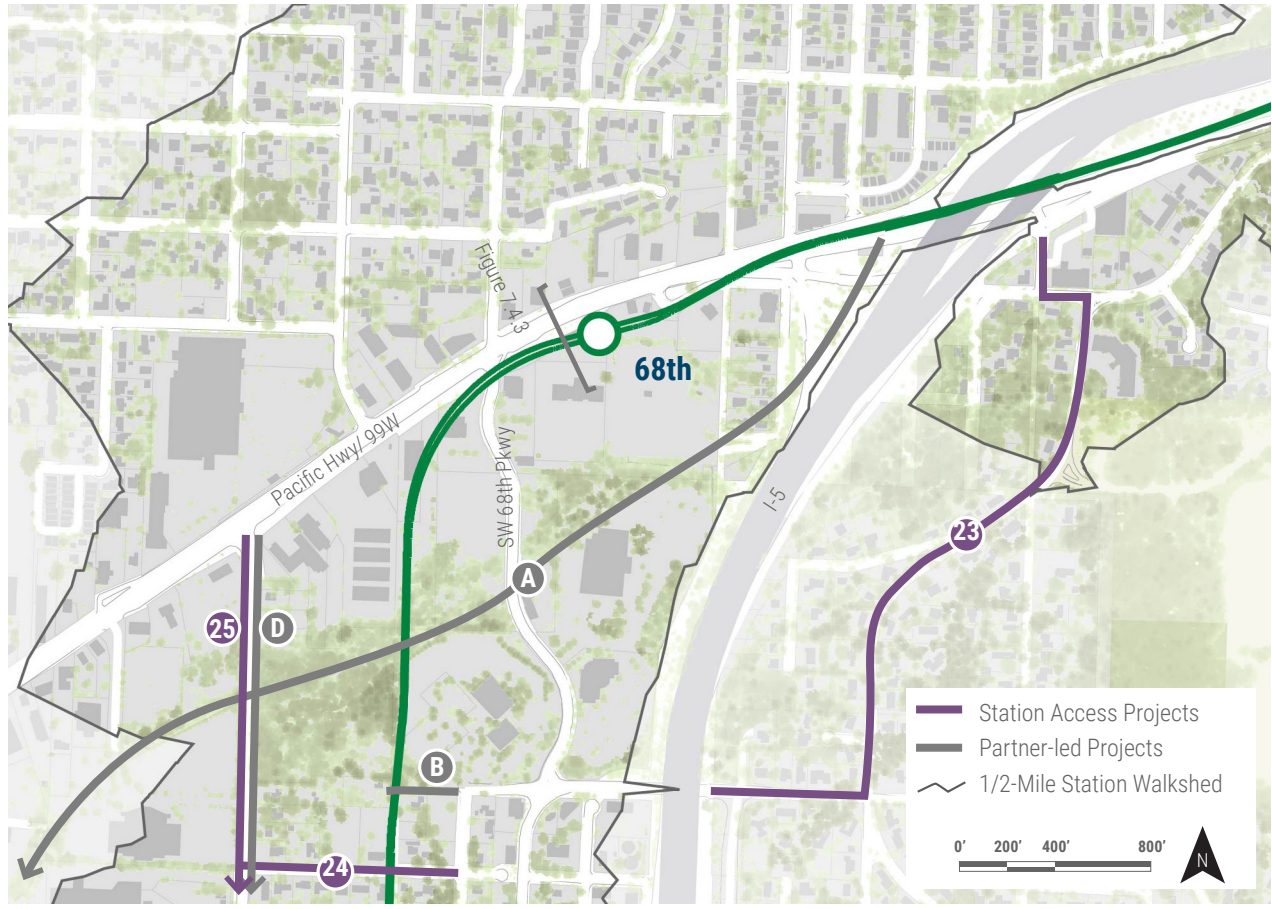


Figure 7.4.4 DRAFT 68th Parkway Station Access Projects

STATION ACCESS PROJECTS

- 23 Barbur/PCC to Triangle Connection
- 24 Baylor Sidewalks
- 25 72nd Ave Sidewalks & Bikeway

PARTNER-LED PROJECTS

- A New trail along Red Rock Creek
- B SW Atlanta St extension to SW 70th Ave
- D 72nd Ave Corridor Study (City of Tigard TSP 2035)

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7.5 SW 70th Ave Street Design

SW 70th Ave is a central, shared multi-modal spine in an emerging mixed-use neighborhood, connecting SW Elmhurst St to Red Rock Creek trail, to the Tigar 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-line street, and entirely new shared street bike connection.

PROJECT BENEFITS

MOVE AND CONNECT PEOPLE

- New SW 70th Ave street extension through the center of the Tigar 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 Tigar Triangle Plan and the Tigar 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 along SW 70th Ave

DESIGN VALUE STATEMENTS

- Extent and scope of street improvements along SW 70th Ave will be confirmed in final design to support pedestrian connectivity to 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 SW 70th Ave over Red Rock Creek to be context sensitive to natural area

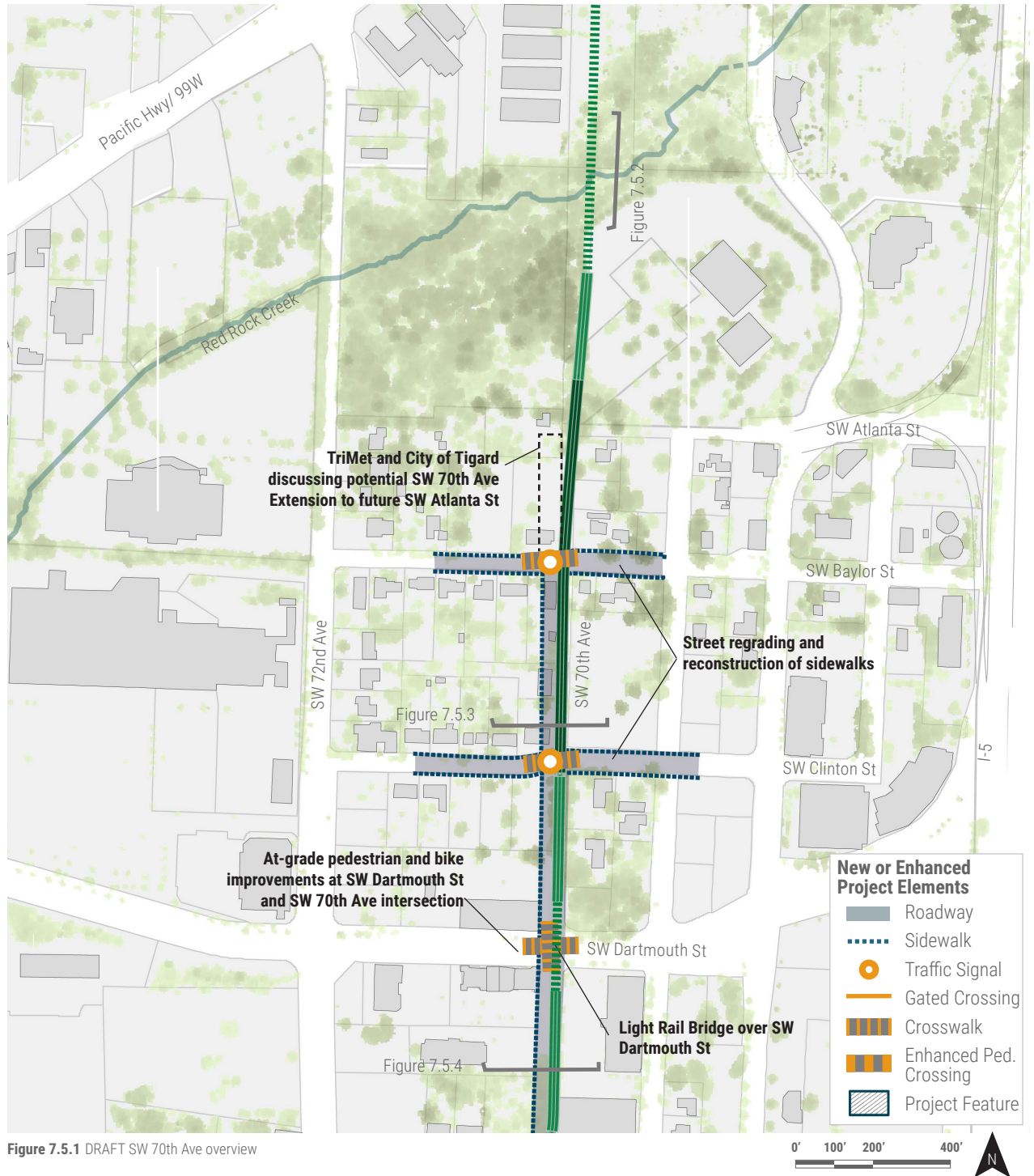


Figure 7.5.1 DRAFT SW 70th Ave overview

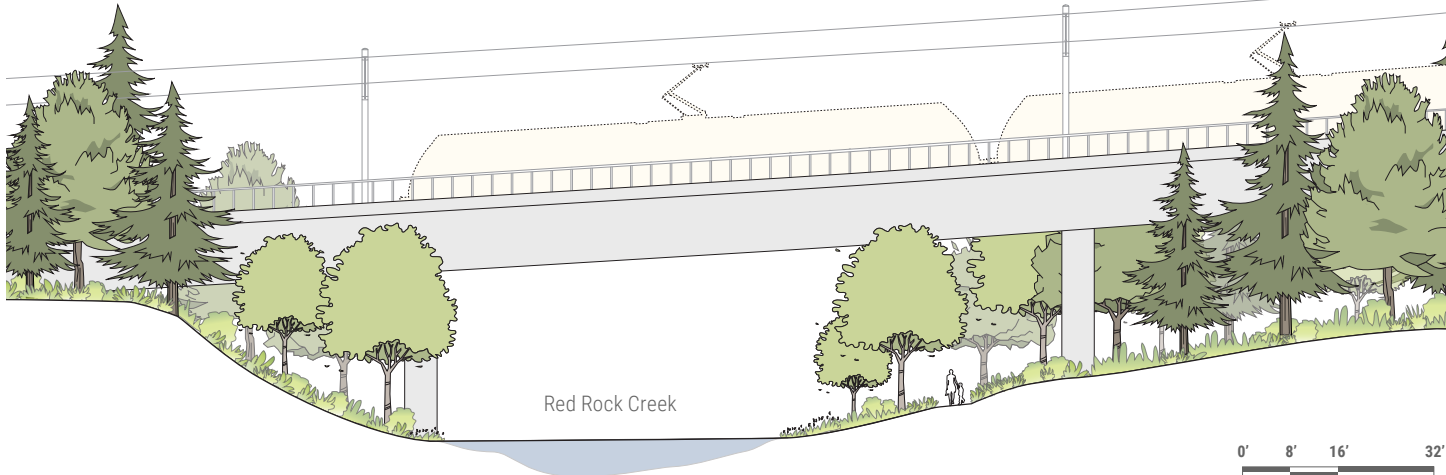


Figure 7.5.2 DRAFT Red Rock Creek Crossing Cross Section

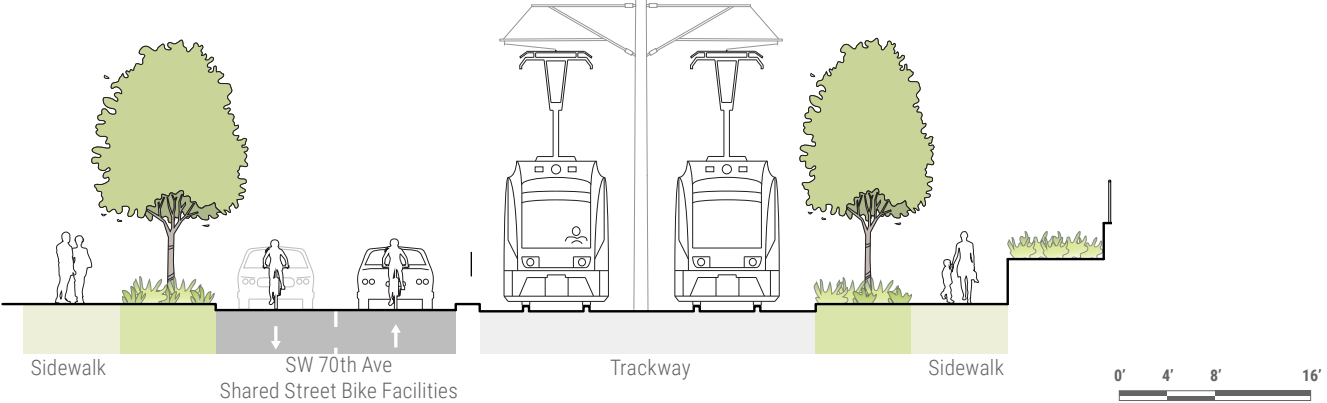


Figure 7.5.3 DRAFT SW 70th Ave At-grade Light Rail Section north of SW Clinton St

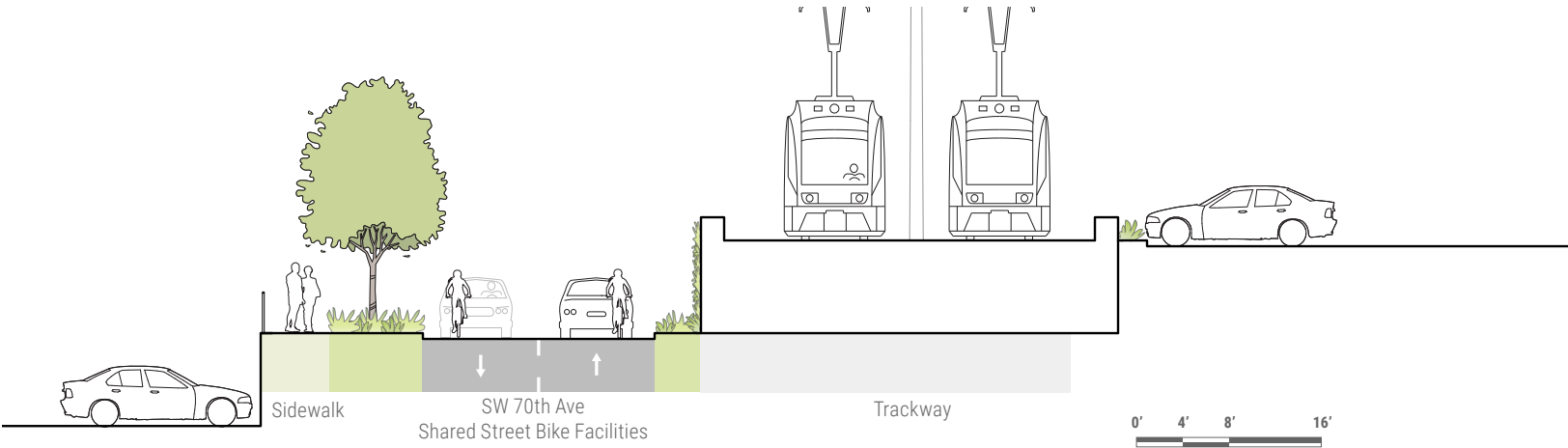


Figure 7.5.4 DRAFT SW 70th Ave Light Rail Abutment Section north of SW Elmhurst St

7.6 Elmhurst Street Station



Ridership: Medium
Access: Walk
Destination: Neighborhood, Employment

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.

See draft vision of Elmhurst Street Station in Figure 7.6.6

PROJECT BENEFITS

- MOVE AND CONNECT PEOPLE**
 - New bike and walk facilities along SW 70th Ave
 - Planned connections to bus line 78 and 97
- MAINTAIN AND CREATE EQUITABLE COMMUNITIES**
 - Helps support the vision of the Tigard Triangle Plan
 - Access to planned Red Rock Creek Trail
- PRESERVE AND RESTORE NATURAL ENVIRONMENT**
 - Enhanced tree canopy and stormwater treatment along SW Elmhurst St

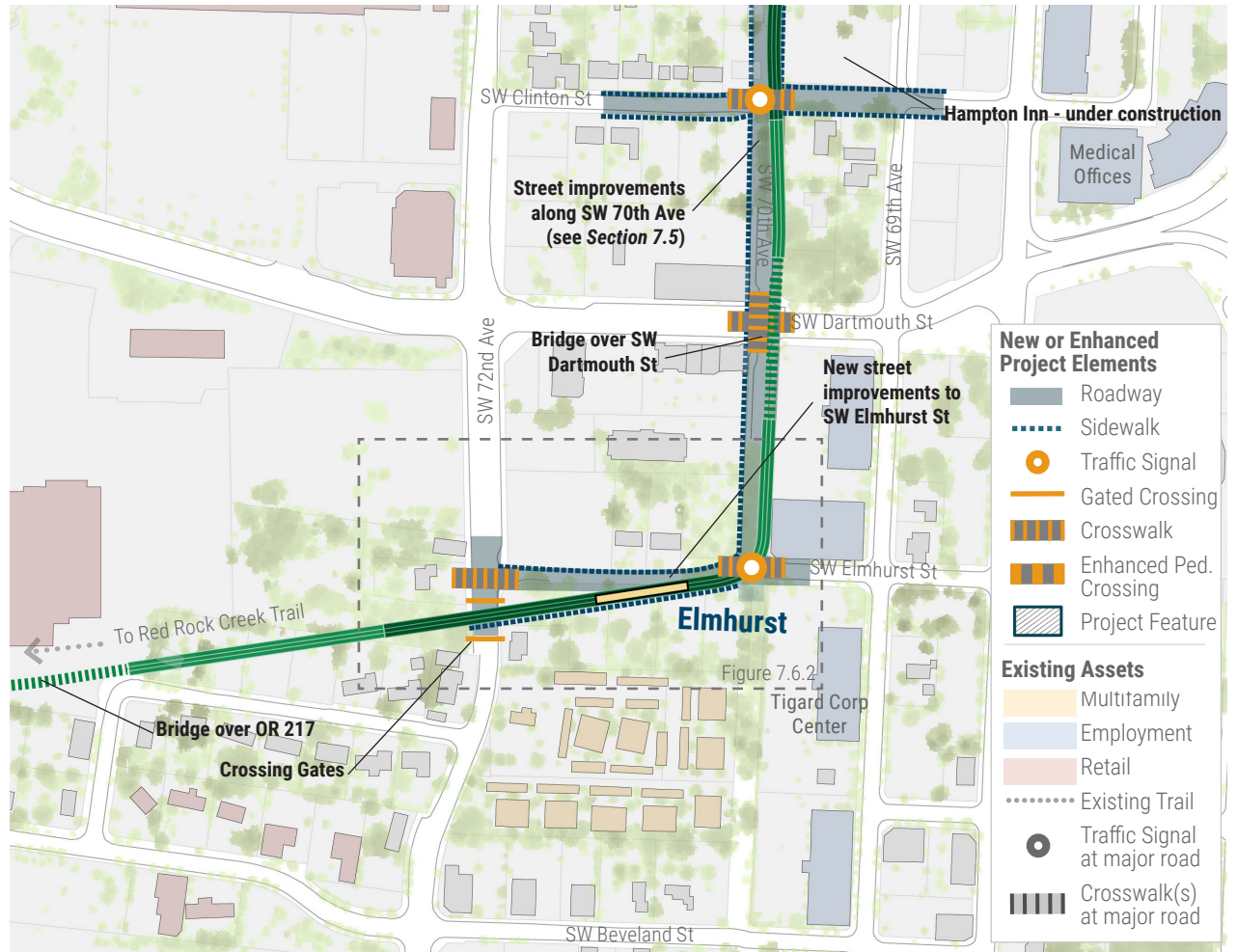


Figure 7.6.1 DRAFT Elmhurst Street Station overview

DESIGN VALUE STATEMENTS

- Stormwater facilities should be integrated to enhance station area
- Intersection design should 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

