PORTLAND • TIGARD • TUALATIN
SW Corridor
Light Rail Project

Attachment F
to the Scoping Booklet

Analysis of Additional Roadway, Bicycle and Pedestrian Projects

October 21, 2016

Overview

The Southwest Corridor Light Rail Project is a proposed 12-mile Metropolitan Area Express (MAX) light rail line connecting Southwest Portland, Tigard and Tualatin. After several years of early planning and refinement, project partners have compiled a package of investments proposed for federal environmental review, known as the "proposed range of alternatives." The proposed range of alternatives includes options for the light rail line itself, as well as complementary investments such as sidewalks or bikeways that would improve access to the line. Public and agency input on the proposed range of alternatives will be solicited during the "scoping" period in September 2016. To learn more or share your comments, visit the project website at www.swcorridorplan.org.

The purpose of this document is to inform the public input, staff recommendation and Southwest Corridor Steering Committee decision on which additional roadway, bicycle and pedestrian projects are included for environmental review in the Draft Environmental Impact Statement (EIS).

Background

Through the Southwest Corridor Plan process, many roadway, bicycle and pedestrian projects have been identified that could improve safety and connectivity throughout the corridor and support the communities' land use visions. In July 2013, the steering committee endorsed a specific list of roadway, bicycle and pedestrian projects to pursue as part of the Shared Investment Strategy, which included a preliminary identification of projects that could provide access to the high capacity transit line or be constructed together with the transit project.

Along with the refinement of the high capacity transit mode, alignments and stations, project partners have further developed the list of potential accompanying roadway, bicycle and pedestrian projects, removing projects that would be more appropriate to pursue with other funding sources and adding new projects as alignments were added or infrastructure needs were identified.

Several projects have already been proposed for environmental review because they are integrally connected to the designs of at least one of the light rail alignments that will be studied in the Draft EIS. These projects are shown on the map on page 3, and are described in the *Proposed Range of Alternatives for Environmental* Review, available on the project website (www.swcorridorplan.org). Thirty-six additional projects are under consideration to include in the Draft EIS, primarily to provide adjoining neighborhoods with pedestrian and bicycle access to the transit stations and the

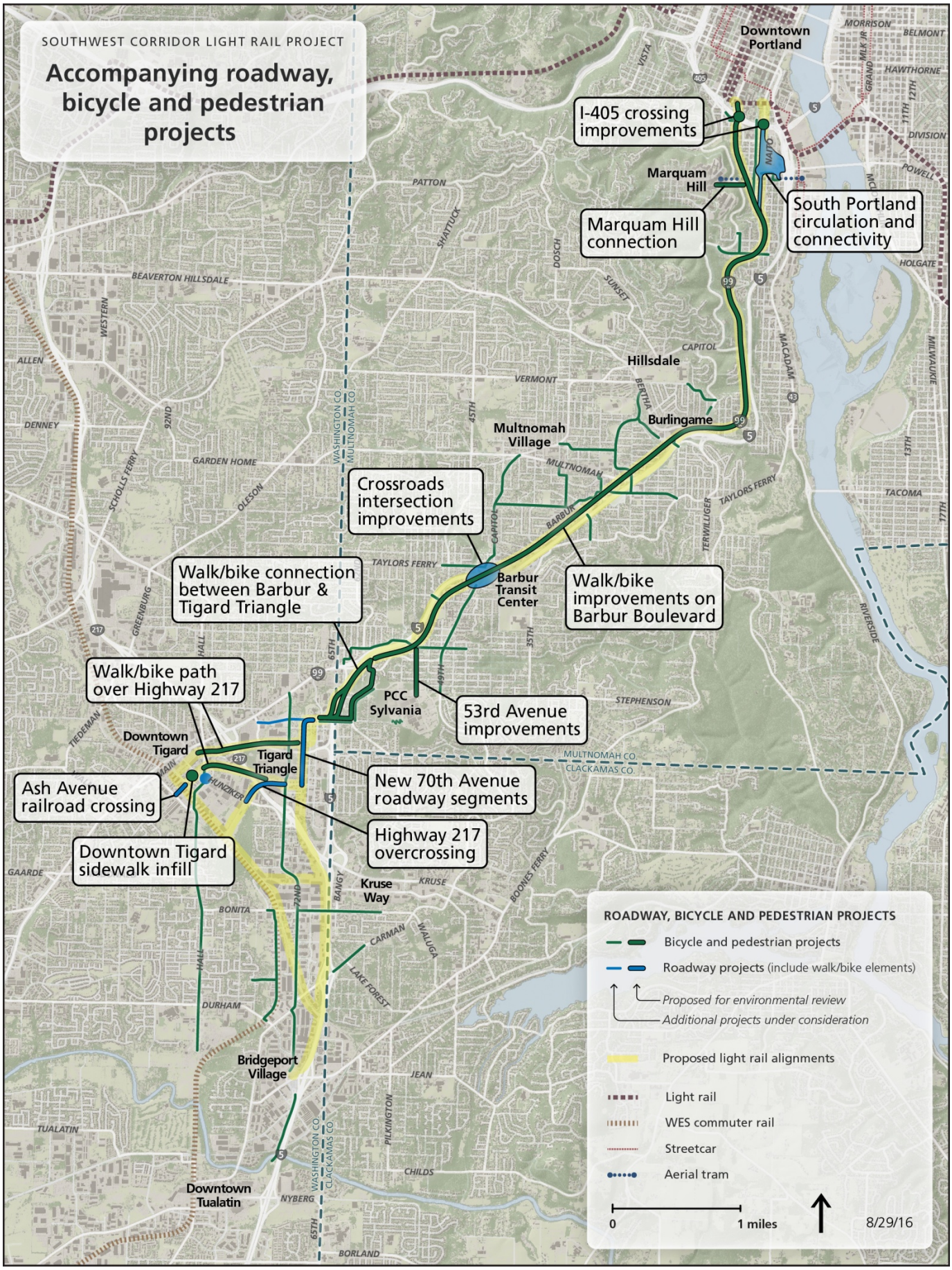
alignment. These additional projects have undergone more detailed analysis to better understand the costs and benefits of including each project in the Draft EIS. This analysis is summarized in this document.

Next steps

Public input on the additional roadway, bicycle and pedestrian projects, including any new projects suggested during scoping, will be reviewed by project partner staff in October 2016. These public comments, paired with the analysis presented in this document, will inform a staff recommendation on which projects to study further in the Draft EIS. The staff recommendation is scheduled to be released in November 2016, and the Southwest Corridor Steering Committee is scheduled to consider the recommendation at their December 2016 meeting.

A **scoping survey** is available on the project website (www.swcorridorplan.org) to gather public input regarding the range of alternatives, including the additional roadway, bicycle and pedestrian projects. Specifically, input is requested on:

- What are the most important factors for decision makers to consider when deciding which additional roadway, bicycle and pedestrian projects to study in the Draft EIS?
- Are there any additional projects that would provide improved access to a proposed light rail station that should be studied in the Draft EIS?


SOUTHWEST CORRIDOR LIGHT RAIL PROJECT
Accompanying roadway, bicycle and pedestrian projects
Downtown Portland
I-405 crossing improvements
Marquam Hill
Marquam Hill connection
South Portland circulation and connectivity
Hillsdale
Burlingame
Multnomah Village
Crossroads intersection improvements
Walk/bike connection between Barbur & Tigard Triangle
Barbur Transit Center
Walk/bike improvements on Barbur Boulevard
Walk/bike path over Highway 217
PCC Sylvania
53rd Avenue improvements
Downtown Tigard
Tigard Triangle
Ash Avenue railroad crossing
New 70th Avenue roadway segments
Highway 217 overcrossing
Downtown Tigard sidewalk infill
Kruse Way
Bridgeport Village
Downtown Tualatin
ROADWAY, BICYCLE AND PEDESTRIAN PROJECTS
Bicycle and pedestrian projects
Roadway projects (include walk/bike elements)
Proposed for environmental review
Additional projects under consideration
Proposed light rail alignments
Light rail
WES commuter rail
Streetcar
Aerial tram
0
1 miles
8/29/16

Walking and biking projects

The majority of the additional projects under consideration are bicycle and pedestrian projects that would improve walking and biking access to the proposed light rail stations from surrounding neighborhoods. The preliminary assessment in this document took the following considerations into account:

How critical is the project to provide access to a proposed light rail station?

- **Proximity:** Does any part of the project extend beyond a half mile from a station for pedestrian improvements or three miles for bike improvements? Pedestrian and bicycle improvements beyond these distances may be eligible for federal funding, but would need to demonstrate "that the improvement is within the distance that people will travel by foot or bicycle to use a particular station."
- **Redundancy:** Would the project provide a connection that is parallel to other bicycle and pedestrian facilities that are in close proximity?
- **Destinations:** What are the destinations and transit-supportive land uses that would have new or improved access to/from light rail stations with the project?
- **Barriers:** Would the project provide new or improved access across any physical barriers?

