

Overview

The Southwest Corridor Light Rail Project is a proposed 12-mile MAX light rail line serving SW Portland, Tigard, Tualatin and the surrounding communities. After a five-year planning process, the Southwest Corridor Steering Committee has narrowed the potential light rail route to a few options. In addition to the light rail line, the project includes possible investments to improve station access for people walking, biking and driving.

In compliance with the National Environmental Policy Act, a Draft Environmental Impact Statement (EIS) is being prepared to help decision makers understand the environmental consequences of the options under consideration. The Draft EIS will identify the significant positive and adverse impacts the light rail project could have on the built and natural environment and identify strategies to avoid, minimize or mitigate those impacts.

Document Purpose

This document is meant to provide a reference explaining how the light rail project has been defined and organized for study in the Draft EIS. The document includes detailed maps of the light rail project components being evaluated, including alignments, stations, park and ride lots, connections to Marquam Hill and the Portland Community College (PCC) Sylvania Campus, station access improvements, and an operations and maintenance facility. The options under consideration were selected by the Southwest Corridor Steering Committee on December 12, 2016, taking into account public and agency input received during the EIS scoping period from September 2 to October 3, 2016.

The information in this document describes the project alternatives and options as they have been defined for the purpose of the Draft EIS analysis. The alternatives and options will continue to be modified and narrowed based on ongoing discussions with project partners, public input and the results from the Draft EIS.

This document concludes with the final project Purpose & Need statement adopted in December 2016, which will be used to evaluate the light rail project alternatives in the Draft EIS.

Environmental Review Schedule

The Draft EIS is scheduled for release by the end of 2017, followed by a public comment period. The information in the Draft EIS and the public comments will aid the Southwest Corridor Steering Committee in its selection of a Preferred Alternative, anticipated to occur in early 2018.

A Final EIS focusing on the impacts of the Preferred Alternative and its mitigation measures, and including responses to comments on the Draft EIS, is scheduled to be released in 2019.

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Summary of Alternatives and Options

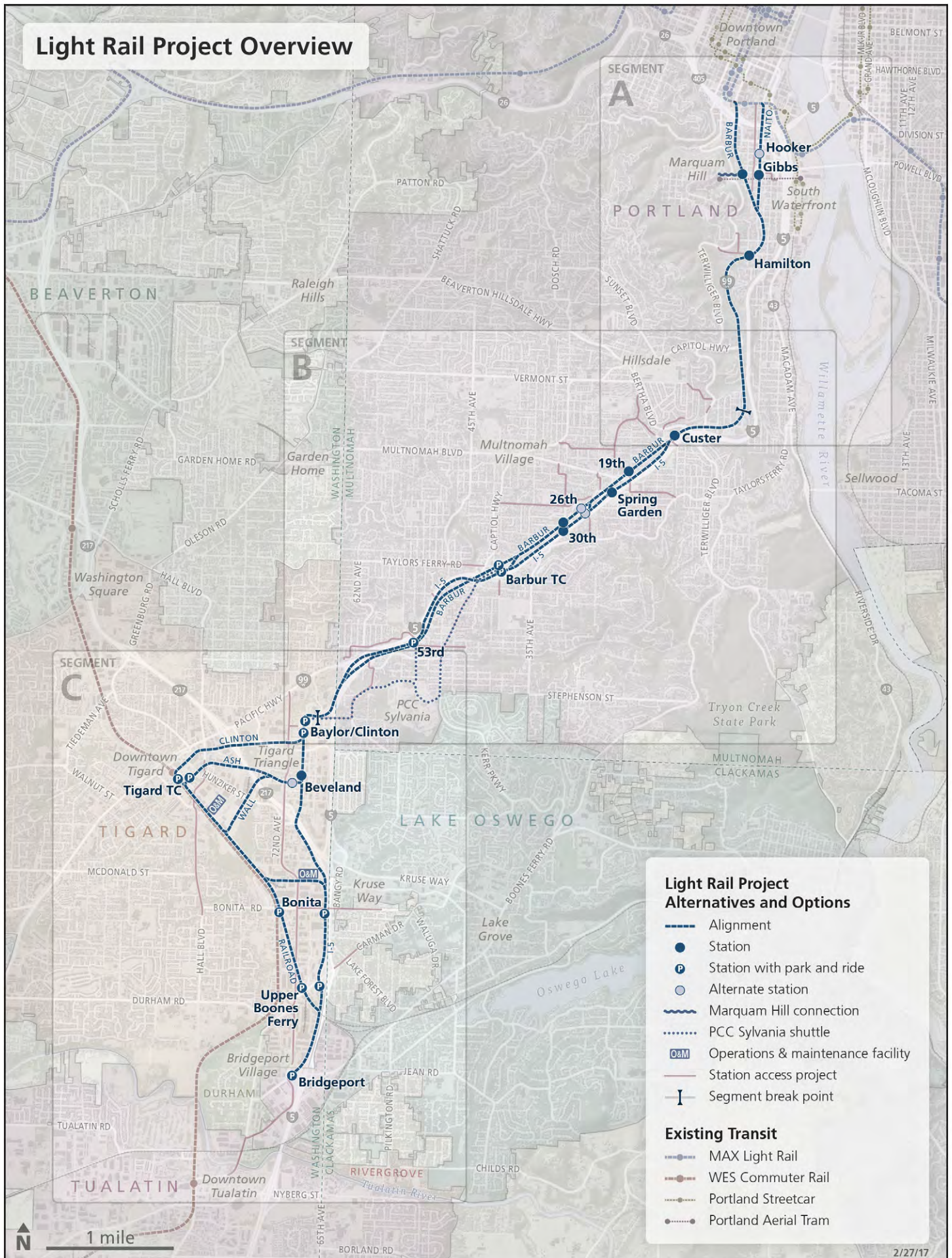
The corridor has been divided into the following three segments for the Draft EIS analysis:

- Segment A, Inner Portland: SW Lincoln Street to SW Brier Place
- Segment B, Outer Portland: SW Brier Place to SW 68th Parkway
- Segment C, Tigard and Tualatin: SW 68th Parkway to Bridgeport Village

The table below summarizes the alternatives and options within each of these three segments. In addition to these alternatives and options, there are two overall route configurations: Through and Branched.

| | Alignment Alternatives | Station Access Projects | Other Segment-Related Options |
|---|---|---|--|
| Segment A Inner Portland | <ul style="list-style-type: none"> • A1: Barbur (p. 5) • A2-BH: Naito with Bridgehead (p. 6) • A2-LA: Naito with Limited Access (p. 7) | Segment A projects (p. 21) <ul style="list-style-type: none"> • SA01: 1st Bikeway • SA02: Grover Bikeway • SA03: Hamilton Sidewalks and Bikeway | Marquam Hill Connection Options (p. 19) Bridgehead Reconfiguration Project with Barbur Alignment (p. 19) Barbur Side-Running Multi-Use Path Design Option: Hamilton to Brier (p. 19) |
| Segment B Outer Portland | <ul style="list-style-type: none"> • B1: Barbur (p. 8) • B2: I-5 Barbur Transit Center to 60th (p. 9) • B3: I-5 26th to 60th (p. 10) • B4: I-5 Custer to 60th (p. 11) | Segment B projects (p. 22) <ul style="list-style-type: none"> • SA04: Terwilliger Bikeway • SA05: Chestnut Bikeway • SA06: 13th Avenue Sidewalks and Bikeway • SA07: Custer Sidewalks • SA08: Custer Walk/Bike Bridge • SA09: Capitol Hill Sidewalks and Bikeway • SA10: 19th Bikeway • SA11: Troy Bikeway • SA12: Spring Garden and Dolph Sidewalks and Bikeway • SA13: 24th Sidewalks and Bikeway • SA14: 26th Sidewalks and Bikeway • SA15: 30th Sidewalks • SA16: Taylors Ferry Sidewalks and Bikeway • SA17: 40th Sidewalks and Crossing • SA18: Capitol Sidewalks and Crossings • SA19: Luradel Walk/Bike Bridge • SA20: 53rd Walk/Bike Bridge • SA21: Pomona Sidewalks and Bikeway • SA22: Pasadena Sidewalks and Bikeway | PCC Sylvania Shuttle Options (p. 19) <ul style="list-style-type: none"> • Barbur Transit Center and Baylor/Clinton Shuttle • 53rd Shuttle Barbur Side-Running Multi-Use Path Design Option: Brier to 2nd (p. 19) |
| Segment C Tigard and Tualatin | <ul style="list-style-type: none"> • C1: Ash to I-5 (p. 12) • C2: Ash to Railroad (p. 13) • C3: Clinton to I-5 (p. 14) • C4: Clinton to Railroad (p. 15) • C5: Ash and I-5 Branched (p. 16) • C6: Wall and I-5 Branched (p. 17) | Segment C projects (p. 23) <ul style="list-style-type: none"> • SA23: Barbur/PCC to Triangle Connection • SA24: Baylor Sidewalks • SA25: 72nd Sidewalks and Bikeway • SA26: Hall Sidewalks • SA27: Bonita Sidewalks and Bikeway • SA28: Carman Sidewalks and Bikeway • SA29: Lower Boones Ferry and Boones Ferry Walk/Bike Improvements (project scope not yet determined) | Operations and Maintenance Facility Options (p. 20) <ul style="list-style-type: none"> • Hunziker Facility (three variations) • 72nd Facility (two variations) <i>Both 72nd variations and two of the Hunziker variations would also include an expansion of the existing Ruby Junction operations and maintenance facility.</i> |