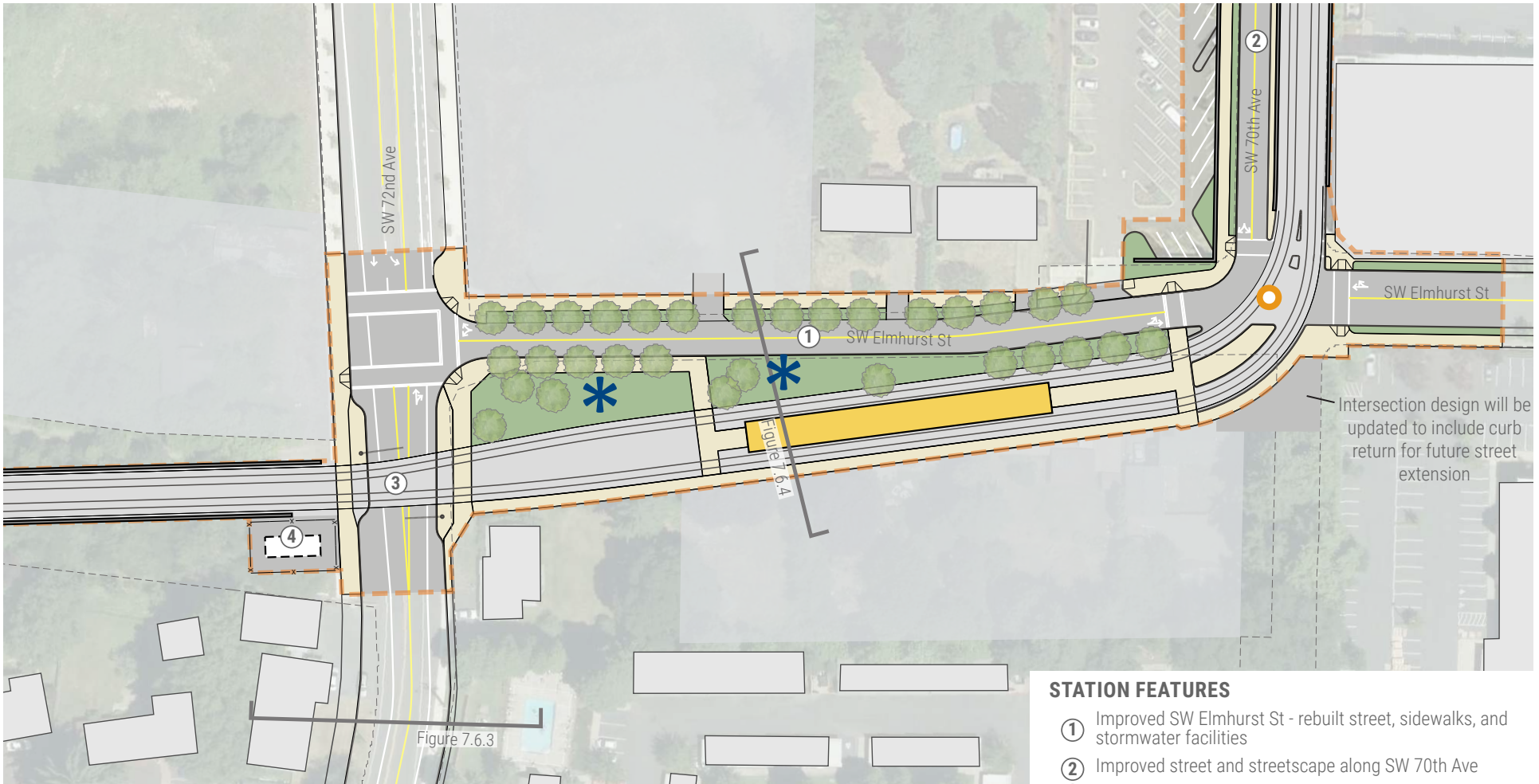


Figure 7.6.2 DRAFT Elmhurst Street Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

72ND INTERSECTION NOTES

- SW 72nd Ave light rail crossing design to accommodate future pedestrian and bicycle improvements in the SW 72nd Avenue Corridor Study (City of Tigard TSP 2035)

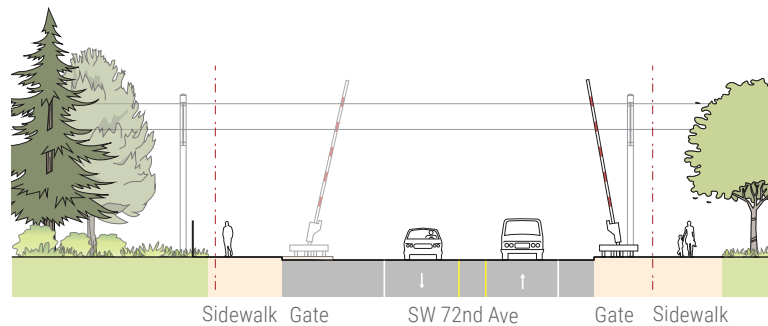


Figure 7.6.3 Section of SW 72nd Ave Crossing Gates

STATION FEATURES

- ① Improved SW Elmhurst St - rebuilt street, sidewalks, and stormwater facilities
- ② Improved street and streetscape along SW 70th Ave
- ③ Gated Crossing
- ④ Potential systems building location
- ⑤ Intersection designed for integration with future expansion of SW 70th Ave to the South

Platform	Project Boundary
Landscape	Track
Potential Stormwater Treatment	Crossing Gate
New/Improved Sidewalk	Existing Right of Way
New/Enhanced Traffic Signal	New/Improved Roadway
Enhanced Pedestrian Crossing	Shared Transitway
	Ballasted Track



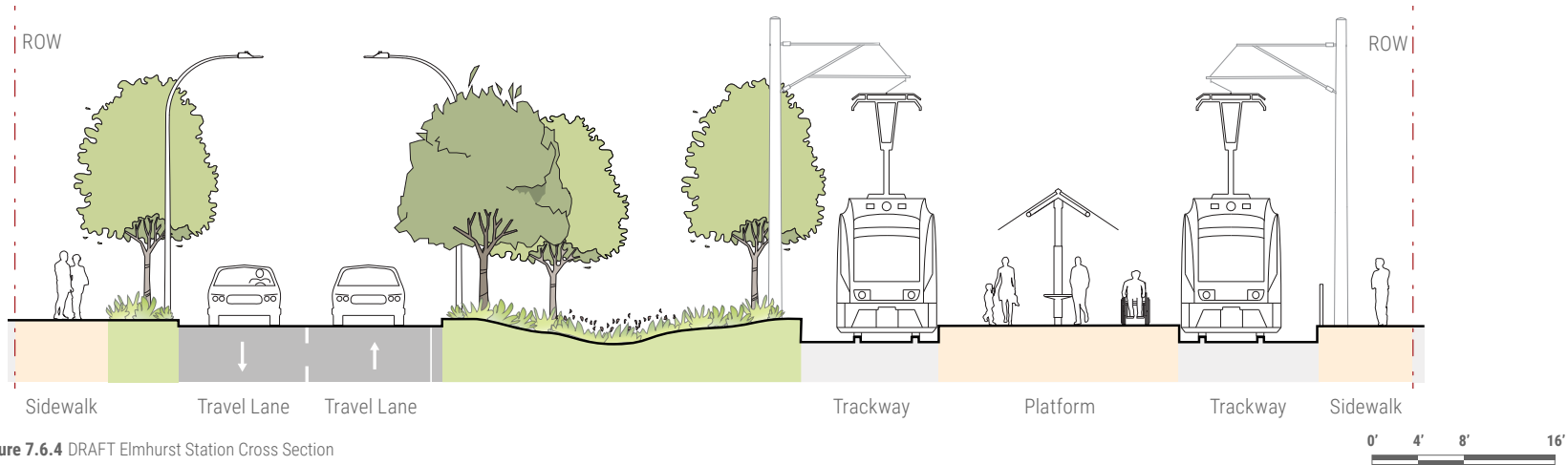


Figure 7.6.4 DRAFT Elmhurst Station Cross Section

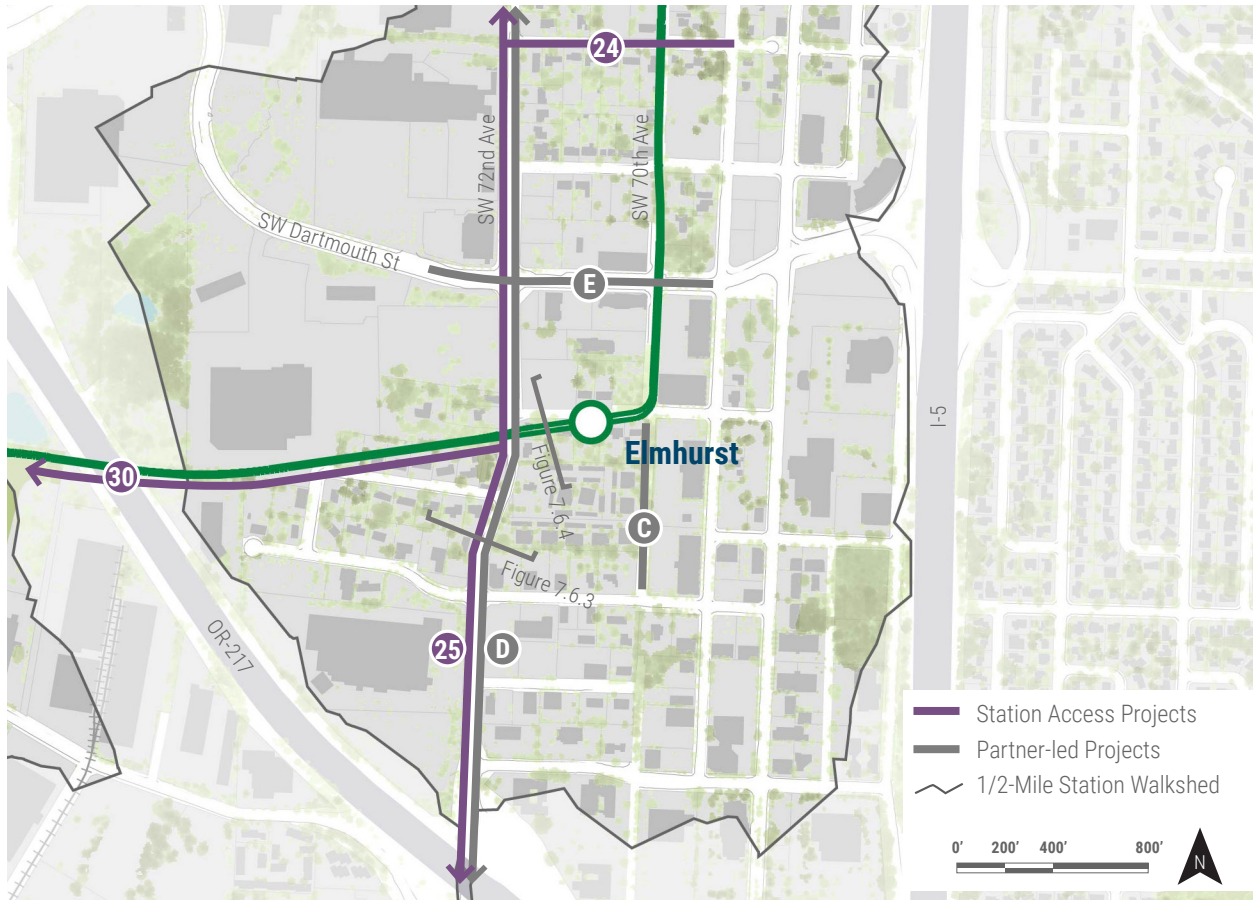


Figure 7.6.5 DRAFT Elmhurst Street Station Access Projects

STATION ACCESS PROJECTS

- 24** Baylor Sidewalks
- 25** 72nd Sidewalks and Bikeway
- 30** OR-217 Multi-use Pathway

PARTNER-LED PROJECTS

- C** New extension of SW 70th Ave to Beveland (South of SW Elmhurst St)
- D** 72nd Ave Corridor Study (City of Tigard TSP 2035)
- E** Dartmouth Roadway Improvement (City of Tigard TSP 2035)



Figure 7.6.6 DRAFT Vision of Elmhurst Station

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.

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 7.6.5 and 7.8.4 for extent and location of Multi-use Pathway.

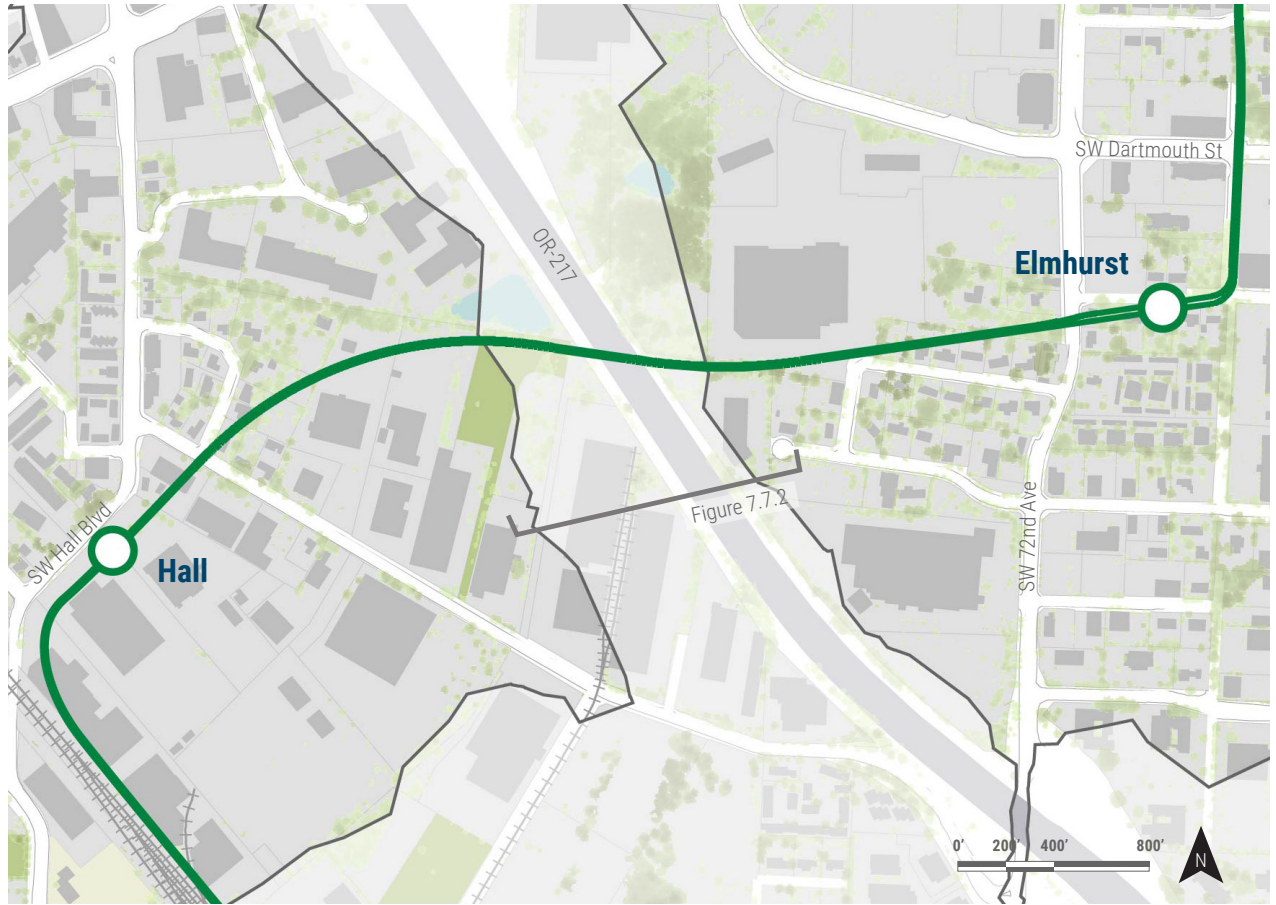


Figure 7.7.1 OR-217 Crossing overview

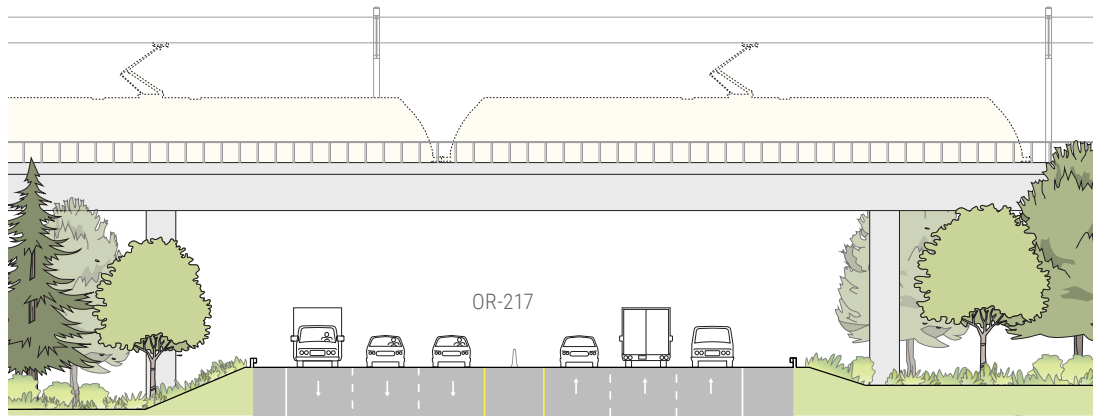


Figure 7.7.2 DRAFT OR-217 Crossing Section



Figure 7.7.3 OR-217 Crossing Aerial Overview

7.8 Hall Boulevard Station



Ridership: High
Access: Transfer, Walk
Destination: Town Center

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

MOVE AND CONNECT PEOPLE

- 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

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 flood plain and views to Knez wetland

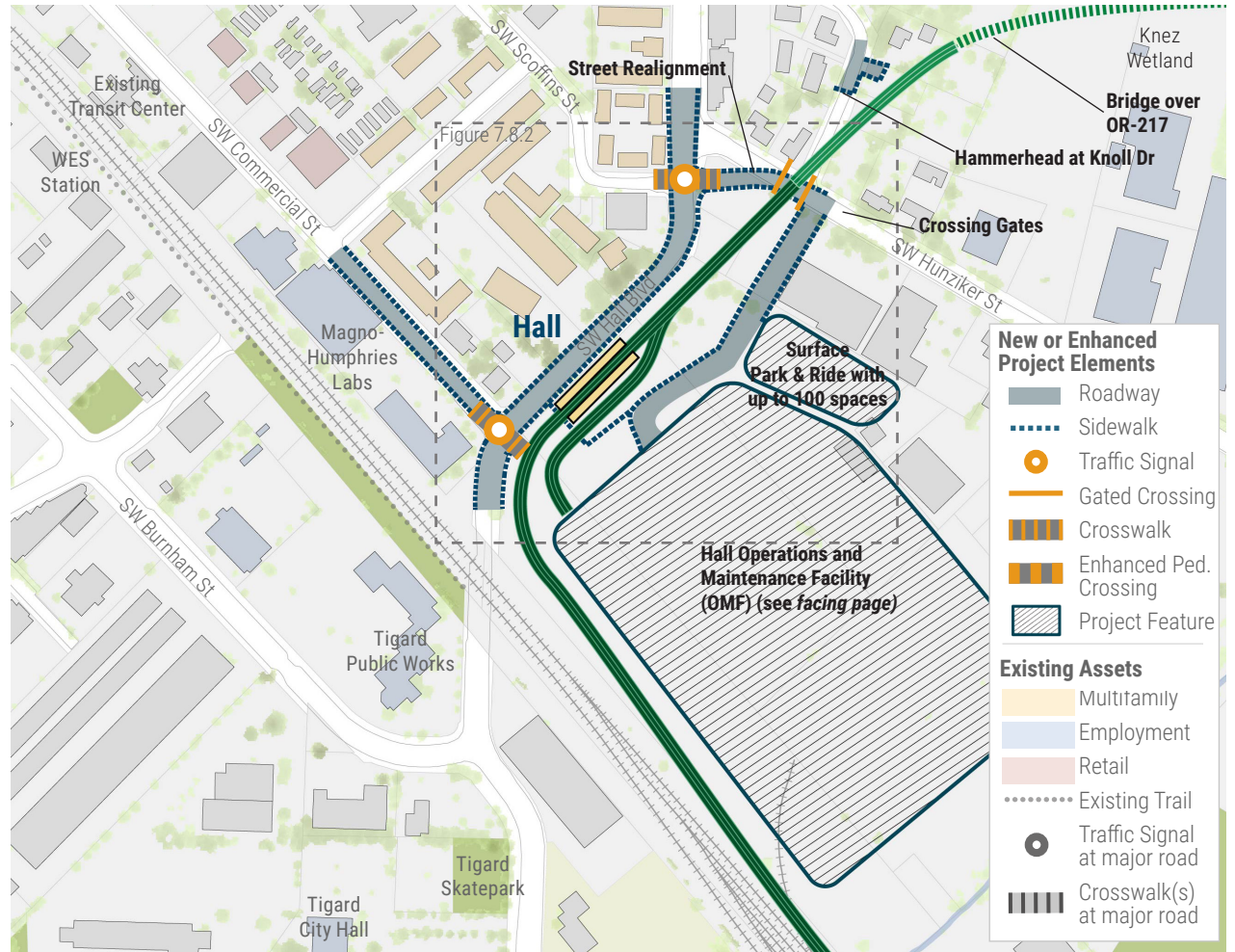


Figure 7.8.1 DRAFT Hall Boulevard Station overview

DESIGN VALUE STATEMENTS

- Integrate stormwater facilities to enhance station area and Red Rock Creek natural area
- Integrate bicycle and pedestrian facilities to support existing and future multi-modal travel behaviors, connect existing and planned improvement projects, and access affordable housing
- Design SW Hall Blvd and SW Commercial St to maximize comfort and safety for people walking and biking, and to support the high volumes of transit transfers at this station
- Consider Hall Boulevard Station and the operations and maintenance facility visibility from SW Commercial St to support station area aesthetics and wayfinding
- Type, size and location of Park & Ride will be finalized to support access to transit, address vehicular circulation, and support potential development opportunities