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

- **Roadway characteristics:** What are the roadway characteristics that may adversely affect the safety of bicyclists and pedestrians, including auto speeds and volumes, functional classification or geometry?
- **Bike and pedestrian crash history:** Is there a history of crashes resulting in injuries or fatalities of bicyclists and pedestrians at the project location or on a roadway for which the project would provide an alternative route?[1]
- **Local and regional plans:** Is the project identified or prioritized in any adopted plans?
- **Equity:** Would areas served by the project include higher proportions of historically under-served populations compared to the regional average?[2]

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

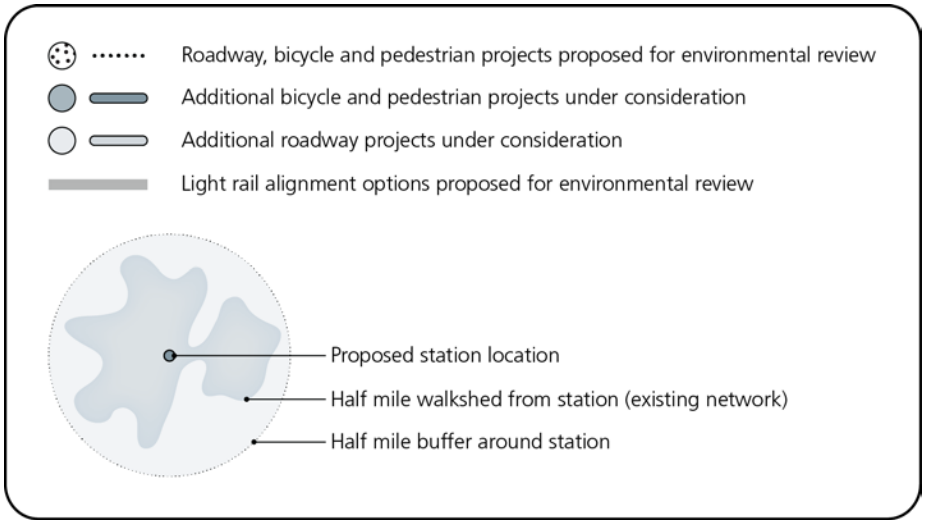
- **Capital cost:** estimated cost to construct the project[3]
- **Property acquisitions:** anticipated partial or full property acquisitions
- **Construction risk:** issues that would add a high degree of risk in terms of permitting, engineering or construction
- **Environmental impacts:** potential construction-period or long-term impacts to parks and natural areas

[1] Data from 2007 to 2014
[2] Includes people of color, low income, and limited English proficiency
[3] In 2014$, rounded to the nearest ten thousand

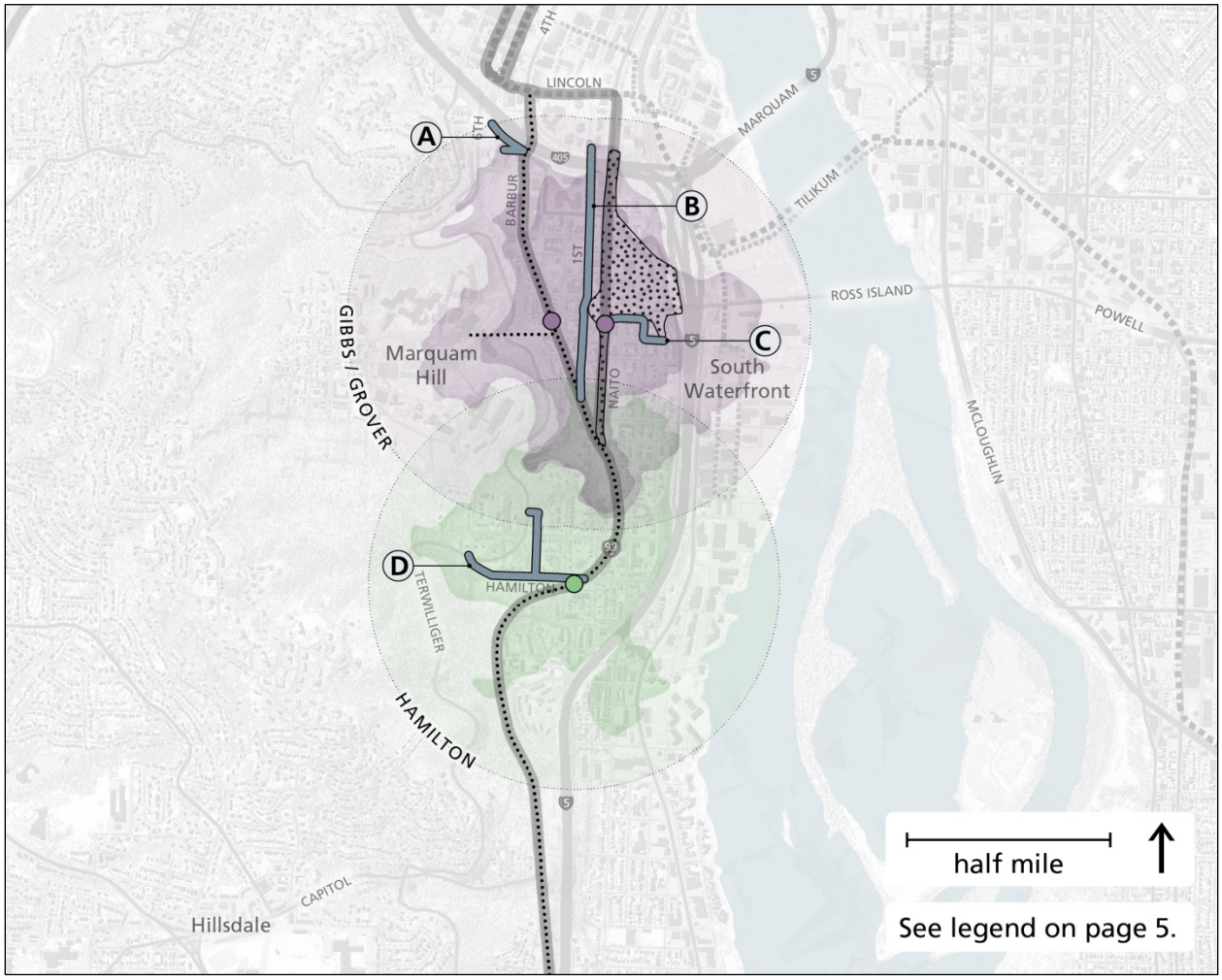
The maps, descriptions and considerations of the station area projects are grouped geographically on the following pages:

- South Portland
- Barbur Boulevard historic highway area
- PCC Sylvania area
- Tigard Triangle and Downtown Tigard
- Southeast Tigard and Bridgeport Village.

The legend below applies to all of the maps on the following pages. Station dots, walksheds and half mile buffers are uniquely colored by general station location to help distinguish between stations. Each general station location typically has multiple specific site options, which are primarily dependant on the alignment option. Separate walksheds for these specific station sites are only shown if the stations are more than approximately one block apart.



1. South Portland



Light Rail Alignments

Two alignment options remain in South Portland: SW Barbur Boulevard and SW Naito Parkway. For both options, a station would be located near SW Gibbs Street. The existing Darlene Hooley Pedestrian Bridge over I-5 would provide access to the South Waterfront area and a new mechanized pedestrian and bicycle connection would provide access to Marquam Hill. See the *Marquam Hill Connection Options for Scoping* document on the project website (www.swcorridorplan.org) for more information about the various concepts under consideration for this connection.

South of Naito Parkway, the light rail line would run in the center of Barbur Boulevard with a station would located at SW Hamilton Street. Through "The Woods" section of Barbur, the alignment would continue to run in the center of the roadway. No stations are proposed along this segment.

For a more detailed description of the alignment and station options, see the *Proposed Range of Alternatives for Environmental Review*, available on the project website.

Additional Projects

A. Broadway and Caruthers Street sidewalks and bikeway

This project would reconstruct the sidewalk on the north side of SW Broadway between SW 4th and 5th Avenues to widen to 8 to 12 feet, add a bike lane on SW Caruthers Street between Broadway/4th and 5th, and add a crosswalk across Caruthers at Broadway and 4th.Widening the sidewalks would require restriping these segments of Broadway and Caruthers and constructing retaining walls along Broadway to maintain the existing I-405 ramp location.

Considerations:

- Would not provide direct station access – closest station would be across I-405 at 5th Avenue and Jackson Street (southbound) or 6th Avenue and College Street (northbound)
- Would mostly reconstruct existing sidewalks New bike lane on Caruthers would connect to an existing shared street bikeway on Caruthers between SW 5th and 6th Avenues
- Broadway is a minor arterial with high traffic volumes and this segment of Caruthers is a major collector street
- A collision at Caruthers Street and 5th Avenue resulted in a minor pedestrian injury in 2012
- Not specifically included in local or regional plans
- Estimated capital cost of $630,000 (2014$), most of which covers the cost of the sidewalks
- No anticipated property acquisitions

B. 1st Avenue bikeway

This project would restripe SW 1st Avenue to provide a southbound bike lane (uphill) and a northbound shared street bikeway (downhill) from SW Lincoln Street to SW Barbur Boulevard.

Considerations:

- Within 1-2 blocks of a light rail station at Lincoln Street and SW 3rd Avenue for the Naito alignment, and 1-2 blocks of a station on Barbur or Naito between SW Grover Street and SW Gibbs Street
- Would provide a parallel, lower-traffic bike route compared to either Naito Parkway or Barbur Boulevard
- 1st Avenue is a major collector street north of SW Grover Street and a local street with lighter traffic south of Grover
- Not specifically included in local or regional plans
- Would serve areas with higher proportions of people of color and low income residents compared to the regional averages
- A collision on 1st Avenue at SW Hooker Street resulted in a moderate bicyclist injury in 2010
- Estimated capital cost of $50,000 (2014$)
- No anticipated property acquisitions
- Would remove southbound on-street parking on 1st Avenue from SW Arthur Street to Barbur Boulevard

C. Naito Parkway to Hooley Bridge bikeway

This project would create a two-way shared street bikeway on Grover Street, Corbett Avenue and Gibbs Street to connect a light rail station at Naito Parkway and Grover Street to the Darlene Hooley pedestrian and bicycle bridge over I-5.