Light Rail Project Overview

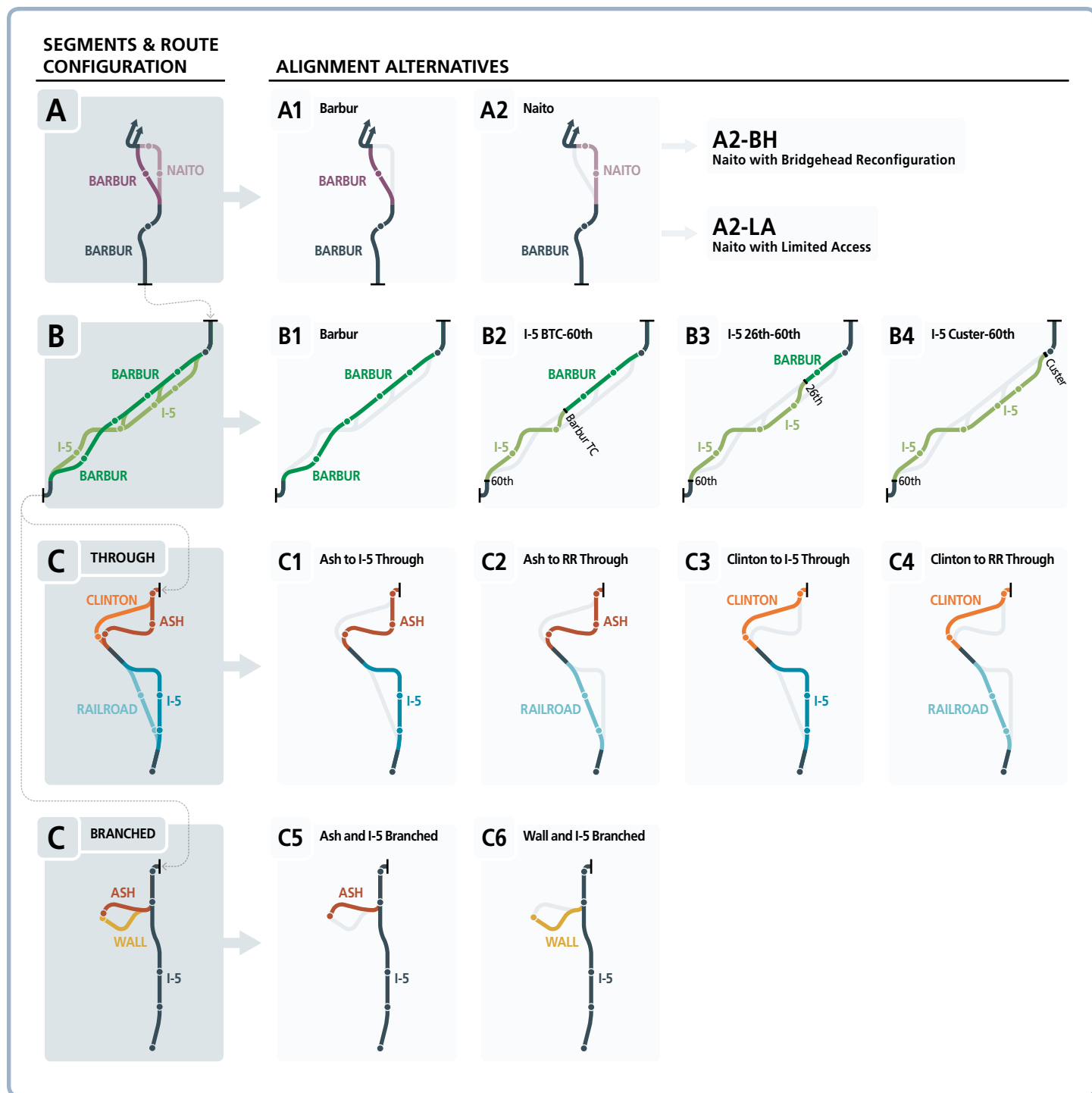


Alignment Alternatives

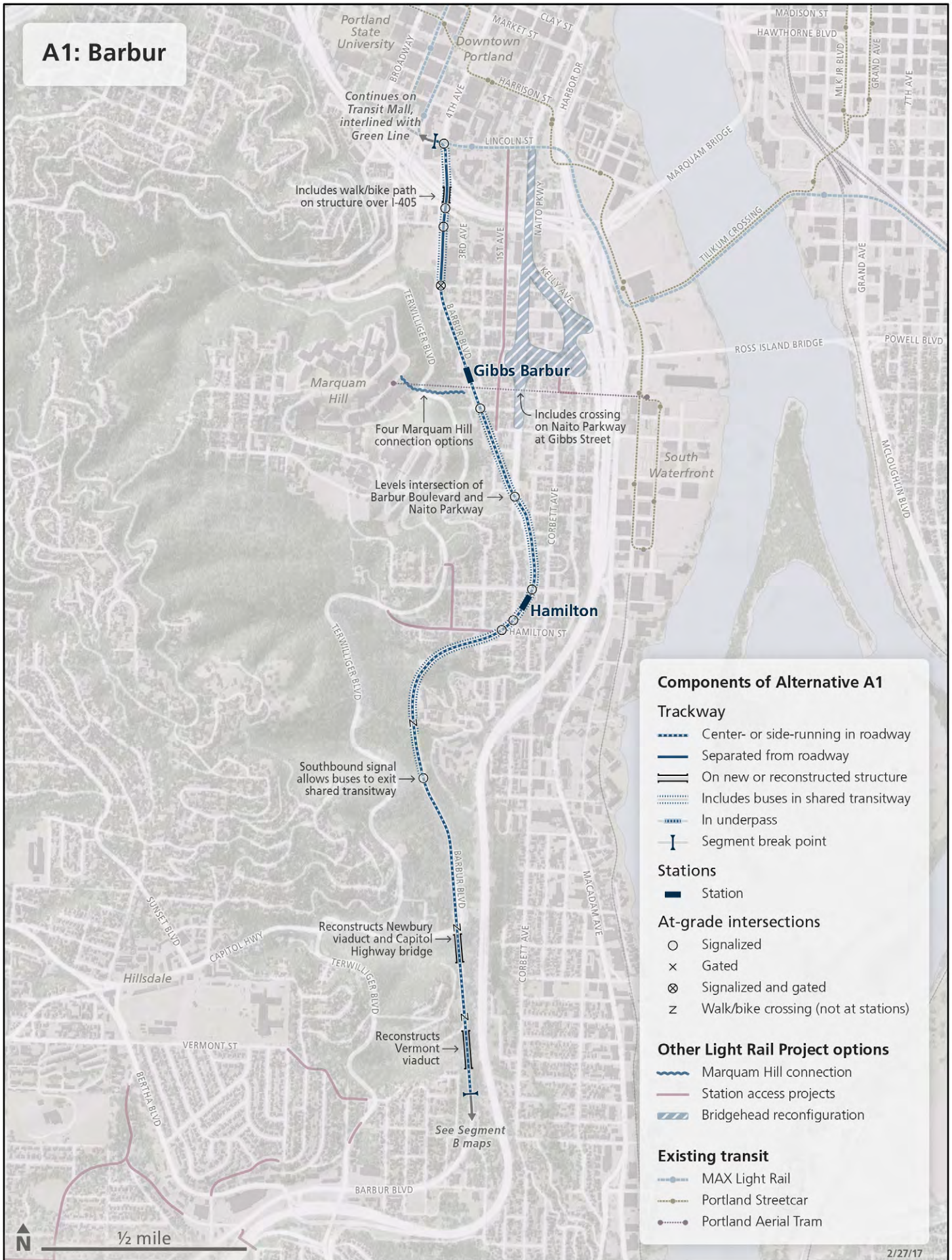
The proposed Southwest Corridor light rail line could take a variety of routes, also known as alignments. The steering committee has worked to narrow the alignments, but several remain under consideration. The information in the Draft EIS will aid the steering committee in its selection of a single Preferred Alternative.