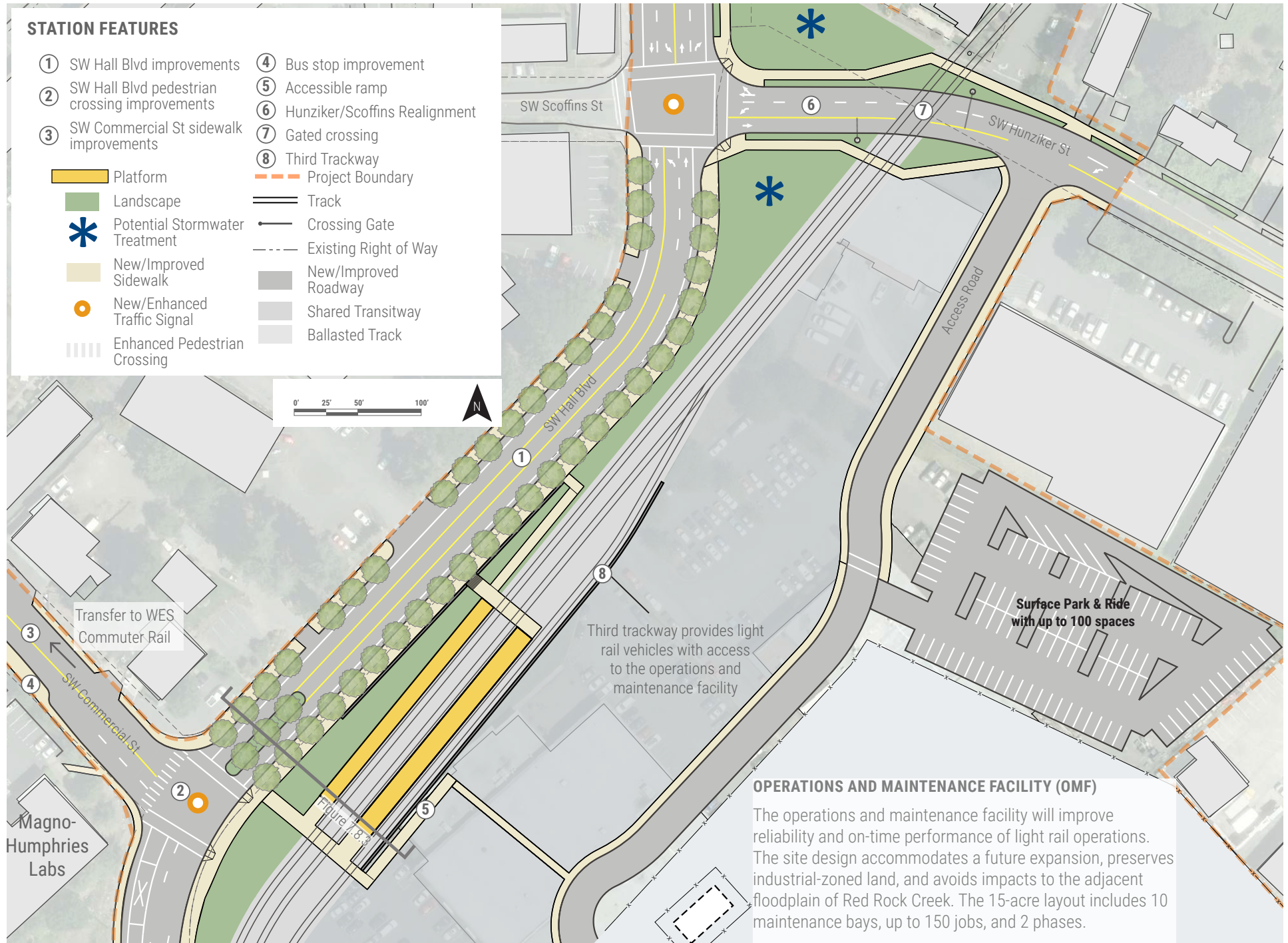


Figure 7.8.2 DRAFT Hall Boulevard Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

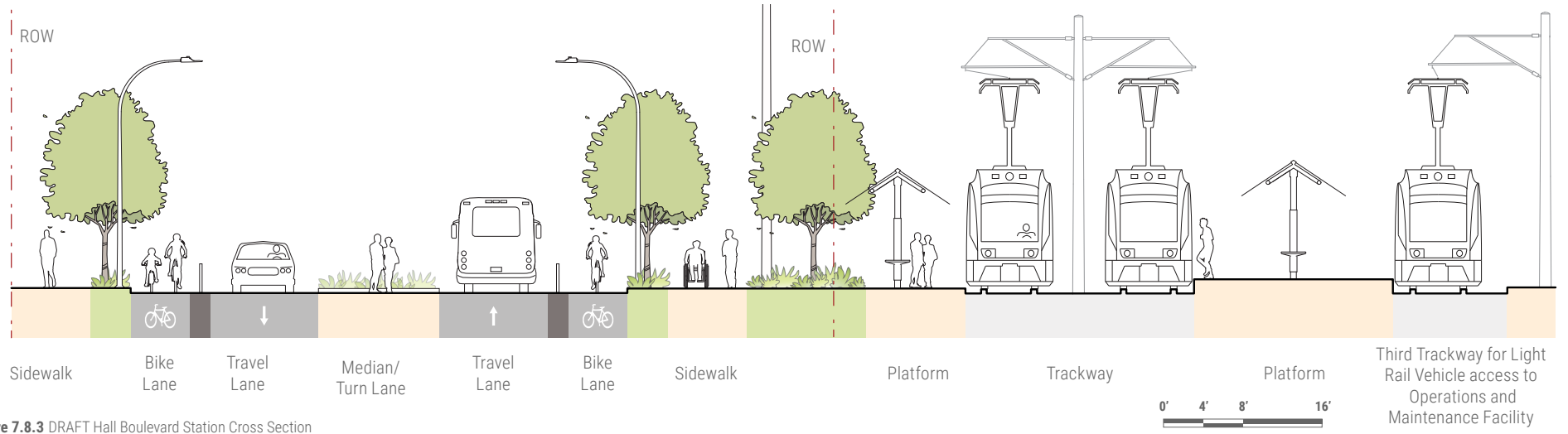


Figure 7.8.3 DRAFT Hall Boulevard Station Cross Section

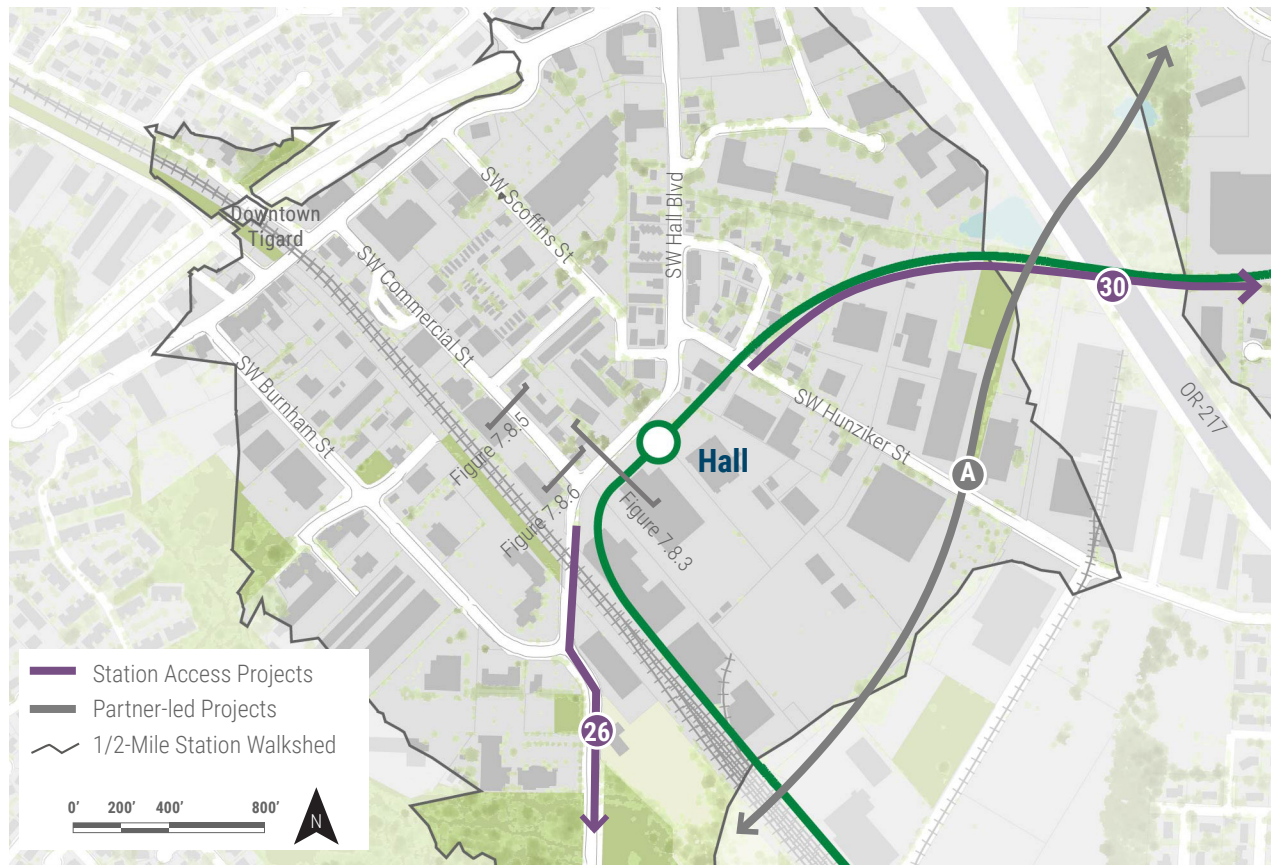


Figure 7.8.4 DRAFT Hall Boulevard Station Access Projects

STATION ACCESS PROJECTS

- 26 Hall Sidewalks
- 30 OR-217 Multi-use Pathway

PARTNER-LED PROJECTS

- A New trail along Red Rock Creek

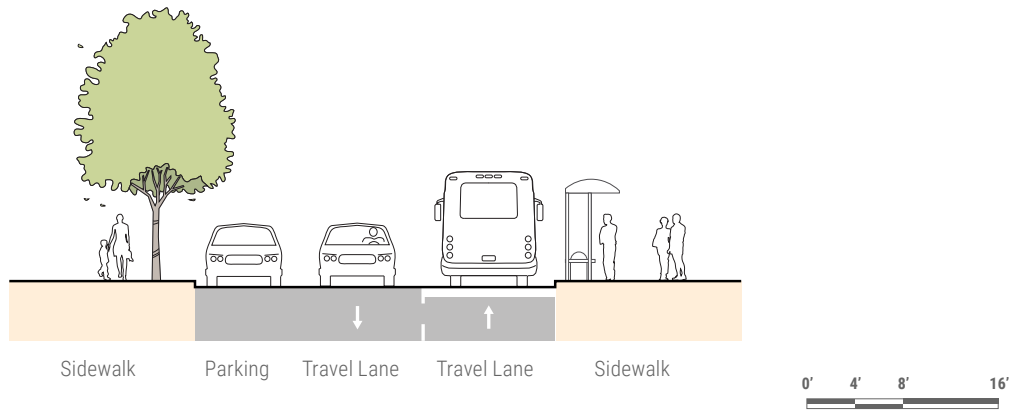


Figure 7.8.5 DRAFT Commercial Street Cross Section, NW-Bound Bus Stop

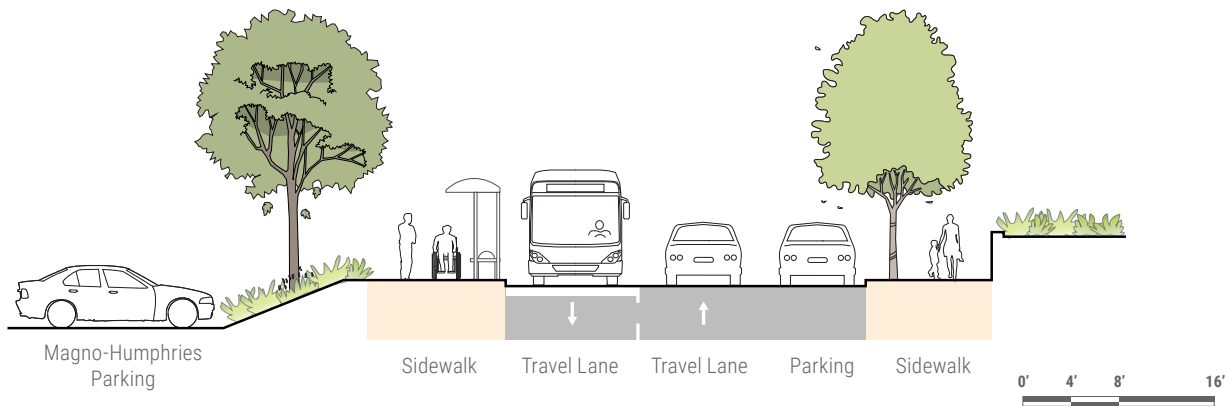


Figure 7.8.6 DRAFT Commercial Street Cross Section, SE-Bound Bus Stop

7.9 Bonita Road Station



Ridership: Low
Access: Walk, Transfer
Destination: Neighborhood, Employment

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

PRESERVE AND RESTORE NATURAL ENVIRONMENT

- Enhanced street tree canopy at station area

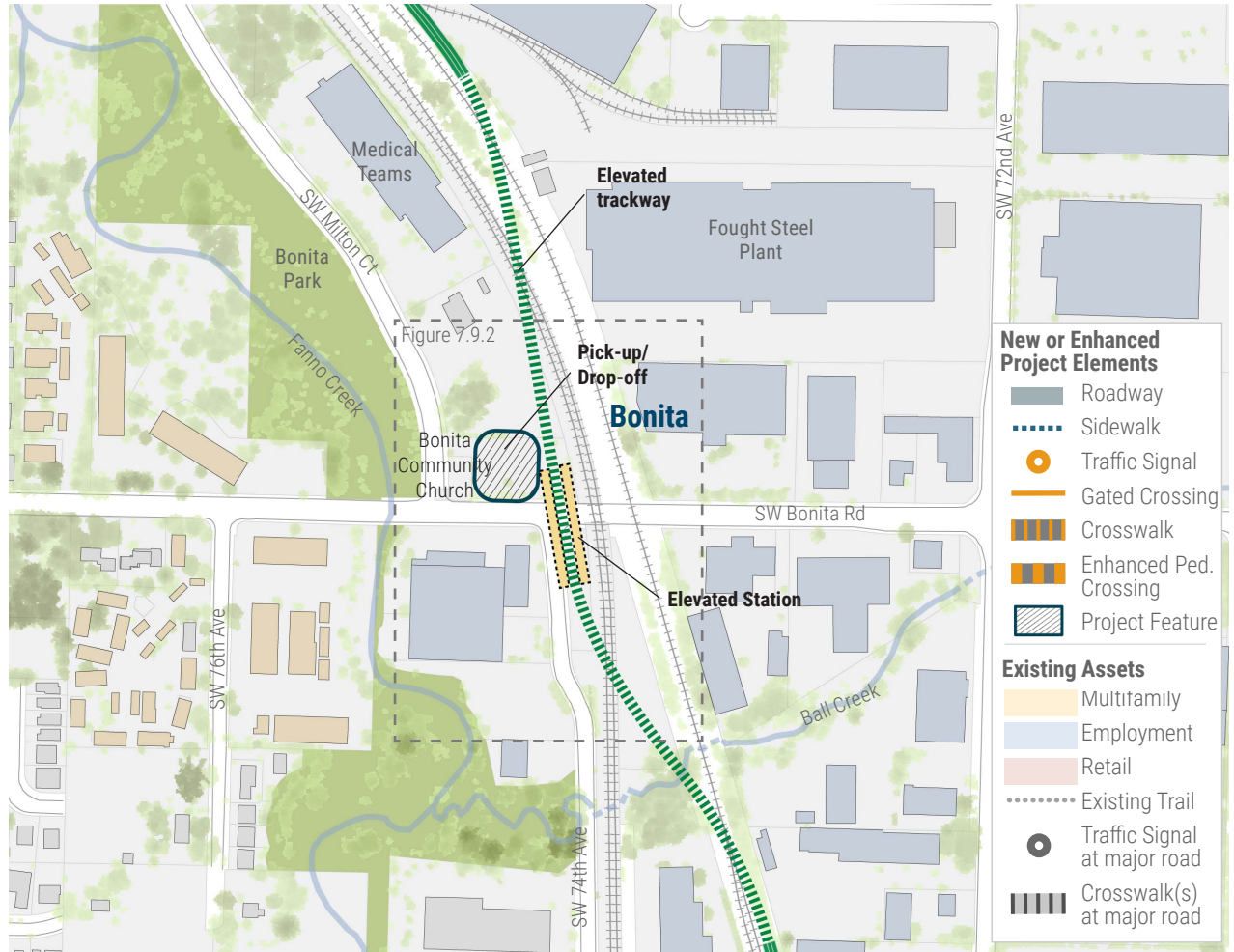
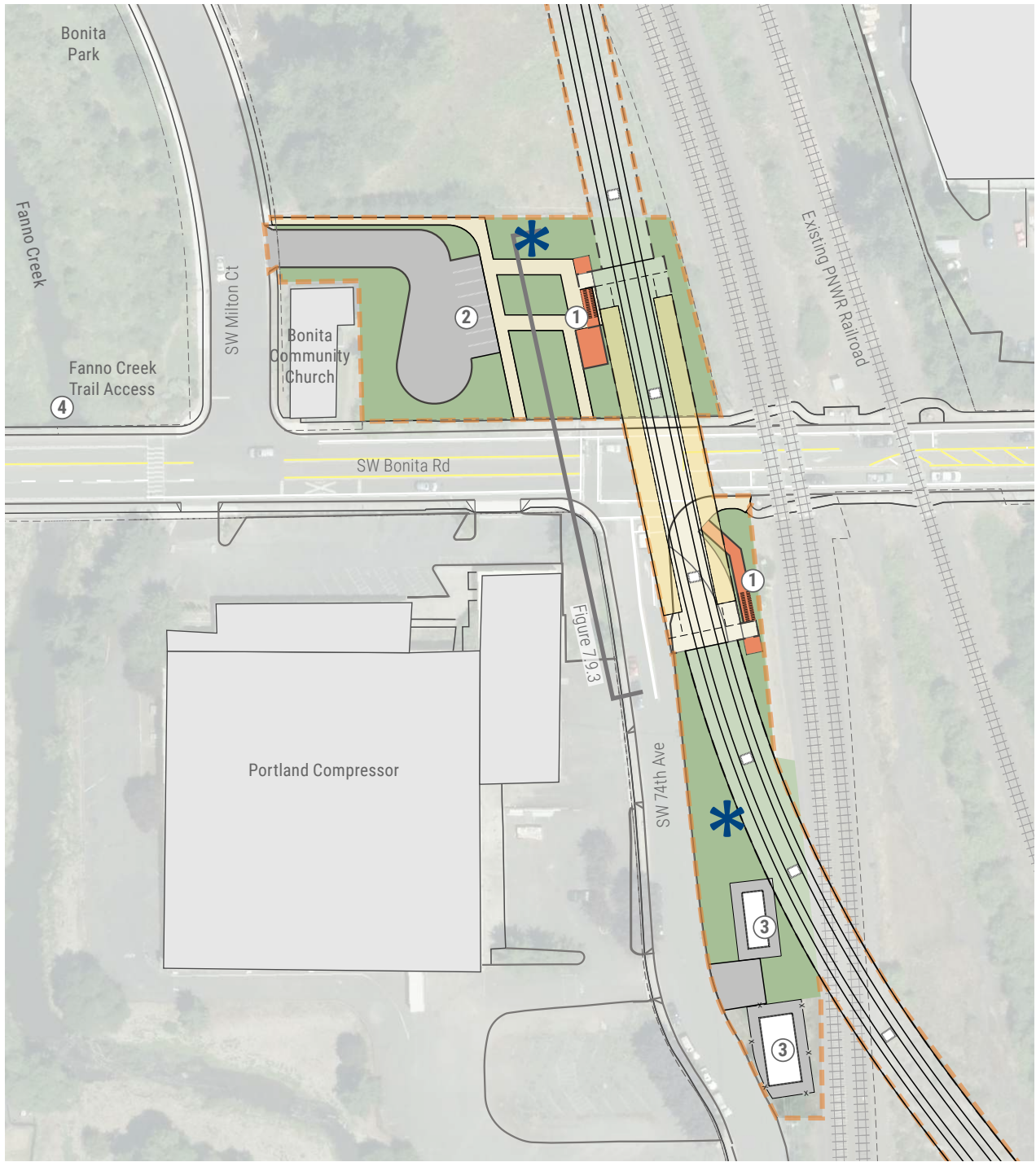