Considerations:

- Would connect to light rail station on Naito Parkway at Grover Street, assuming reconnected street grid along Naito Parkway as part of the South Portland circulation and connectivity project
- Would connect to multifamily housing and educational/employment opportunities in the South Waterfront area
- These segments of Grover Street and Corbett Avenue are major collectors, while Gibbs Street is a local street
- Not specifically included in local or regional plans
- Estimated capital cost of $60,000 (2014$)
- No anticipated property acquisitions

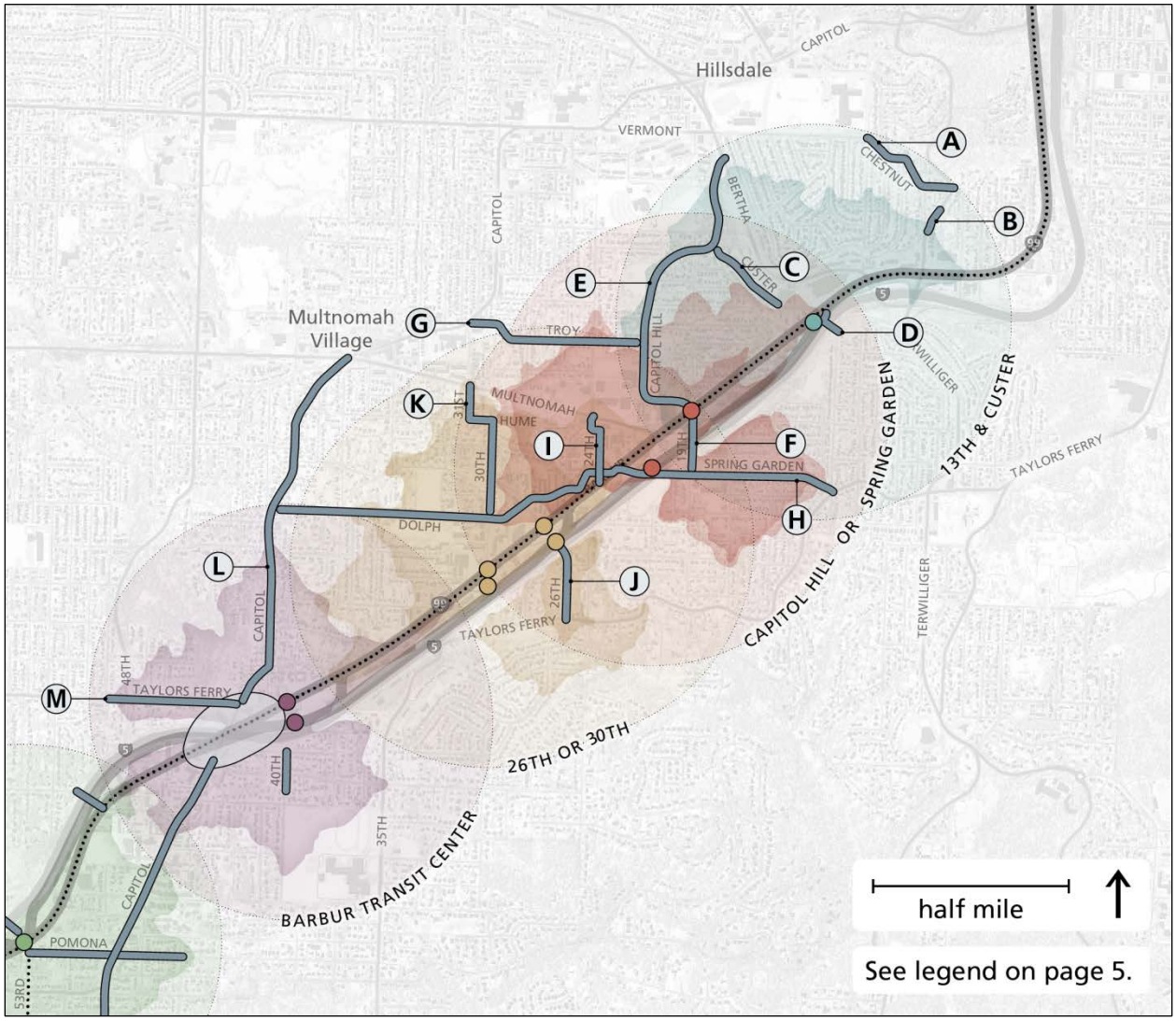
D. Hamilton Street/Terrace bikeway and sidewalks

This project would create a shared street bikeway connecting Barbur Boulevard to Terwilliger Parkway via both SW Hamilton Street and SW Hamilton Terrace. The project would also fill in a missing sidewalk on one side of Hamilton Street for approximately one block east of Terwilliger.

Considerations:

- Would connect to light rail station on Barbur Boulevard at Hamilton Street
- Sidewalks and bikeway on western portion of Hamilton Street would connect to Terwilliger Parkway and several single-family homes west of Terwilliger on SW Bancroft Terrace
- Sidewalk connection on Hamilton Street may be redundant considering existing sidewalks on Hamilton Terrace
- Bikeway on Hamilton Street and Hamilton Terrace would connect to Terwilliger Parkway near SW Homestead Drive, which ties into street network of the VA Hospital, OHSU and the western portion of the Homestead neighborhood
- Located on local streets with low traffic volumes
- A collision at the intersection of Hamilton Terrace and Terwilliger Parkway resulted in a moderate bicyclist injury in 2008
- Not specifically included in local or regional plans
- Estimated capital cost of $380,000, including approximately $40,000 for the bikeway restriping and $340,000 for the sidewalks (2014$)
- No anticipated property acquisitions
- No anticipated impacts to Terwilliger Boulevard Parkway with sidewalks on one side only

2. Barbur Boulevard Historic Highway Area



Light Rail Alignments

South of "the Woods", the light rail would remain on SW Barbur Boulevard until at least SW 13th Avenue. Between 13th Avenue and the Barbur Transit Center the light rail line could either run in the center of Barbur, adjacent to I-5, or some combination of the two. For light rail on Barbur, stations are proposed for 13th Avenue/SW Custer Street, SW Capitol Hill Road/SW 19th Avenue, SW 26th or SW 30th Avenue, and the Barbur Transit Center. For alignments adjacent to I-5, stations would be at 13th Avenue/Custer Street, SW Spring Garden Street/SW 22nd Avenue, 26th or 30th Avenue, and the Barbur Transit Center.

For a more detailed description of the alignment and station options, see the *Proposed Range of Alternatives for Environmental Review*, available on the project website.

Additional Projects

A. Terwilliger Parkway bikeway gap

This project would complete a short gap in the southbound bike lane on SW Terwilliger Parkway north of SW 7th Avenue, including reconstruction of the adjacent sidewalk and a short section of retaining wall.

Considerations:

- Would not provide direct station access – closest proposed light rail station would be on Barbur Boulevard between SW Custer Street and SW 13th Avenue
- Would provide a connection between the light rail station and Wilson High School in combination with the Chestnut Street bikeway project, though Vermont Street and SW Bertha Boulevard, which both have existing bike lanes, would provide an alternative route of a similar distance
- Located on a major collector street
- Included in the Portland Transportation System Plan (TSP) (90091) and on Metro's Regional Active Transportation Plan bicycle network
- Estimated capital cost of $260,000 (2014$)
- No anticipated property acquisitions

B. Chestnut Street bikeway

This project would restripe SW Chestnut Street to create a westbound bike lane (uphill) and an eastbound shared street bikeway (downhill) between SW Vermont Street and SW Terwilliger Boulevard.

Considerations:

- Would not provide direct station access – closest proposed light rail station would be on Barbur Boulevard between SW Custer Street and SW 13th Avenue
- Would provide a connection between the light rail station and Wilson High School in combination with the Terwilliger Boulevard bikeway gap project, though Vermont Street and SW Bertha Boulevard, which both have existing bike lanes, would provide an alternative route of a similar distance
- Located on a local street
- Estimated capital cost of $30,000 (2014$)
- No anticipated property acquisitions
- Would remove westbound on-street parking on Chestnut Street between SW 10th Avenue and Terwilliger Boulevard

C. Custer Drive sidewalks

This project would construct sidewalks on the north side of SW Custer Drive between SW Capitol Hill Road and SW 13th Avenue.

Considerations:

- Would connect to the proposed light rail station on Barbur Boulevard between 13th Avenue and SW Custer Street
- Would serve multifamily housing along Custer Drive, though Bertha Boulevard and 13th Avenue, which both have existing sidewalks, would provide an alternative connection at a slightly longer distance
- Would serve areas with higher proportions of people of color and low income residents compared to the regional averages
- Located on a local street
- Estimated capital cost of $880,000 (2014$)
- Anticipated partial property acquisitions

D. Pedestrian/bicycle bridge over I-5 near Custer Street

This project would construct a new crossing over I-5 for pedestrians and bicyclists near the proposed light rail station on Barbur Boulevard between SW Custer Street and SW 13th Avenue. The bridge would connect to SW 11th Avenue and SW Canby Street at the north end of Burlingame Park, and provide a street light in this location. The need to construct water quality facilities is anticipated.

Considerations:

- Would connect to the proposed light rail station on Barbur Boulevard between 13th Avenue and SW Custer Street
- Would provide more direct walk and bike access to the light rail station for residential areas that would otherwise need to cross I-5 at Terwilliger (a minor arterial with a speed limit of 30 miles per hour) to access the 13th Avenue station, or at SW 19th Avenue or SW Spring Garden Street (major collectors) to access the next station to the south
- Would provide walking and biking access across I-5 along a 0.7-mile stretch without crossings (between Terwilliger Parkway and 19th Avenue)
- Not specifically identified in local or regional plans
- Estimated capital cost of $4.35 million (2014$)
- High construction risk because of location over I-5. Span length may need to increase to allow future realignment of I-5 through the Terwilliger curves.
- No anticipated property acquisitions
- Potential park impacts due to location of southern bridge landing near Burlingame Park

E. Capitol Hill Road sidewalks and bikeway

This project would construct sidewalks and a bikeway on SW Capitol Hill Road between Barbur Boulevard and SW Bertha Boulevard. Current designs assume infill sidewalks between Safeway and Custer Park, new sidewalks between Custer Park and Bertha Boulevard, uphill bike lanes, and a downhill shared street bikeway. Retaining walls would be needed to address grades and provide

the necessary width for these improvements. The need to construct water quality facilities is anticipated.