This page diagrams the light rail alignments being studied in the Draft EIS, with a detailed map for each of the 13 alignment alternatives on the following pages. The Preferred Alternative will ultimately identify one alignment alternative from each of the three segments.

Segment C also includes two different route configurations. The Through configuration would travel between Portland and Bridgeport Village via downtown Tigard as a single line. The Branched configuration would split the line in the Tigard Triangle, with alternating trains going directly south to Bridgeport Village or turning west to terminate in downtown Tigard.



A1: Barbur



A2-BH: Naito with Bridgehead Reconfiguration

Bridgehead reconfiguration roadway changes



Southbound signal allows buses to exit shared transitway

Reconstructs Newbury viaduct and Capitol Highway bridge

Reconstructs Vermont viaduct

See Segment B maps

Gibbs Naito

Hamilton

Components of Alternative A2-BH

Trackway

- Center- or side-running in roadway
- Separated from roadway
- On new or reconstructed structure
- Includes buses in shared transitway
- In underpass
- Segment break point

Stations

- Station

At-grade intersections

- Signalized
- Gated
- Signalized and gated
- Walk/bike crossing (not at stations)

Other Light Rail Project options

- Marquam Hill connection
- Station access projects

Existing transit

- MAX Light Rail
- Portland Streetcar
- Portland Aerial Tram

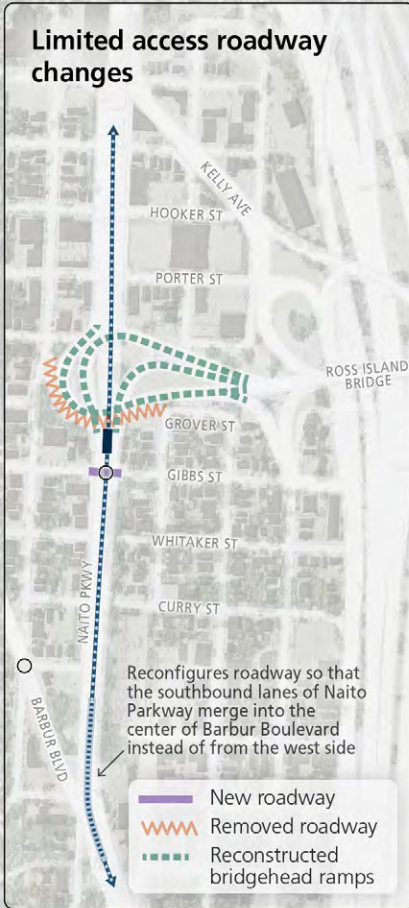


1/2 mile

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A2-LA: Naito with Limited Access

Limited access roadway changes



Southbound signal allows buses to exit shared transitway

Reconstructs Newbury viaduct and Capitol Highway bridge

Reconstructs Vermont viaduct

See Segment B maps

Gibbs Naito

Hamilton

Components of Alternative A2-LA

Trackway

- Center- or side-running in roadway
- Separated from roadway
- On new or reconstructed structure
- Includes buses in shared transitway
- In underpass
- Segment break point