Figure 7.9.1 DRAFT Bonita Road Station overview



DESIGN VALUE STATEMENTS

- Design of alignment and station location will be optimized to confirm placement of station centered above SW Bonita Rd or to the north of SW Bonita Rd
- 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



STATION FEATURES

- ① Elevated station: side platforms with elevators and stairs access
- ② Pick-up/drop-off
- ③ Potential systems building location
- ④ Nearby access to existing Fanno Creek Trail

Note: Station location is preliminary and will be finalized in project development

Platform	Project Boundary
Landscape	Track
Potential Stormwater Treatment	Crossing Gate
New/Improved Sidewalk	Existing Right of Way
New/Enhanced Traffic Signal	New/Improved Roadway
Enhanced Pedestrian Crossing	Shared Transitway
	Ballasted Track



Figure 7.9.2 DRAFT Bonita Road Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

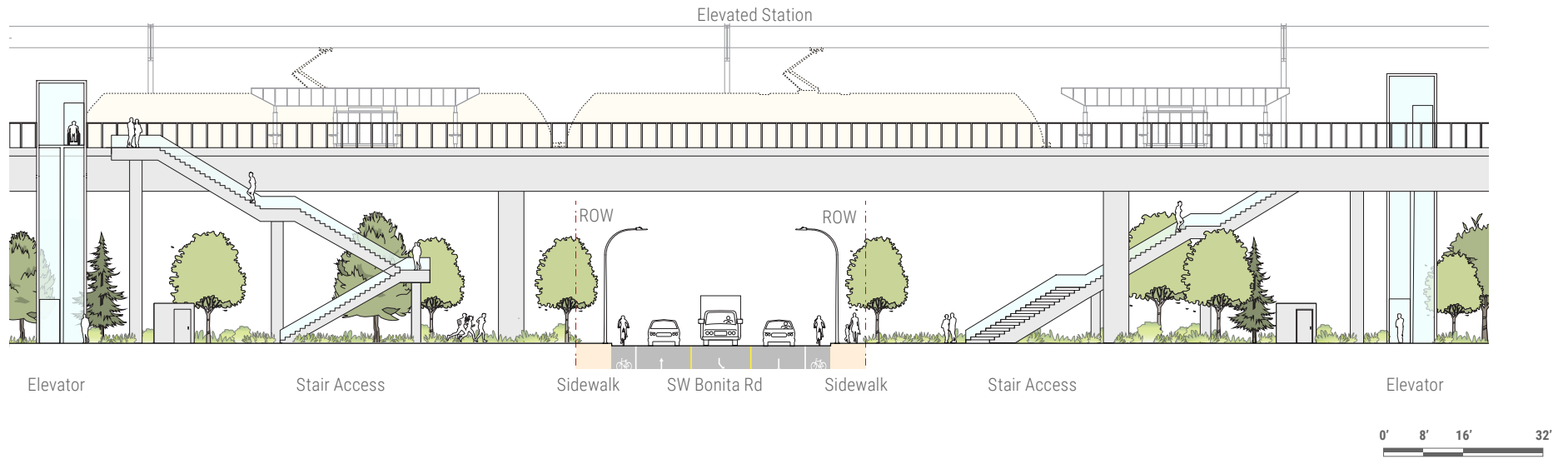


Figure 7.9.3 DRAFT Bonita Road Station Cross Section

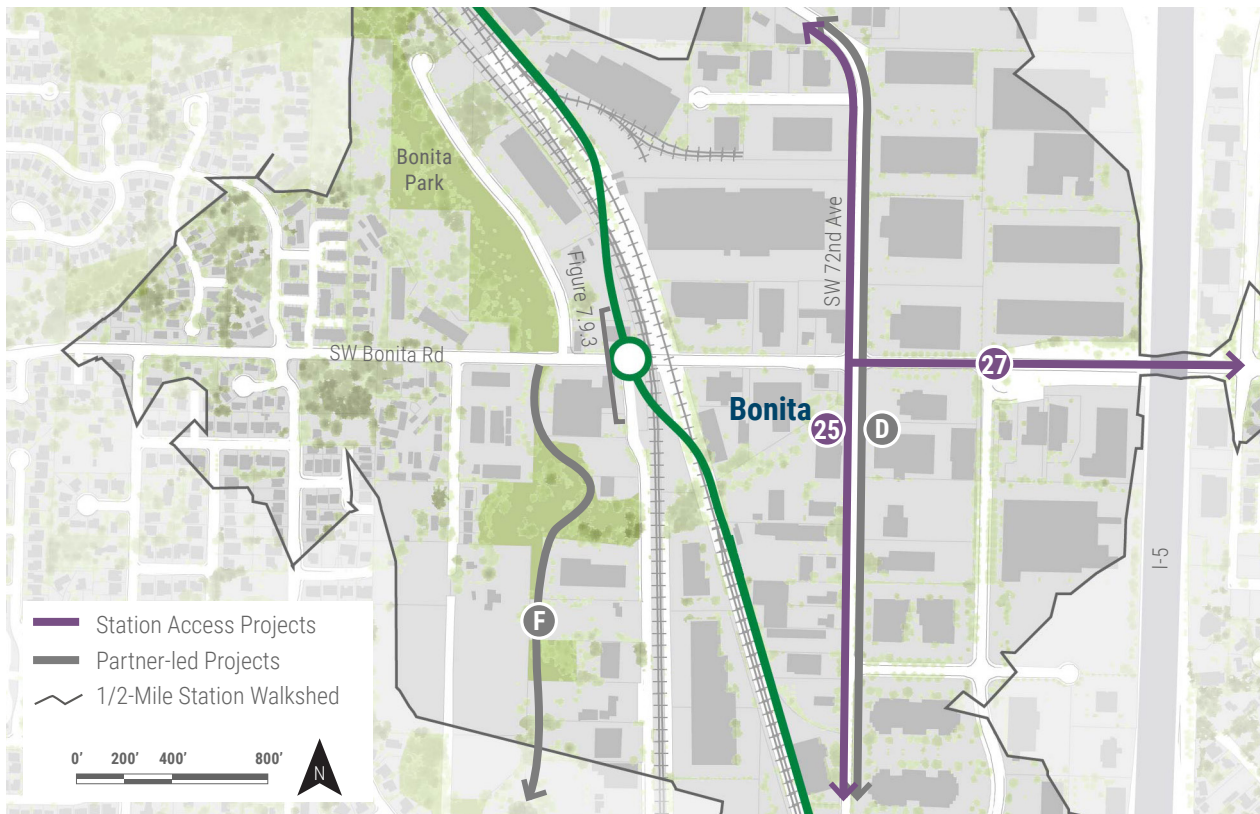


Figure 7.9.4 DRAFT Bonita Road Station Access Projects

STATION ACCESS PROJECTS

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

PARTNER-LED PROJECTS

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

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7.10 Upper Boones Ferry Road Station



Ridership: Low
Access: Walk
Destination: Employment

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

MOVE AND CONNECT PEOPLE

- 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

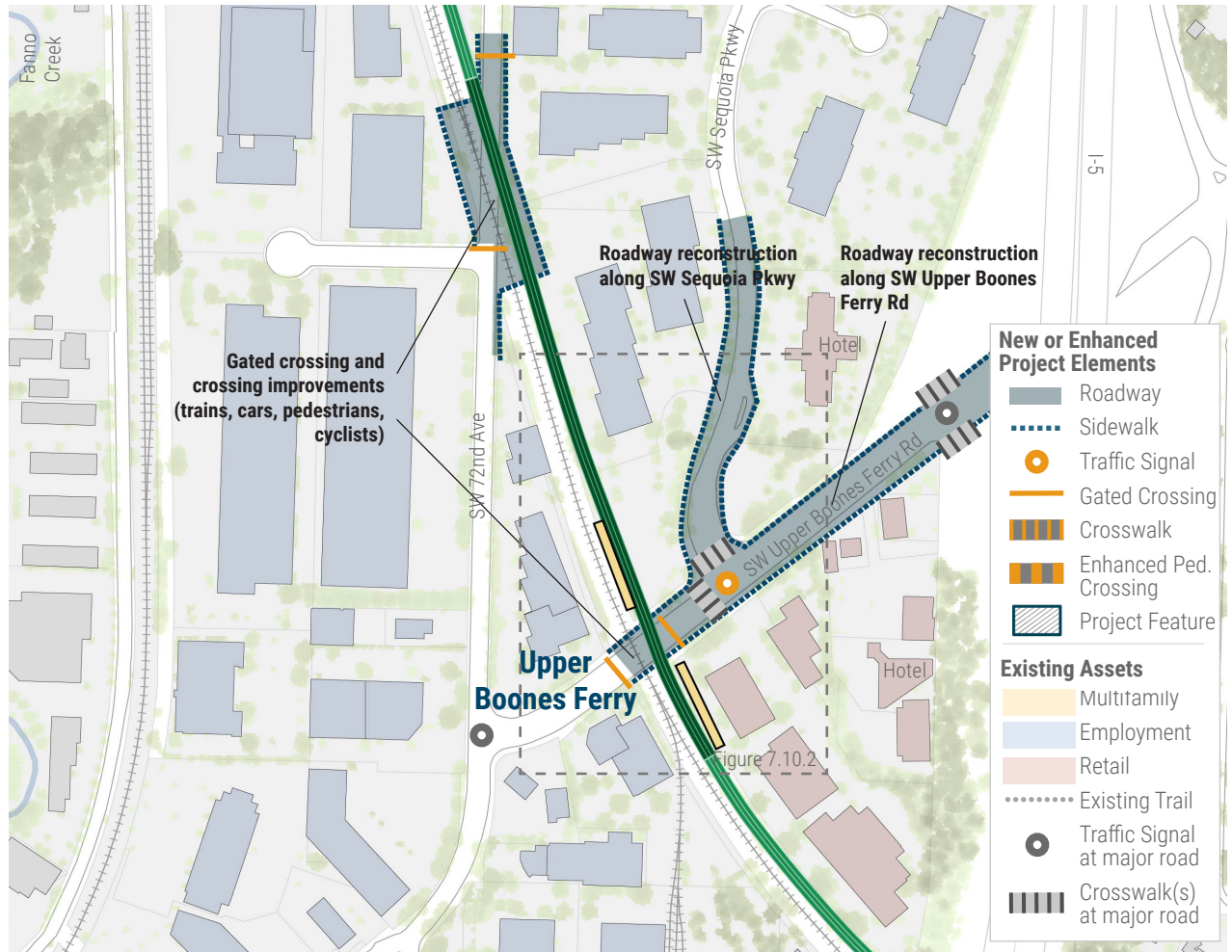


Figure 7.10.1 DRAFT Upper Boones Ferry Road Station overview

DESIGN VALUE STATEMENTS

- 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 FEATURES

- ① Gated Crossing (serves light rail and freight rail)
- ② Private Parking Regrading
- ③ Private Parking Reconfiguration
- ④ Potential systems building location

- Platform
- Landscape
- Potential Stormwater Treatment
- New/Improved Sidewalk
- New/Enhanced Traffic Signal
- Enhanced Pedestrian Crossing
- Project Boundary
- Track
- Crossing Gate
- Existing Right of Way
- New/Improved Roadway
- Shared Transitway
- Ballasted Track

Figure 7.10.2 DRAFT Upper Boones Ferry Road Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts

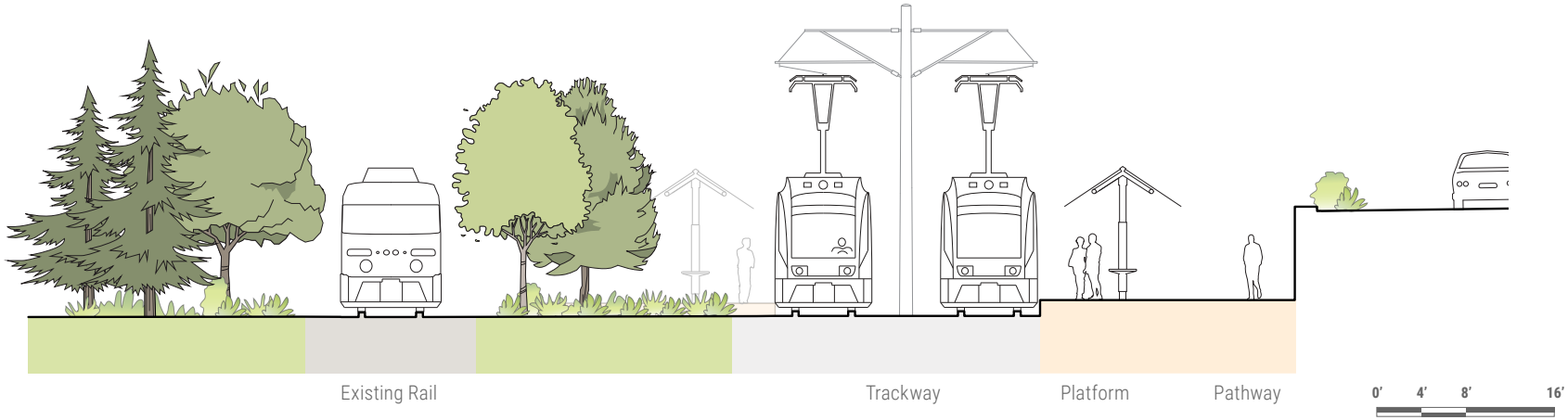


Figure 7.10.3 DRAFT Upper Boones Ferry Road Station Cross Section

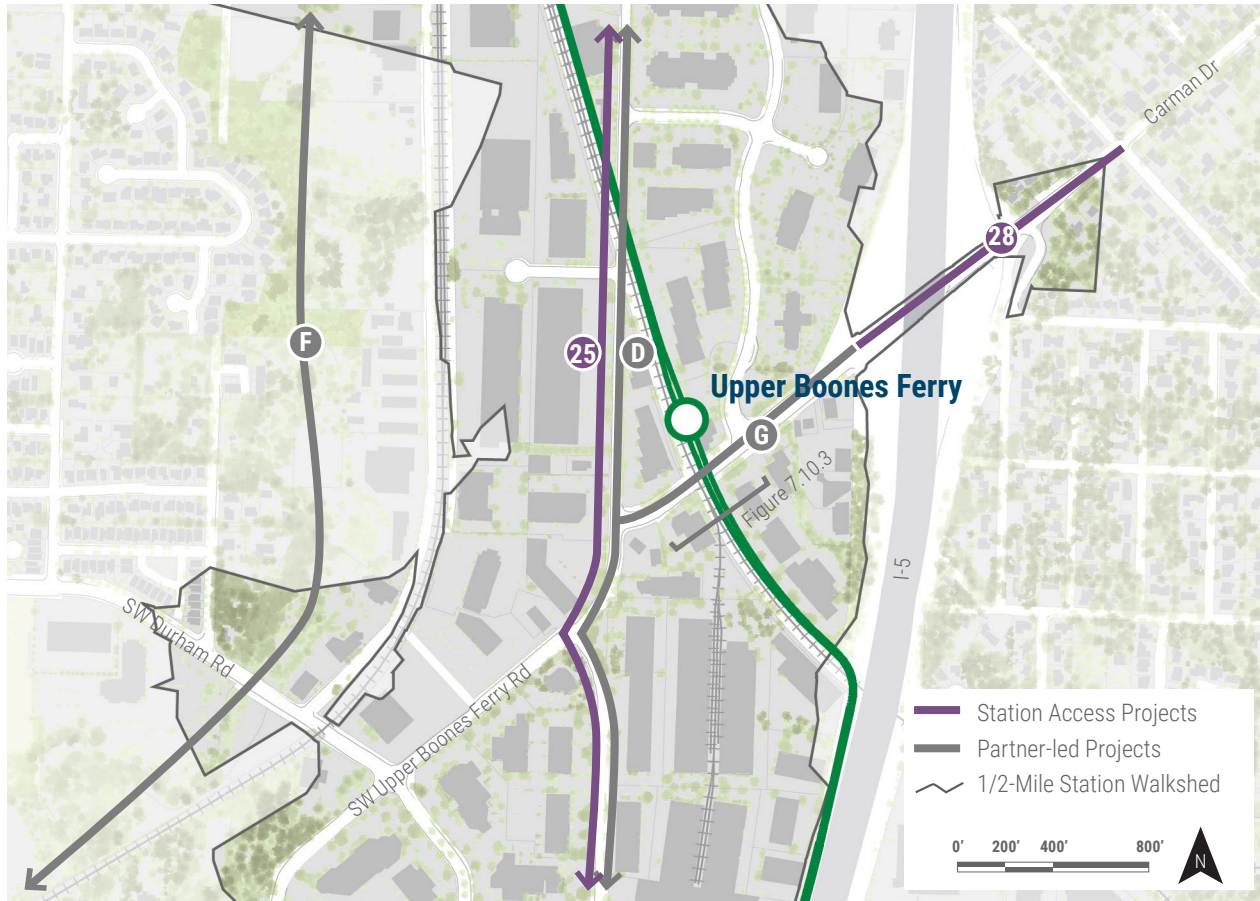


Figure 7.10.4 DRAFT Upper Boones Ferry Road Station Access Projects

STATION ACCESS PROJECTS

- 25** 72nd Sidewalks & Bikeway
- 28** Carman Sidewalks & Bikeway

PARTNER-LED PROJECTS

- D** 72nd Ave Corridor Study (City of Tigard TSP 2035)
- F** Extension of Fanno Creek Trail
- G** Upper Boones Ferry Rd road widening (City of Tigard TSP 2035)

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7.11 Bridgeport Transit Center



Ridership: High
Access: Transfer, Walk, Auto
Destination: Retail, Employment

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, direct 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.