Considerations:

- North of Custer Park, the project would connect with the Custer Drive sidewalks project to serve the proposed light rail station at Barbur Boulevard and 13th Avenue
- South of Custer Park, the project would connect to the proposed station on Barbur at Capitol Hill Road or adjacent to I-5 north of Spring Garden Street
- Included in the Portland TSP (90002)
- Located on a major collector street
- Would serve an area with a higher proportion of low income residents compared to the regional average
- Estimated capital cost of $11.28 million (2014$), which could be reduced by $2.70 million if sidewalks are only constructed on one side of the street between Custer Park and Bertha Boulevard
- Anticipated partial property acquisitions

F. 19th Avenue bikeway

This project would add a bikeway on SW 19th Avenue between Barbur Boulevard and SW Spring Garden Street. Current assumptions include a bike lane northbound along the full length of the project (part of which exists today) and a combination of a bike lane and shared street bikeway markings southbound. The southbound bike lane would merge into the shared street bikeway at the southern edge of the bridge over I-5 to fit into the narrower roadway width.

Considerations:

- Would connect to the proposed light rail station on Barbur Boulevard north of Capitol Hill Road or adjacent to I-5 north of Spring Garden Street
- Would provide access for residential areas south of I-5, including multifamily housing at 19th and Spring Garden, as well as Capitol Hill Elementary School and the St. Clare Church and School
- Located on a major collector street
- One potential full property acquisition resulting from lost parking spaces
- Estimated capital cost of $800,000 (2014$), which could be reduced to approximately $50,000 if the property acquisition could be avoided

G. Troy Street bikeway

This project restripes SW Troy Street to provide an uphill bike lane and downhill shared street bikeway between SW Capitol Hill Road and SW Capitol Highway.

Considerations:

- Would connect to the proposed light rail station on Barbur Boulevard north of Capitol Hill Road or adjacent to I-5 north of SW Spring Garden Street with the Capitol Hill Road bikeway project
- Would provide access to destinations in Multnomah Village, though the existing bikeway on SW Multnomah Boulevard would provide a parallel route. The shortest distance to Multnomah Village from the light rail line would be from a 26th Avenue or 30th Avenue station via 30th Avenue, Hume Street and 31st Avenue.
- Located on a local street
- Would serve an area with a higher proportion of low income residents compared to the regional average
- Not specifically identified in local or regional plans
- Estimated capital cost of $40,000 (2014$)
- No anticipated property acquisitions
- Would remove westbound on-street parking

H. Spring Garden Street and Dolph Court sidewalks and bikeway

On the southeast side of I-5, this project would construct sidewalks and bike lanes on SW Spring Garden Street between SW 19th Avenue and SW Taylors Ferry Road. On the northwest side of I-5, this project would construct sidewalks and a bikeway on Spring Garden between Barbur Boulevard and 26th Way, and on Dolph Court between 26th Way and SW Capitol Highway. Current assumptions include an uphill bike lane and downhill shared street bikeway on Dolph Court between Capitol Highway and 30th Avenue. Retaining walls would be needed to address grades, maintain access to properties and provide the necessary width for these improvements. The need to construct water quality facilities is anticipated.

Considerations:

- Would connect to the proposed light rail stations on Barbur at Capitol Hill Road (via 19th Avenue), adjacent to I-5 at Spring Garden Street, either adjacent to I-5 or on Barbur at 26th Avenue, or on Barbur at 30th Avenue
- Would provide access for residential areas south of I-5, including multifamily housing at 19th and Spring Garden, as well as Capitol Hill Elementary School and the St. Clare Church and School
- Would provide access for residential areas north of I-5 and the Spring Garden City Park
- Dolph Court is a local street and Spring Garden Street is a major collector street with a speed limit of 30 miles per hour
- Three recent collisions on Spring Garden Street have resulted in pedestrian or bicyclist injuries:
    - Minor bicyclist injury between SW 17th Avenue and 19th Avenue in 2008
    - Minor pedestrian injury at 19th Avenue in 2012

    - Moderate pedestrian injury at 26th Avenue in 2010
- Would serve an area with a higher proportion of people of color compared to the regional average
- Included in the Portland TSP (90061, 90073)
- Estimated capital cost of $11.50 million (2014$)
- Anticipated partial property acquisitions
- Would remove on-street parking west of I-5, and east of I-5 on the north side of Spring Garden between 17th Avenue and 19th Avenue
- Sidewalk widths are currently assumed to narrow at Spring Garden City Park to avoid construction impacts to the park

I. 24th Avenue sidewalks and bikeway

This project would construct infill sidewalks and a bikeway on SW 24th Avenue, SW Hume Court and SW 25th Avenue between Barbur Boulevard and Multnomah Boulevard, and include a signalized pedestrian crossing across Multnomah Boulevard at 25th Avenue. Current assumptions include northbound bike lanes and a southbound shared street bikeway.

Considerations:

- Would provide indirect station access – closest proposed light rail station would be at 26th Avenue or Capitol Hill Road for the Barbur Boulevard alignment or at Spring Garden Street for the adjacent to I-5 alignment.
- Would serve Multnomah Village and the residential area north of Barbur Boulevard, including multifamily housing
- Bike and pedestrian improvements on 22nd Avenue could provide a more direct bike route from Multnomah Boulevard to Barbur Boulevard compared to 24th Avenue (the existing one-way roadway connection from Barbur to Multnomah Boulevard has a bike lane)
- Located on a local street with relatively high localized traffic volumes because of a large fuel station
- Would serve an area with a higher proportion of low income residents compared to the regional average
- Modification of part of a project included in the Portland TSP (90061)
- Estimated capital cost of $1.11 million (2014$)
- Anticipated partial property acquisitions
- Would remove northbound on-street parking on 24th Avenue between Barbur Boulevard and Hume Court

J. 26th Avenue sidewalks and bikeway

This project would construct sidewalks and bike lanes on SW 26th Avenue between the I-5 underpass and SW Taylors Ferry Road and add lighting under the I-5 structure. Retaining walls

would be needed to address grades, maintain access to properties and provide the necessary width for these improvements. The need to construct water quality facilities is anticipated.

Considerations:

- Would directly or indirectly connect to the proposed light rail station at either 26th Avenue or 30th Avenue
- Would provide access for residential areas south of I-5
- Located on a major collector street
- A collision at 26th Avenue and Taylors Ferry Road resulted in a moderate bicyclist injury in 2013
- Included in the Portland TSP (90002)
- Estimated capital cost of $1.40 million (2014$)
- Anticipated partial property acquisitions and one potential full property acquisition

K. 30th Avenue/Hume Street/31st Avenue sidewalks

This project would construct sidewalks on SW 30th Avenue, SW Hume Street and SW 31st Avenue between Dolph Court and Multnomah Boulevard. Construction of some water quality facilities is anticipated.

Considerations:

- Would connect to the proposed light rail station at 26th Avenue for the adjacent to I-5 alignment and at either 26th Avenue or 30th Avenue for the Barbur alignment
- Would provide access to Multnomah Village and multifamily housing
- Located on local streets
- Included in the Portland TSP (90100)
- Would serve areas with higher proportions of people of color and low income residents compared to the regional averages
- Estimated capital cost of $3.22 million (2014$)
- Anticipated partial property acquisitions

L. Capitol Highway sidewalks and bike lanes

This project would construct sidewalks and bike lanes on Capitol Highway between Multnomah Village and Barbur Boulevard at the "Crossroads" intersection.

Considerations:

- Would connect to the proposed light rail station at Barbur Transit Center
- Would provide access to Multnomah Village and residential areas along Capitol Highway
- Located on a major collector street with a speed limit of 35 miles per hour, high vehicle volumes, and poor sight lines due to roadway curvature and vegetation. Because of poor street connectivity in the area, there are no alternative paved routes for cyclists and pedestrians to make the same connection.

- Would serve an area with a higher proportion of people of color compared to the regional average
- Included in the Portland TSP (90026) and the Regional Active Transportation Plan bicycle and pedestrian networks
- Capital cost estimate pending; Portland gas tax budgets include $3.31 million for Capitol Highway, which would be available through late 2020
- Anticipated partial property acquisitions