Stations

- Station

At-grade intersections

- Signalized
- Gated
- Signalized and gated
- Walk/bike crossing (not at stations)

Other Light Rail Project options

- Marquam Hill connection
- Station access projects

Existing transit

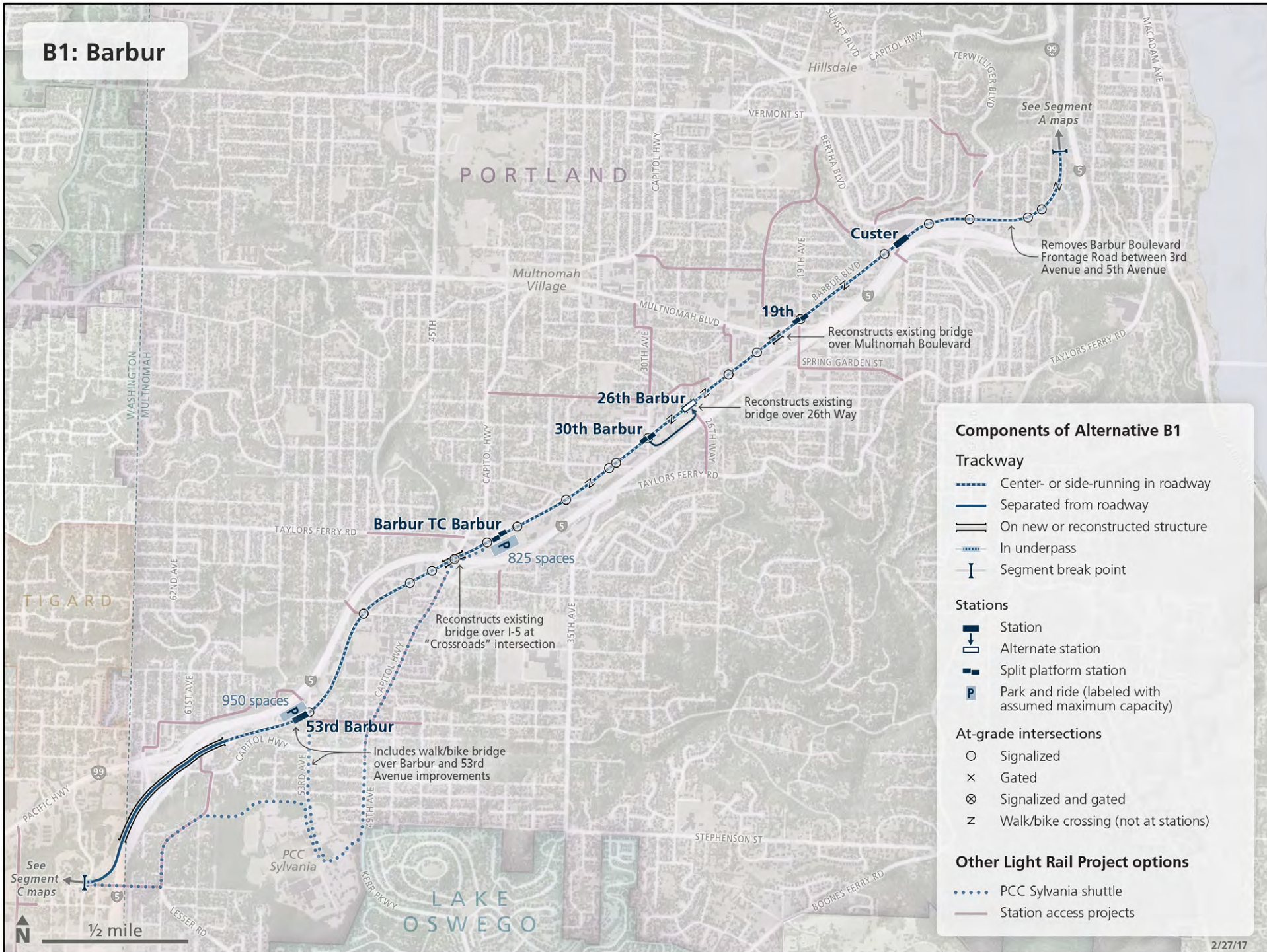
- MAX Light Rail
- Portland Streetcar
- Portland Aerial Tram