See draft vision of Bridgeport Transit Center in Figure 7.11.6

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 and SMART bus line



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

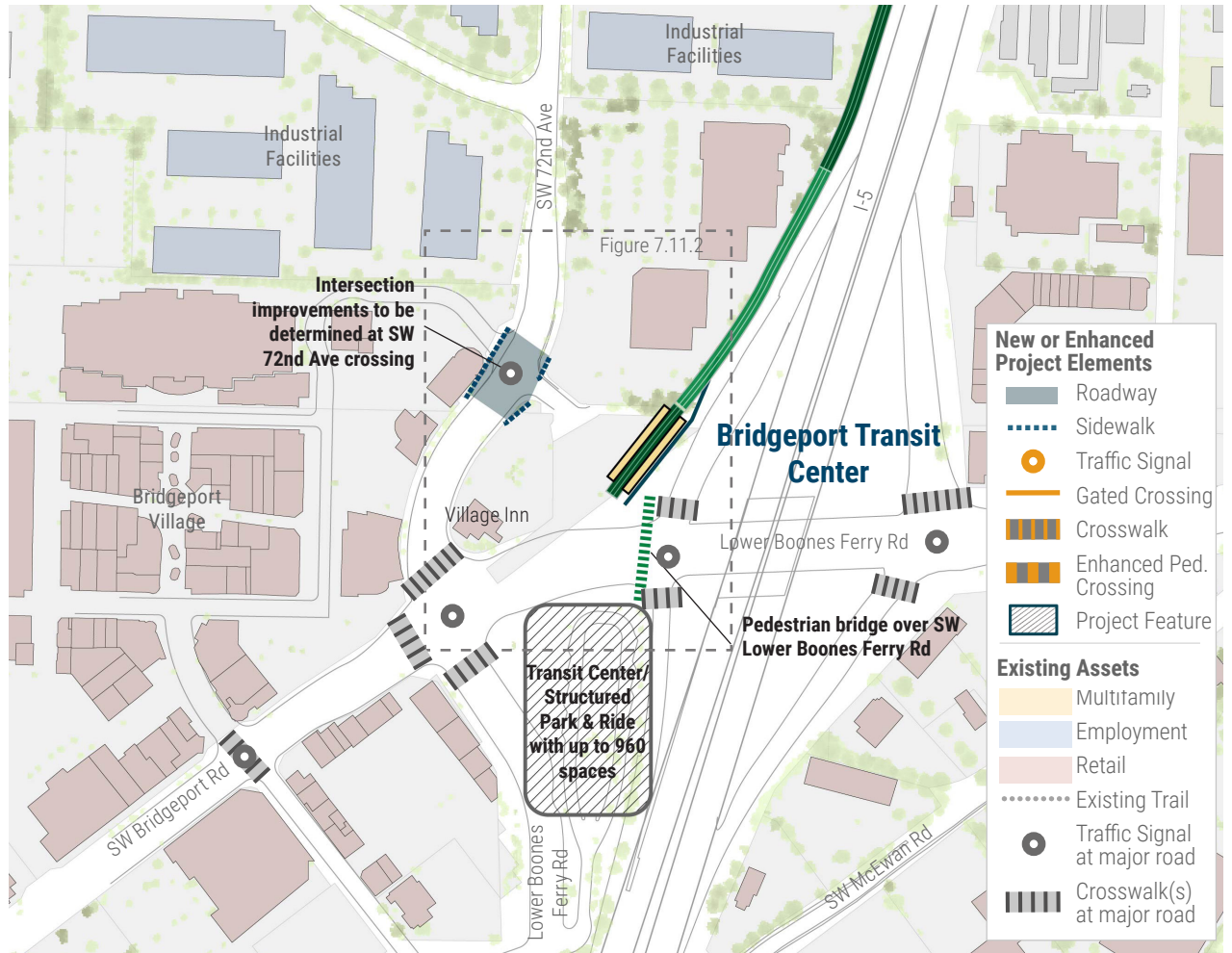
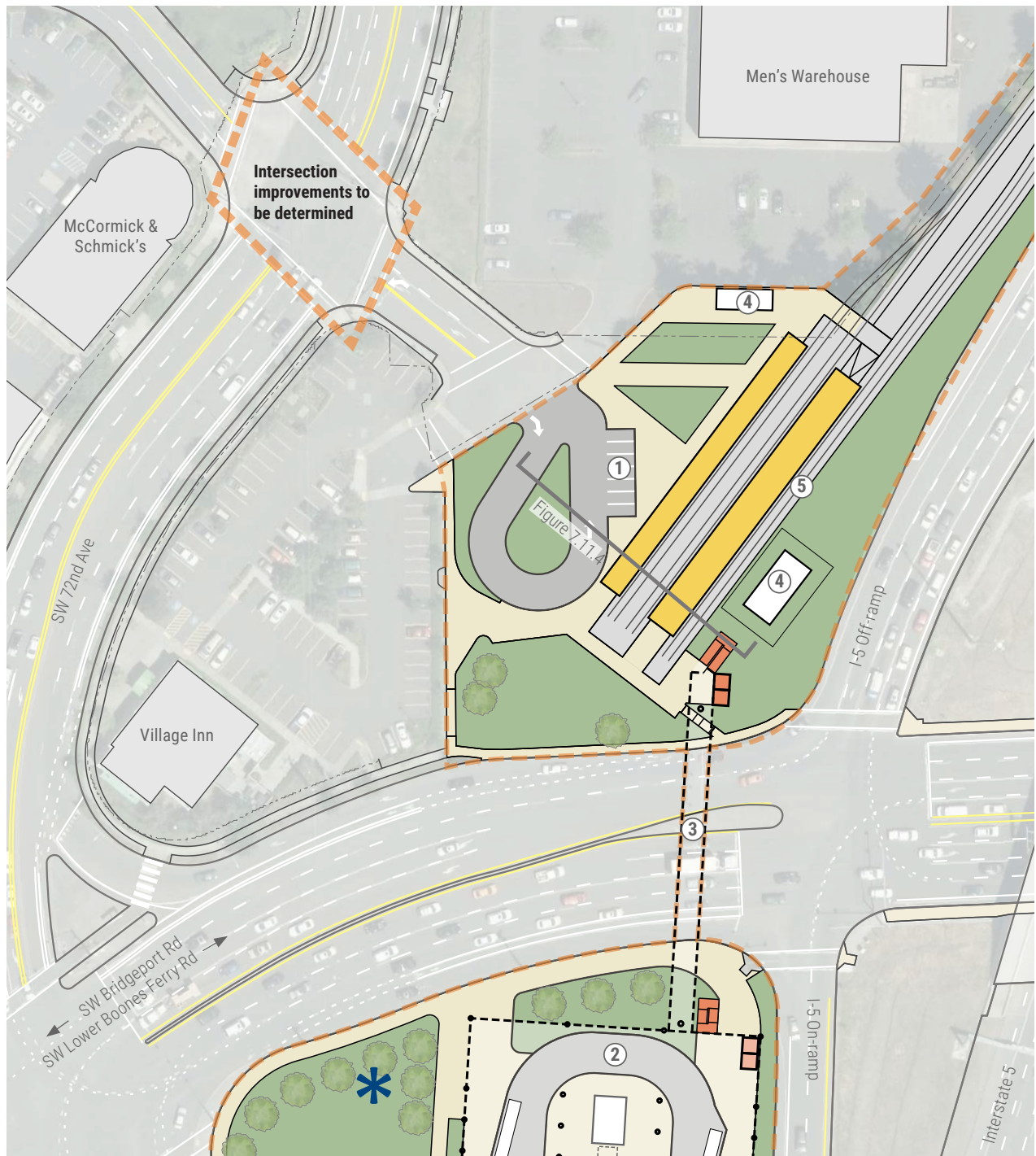


Figure 7.11.1 DRAFT Bridgeport Transit Center Station overview

DESIGN VALUE STATEMENTS

- Designs to address traffic congestion and improve connectivity to I-5 and mobility in Tualatin
- Designs should not preclude ability to extend the light rail alignment to communities south of Tualatin
- Facilities to support multi-modal 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



STATION FEATURES

- ① Pick-up/drop-off
- ② Transit Center/ Structured Park & Ride with up to 960 spaces
- ③ Pedestrian bridge from station to Transit Center/Park & Ride
- ④ Potential systems building location
- ⑤ Tail track for additional train at end of line














 Platform	 Project Boundary
 Landscape	 Track
 Potential Stormwater Treatment	 Crossing Gate
 New/Improved Sidewalk	 Existing Right of Way
 New/Enhanced Traffic Signal	 New/Improved Roadway
 Enhanced Pedestrian Crossing	 Shared Transitway
	 Ballasted Track



Figure 7.11.2 DRAFT Bridgeport Transit Center Station Plan; Design is conceptual and will be further developed through community engagement and technical design efforts



TRANSIT CENTER FEATURES

- ① Bus Entrance (eight bays in Transit Center at grade)
- ② Vehicular entrance for Structured Park & Ride with up to 960 spaces
- ③ Bicycle parking
- ④ Stairs and elevator to upper levels of structure
- ⑤ Above, bridge across SW Lower Boones Ferry Rd to light rail station
- ⑥ Traffic mitigation at intersection to be determined
- ⑦ No existing or new pedestrian crossing on NE side of intersection
- ⑧ Vehicular access to Park & Ride and bus facilities

Platform	Project Boundary
Landscape	Track
Potential Stormwater Treatment	Crossing Gate
New/Improved Sidewalk	Existing Right of Way
New/Enhanced Traffic Signal	New/Improved Roadway
Enhanced Pedestrian Crossing	Shared Transitway
	Ballasted Track



Figure 7.11.3 DRAFT Bridgeport Transit Center Station Plan and Park & Ride

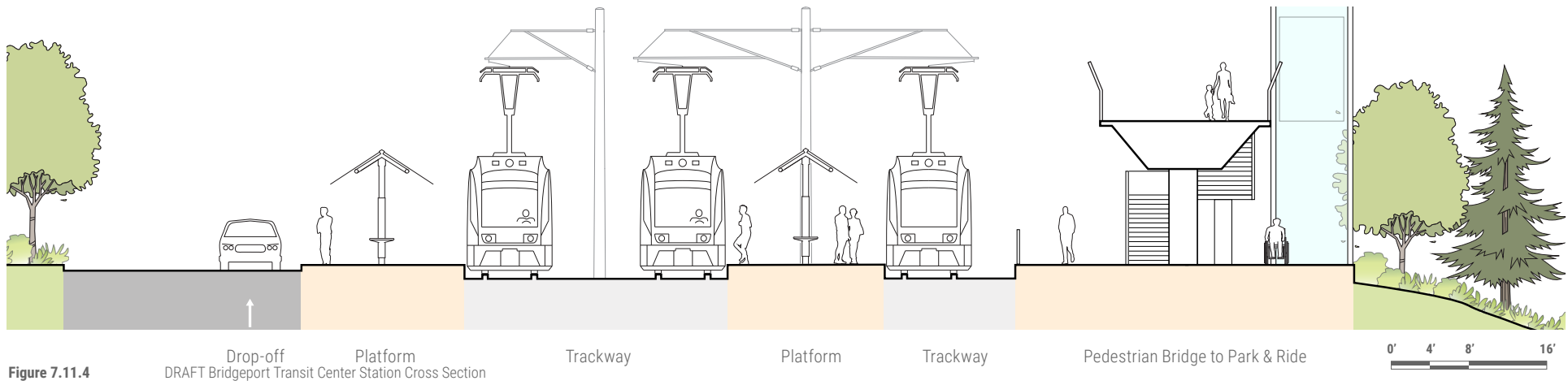


Figure 7.11.4 DRAFT Bridgeport Transit Center Station Cross Section

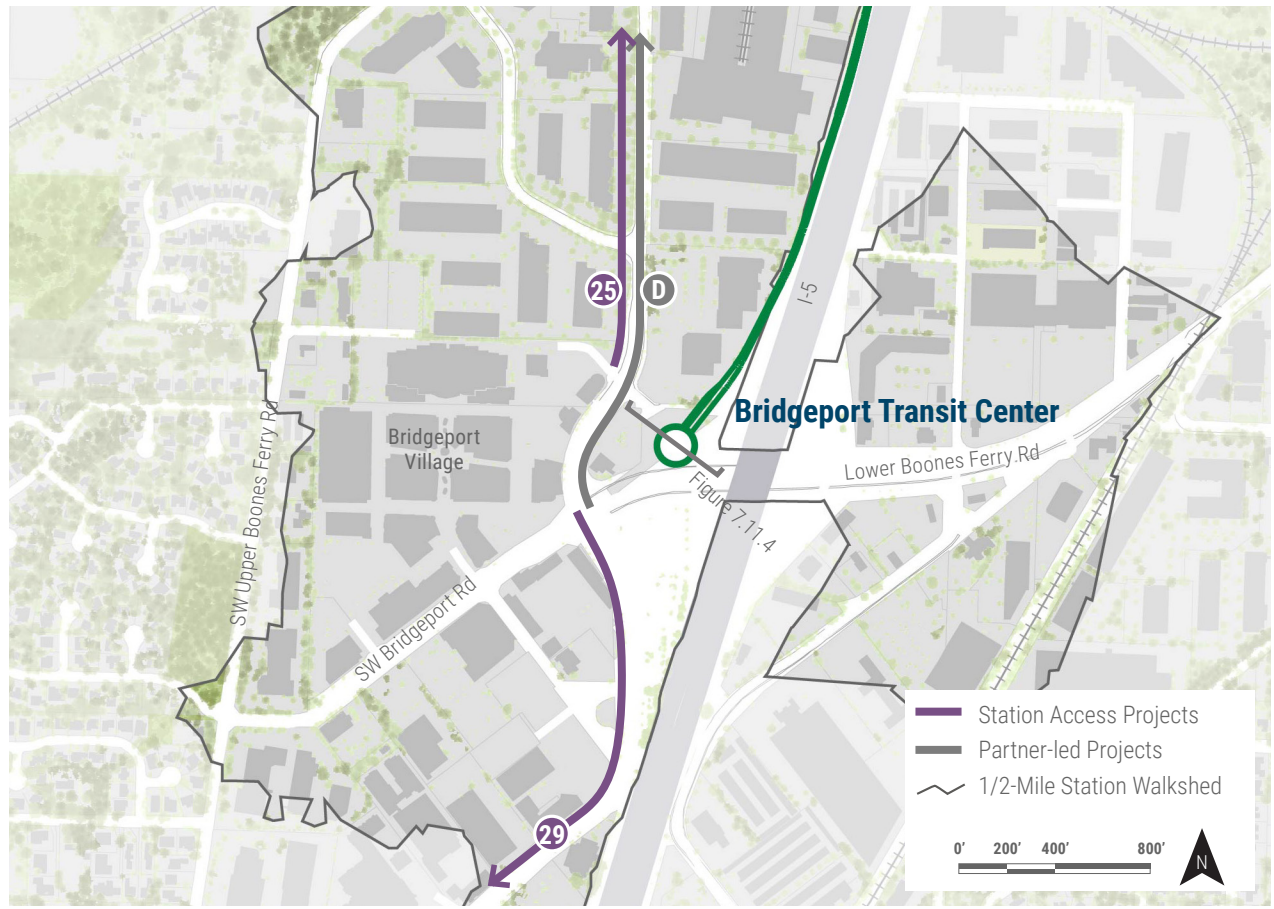


Figure 7.11.5 DRAFT Bridgeport Transit Center Station Access Projects

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)

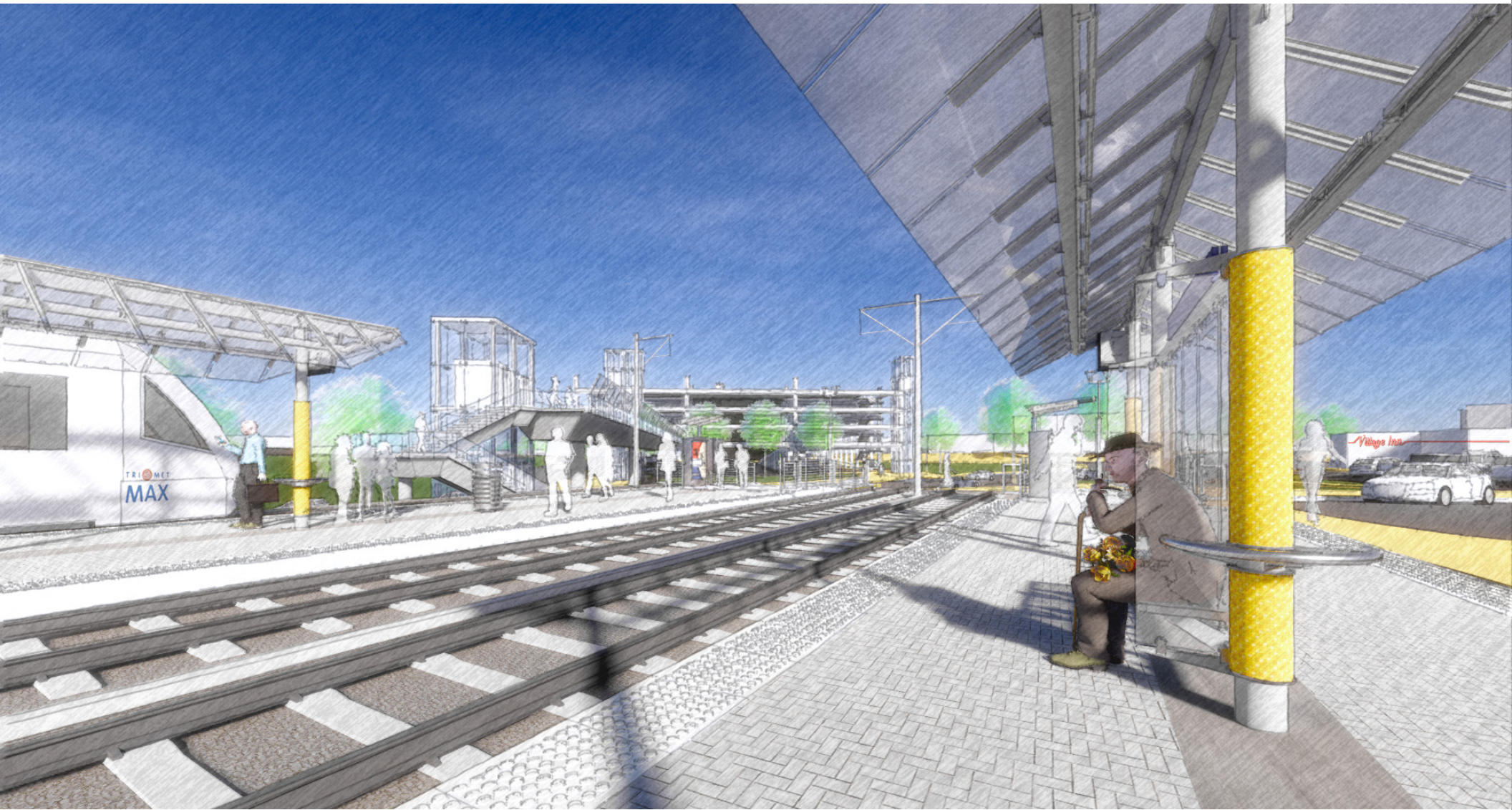


Figure 7.11.6 DRAFT Vision of Bridgeport Transit Center

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 (<https://trimet.org/swcorridor>):

A	References
B	Conceptual Design Report; DRAFT Principles, Goals and Objectives DRAFT Project Metrics
C	Affordable Housing Memorandum of Understanding
D	Steering Committee Locally Preferred Alternative
E	City of Portland - Resolution 37393, Exhibit C
F	City of Portland - Southwest Corridor Inclusive Communities Project Summary
G	City of Tigard Memorandum of Understanding and Map

Appendix A

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Appendix B

Conceptual Design Report - DRAFT Principles, Goals, and Objectives

PRINCIPLE	GOALS & OBJECTIVES			
 <p>MOVE AND CONNECT PEOPLE</p> <p>Travel Patron Experience Active Partnerships First & Last Mile Connections</p>	<p>Goal 1: Design and implement a safe, dependable transit project</p> <ul style="list-style-type: none"> Design a financially 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 Environment at Design (CPTED) to the alignment and its stations. Facilitate local connections and transfers to Light Rail service 	<p>Goal 2: Provide an attractive and desirable transit experience</p> <ul style="list-style-type: none"> 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 	<p>Goal 3: Design to adapt to future modes and technology</p> <ul style="list-style-type: none"> As feasible, pilot and incorporate new technologies to build resilience to industry change and incorporate changing access modes Pursue strategic partnerships to creatively address first-last mile connections 	<p>Goal 4: Support the completion of a multi-modal transportation network</p> <ul style="list-style-type: none"> Apply a project station access modal hierarchy to protect vulnerable users (pedestrian, bike) and prioritize shared use modes (bus, shuttle, car pool) Provide facilities for active transportation users at appropriate station sites Maintain vehicular capacity of the corridor and minimize traffic diversion through neighborhoods Support partner projects that enhance station access and increase transit use
 <p>MAINTAIN AND CREATE EQUITABLE COMMUNITIES</p> <p>Community Resource Preservation Access to Opportunity Inclusive Community Vision</p>	<p>Goal 1: Maintain and strengthen existing community and cultural resources</p> <ul style="list-style-type: none"> 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 	<p>Goal 2: Promote equitable access to community resources, commerce, and transit benefits</p> <ul style="list-style-type: none"> 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 	<p>Goal 3: Support creation of welcoming, intuitive spaces for all</p> <ul style="list-style-type: none"> 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 	<p>Goal 4: Generate inclusive economic benefits for people and businesses in the corridor</p> <ul style="list-style-type: none"> 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
 <p>PRESERVE AND RESTORE THE NATURAL ENVIRONMENT</p> <p>Natural Resource Preservation Ecological Design Open Space Access</p>	<p>Goal 1: Preserve wildlife habitat and connectivity to the regional ecosystem</p> <ul style="list-style-type: none"> 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 	<p>Goal 2: Be ecologically responsive and support the natural environment</p> <ul style="list-style-type: none"> Seek opportunities to incorporate design treatments that enhance wetlands 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 	<p>Goal 3: Improve connections to nature, recreation, and green spaces</p> <ul style="list-style-type: none"> 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 	
 <p>DESIGN FOR THE FUTURE</p> <p>Flexible Infrastructure Sustainability Emergency Response</p>	<p>Goal 1: Build robust, flexible infrastructure to support community sustainability</p> <ul style="list-style-type: none"> Foster regional 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 	<p>Goal 2: Minimize the Project's carbon footprint</p> <ul style="list-style-type: none"> 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 	<p>Goal 3: Respond to and minimize the impact of potential future hazards</p> <ul style="list-style-type: none"> 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 	

Conceptual Design Report - **DRAFT** Project Metrics

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
MOVE AND CONNECT PEOPLE	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	TriMet	FTA new starts	• achieve Federal grant for construction
		• 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
		• Facilitate local connections and transfers to Light Rail service	TriMet	Non-integrated station access projects. Southwest in Motion projects?	# of projects implemented.
	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
		• 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
		• Incorporate durable, easy to clean materials to maximize quality and extend service life	TriMet	TM design criteria	Sustainability Report (Target)
		• 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
	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
		• 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 100% 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	

Conceptual Design Report - DRAFT Project Metrics

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
EQUITABLE COMMUNITIES	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 low 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 master 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
		• 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
	Goal 2: Promote equitable access to community resources, commerce, and transit benefits	• Connect to existing regional job centers	TriMet & Agency Partners	FEIS	Ridership
		• 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
		• 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
	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
		• Design pedestrian friendly, comfortable and attractive streetscapes	Jurisdictional agency	Agency design criteria	Secure local land use approvals
		• Support city adopted land use plans and initiatives	TriMet & Agency Partners	Agency design criteria	Secure local land use approvals
	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.