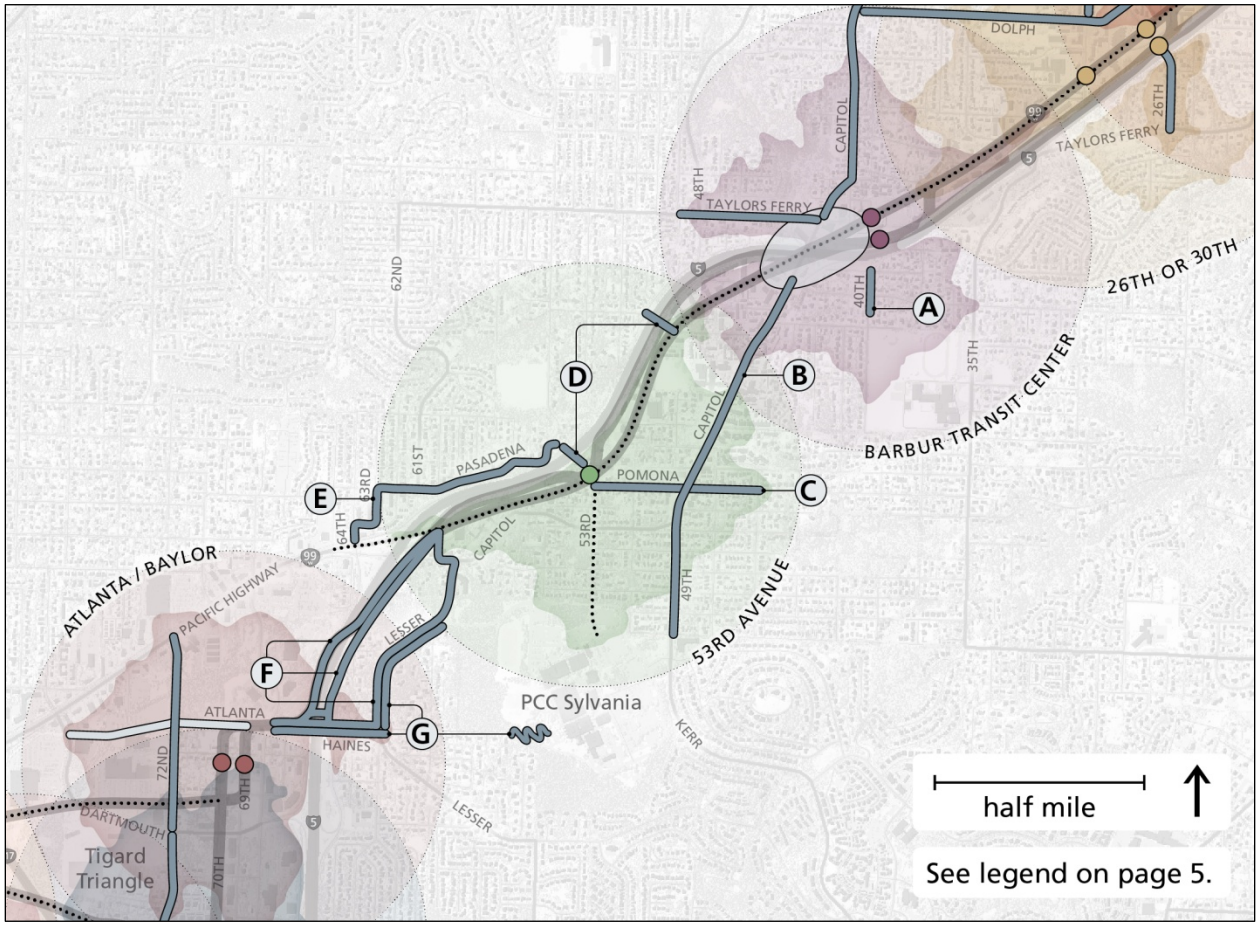
M. Taylors Ferry Road sidewalks and bikeway

This project would construct sidewalks and bike lanes on SW Taylors Ferry Road between SW Capitol Highway and SW 49th Avenue. Retaining walls would be needed to address grades, maintain access to properties, accommodate a culvert extension at Woods Creek and provide necessary width for these improvements. The need to construct water quality facilities is anticipated.

Considerations:

- Would connect to the proposed light rail station at the Barbur Transit Center
- Would provide access to residential area northwest of Barbur Boulevard, West Portland United Methodist Church and Child's View Montessori School
- Located on a minor arterial street with high auto volumes
- Included in the Portland TSP (90064.1, 90064.2) and the Regional Active Transportation Plan bicycle network
- Two recent collisions on this stretch of Taylors Ferry Road have resulted in pedestrian injuries:
    - Serious pedestrian injury at 43rd Avenue in 2013
    - Moderate pedestrian injury at 51st Avenue in 2010
- Estimated capital cost of $7.56 million (2014$)
- Anticipated partial property acquisitions

3. PCC Sylvania area



Light Rail Alignments

Between the Barbur Transit Center and SW 60th Avenue, light rail could continue on SW Barbur Boulevard or adjacent to I-5. Near the Portland-Tigard city limits, just west of where Barbur crosses over I-5 and turns into Pacific Highway, the light rail line would turn south to cross over I-5 and into the Tigard Triangle on a new structure. A station located at Barbur and SW 53rd Avenue would provide access to PCC Sylvania via 53rd Avenue, which would be improved with sidewalks, bicycle facilities, and lighting.

For a more detailed description of the alignment and station options, see the *Proposed Range of Alternatives for Environmental Review*, available on the project website.

Additional Projects

A. 40th Avenue sidewalks

This project would construct sidewalks on the west side of SW 40th Avenue between SW Wilbard Street and SW Alfred Street, with a rapid flashing beacon crosswalk at SW Huber Street.

Considerations:

- Would connect to the proposed light rail station at the Barbur Transit Center

- Would provide access to residential area south of I-5 and Jackson Middle School
- Would serve an area with a higher proportion of people of color compared to the regional average
- 40th Avenue is a local street with relatively low auto volumes due to limited street connectivity, but Huber Street is a major collector street
- Not specifically identified in local or regional plans
- Estimated capital cost of $770,000 (2014$)
- Anticipated partial property acquisitions

B. Outer Capitol Highway pedestrian improvements

This project would provide pedestrian improvements on SW Capitol Highway and SW 49th Avenue between Barbur Boulevard and SW Palatine Street, including new sidewalks, ramps, crosswalks, signals, bus shelters and medians.

Considerations:

- Because of the length and orientation of this project, the connection to proposed light rail station locations varies. The northern portions of the project would connect to a station at the Barbur Transit Center, and the southern portions of the project would indirectly connect to a station at Barbur Boulevard and SW 53rd Avenue (via SW Pomona Street).
- Would connect to West Portland Park town center, multifamily residential areas along Capitol Highway, the Islamic Center of Portland, Markham Elementary School, Capitol Hill Library and commercial node at Capitol Highway and Pomona Street
- Would serve an area with a higher proportion of people of color compared to the regional average
- Located on a minor arterial street with a speed limit of 35 miles per hour
- Several collisions on this stretch of Capitol Highway have resulted in pedestrian or bicyclist injuries:
    - Five collisions at or near SW Huber Street have resulted in two moderate bicyclist injuries and three minor or moderate pedestrian injuries (2009, 2010, 2012 and 2013)
    - Minor bicyclist injury at SW Alfred Street in 2013
    - Moderate pedestrian injury at SW Pomona Street in 2011
- Included in the Portland TSP (90027)
- Anticipated partial property acquisitions
- Estimated capital cost of $6.38 million (2014$)

C. Pomona Street sidewalks

This project would construct sidewalks and bike lanes on SW Pomona Street between SW 53rd Avenue and SW 45th Avenue. Retaining walls would be required. The need to construct water quality facilities is anticipated.

Considerations:

- Would connect to the proposed light rail station on Barbur Boulevard or adjacent to I-5 at 53rd Avenue
- Would connect to commercial node at SW Capitol Highway and Pomona Street, multifamily housing and surrounding single-family residential areas
- Located on a major collector street with poor sight distances due to roadway curvature and variation in slopes. Due to steep grades and limited street connectivity, there are no alternative paved bicycle or pedestrian routes to make the same connection.
- Would serve an area with a higher proportion of people of color compared to the regional average
- A collision at Pomona Street and Capitol Highway resulted in a moderate pedestrian injury in 2011
- Included in the Portland TSP (90055)
- Estimated capital cost of $5.08 million (2014$)
- Anticipated partial property acquisitions

D. Pedestrian/bicycle bridge over I-5 near Luradel Street or 53rd Avenue

This project would construct a new walking and biking crossing over I-5 at one of two locations: either between SW Alfred Street/SW 48th Drive and Barbur Boulevard/SW Luradel Street, or between SW Comus Street/SW 55th Avenue and Barbur Boulevard/53rd Avenue. Retaining walls would be required. The need to construct water quality facilities is anticipated.

Considerations for the Luradel Street bridge location:

- Would not provide direct station access – the closest proposed light rail station would be at the Barbur Transit Center, approximately a half mile from the bridge via Barbur Boulevard
- Would connect to residential area northwest of I-5. This area would also have walking and bicycling access to the Barbur Transit Center with the Taylors Ferry Road sidewalk and bikeway project. The pedestrian/bicycle bridge would shorten the walk/bike distance to the transit center by approximately 400 feet from the intersection of Alfred Street and 48th Drive.
- Would provide walking and biking access across I-5 along a 1.3-mile stretch without crossings (between Barbur Boulevard/Capitol Highway and Pacific Highway/64th Avenue)
- Included in the Portland TSP (90048)
- Anticipated partial property acquisitions
- Estimated capital cost of $3.62 million (2014$)
- High construction risk because of location over I-5. With the adjacent to I-5 option in this segment, the light rail alignment would need to be lowered to accommodate the pedestrian bridge, which would result in increased wall heights between I-5 and the trackway.

Considerations for the 53rd Avenue bridge location:

- Would connect to the proposed light rail station on Barbur Boulevard or adjacent to I-5 at 53rd Avenue
- Would provide walking and biking access across I-5 along a 1.3-mile stretch without crossings (between Barbur Boulevard/Capitol Highway and Pacific Highway/64th Avenue)
- Would connect to residential area northwest of I-5 and Dickinson City Park
- Modification of the pedestrian/bicycle bridge at Luradel Street included in the Portland TSP (90048)
- Would serve an area with a higher proportion of people of color compared to the regional average
- Anticipated impacts to landscaping within the Oregon Department of Transportation (ODOT) right-of-way along I-5. No anticipated property acquisitions.
- Capital cost estimate currently unavailable, but would be more expensive than Luradel Street location due to the need for significant retaining walls and ramp access to address steep grades on the west side of I-5
- High risk because of construction over I-5

E. Pasadena Drive sidewalks and bike lanes

This project would construct sidewalks and bike lanes connecting Barbur Boulevard/64th Avenue with the pedestrian/bicycle bridge over I-5 near 53rd Avenue. Current assumptions include sidewalks on both sides of the street and bike lanes in both directions on SW Palatine Street, SW 63rd Avenue, SW Pomona Street, SW Pasadena Street, and SW Pasadena Drive to SW Comus Street, as well as street improvements on the dead-end segment of SW Comus Street between Pasadena Drive and I-5. Retaining walls would be required. The need to construct water quality facilities is anticipated.