1/2 mile

2/27/17

B1: Barbur



Components of Alternative B1

Trackway

- Center- or side-running in roadway
- Separated from roadway
- On new or reconstructed structure
- ... In underpass
- | Segment break point

Stations

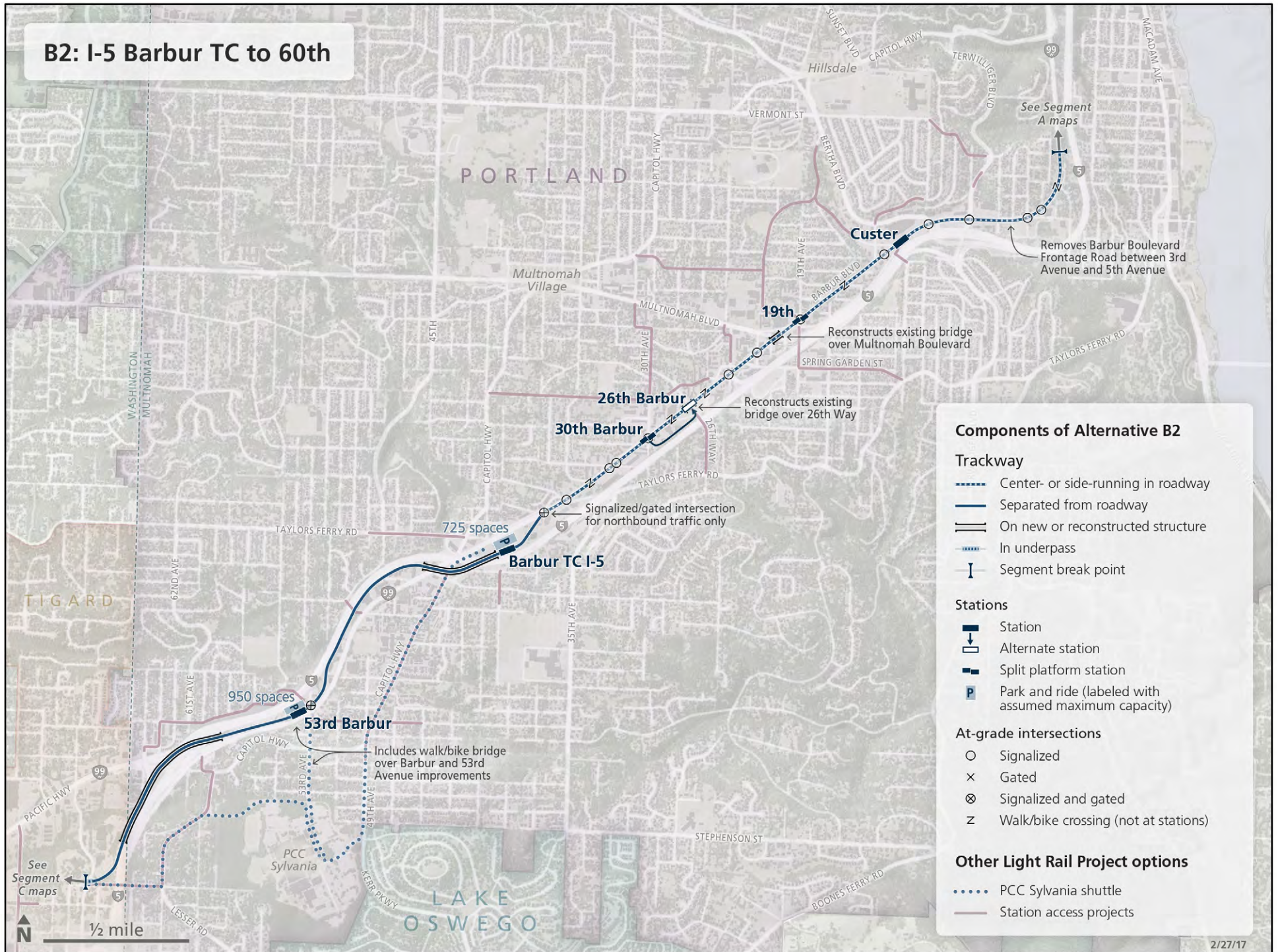
- Station
- Alternate station
- Split platform station
- P Park and ride (labeled with assumed maximum capacity)