Conceptual Design Report - **DRAFT** Project Metrics

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
NATURAL ENVIRONMENT	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.
		• 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?)
		• 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.
		• 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.
	Goal 2: Be ecologically responsive and support the natural environment	• 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
		• Incorporate stormwater management best practices into project design to improve water quality and stream health	TriMet & Agency Partners	degree to which project infiltrates, evapotranspires, 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
		• 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
	Goal 3: Improve connections to nature, recreation, and green spaces	• 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 tree 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

Conceptual Design Report - DRAFT Project Metrics

Principle	Goal	Objective	Lead agency	Metric source/tools	Metric/documentation
DESIGN FOR THE FUTURE	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
		• 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)
	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
		• 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?
		• 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
		• 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

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**

This Memorandum of Understanding (“MOU”) is entered into this ___ day of _____, 2018 by 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”).

1. Recitals

1. The Metro Council and the Joint Policy Advisory Committee on Transportation (“JPACT”) identified the Southwest Corridor, connecting downtown Portland to the region’s southwest suburbs, as the region’s top priority for consideration for a high capacity transit investment based on the 2009 Regional High Capacity Transit System Plan and the 2014 Regional Transportation Plan (“Southwest Corridor Project” or “Project”). The Project, which will create a new light rail alignment in the Southwest Corridor, has been under development since 2012 and includes partners from the Cities of Portland, Tigard, Tualatin, Durham, Beaverton, Sherwood and King City along with Washington County, the Oregon Department of Transportation, Metro, and TriMet.
2. 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.
3. The Parties have been collaborating on the planning and design of the Project, including the transportation needs of the corridor and the associated land use, development, economic opportunities, and housing opportunities that will be afforded by improved transportation in the corridor.

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

2. Responsibilities

1. Metro

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

2. TriMet

- a. TriMet will design, finance, construct, and operate the Southwest Corridor Project.
- b. TriMet will acquire the real property necessary to construct the Project. Property will be acquired in accordance with applicable state and federal law, including the Uniform Relocation Act. At the conclusion of construction of the Project, TriMet may have remnant parcels that are not needed for future transit purposes that become excess properties and may be developed or disposed of in accordance with applicable state and federal law.
- c. TriMet agrees to take the steps necessary to obtain FTA approval to sell, lease, or otherwise convey the excess properties at or near station areas for development in a manner permitted by law and FTA regulations. This may include disposition, joint 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 the amount calculated as the federal share of the fair market value of excess property, 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 amount of the federal share and the amount of the private share through any property disposition.

- i. TriMet will offer residentially developable excess property parcels at station areas that were purchased, but ultimately not needed, for the Project or other transit needs, to the City of Portland for purchase in order to accommodate 600-700 affordable housing units before offering such parcels to any other party. TriMet and the City of Portland will evaluate such excess properties for affordable housing, but also for transit-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 Portland, TriMet will seek FTA approval to sell, lease, or otherwise convey the development rights of the site, as permitted under federal and state laws and regulations.
- ii. TriMet will offer residentially developable excess property parcels at station areas that were purchased, but ultimately not needed, for the Project or other transit needs, to the City of Tigard for purchase in order to accommodate 150-250 affordable housing units before offering such parcels to any other party. TriMet and the City of Tigard will evaluate such excess properties for affordable housing, but also for transit-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 sell, lease, or otherwise convey the development rights of the site, as permitted under federal and state laws and regulations.
- iii. TriMet commits to reduce land value on remnant sites identified for affordable housing by the amount of the local share to facilitate affordable housing development, to the extent allowed under state and federal rules and laws.
- iv. The parties agree to expedite development to the extent possible.

- d. 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, to the Southwest Corridor to preserve and fund construction of affordable housing.
- e. TriMet will lead a Station Optimization Study when finalizing station locations after selection of the Locally Preferred Alternative. The study will balance various needs, including travel time, reliability, existing land uses, development opportunities and pedestrian and bicycle facilities that connect to stations. The optimization review will also identify potential development sites, including sites that may be appropriate for affordable housing along the corridor.

3. City of Portland

- a. The City of Portland will participate and support the Station Optimization Study defined in Section 2(e), above.
- b. 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.
- c. 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.
- d. 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 utilizing additional revenue sources or methods to promote business stabilization, employment opportunities, and preservation of community-serving organizations.
- e. The City of Portland will work to implement the Equitable Housing Strategy jointly developed with Tigard. This includes:
 - i. Exploring the feasibility of an Urban Renewal Area along SW Barbur;
 - ii. Considering sources of money and financial tools to convert some of the corridor's 372 unregulated apartment buildings into regulated rent/income-restricted buildings;

- iii. 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;
- iv. Continuing to conduct pre-development studies of potential sites and development prototypes;
- v. Considering early acquisition of suitable property if identified;
- vi. Continuing to support nongovernmental stakeholders in the corridor as they explore forming a collaborative structure to facilitate equitable TOD;
- vii. Considering new ways to lower the cost of developing affordable housing, including by continuing to implement System Development Charge waivers for housing projects providing units at 60 percent of Median Family Income (“MFI”) or less.
- viii. 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.
- ix. Reviewing zoning patterns along the corridor, particularly as station locations become more certain, and increase densities as appropriate along the corridor and at station areas, including consideration of converting some single-family zoning near station areas to multifamily zoning, and increasing height and floor area ratios in mixed use and multifamily areas.
- x. Continuing to expand anti-displacement services to homeowners and renters citywide, and exploring additional tenant protections;
- f. To the extent possible, the City of Portland will facilitate construction of land development projects on excess property in a timely manner in order to minimize the time such property sits vacant along the alignment. Doing so will support active station areas and transit ridership by reducing vacant property along the

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

4. City of Tigard

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

- b. If regional voters approve an affordable housing bond, the City of Tigard will work with Washington County to allocate an appropriate portion of the funds to the Southwest Corridor to preserve and fund construction of affordable housing.
- c. The City of Tigard understands that it and Washington County may be asked to provide funds to address the financing gaps for affordable housing projects along the corridor.
- d. The City of Tigard will work to implement the Equitable Housing Strategy jointly developed with Portland. This includes:
 - i. 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;
 - ii. 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;
 - iv. Considering early acquisition of suitable property if identified;
 - v. Continuing to support nongovernmental stakeholders in the corridor as they explore forming a collaborative structure to facilitate equitable TOD;
 - vi. Considering new ways to lower the cost of constructing affordable housing, including by continuing to implement local System Development Charge exemptions for housing projects providing units at 60 percent of Area Median Family Income (“MFI”) or less.
 - vii. Working to promote affordable housing and to assist developers with getting access to resources (including financial resources) for affordable housing development;
 - viii. Reviewing zoning patterns along the corridor, particularly as station locations become more certain, and increase densities as appropriate along the corridor and at station areas.
 - ix. Continuing to explore additional tenant protections.

- e. The City of Tigard will work to increase densities as appropriate along the corridor to support transit-oriented development and affordable housing.
- f. To the extent possible, the City of Tigard will facilitate construction of land development projects on excess property in a timely manner in order to minimize the time such property sits vacant along the alignment. Doing so will support active station areas and transit ridership by reducing vacant property along the alignment and expediting housing, active station areas, density, activity, and transit ridership.
- g. 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.
- h. The City will work with TriMet to ensure high ridership in the Southwest Corridor by working to reduce bus and train travel times.


5. Washington County

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


- f. To the extent possible, Washington County and the Housing Authority of Washington County will facilitate construction of land development projects on 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 housing, active station areas, density, activity, and transit ridership.
- g. Washington County will explore opportunities that can increase available funding for affordable housing in the corridor and will consider ways to lower the cost of constructing affordable housing, including exempting housing projects that provide housing for those making 60 percent or less of Area Median Family Income from System Development Charges.
- h. Washington County 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.
6. **Coordination.** The parties agree to establish an ongoing structure for staff-level coordination of housing, economic development, and community development implementation in the 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 Equitable Development Strategy planning processes.
7. **Collaboration with Other Community Partners.** A variety of non-governmental organizations have been involved in shaping the Equitable Housing Strategy for the SW Corridor. This includes affordable housing providers and funders, market rate developers, private philanthropic organizations, and organizations representing renters and communities of color, among others. The parties agree coordinated meaningful engagement with these organizations and businesses within the corridor will occur through the inter-jurisdictional coordination structure described in Section 6 above.
8. **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 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. Toward that end:

- a. The parties agree to discuss and coordinate local housing targets that impact the corridor.
 - b. The parties also agree to discuss the potential for adopting a shared policy statement on light rail station area housing.
 - c. 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.
9. **Nature of this agreement.** The Parties agree and understand that the development of housing, employment opportunities, and commercial uses at station areas will be important to the success of the Project and will improve the livability of the region as a whole. This MOU is a statement of cooperation between the Parties, setting out the Parties' intent to act together to achieve the goals set out herein. However, this MOU does not create a binding 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.

City of Portland, Housing Bureau

By: 
Shannon Callahan, Interim Director
Date: 10.10.18

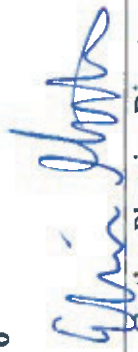
Tri-City Metropolitan Transportation District of Oregon

By: 
Steve Witter, Executive Director Capital Projects
Date: 10.9.18

City of Portland, PBOT

By: 
Chris Warner, Interim Director
Date: 10/9/18

Metro

By: 
Elissa Gertler, Planning Director
Date: 10-10-18

City of Portland, Planning and Sustainability

By: 
Joe Zejnder, Interim Director
Date: 10/9/18

Prosper Portland

By: 
Kimberly Bramm, Executive Director
Date: 10.9.18

City of Tigard

By: 
Kenny Asher, Director Community
Development

Date: 10/9/18

**Washington County, Land use and
Transportation**

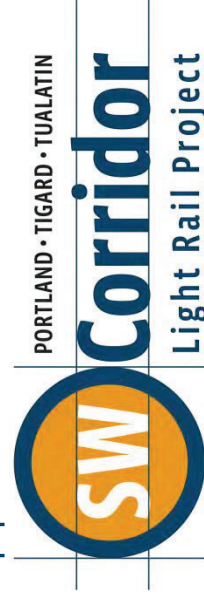
By: 
Andrew Singelakis, Director Land Use and
Transportation

Date: OCT 9, 2018

Washington County, Housing Services

By: 
Komi Kalevor, Director of Housing Services

Date: 10/9/2018



Southwest Corridor Light Rail Project

Steering Committee Preferred Alternative Report

1. RECOMMENDATION

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

Summary of alignment chosen

This recommendation represents a commitment to identifying a cost-effective transit project that 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 takes into consideration the Federal Transit Administration’s (FTA) rating criteria for large transit projects.

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
 - 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.

In addition, the committee directs staff to continue to work together to evolve and finalize the work plan for further design and environmental review, keeping members of this or a subsequent steering committee informed on its progress and contents. If the design and environmental review finds a “fatal 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:

- Providing a reliable, fast travel option between Bridgeport, Tigard, SW Portland and downtown Portland that will maintain its travel time even as the population grows by 70,000 in the corridor by 2035.
- 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.
- Connecting existing and future jobs and homes, along with Portland State University (PSU), Oregon Health & Science University (OHSU), National University of Natural Medicine (NUNM) and Portland Community College-Sylvania (PCC).
- Providing a new transit “backbone” for the local bus system in southeastern Washington County, including new transit centers and park and rides to enable people to easily switch between travel modes.
- Creating a new pedestrian connection to the jobs, medical services and educational opportunities on Marquam Hill at OHSU, the Veterans Administration and Shriners hospitals.
- 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.
- Creating the required transportation infrastructure to support local and regional plans such as the Tigard Triangle Strategic Plan, Barbur Concept Plan and 2040 Growth Concept. These plans aim to accommodate continued population and job growth without a proportionate increase in traffic congestion by supporting transit-oriented development.

Implications

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

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

traveling adjacent to SW Atlanta Street to connect to SW 70th Avenue; and of Alternative C2: the east-west 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/1-5 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 grade-separate 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.
- Various effects on historic resources and public parks, largely in South Portland. These properties receive special federal protection and extra public engagement and analysis will be 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.

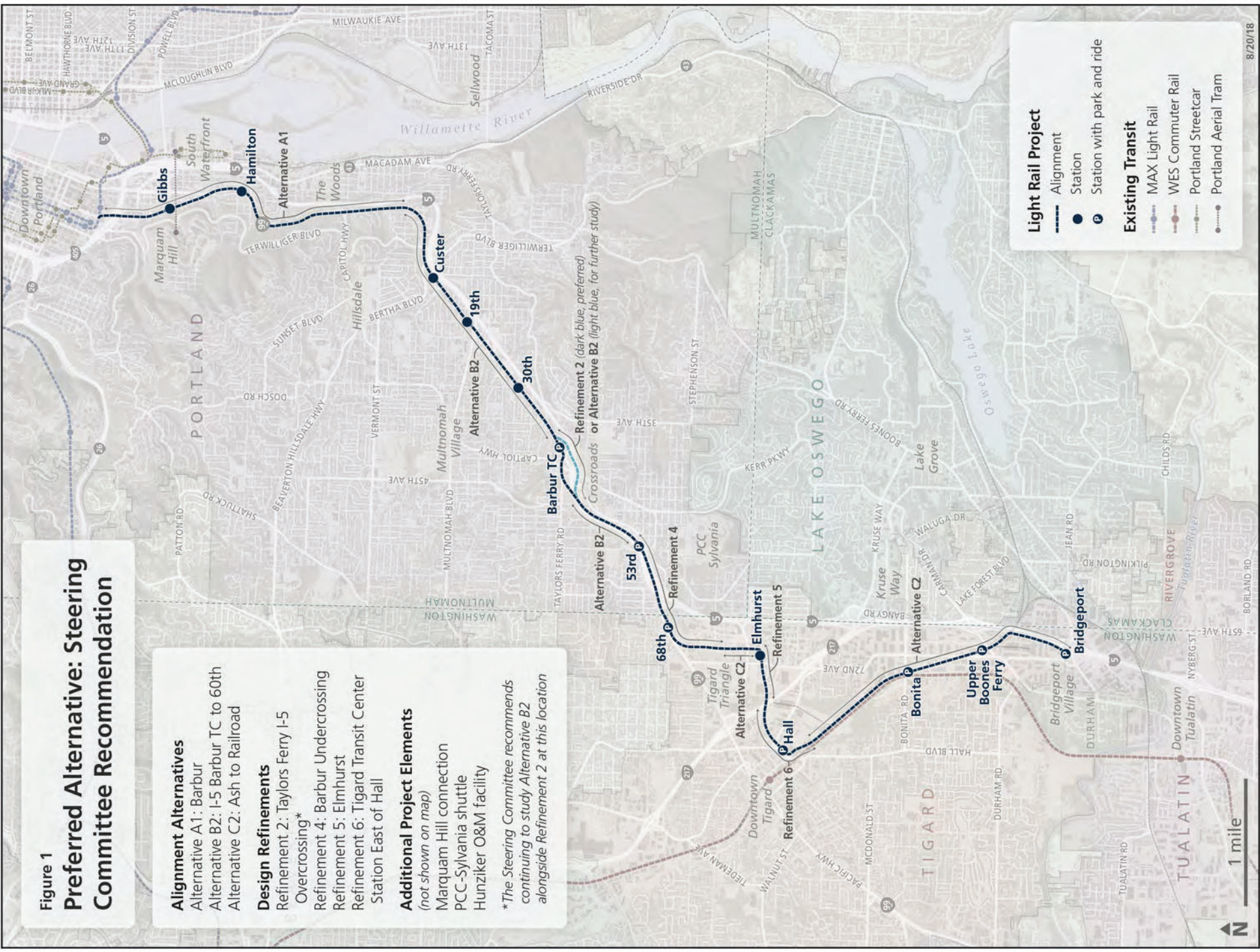


Figure 1
Preferred Alternative: Steering Committee Recommendation

Alignment Alternatives
 Alternative A1: Barbur
 Alternative B2: I-5 Barbur TC to 60th
 Alternative C2: Ash to Railroad

Design Refinements
 Refinement 2: Taylors Ferry I-5 Overcrossing*
 Refinement 4: Barbur Undercrossing
 Refinement 5: Elmhurst
 Refinement 6: Tigard Transit Center Station East of Hall

Additional Project Elements
 (not shown on map)
 Marquam Hill connection
 PCC-Sylvania shuttle
 Hunziker O&M facility

**The Steering Committee recommends continuing to study Alternative B2 alongside Refinement 2 at this location*

Light Rail Project

- Alignment
- Station
- Station with park and ride

Existing Transit

- MAX Light Rail
- WES Commuter Rail
- Portland Streetcar
- Portland Aerial Tram



2. PREFERRED ALTERNATIVE DESCRIPTION AND RATIONALE

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

Segment A: Inner Portland

Description

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 the Southwest Corridor, with tracks diverging from existing MAX tracks just west of the current Lincoln Station, at SW Fourth Avenue and SW Lincoln Street. It would cross Interstate 405 (I-405) on a new structure east of and parallel to SW Fourth Avenue. The alignment would run along the east side of SW Barbur Boulevard for several blocks, then transition into the center of SW Barbur Boulevard at SW Hooker Street. The alignment would continue running in the center of SW Barbur Boulevard into the Woods area. In this section, the existing Newbury and Vermont viaducts would be replaced by two new 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:

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

Exhibit A

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:

- Development of a Ross Island Bridgehead Reconfiguration that includes changes to SW Naito Parkway in coordination with the light rail project, based on the roadway designs in Alternative A2-BH. This separate project would redirect regional traffic away from local neighborhood streets in the South Portland neighborhood, convert SW Naito Parkway to a surface boulevard with at-grade intersections, improve safety for pedestrians and bicyclists, and make nearly three acres of land available for development. It would provide benefits to the region and to a neighborhood that has been historically negatively impacted by transportation investments, and 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 rail 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 at-grade crossing of northbound SW Barbur Boulevard auto lanes
- Be the result of an agreement between ODOT and City of Portland in which ODOT would contribute funding toward the replacement of the viaducts. This funding could be considered separate from project costs

Segment B: Outer Portland

Description

In Segment B, Outer Portland, which extends from SW Barbur Boulevard at SW Brier Place to the intersection of SW 68th Avenue and SW Atlanta Street, just west of the Portland/Tigard city boundary, 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.

Light rail would operate in the center of SW Barbur Boulevard from the northern end of Segment B until just north of the Barbur Transit Center. At this location, with Refinement 2, light rail would cross the 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 SW Taylors Ferry Road and I-5 to land between I-5 and SW Barbur Boulevard. If pending analysis of the benefits and impacts of Refinement 2 indicates it would not represent an improvement over Alternative B2, this or the subsequent Steering Committee may recommend replacing Refinement 2 in the Preferred Alternative with Alternative B2 without the refinement, or some other design resulting from continued analysis. Without Refinement 2, light rail would cross the northbound lane of SW Barbur Boulevard at a gated crossing to run between Barbur Transit Center and I-5. It would cross over a new light rail structure crossing I-5, SW Capitol Highway, and SW Barbur Boulevard to land between SW Barbur Boulevard and I-5.

Where SW Barbur Boulevard crosses I-5 (the northern point of the Tigard Triangle), light rail would cross over I-5 on a new parallel structure that would then descend into the space between the I-5 off-ramp and southbound SW Barbur Boulevard/Pacific Highway. The alignment would then cross under Pacific Highway to transition to the southeast side of the roadway just west of SW 65th Avenue. The alignment 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

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 undesirable for reasons not described in the Draft EIS, namely that the Barbur/Capitol bridge over I-5

Exhibit A

would need to be reconstructed as the existing structure is not strong enough for light rail trains. The reconstructed bridge would likely:

- Be rebuilt to be higher to meet current clearance standards and thus create challenges with adjacent property accesses as the elevation of streets immediately adjacent to the structure would also need to be raised. Bike and pedestrian connectivity and safety issues would not be resolved and may be exacerbated.
- Result in a multiple year closure of SW Capitol Highway (Highway 10) and SW Barbur Boulevard
- Require supports (the current structure is a free span), necessitating the widening of I-5 for a length in each direction, which could result in reconstruction of existing on and off ramps, and 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.