Considerations:

- For the eastern portion of the project, the closest proposed light rail station would be on Barbur Boulevard or adjacent to I-5 at 53rd Avenue. The pedestrian bridge over I-5 at 53rd Avenue would be required to complete this station connection (see project D above).
- The intersection of 64th and Barbur is about a three quarters of a mile walk from either the 53rd Avenue station or the northern Tigard Triangle station. While at a steeper grade than the route to the 53rd Avenue station, the existing sidewalks on SW 68th Avenue would provide a connection to the northern Tigard Triangle station from 64th and Barbur.
- Would connect to commercial areas and multifamily housing near Pacific Highway and largely single-family residential areas along Pasadena Drive
- Located on major collector streets southwest of 61st Avenue and local streets northeast of 61st Avenue
- Would serve an area with a higher proportion of people of color compared to the regional average

- Identified in the Portland TSP (90011)
- In order to receive New Starts funding, supplemental information would need to be provided to justify the sidewalk improvements located outside of the half mile buffer around the proposed light rail stations
- Estimated capital cost of $9.87 million (2014$)
- Anticipated partial property acquisitions

F. Walk/bike connection between Barbur Boulevard and the Tigard Triangle

This project would construct a pedestrian and bicycle connection between Barbur Boulevard/SW 60th Avenue and SW Atlanta Street/SW 68th Avenue. This project is included in the Proposed Range of Alternatives for Environmental Review, but further analysis and discussion is necessary to refine the project prior to the DEIS. The connection could be routed either on streets or on a separated pathway, with multiple variations for the separated pathway option.

The separated pathway could be located either on the light rail structure over I-5 or along the east side of I-5. The pathway along I-5 could cross over the freeway either on SW Haines Street (with walking and biking improvements) or on a new bicycle/pedestrian structure parallel to the Haines Street structure.

The on-street connection would create a bicycle and pedestrian route via 60th Avenue, SW Capitol Highway, SW Lesser Road, Haines Street and Atlanta Street. Current assumptions include: constructing sidewalks and bike lanes on Atlanta Street/Haines Street between 68th Avenue and Lesser Road; constructing sidewalks on the east side of Lesser Road between Haines Street and G Street; and restriping portions of Lesser Road, Capitol Highway and 60th Avenue to provide bike lanes uphill (toward G Street) and shared street bikeway markings downhill (away from G Street).

Considerations for the separated pathway options:

- Would provide an alternative route to walking or biking on Pacific Highway (99W) and SW 68th Parkway or on SW Lesser Road, SW Haines Street, and other connecting streets
- The relative isolation of a separated path could create potential security issues
- Not specifically identified in local or regional plans
- Would serve an area with a higher proportion of people of color compared to the regional average
- Estimated capital cost (all in 2014$):
    - $24.62 million for the pathway on the light rail structure
    - $7.96 million for the pathway along I-5 and a new bicycle and pedestrian bridge
    - $5.99 million for the pathway along I-5 to Haines Street, not including Haines Street bicycle and pedestrian improvements
- No anticipated property acquisitions

Considerations for the on-street connection options:

- Would provide an alternative route to walking or biking on Pacific Highway (99W) and SW 68th Parkway
- Would also provide a walk/bike connection between the Tigard Triangle and PCC Sylvania (see project G below)
- A collision on 60th Avenue between Barbur Boulevard and Capitol Highway resulted in a moderate bicyclist injury in 2011
- Located on local and major collector streets with speed limits up to 30 miles per hour
- Would serve an area with a higher proportion of people of color compared to the regional average
- Lesser Road is included in the Portland TSP (90072) and the Regional Active Transportation Plan bicycle network
- Estimated capital cost of under $6.84 million (2014$) for improvements on Atlanta Street, Haines Street, Lesser Road, Capitol Highway and 60th Avenue between Barbur Boulevard and the Tigard Triangle. The $6.84 million estimate includes the pathway extending from Haines Street to the PCC Sylvania campus (see project G below).
- Anticipated partial property acquisitions

G. Walk/bike connection between PCC Sylvania and the Tigard Triangle

This project would provide a bicycle and pedestrian connection between the northern Tigard Triangle area and the PCC Sylvania campus. The project would include sidewalks and bike lanes on SW Haines Street and SW Atlanta Street between SW Lesser Road and SW 68th Avenue, and has two options for connecting from Lesser/Haines to the campus. One option is a 1,100 foot long paved pathway through a forested part of the campus property at the east end of Haines Street, and the other is sidewalks and bike lanes on Lesser Road between Haines Street and G Street. Current assumptions for the Lesser Road option include a northbound bike lane (uphill), southbound shared street bikeway (downhill) and sidewalks on the east side of the street.

Considerations for Atlanta/Haines improvements (included for both options):

- Closest proposed light rail station would be in the northern Tigard Triangle area on 69th Avenue or 70th Avenue between SW Atlanta Street and SW Baylor Street
- Located on a major collector street with relatively high auto volumes because of the crossing over I-5 and the I-5 on- and off-ramps on 65th Avenue
- Included in the Regional Active Transportation Plan bicycle network
- Anticipated partial property acquisitions
- An isolated capital cost for the Atlanta/Haines Street improvements is currently unavailable

Considerations for the pathway via Haines Street option:

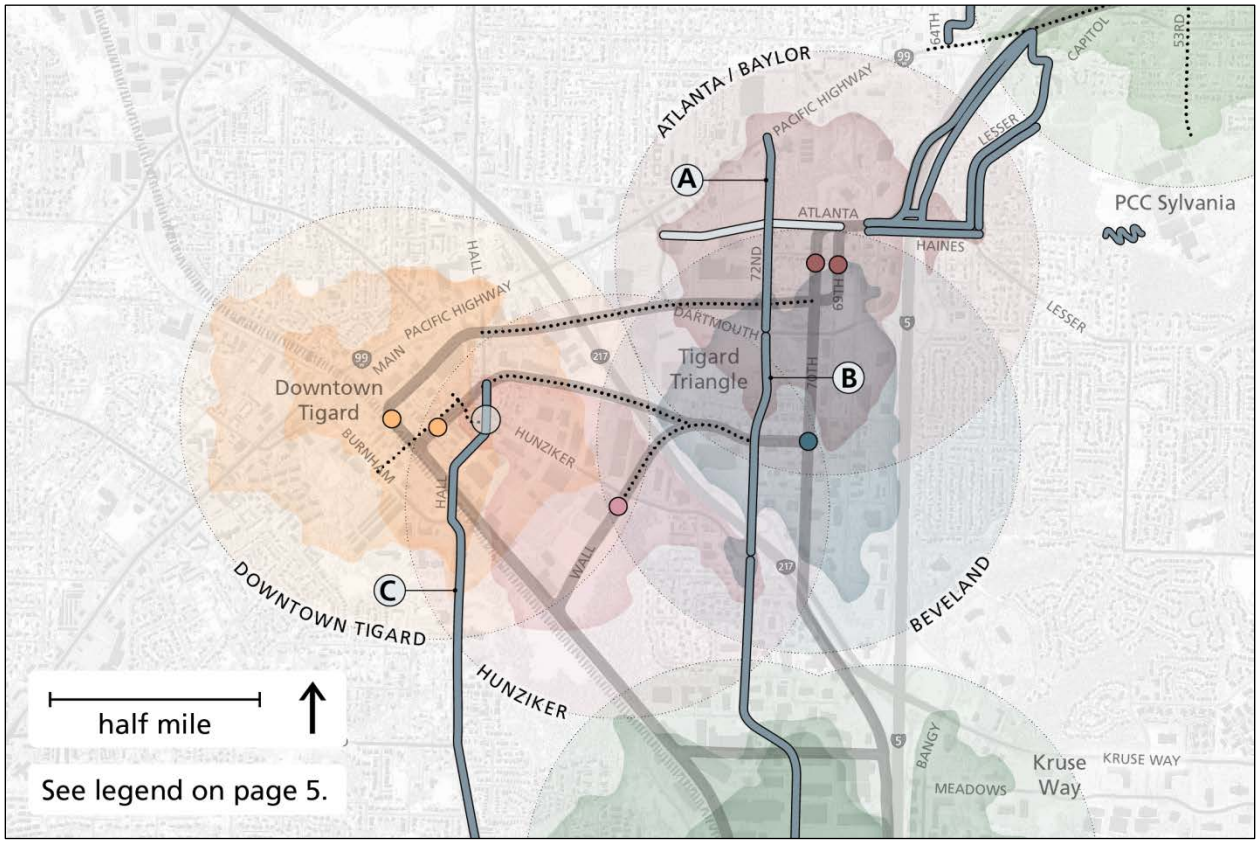
- No improvements are assumed on Haines Street east of Lesser Road – existing roadway is paved with low traffic volumes, but is narrow with steep grades

- Pathway would connect to existing G Street roadway on Sylvania campus – additional improvements may be required to provide a direct ramp connection to adjacent buildings
- Not specifically identified in local or regional plans
- Estimated capital cost of under $2.97 million (2014$), including both the Atlanta/Haines Street improvements and the pathway to campus. The $2.97 million estimate also includes the cost of the bikeway restriping between SW Barbur Boulevard and G Street
- No anticipated property acquisitions
- May require removal of several mature trees

Considerations for the Lesser Road to G Street option:

- Closest proposed light rail station would be in the northern Tigard Triangle area on 69th Avenue or 70th Avenue between SW Atlanta Street and SW Baylor Street
- Lesser Road is included in the Portland TSP (90072) and the Regional Active Transportation Plan bicycle network
- Lesser Road is a major collector street with a speed limit of 30 miles per hour, high auto volumes and an existing bus route (Line 78). Pedestrians and cyclists must use the roadway because of the narrow/nonexistent shoulders with close-growing vegetation and steep slopes. Sight lines are limited due to roadway curvature and vegetation.
- Capital cost of $3.87 million (2014$) for improvements on Lesser Road between Haines Street and G Street. This estimate does not include the cost of improvements on Atlanta Street and Haines Street, which is currently unavailable as an isolated cost.
- Anticipated partial property acquisitions

4. Tigard Triangle and Downtown Tigard



Light Rail Alignments

After crossing over I-5 from Southwest Portland into the Tigard Triangle on a new structure, the light rail alignment would run along the west side of I-5 to Atlanta Street.