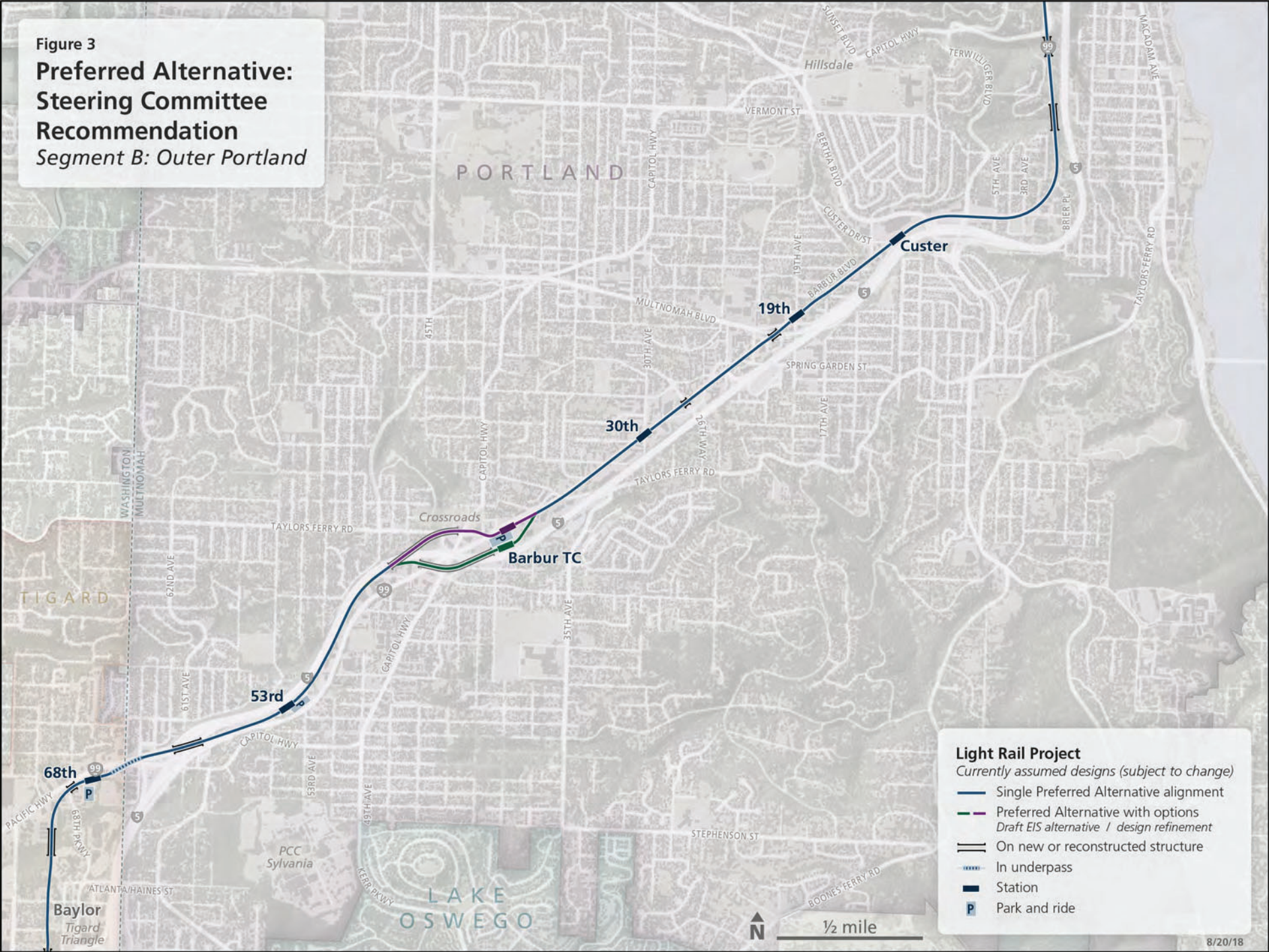
Refinement 2 would, in comparison to Alternative B2 as designed:

- 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 3:

- 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

Figure 3
Preferred Alternative:
Steering Committee
Recommendation
Segment B: Outer Portland



Light Rail Project
Currently assumed designs (subject to change)

- Single Preferred Alternative alignment
- - Preferred Alternative with options
Draft EIS alternative / design refinement
- == On new or reconstructed structure
- ... In underpass
- Station
- P Park and ride

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.

From the southeast side of SW Barbur Boulevard near SW 68th Avenue, a new curved light rail bridge would connect to the Tigard Triangle, via a light rail-only bridge over 68th Avenue, with a north-south 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.

The alignment would turn west from SW 70th Avenue onto SW Elmhurst Street, with a station between SW 70th Avenue and SW 72nd Avenue. The alignment would continue west to cross SW 72nd Avenue at 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 freight rail and WES Commuter Rail tracks. Light rail would be on a structure between just south of SW Tech Center Drive and just south of SW Bonita Road to avoid a freight rail spur track and SW Bonita Road, resulting in an elevated station at SW Bonita Road. The alignment would continue adjacent to the 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 before turning south to pass over the railroad on structure toward the terminus at SW Lower Boones 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
- Alternative C5, Ash and I-5 Branched, in which light rail service would branch in the southern Tigard Triangle, with some trains using SW Ash Avenue to terminate in downtown Tigard, and 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.

Rationale 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

Exhibit A

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

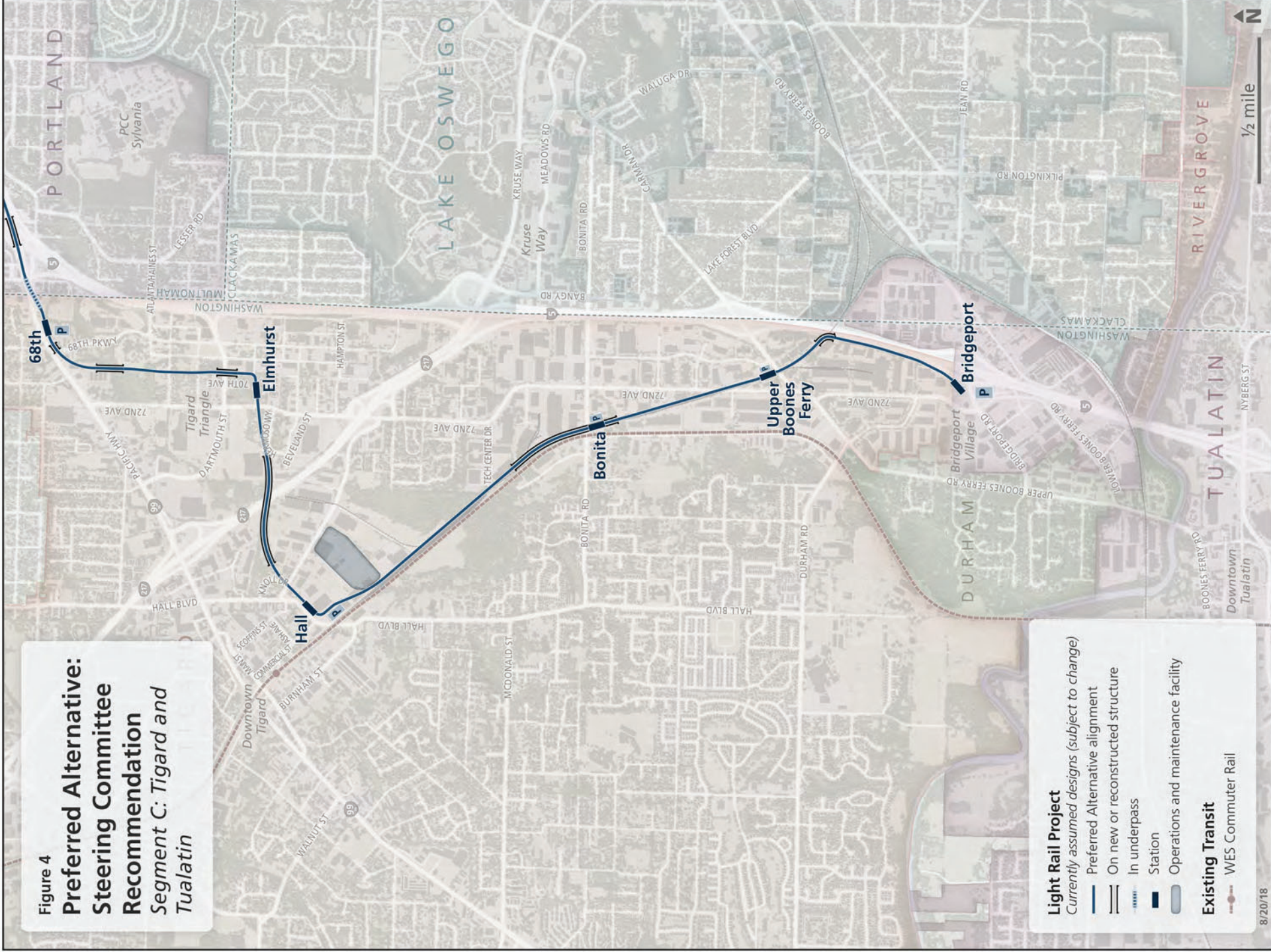
Refinement 5 would:

- 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

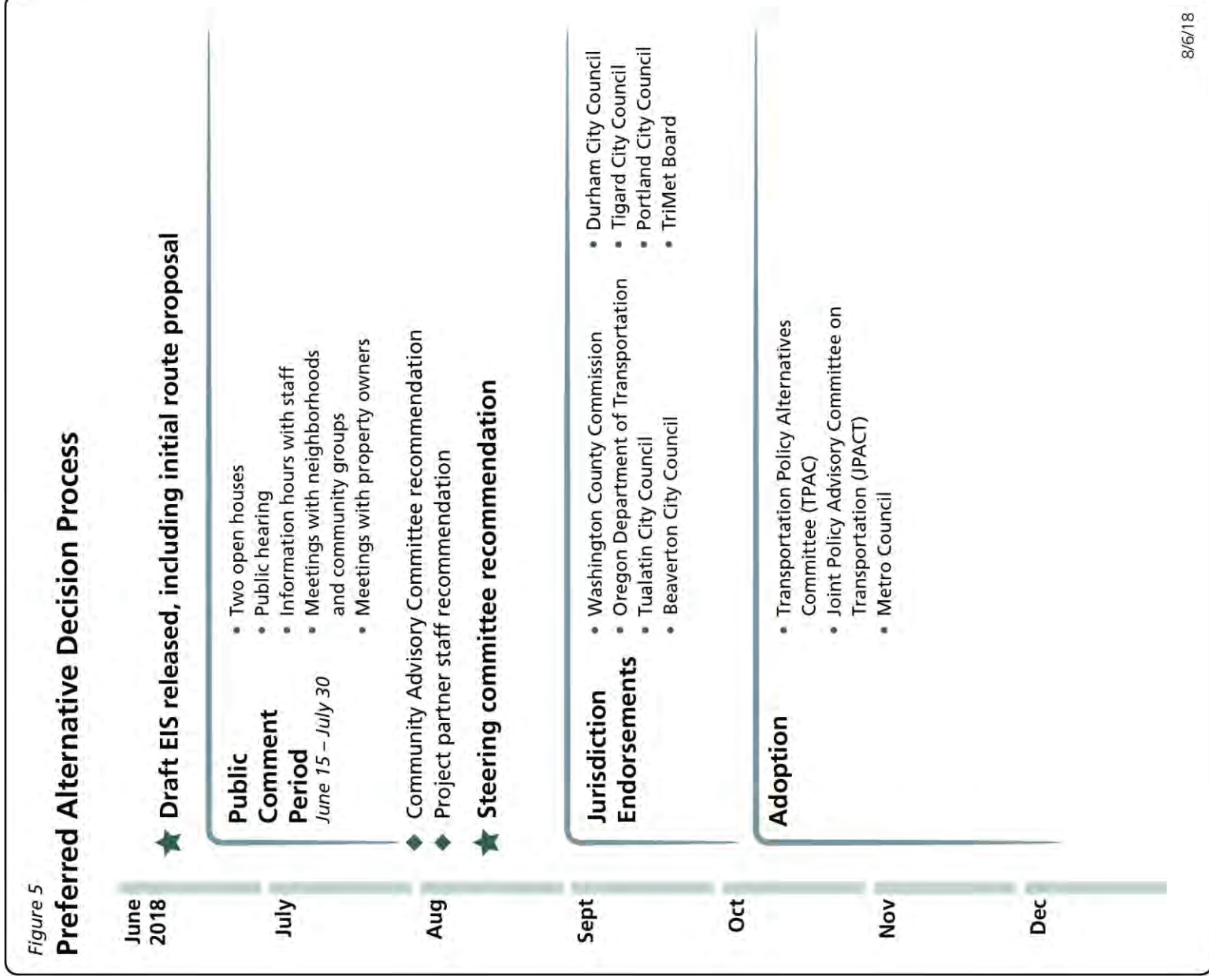
Figure 4
Preferred Alternative:
Steering Committee
Recommendation
Segment C: Tigard and
Tualatin



- Light Rail Project**
Currently assumed designs (subject to change)
- Preferred Alternative alignment
 - On new or reconstructed structure
 - In underpass
 - Station
 - Operations and maintenance facility
- Existing Transit**
- WES Commuter Rail

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

The following text is an initial set of interests that does not yet represent a finalized, consensus agreement. Factors from public comments and federal environmental permitting needs must also be 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

- Continue cooperative design work between TriMet and the City of Tigard on the layouts and configurations of the Hall station and its related elements (bus stops, pedestrian connections, 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, Cities 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 light rail
- Continue collaboration of project partners with FTA and other local and federal agencies participating in the environmental review process to define the work program of the Final EIS, 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 design.
- 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

Exhibit A

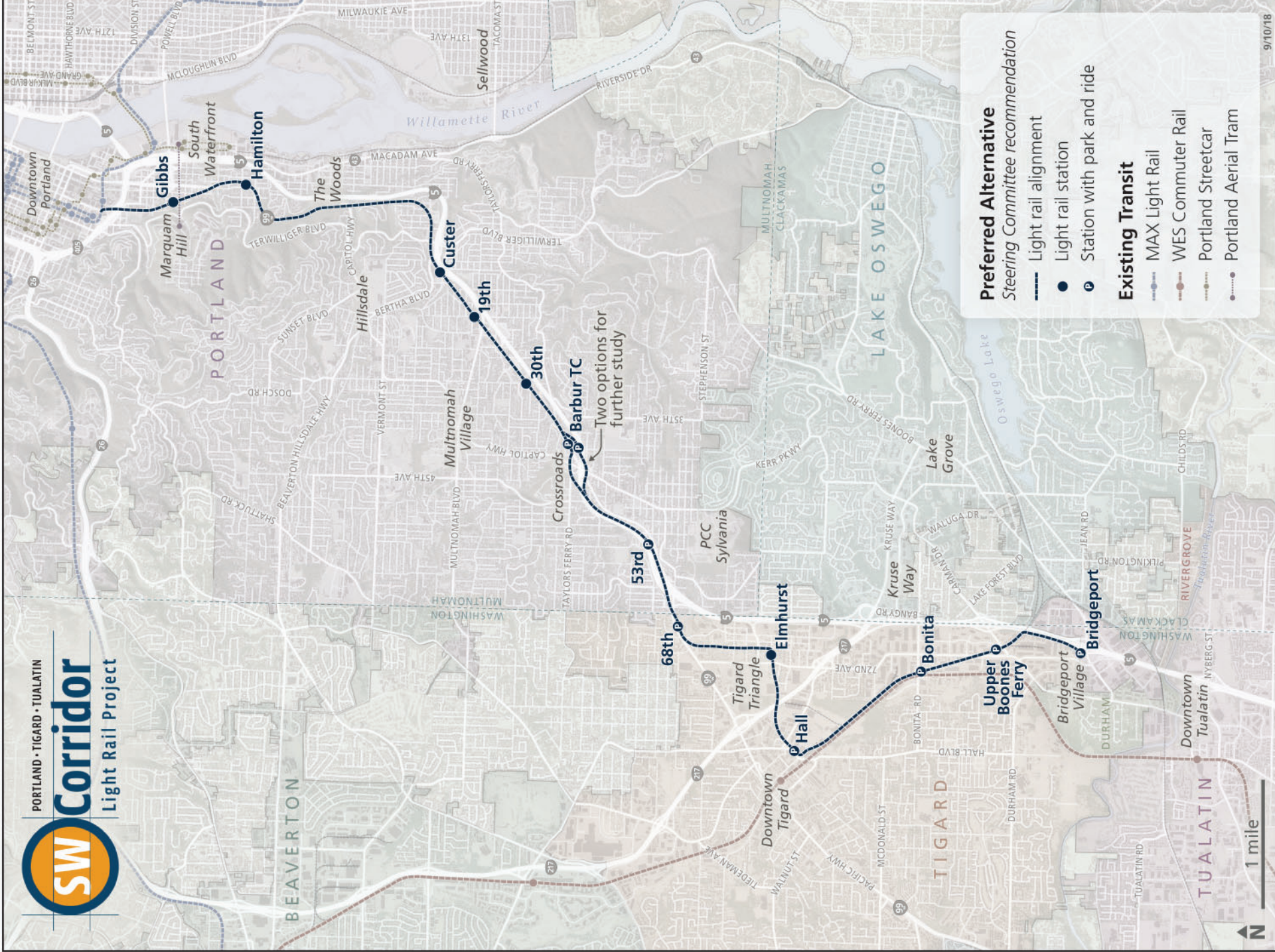
the station area’s redevelopment as a mixed use area supporting housing and jobs. Design the operating and maintenance facility east of the Hall station in a manner that facilitates redevelopment in the vicinity.

- 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 modes—autos, buses, bicycles and pedestrians—have convenient access. Explore ways to avoid or minimize impacts to the Village Inn.

Traffic analysis

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 decisions and should be initiated in the short term to inform the Final EIS, versus those that will inform elements of the final design and can be performed later. The suggested analyses are:

- 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 to identify required mitigations if the Ross Island Bridgehead Reconfiguration is not constructed 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

The City Council requests that TriMet prepare a Conceptual Design Report, in collaboration with the Portland Bureau of Transportation (PBOT), to be reviewed by the Portland Design Commission, the Planning and Sustainability Commission and the City Council prior to completion of the Project Development phase of the Southwest Corridor Light Rail Transit Project (Project). The Conceptual Design Report along with other Project activities following adoption of the Preferred Alternative should address and resolve the following issues and opportunities.

1. Preliminary Work Plan

Refine and undertake the Preliminary Work Plan identified as Appendix A in the Southwest Corridor Light Rail Project Steering Committee's Preferred Alternative report and recommendations.

- (a) The City of Portland concurs with this preliminary work plan for project elements within the City.
- (b) As indicated this work plan is preliminary and general in nature and will be subject to refinement in collaboration with PBOT and project partners.
- (c) 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.
- (d) 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.

2. Ross Island Bridgehead Reconfiguration

Neighborhoods around the Ross Island Bridge (RIB) ramps, SW Naito Parkway and other streets currently functioning as regional connections have long been divided and impacted by the current highway network in this area. A reconfiguration of the bridgehead ramps and SW Naito Parkway would alleviate some of these neighborhood impacts and create development opportunities while improving vital regional traffic connections.

- (a) The City of Portland, Oregon Department of Transportation, Metro and TriMet are committed to work cooperatively through a Memorandum of Understanding (MOU) to pursue a design, cost estimates and funding strategy for the RIBhead reconfiguration project.
- (b) The workplan contained in the MOU identifies near term actions the partners will take to cooperatively move the RIBhead project forward. Some key elements are:
 - i. A public involvement plan will be developed for the RIBhead project which coordinates with the LRT public involvement plan for post Preferred Alternative activities.
 - ii. The RIBhead project reconfiguration will be evaluated as part of the Final EIS for the LRT Project.

- iii. Project development will be completed to a 30% design or FEIS completion milestone by the LRT project.
- (c) The RIBhead project will be developed in coordination with land use and development planning in this area being conducted by the Bureau of Planning and Sustainability.
- (d) The RIBhead project workplan will be modified for subsequent phases of project design and construction.

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.

- (a) The City of Portland understands the Steering Committee recommendation to optimize the layout of the Barbur Transit Center site for transit operations and redevelopment potential. The appropriateness and capacity of a park-and-ride facility at Barbur Transit Center should be evaluated.
- (b) Further project planning for the Barbur Transit Center station should assure that park-and-ride and bus operations do not inhibit quality urban design and mixed-use development opportunities of the site.
- (c) 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.
- (d) A public involvement plan will be developed for the Barbur Transit Center and Crossroads area which coordinates with the LRT public involvement plan for post Preferred Alternative activities and with the West Portland Town Center land use planning process.

4. Crossroads Area

In the Crossroads area the Steering Committee recommends a preference for Refinement 2, also referred to as the Taylors Ferry I-5 Overcrossing. Alternative B2 as studied in the DEIS, or a modification of either, remains in consideration. Transportation infrastructure in this area will have a lasting effect on the future of the West Portland Town Center.

- (a) Any assessment of alignment and LRT platform locations in Crossroads must consider opportunities presented or compromised for development of the West Town Center and at the Barbur Transit Center.
- (b) The complex arrangement of streets and intersections contributes to traffic congestion and safety hazards. Traffic analysis must look at the complete network in this area, not just individual intersections, and include modeling of actual future signal operations. Mitigations to traffic impacts must consider resultant impacts on other modes and recognize the City priority of active transportation over vehicular modes.
- (c) Further planning of the LRT project should investigate the significant existing pedestrian and bicycle accessibility needs and safety issues in this area and

coordinate improvements with other planned projects to build complete active transportation networks.

- (d) There are impacts potentially affecting properties, residential and employment uses and environmental resources that need to be evaluated in the FEIS.
- (e) During the completion of the FEIS a public outreach and engagement process dedicated to the Crossroads area must be undertaken to explore potential impacts of Refinement 2 and other options.
- (f) 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.
- (g) 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.

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.

- (a) The City of Portland supports the design component for park-and-ride evaluation described in Appendix A of the Steering Committee's Preferred Alternative report and recommendations.
- (b) It is also recommended that as a principle approach that park-and-ride functions be evaluated against impact on land development and affordable housing and commercial opportunities and locally generated ridership, particularly at Barbur Transit Center and SW 53rd Ave.
- (c) Further project work to optimize park-and-ride capacities should consider a balance of these facilities in Portland compared to elsewhere in the corridor.
- (d) 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.
- (e) Evaluation of future re-use or otherwise reconfiguring the park-and-ride facilities to reflect emerging and future mobility choices made by transit patrons.
- (f) Prior to Steering Committee decision to site park and ride facilities, there will be a City Council work session to present information, hear invited testimony, and provide an opportunity for Council discussion of alternatives.

6. Pedestrian and bicycle access to LRT stations

It is essential that key pedestrian and bicycle access facilities connecting neighborhoods to LRT stations be included in the overall funding strategy for the LRT project in order to maximize access for local transit riders.

- (a) The next phase of the LRT project should provide a process for reviewing and selecting sidewalks, bicycle facilities and multi-use paths to be included in the LRT project, based on the list of potential projects identified in the DEIS and others determined through station area planning and shall include input from community stakeholders.

- (b) The City of Portland believes that many of these projects are essential components of the LRT project and not betterments.
- (c) The next phase of station planning should evaluate and identify how bicycle parking facilities would be spread among the Portland segment transit stations in order to optimize their use and provide maximum connectivity from surrounding neighborhoods.

7. Marquam Hill and Portland Community College connections

The connections from LRT stations to Marquam Hill and Portland Community College are vital components of the Southwest Corridor Light Rail Transit Project. Due to geographic limitations direct light rail transit access to these key destinations are not financially feasible. Each presents design challenges and opportunities that need to be explored.

- (a) 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.
- (b) Design considerations for the Marquam Hill connection include respect for the Terwilliger Parkway including compliance with the Terwilliger Parkway Design Guidelines, minimize impacts to the wooded hillside and park land, safety and security factors, aesthetics and visual impacts of the connection facility and structures and architectural significance, and consideration of options avoiding crossing Terwilliger Parkway.
- (c) An evaluation of anticipated passenger board/de-boarding at the Gibbs station should be conducted to inform the size and location of associated infrastructure such as platform and sidewalk widths, future signal timing, street lighting and the pedestrian route between SW Naito and the Gibbs station.
- (d) 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.
- (e) 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.
- (f) The City of Portland agrees with the Steering Committee's recommendation that a planning process be conducted to select and refine the bus shuttle route connecting LRT to the PCC campus from the Barbur Transit Center or from the SW 53rd Avenue LRT station.
- (g) The City supports publicly-funded street improvements to SW 53rd Avenue between the LRT station at SW 53rd and the PCC campus to facilitate inviting pedestrian and bicycling access to the campus. These street improvements should be appropriately scaled for the neighborhood environment and will not provide a private vehicular traffic connection to the campus.

8. 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.
 - (a) 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 Downtown.
 - (b) Pedestrian connectivity challenges include access in to Downtown from SW Sheridan and potential wide street crossings at the SW 4th/Lincoln intersection.
 - (c) LRT routing plans need to consider current property access, particularly on SW Lincoln and SW Grant and future planned developments on these streets.
 - (d) Being the south entry to Downtown aesthetic considerations matter particularly in regards to the architecture of elevated transit structures.
 - (e) 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.
9. SW Hamilton Station
The LRT station at SW Hamilton would support the role of the Hamilton Focus Area from the Barbur Concept Plan.
 - (a) This area currently has high transit service levels with nine bus lines in the SW Hamilton-SW Corbett area serving neighborhood residents and transfer activity. Retaining a similar level of transit accessibility with the LRT project would be a benefit for this neighborhood.
 - (b) 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.
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.
 - (a) 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.
 - (b) 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.
 - (c) Project design should minimize tree removal which is a landmark feature of this segment of the corridor.
 - (d) Connections to designated pedestrian, bicycle and trail networks should be considered. An at-grade intersection replacing the flyover ramp connecting SW Capitol Highway to SW Barbur should be considered.

11. Three stations on Central Barbur

The Preferred Alternative for the LRT project includes three neighborhood stations in the central SW Barbur Boulevard area at SW Custer, SW 19 and SW 30th, as well as stations further south in Portland at the Barbur Transit Center and at SW 53rd Avenue.

- (a) The three neighborhood stations in the central Barbur Boulevard area are important in providing transit access notably for Hillsdale, Multnomah, Markham and South Burlingame neighborhoods.
- (b) 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.
- (c) 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.
- (d) The City of Portland recommends that all three stations be retained in the LRT project through the project development phase.
- (e) 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 Hillsdale, Multnomah, Markham, South Burlingame and other neighborhoods.

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.

- (a) This station also presents opportunities for mixed-use development.
- (b) 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.
- (c) Evaluation of the station for connection by a PCC shuttle should be included.

13. SW 68th Avenue Station

Although this station is physically located in the city of Tigard, it also serves residents of 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 station area. Pedestrian and bicycle facilities must be evaluated as part of the Shared Investment Strategy to allow Portland residents to access the station at SW 68th safely.

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) 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.

- (b) An evaluation of current truck access to businesses along SW Barbur should be conducted to ensure that accommodation for future circulation patterns is made.

15. Stormwater management

Although the LRT project will be designed to comply with all federal, state and local regulations, this corridor is located in an area of the City that is particularly complex due to topography, extensive vegetation cover and multiple stream corridors.

- (a) The City of Portland concurs that LRT project will be designed based on best management practices and comply with City's Stormwater Management Manual, as stated in the DEIS.
- (b) As the LRT project moves forward more detailed asset inventory and assessment of stormwater infrastructure is required in the corridor leading to identifying agencies responsible for ownership and maintenance of stormwater infrastructure.
- (c) The City of Portland will be undertaking various capital projects in the corridor in 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 match.
- (d) Currently existing stormwater systems that convey runoff from Barbur Blvd join the system for I-5 and share outfall infrastructure. LRT project development should decouple the Barbur Blvd stormwater system from I-5.

Other Priority Actions

1. Affordable Housing

It is the City Council's expectation that regional commitments toward opportunities for 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 a purpose statement that says: Ensure benefits and impacts promote community equity.

- (a) Council support for the Preferred Alternative is based on implementation of the Memorandum of Understanding regarding the Southwest Corridor and Affordable Housing.
- (b) 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.

2. Design Review

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 input and advice on non-standard transit elements in public right-of-way. Upon completion of the LRT project the currently approved standard transit elements in public right-of-way would be updated to reflect new elements added with this LRT project. Replacement of Newberry and Vermont viaducts by the LRT project will be

improvements that meet the City Engineer's standards and as such are exempt from design review but will receive input and advice from the Design Review Commission in 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

The Light Rail project should promote preservation and commercial viability of commercial and office businesses, especially those serving nearby residents, providing family-wage jobs, and locally-owned businesses.

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 plan for healthy, connected, and inclusive communities along the Southwest Corridor beginning with a West Portland Town Center Plan and South Portland Area Planning. When the light rail project funding is secured, the City will expand this project to include planning for station areas at Southwest 53rd, 30th, 19th Avenues, and Southwest Custer, Hamilton, and Gibbs Streets.

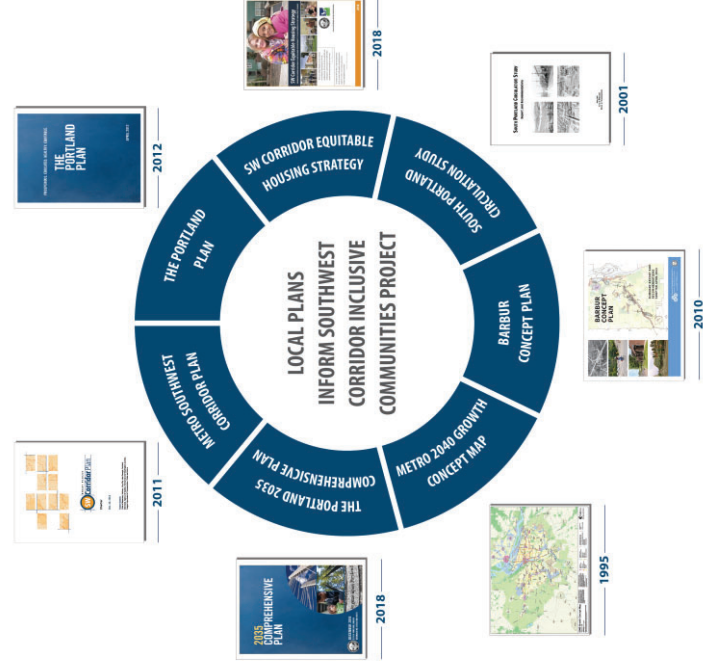
This first phase of place-specific planning will give developers and the community the clarity about what form and community benefits future development should achieve. Publicly-owned opportunity sites will feed into a development pipeline of market-rate and affordable housing for lower-income households. Increased community capacity will ensure all voices are heard and the priorities of low-income households and 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 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.

Metro's recently completed Southwest Equitable Development Strategy (SWEDS) is also informing how the City plans for workforce and small business development along the corridor.



*https://beta.portland.gov/sites/default/files/2019-09/community-based-solutions_0.pdf

Inclusive Communities Project outcomes

1. **Plans adopted by Portland City Council** for complete and inclusive communities with a full range of housing choices, thriving business districts, healthy and connected built environments, and strong social networks and institutions. Plans will include urban design plans, infrastructure plans, and increased zoning code entitlements with accompanying framework for public benefits and investments .
2. **Updated South Portland Historic Design Guidelines** that apply to alterations, additions, and new construction within the historic district.
3. **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**.
4. **An inter-jurisdictional workgroup** to execute the responsibilities detailed in the [Memorandum of Understanding \(Appendix C\)](#) between TriMet, City of Portland, Washington County, City of Tigard, and Metro to coordinate equitable transit-oriented development (TOD) along the corridor.
5. **Community Grants Program for capacity building and engagement activities** by community-based organizations (CBO) working on anti-displacement initiatives in Southwest Portland. These CBOs advise project decisions, build organizational relationships, and help the City and its public partners to deepen ties with communities vulnerable to displacement pressures.

West Portland Town Center Plan

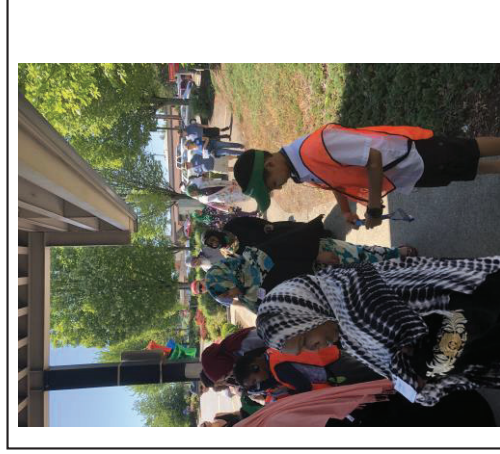
The West Portland Town Center (WPTC) Plan will lay out a vision for a healthy, connected, and multi-cultural town center and an action plan to meet the diverse needs and of current and future residents and businesses. The planning process will result in a proposed plan to the Portland City Council in late 2020.

Community engagement is underway with an established Community Advisory Group and a series of large community-wide events including walking tours, design workshops, and open houses. Community Alliance of Tenants, UniteOregon, and HAKI are funded to engage to low-income renters, immigrants, and people of color through focus groups, educational workshops, and door-to-door canvassing.

Hundreds of community members have participated in the formation of early town center growth concepts to achieve the community’s two overarching goals for “Strong Communities and People” and “Great Places with Equitable Access.”

A Health Equity Assessment of the town center was conducted in addition to an analysis of broader existing condition. Findings from the assessment show significant racial, economic, and geographic disparities exist within the town center. These findings informed a proposed health equity framework that will provide the foundation of the town center plan.

As part of this project, the Fair Housing Council of Oregon developed and presented a new curriculum for fair housing and equity trainings to



June 2019 walking tour of the West Portland Town Center

the general public in the corridor. The Portland Planning and Sustainability Commission also received this 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.

South Portland Area Planning

The Bureau of Planning and Sustainability and Portland Bureau of Transportation (PBOT) are working with community members to develop transportation and land use plans in South Portland, featuring a Naito Main Street Concept Plan.

An existing conditions analysis of South Portland included a historical review of the harm done by past land use and transportation infrastructure projects in the area. Urban renewal, retiling, multiple Ross Island Bridge access ramp expansions, I-5, and I-405 divided the neighborhood and particularly harmed low-income renters and immigrants. The City aims to redress past harms through these current planning projects.

PBOT is planning for the re-alignment of the Ross Island Bridge access ramps and a new complete street design concept for Naito Parkway. The transportation planning and multimodal urban design concepts will be included in a summary report in support of the November 2020 Get Moving regional transportation measure. This transportation funding measure is anticipated to provide funding for implementation of the new bridge access ramps and multi-modal access and local street connectivity improvements for the South Portland neighborhoods adjacent to the Ross Island Bridge.

Land use planning includes evaluation of six acres of publicly-owned developable land that will be made available as a result of a new alignment of the bridge access ramps. The land use planning will result in updates to the South Portland Design Guidelines, a land use and urban design plan for Naito Parkway, and redevelopment concepts for the six acres of public land. These plans will be brought to the Portland City Council in late 2020.

A Community Advisory Group exists to guide the historic design guidelines update. A series of open houses 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 through 2020.



November 2019 Community Open House for the Naito Main Street Project

MEMORANDUM OF UNDERSTANDING REGARDING CONSTRUCTION OF THE SOUTHWEST CORRIDOR LIGHT RAIL PROJECT IN TIGARD CITY LIMITS

This Memorandum of Understanding (“MOU”) is between the City of Tigard (“Tigard”) and Tri-County 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 facilitating housing preservation and development, employment preservation and enhancement, and redevelopment land preservation and creation in the City of Tigard.

The Southwest Corridor Steering Committee (“Steering Committee”) recommended a Preferred Alternative that serves downtown Tigard by placing a station east of Hall Boulevard in an industrial district. This station location requires focused attention on pedestrian connectivity across and along Hall Boulevard and urban design considerations to ensure development near the station supports commonly understood station area development principles. It also avoids significant adverse traffic 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 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

Whereas, all parties support the extension of light rail in the Southwest Corridor to address the existing and forecasted travel demand in this corridor and support the region’s 2040 Growth Concept and Tigard’s land use vision.

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, including light rail as the transit mode, the Preferred Alternative as the route, and Bridgeport Village as the desired terminus.

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 funding the SWC Project must score competitively on multiple metrics to compete for federal funding, 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.

Whereas, TriMet and Tigard seek to improve mobility, ensure high quality transit operations, and provide opportunities to enhance transit ridership within the City of Tigard by facilitating enhanced connectivity and transit-oriented development. TriMet will collaboratively look for approaches to siting

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.

Whereas, Tigard seeks to advance implementation of assorted plans and policies focused on downtown redevelopment, including its Comprehensive Plan, and recognizes that multimodal transportation enhancements and catalytic development opportunities can occur in conjunction with the SWC Project.

Agreements

The parties agree to cooperate on the following items of interest:

1. If the SWC Project terminates at Bridgeport in the City of Tualatin, Tigard and TriMet will recommend to the Steering Committee that the Project will locate at least four light rail stations in the City of Tigard as follows: (1) one serving the northern portion of the Tigard Triangle; (2) one serving the southern portion of the Tigard Triangle; (3) one serving downtown Tigard; and (4) one serving the 72nd Avenue corridor. The final location of the terminal station at Bridgeport may be an additional station in Tigard.
2. With regard to the station serving downtown Tigard, the project must meet the conditions below. The following concepts will be included in a draft and final Conceptual Design Report to be presented to the City Council for acceptance:
 - a. Light rail station platform(s) will be located immediately south and east of Hall Boulevard. In consultation with Tigard, TriMet will lead planning and design studies to determine the optimal location of bus transit facilities and park and ride facilities to optimize and pedestrianize the downtown station area for Tigard residents, employees, visitors and 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 Committee.
 - b. Pedestrian access and multimodal connectivity to the Downtown Tigard station platform are important to achieving the goals of creating an active station, fostering transit ridership, and facilitating connections to residences and businesses. Design of pedestrian 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 for clear, safe multimodal access to a light rail station on Hall Boulevard and share this as 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.
 - c. Tigard desires transit-oriented development (“TOD”) to occur around the Downtown Tigard station and recognizes that the construction of parking facilities is a financial hurdle

to TOD's feasibility. In conjunction with a Station Optimization Study, the parties will consider additional non-transit parking at the structure that supports transit-oriented development. The parties understand that the FTA will not fund parking facilities for non-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 prior 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. This proposal will be informed by the Steering Committee's decision on the location and size of park and ride facilities along the alignment.

- d. 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") in Tigard city limits to maximize the redevelopment potential of the downtown station area. The O&M Facility will be located and designed to complement adjacent development and include physical and visual connections to its surrounding environment wherever possible.
 - e. 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 TriMet will, through its planning and design efforts, help to effectuate. The goal is to achieve an overall employment density increase in the Hunziker Industrial Core after the Project is constructed as compared to before.
3. If the Project does not terminate at Bridgeport in Tualatin, Tigard and TriMet will recommend to the Steering Committee three light rail stations will be located in the City of Tigard as follows: (1) one serving the northern portion of the Tigard Triangle; (2) one serving the southern portion of the Tigard Triangle; and (3) one serving downtown Tigard. With regard to the downtown-serving station, TriMet and Tigard will work jointly to agree to the design and location of an 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 Bridgeport Village. Should the extension to Bridgeport Village be done in phases, TriMet will use its best efforts to ensure such completion occurs as quickly as possible, with a strong preference for within 10 years from the completion of the first phase.
4. TriMet will demonstrate support for Tigard efforts to establish a multimodal Ash Avenue crossing across the existing freight tracks by furthering Tigard's interest in this crossing in Project negotiations with ODOT Rail and the railroad companies. This may be done by conducting a study of the nexus of this crossing with the Project and considering inclusion of the new crossing in the Project's Rail Order. TriMet will support Tigard's efforts to fund the new crossing as a Project betterment. Tigard will identify up to two existing public crossings that Tigard will close at Tigard's cost as part of an agreement with ODOT Rail.
5. TriMet will study and design the Project to accommodate bicycle and pedestrian travel to establish an active transportation connection between downtown and the Tigard Triangle. This

multi-use path will be a betterment and both parties agree to be co-applicants for grants to fund the bicycle and pedestrian infrastructure.

6. 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.
7. The parties seek to preserve and develop affordable housing in the city limits in proximity to the Project. TriMet and Tigard are both parties to the executed "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" ("Affordable Housing MOU"). As parties to the Affordable Housing MOU, TriMet agrees to use Project property to encourage development of affordable housing consistent with FTA requirements and Tigard agrees work to implement the Equitable Housing Strategy, facilitate construction of affordable housing, and work with TriMet to encourage ridership in the SW Corridor, which the parties recognize as encouraging enhanced transit corridors for streetcar and bus operations. Tigard anticipates using tax increment financing and potentially other funds for the development of affordable housing at or near TriMet stations.
8. TriMet and Tigard will develop an IGA to define the scope and budget necessary for City staff participation in Project activities.
9. This MOU is a statement of cooperation between the parties, setting out the parties' intent to act together to achieve the goals set out herein. This MOU may not be judicially enforced 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. The concepts in this MOU may be refined through additional intergovernmental agreements.

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.

CITY

By: Martha Wine

Print Name: Martha Wine

As Its: City Manager

Date: 11.13.2018

TRI-MET

By: Steve Witter

Print Name: Steve Witter

As Its: Executive Director, Capital Projects

Date: Nov 14, 2018

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