Through Tigard, there are two general operating configurations: a through-routed configuration with one line through downtown Tigard continuing to Bridgeport Village, or a branched route with a split in the Tigard Triangle, where every other train would either continue south to Bridgeport Village or turn west to serve downtown Tigard. Each operating configuration has different alignment options.

For the through-routed configuration, there are two alignment options for traveling through the Triangle and downtown Tigard: SW Ash Avenue and SW Clinton Street. For the branched configuration, the downtown Tigard leg of the branch could run on the Clinton crossing option, the Ash Avenue option or on a SW Wall Street alignment.

South of downtown Tigard, both through-routed options would run adjacent to the WES commuter rail and freight rail tracks toward Bridgeport Village.

For a more detailed description of the alignment and station options, see the *Proposed Range of Alternatives for Environmental Review*, available on the project website.

Additional Projects

A. 72nd Avenue sidewalks and bikeway: 99W to Dartmouth Street

This project would construct sidewalks and bike lanes on SW 72nd Avenue between Pacific Highway (99W) and SW Dartmouth Street. Current assumptions include widening the roadway to include a center two-way turn lane north of SW Baylor Street. Retaining walls would be required. The need to construct water quality facilities is anticipated.

Considerations:

- Would provide indirect access to the proposed light rail station on 69th Avenue or 70th Avenue between Atlanta Street and Baylor Street
- Would connect to commercial and employment areas along Pacific Highway (99W) and 72nd Avenue in combination with the Atlanta Street extension project or bicycle/pedestrian improvements on Baylor Street
- Located on a minor arterial street with a speed limit of 30 miles per hour
- Included in the Tigard TSP (P19, B15, 33) and the Regional Active Transportation Plan bicycle and pedestrian networks
- Would serve an area with higher proportions of people of color, low-income residents, and people with limited English proficiency compared to the regional average
- Estimated capital cost of $7.58 million (2014$)
- Anticipated partial property acquisitions

B. 72nd Avenue sidewalks and bikeway: Dartmouth Street to Hunziker Street

This project would construct infill sidewalks and bike lanes on SW 72nd Avenue between SW Dartmouth Street and SW Hunziker Street. Retaining walls would be required. The need to construct water quality facilities is anticipated.

Considerations:

- Would provide indirect access to the proposed light rail station at SW Beveland Street and SW 70th Avenue for most alignment options
- Would connect to commercial and employment areas and multifamily housing along 72nd Avenue
- Located on a minor arterial street with a speed limit of 30 miles per hour
- Included in the Tigard TSP (P19, B15, 33) and the Regional Active Transportation Plan bicycle and pedestrian networks
- Would serve an area with higher proportions of people of color, low-income residents, and people with limited English proficiency compared to the regional average

- Three recent collisions on this stretch of 72nd Avenue have resulted in bicyclist or pedestrian injuries:
  - Moderate bicyclist injury at SW Gonzaga Street in 2012
  - Moderate bicyclist injury at the intersection with the Highway 217 northbound on/off ramp in 2010
  - Serious pedestrian injury at Hunziker Street in 2013
- Estimated capital cost of $2.75 million (2014$)
- Anticipated partial property acquisitions

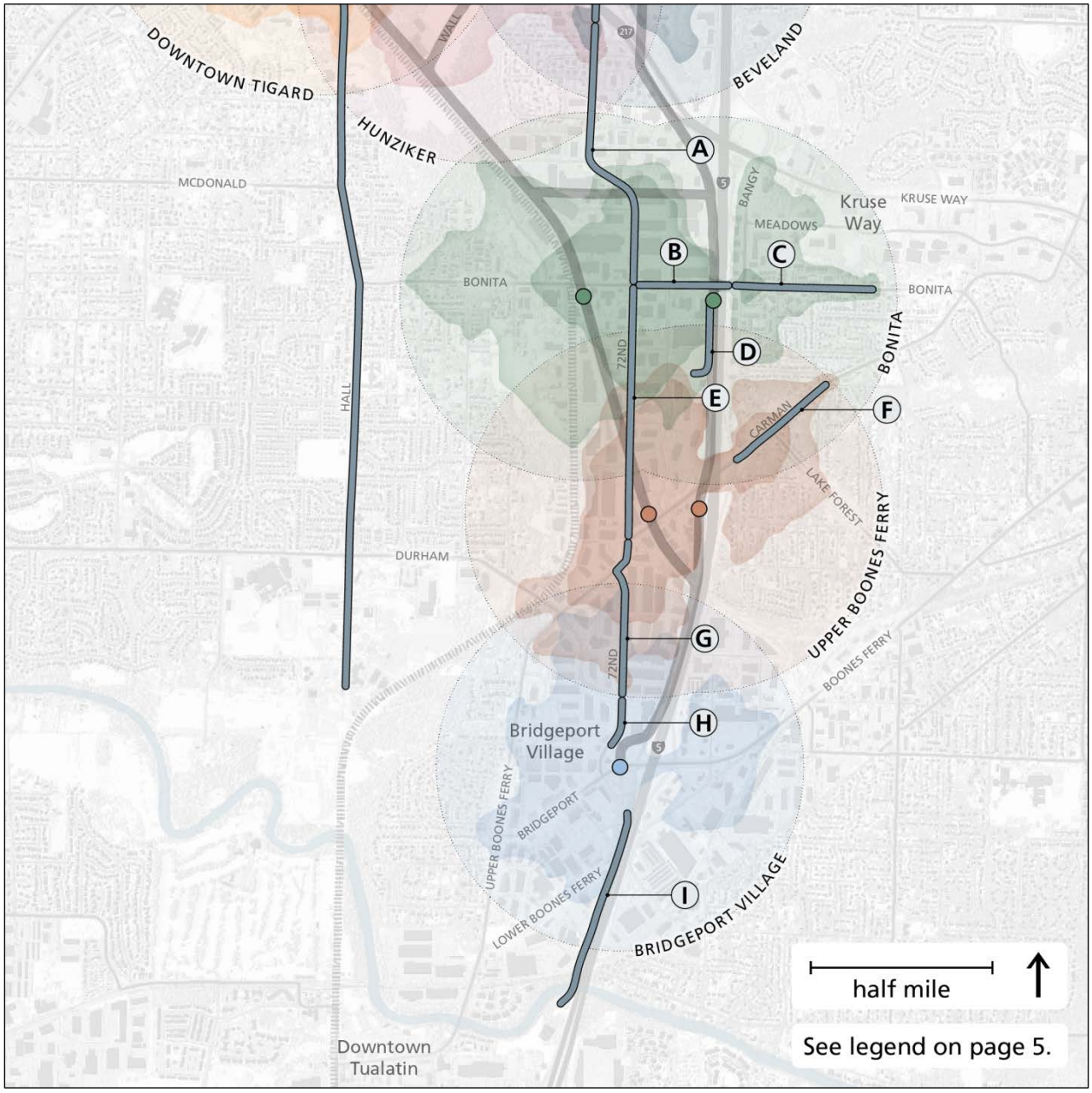
C. Hall Boulevard sidewalk infill

This project would construct missing sidewalks on Hall Boulevard between Pacific Highway (99W) and SW Durham Road. Retaining walls would be required to address grades and maintain existing access to properties.

Considerations:

- Closest proposed light rail station would be in downtown Tigard. The southern portion of the project would be closer to the Bonita Road, Upper Boones Ferry Road and Bridgeport Village stations, but outside of the half-mile station buffers.
- Sidewalks between 99W and Fanno Creek would improve access to commercial and employment areas and multifamily housing around downtown Tigard. South of Fanno Creek, the sidewalks and crossings would improve walking access within the residential areas along Hall Boulevard, but would be less likely to be used for access to light rail.
- Located on a minor arterial street with a speed limit of 40 miles per hour
- Would serve an area with higher proportions of people of color, low-income residents, and people with limited English proficiency compared to the regional average
- From 2007 to 2014, 17 collisions have resulted in 10 bicyclist injuries and 8 pedestrian injuries along the stretch of Hall Boulevard from Pacific Highway (99W) to Durham Road
- Estimated capital cost of $6.28 million (2014$)
- Anticipated partial property acquisitions and one potential full property acquisition

5. Southeast Tigard and Bridgeport Village



Light Rail Alignments

South of downtown Tigard, both through-routed options would run adjacent to the WES commuter rail and freight rail tracks toward Bridgeport Village. South of SW Tech Center Drive, light rail could either continue adjacent to the freight rail tracks or run east between industrial buildings and then adjacent to I-5 south to Bridgeport Village. The Bridgeport Village leg of the branch would continue south on SW 70th Avenue and cross over Highway 217 on a new structure, then run adjacent to I-5 to Bridgeport Village.

For a more detailed description of the alignment and station options, see the *Proposed Range of Alternatives for Environmental Review*, available on the project website.

Additional Projects

A. 72nd Avenue sidewalks and bikeway: Hunziker Street to Bonita Road

This project would construct sidewalks and bike lanes on SW 72nd Avenue between SW Hunziker Street and SW Bonita Road. Retaining walls would be required. The need to construct water quality facilities is anticipated.

Considerations:

- Would provide indirect access to the proposed light rail station at Bonita Road for either alignment
- Would connect to employment areas along 72nd Avenue
- Located on a minor arterial street with a speed limit of 30 miles per hour
- Included in the Tigard TSP (P19, B15) and the Regional Active Transportation Plan bicycle and pedestrian networks
- Would serve an area with higher proportions of people of color, low-income residents, and people with limited English proficiency compared to the regional average
- Several recent collisions on this stretch of 72nd Avenue have resulted in bicyclist or pedestrian injuries:
    - Serious pedestrian injury at Hunziker Street in 2013
    - Two collisions resulting in minor or moderate pedestrian injuries at the intersection with the Highway 217 southbound on/off ramp in 2012
    - Three collisions resulting in minor or moderate bicyclist injuries at SW Varns Street, SW Cherry Drive and SW Tech Center Drive (2010, 2007 and 2013, respectively)
    - Moderate pedestrian injury at Bonita Road in 2012
- Estimated capital cost of $10.85 million (2014$)
- Anticipated partial property acquisitions and three potential full property acquisitions

B. Bonita Road bikeway: 72nd Avenue to I-5

This project would restripe SW Bonita Road to provide bike lanes between SW 72nd Avenue and I-5.

Considerations:

- Closest proposed light rail station would be at Bonita Road for either alignment
- Would connect to commercial and employment areas and multifamily housing along Bonita Road
- Located on a major collector street with a speed limit of 35 miles per hour
- Would serve an area with higher proportions of people of color, low-income residents, and people with limited English proficiency compared to the regional average

- A collision on Bonita Road at SW Sequoia Parkway resulted in a moderate bicyclist injury in 2013
- Estimated capital cost of $1.35 million (2014$)
- Anticipated partial property acquisitions

C. Bonita road sidewalks and bikeway: I-5 to Windfield Way

This project would construct sidewalks and bike lanes on SW Bonita Road between I-5 and SW Windfield Way. Retaining walls would be required to address grades of adjacent properties.

Considerations:

- Closest proposed light rail station would be at Bonita Road for either alignment
- Would connect to commercial and employment areas and multifamily housing along Bonita Road
- Located on a major collector street
- A collision on Bonita Road at Bangy Drive resulted in a minor bicyclist injury in 2008
- Estimated capital cost of $7.66 million (2014$)
- Anticipated partial property acquisitions and one potential full property acquisition

D. Pedestrian/bicycle path along I-5 between Bonita Road and Cardinal Lane

This project would construct a pedestrian and bicycle path connecting the proposed light rail station at Bonita Road adjacent to I-5 with the SW Cardinal Lane cul-de-sac.

Considerations:

- Would provide direct access to the proposed light rail station at SW Bonita Road for the adjacent to I-5 alignment in Tigard
- Would connect to the Pacific Corporate Center commercial and employment area along SW Sequoia Parkway
- Would provide a more direct and off-street alternative route to walking or biking on Bonita Road and Sequoia Parkway, which are both major collector streets with speed limits of 35 miles per hour
- Would serve an area with a higher proportion of low income residents compared to the regional average
- A collision on Bonita Road at SW Sequoia Parkway resulted in a moderate bicyclist injury in 2013
- Not specifically identified in local or regional plans
- Estimated capital cost of $290,000 (2014$)
- Anticipated partial property acquisitions

E. 72nd Avenue sidewalks and bikeway: Bonita Road to Upper Boones Ferry Road

This project would construct sidewalks and bike lanes on 72nd Avenue between SW Bonita Road and SW Upper Boones Ferry Road. Retaining walls would be required to address grades of adjacent properties. May require signal upgrades at the existing railroad crossing.

Considerations:

- Would provide indirect access to the proposed light rail station at SW Bonita Road or at SW Upper Boones Ferry Road for either alignment
- Would connect to employment areas along 72nd Avenue
- Located on a minor arterial street with a speed limit of 30 miles per hour
- Included in the Tigard TSP (P19, B15) and the Regional Active Transportation Plan bicycle and pedestrian networks
- Would serve an area with higher proportions of low-income residents compared to the regional average
- A collision at 72nd Avenue and Upper Boones Ferry Road resulted in a moderate bicyclist injury in 2014
- Estimated capital cost of $14.12 million (2014$)
- Anticipated partial property acquisitions and one potential full property acquisition

F. Carman Drive sidewalks and bikeway

This project would construct sidewalks and bike lanes on SW Carman Drive between I-5 and SW Parker Road.

Considerations:

- Closest proposed light rail station would be at SW Upper Boones Ferry Road for either alignment
- Would connect to residential area east of I-5
- Located on a major collector street with a speed limit of 35 miles per hour
- Included in the Lake Oswego TSP (7A, 7B) and in the Regional Active Transportation Plan bicycle network
- Would serve an area with a higher proportion of people of color compared to the regional average
- A collision on Carman Drive at the intersection with the northbound I-5 on/off ramps resulted in a minor pedestrian injury in 2009
- Estimated capital cost of $4.48 million (2014$)
- Anticipated partial property acquisitions

G. 72nd Avenue sidewalks and bikeway: Upper Boones Ferry Road to Durham Road

This project would construct sidewalks and bike lanes on SW 72nd Avenue between SW Upper Boones Ferry Road and SW Durham Road. Retaining walls would be required to address grade of adjacent properties.

Considerations:

- Would provide indirect access to the proposed light rail station at SW Upper Boones Ferry Road or at Bridgeport Village (SW Lower Boones Ferry Road)
- Would connect to employment areas along 72nd Avenue
- Located on a minor arterial street with a speed limit of 30 miles per hour
- Included in the Tigard TSP (P19, B15) and the Regional Active Transportation Plan bicycle and pedestrian networks
- Two recent collisions on this stretch of 72nd Avenue have resulted in bicyclist or pedestrian injuries:
    - Serious pedestrian injury at the southern intersection with Upper Boones Ferry Road in 2012
    - Moderate bicyclist injury at the northern intersection with Upper Boones Ferry Road in 2014
- Would serve an area with higher proportions of low-income residents and people with limited English proficiency compared to the regional average
- Estimated capital cost of $5.95 million (2014$)
- Anticipated partial property acquisitions

H. 72nd Avenue sidewalks and bikeway: Durham Road to Lower Boones Ferry Road

This project would construct sidewalks and bike lanes on 72nd Avenue between SW Durham Road and SW Lower Boones Ferry Road. Retaining walls would be required to address grade of adjacent properties.

Considerations:

- Would provide indirect access to the proposed light rail station at Bridgeport Village
- Would connect to employment areas along 72nd Avenue
- Located on a minor arterial street with a speed limit of 30 miles per hour
- Included in the Tigard TSP (P19, B15) and the Regional Active Transportation Plan bicycle and pedestrian networks
- Would serve an area with higher proportions low-income residents and people with limited English proficiency compared to the regional average
- Estimated capital cost of $1.15 million (2014$)
- Anticipated partial property acquisitions

I. Pedestrian/bicycle path along I-5 between Bridgeport Village and Tualatin River Greenway

This project would construct a new bicycle and pedestrian path along the west side of I-5 to connect the Bridgeport Village light rail station to downtown Tualatin via the Tualatin River Greenway. The connection would include a new bridge over the Tualatin River and a tunnel under the existing railroad tracks. Retaining walls would be required to address side grades and to support the proposed bridge and tunnel.

Considerations:

- Would connect to the Bridgeport Village station
- Would connect to employment and commercial areas and multifamily housing in the downtown Tualatin area.
- Would provide an off-street alternative route to bicycling or walking on SW Lower Boones Ferry Road and SW Boones Ferry Road, which are both minor arterials with high traffic volumes and speed limits up to 35 miles per hour
- Included in the Tualatin TSP (BP7)
- Would serve an area with higher proportions of people of color, low-income residents, and people with limited English proficiency compared to the regional average
- Several recent collisions have resulted in bicyclist or pedestrian injuries on Lower Boones Ferry Road and Boones Ferry Road, for which this path would provide an alternative route:
    - Two moderate bicyclist injuries on Lower Boones Ferry Road between SW Childs Road and Boones Ferry Road resulting from collisions in 2008 and 2009
    - Minor bicyclist injury at the intersection of Lower Boones Ferry Road and Boones Ferry Road in 2013
    - Moderate bicyclist injury and minor pedestrian injury on Boones Ferry Road between Lower Boones Ferry Road and the railroad crossing in 2013 and 2009, respectively
- Estimated capital cost of $54.05 million (2014$)
- High engineering and construction risk because of location adjacent to I-5 and crossings of both the freight rail tracks and the Tualatin River
- Anticipated partial property acquisitions
- Anticipated impacts to Tualatin River riparian areas

Roadway projects

In addition to bicycle and pedestrian improvements, several roadway projects will be studied in the Draft EIS that could be constructed together with the light rail project. Five roadway projects are recommended to include in the Draft EIS in the *Proposed Range of Alternatives for Environmental Review*, and two additional roadway projects are analyzed in this document. This information, paired with public input gathered during scoping, will inform whether these two additional projects are included in the Draft EIS.

Atlanta Street extension

This project would extend SW Atlanta Street from SW 70th Avenue to SW 74th Avenue. Current assumptions include an auto lane, bike lane, and sidewalk in each direction, a two-way center turn lane, and a new signalized intersection at SW 72nd Avenue. Retaining walls would be required to address site grade changes.

Considerations:

- Would provide an additional auto, bicycle and pedestrian connection between 72nd Avenue and the proposed light rail station on 70th Avenue between Atlanta Street and SW Baylor Street
- Included in the Tigard TSP (19) and the Tigard Triangle Strategic Plan
- Would likely be ineligible for New Starts funding unless required as mitigation
- Estimated capital cost of $17.52 million (2014$)
- Anticipated partial property acquisitions and two potential full property acquisitions

Hall Boulevard, Scoffins Street and Hunziker Street intersection alignment

This project would shift SW Scoffins Street to the north to align it with SW Hunziker Street at the intersection with SW Hall Boulevard.

Considerations

- Included in the Tigard TSP (11)
- Would likely be ineligible for New Starts funding unless required as mitigation
- Estimated capital cost of $7.63 million (2014$)
- Anticipated partial property acquisitions and three potential full property acquisitions