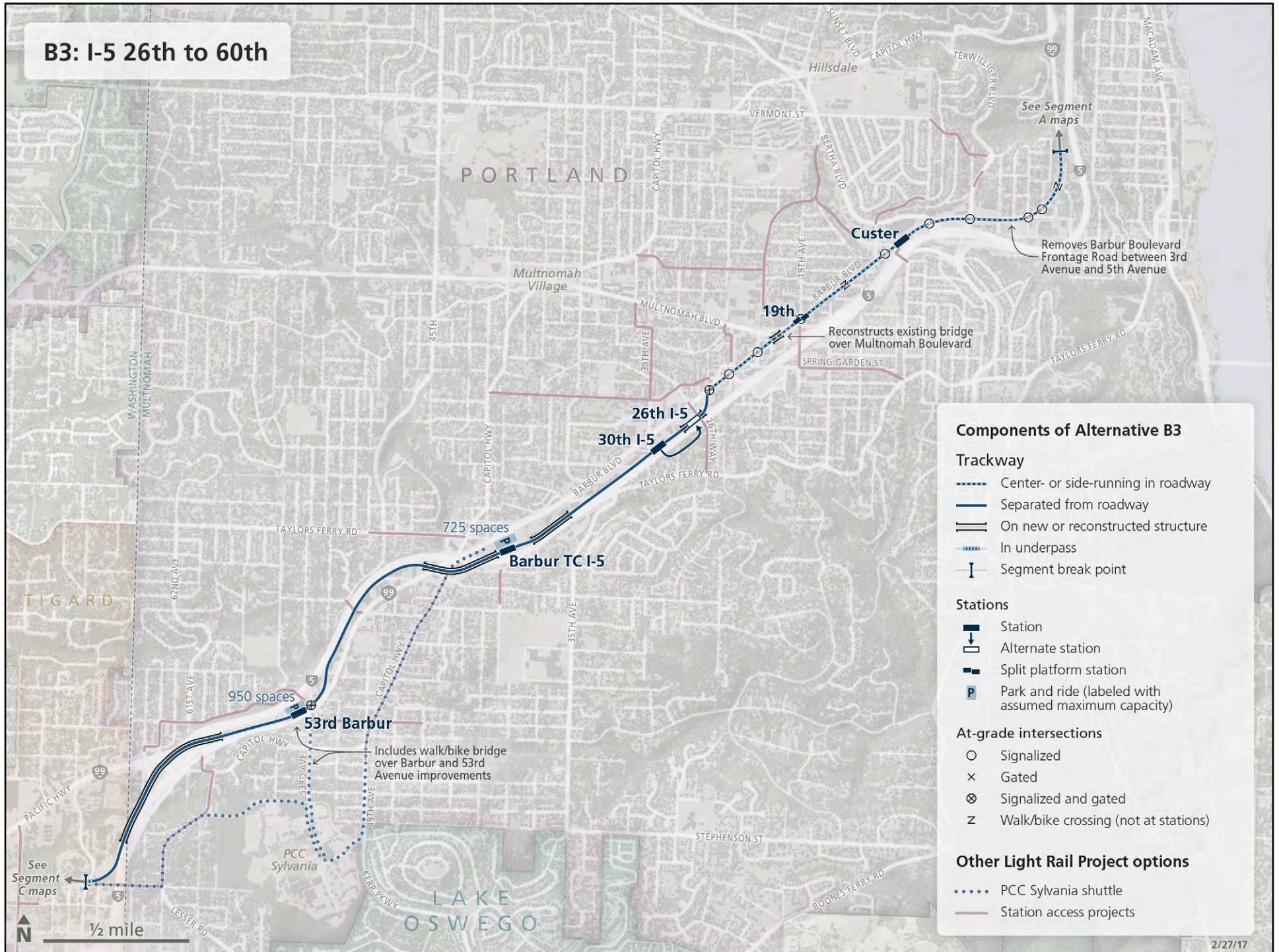
At-grade intersections

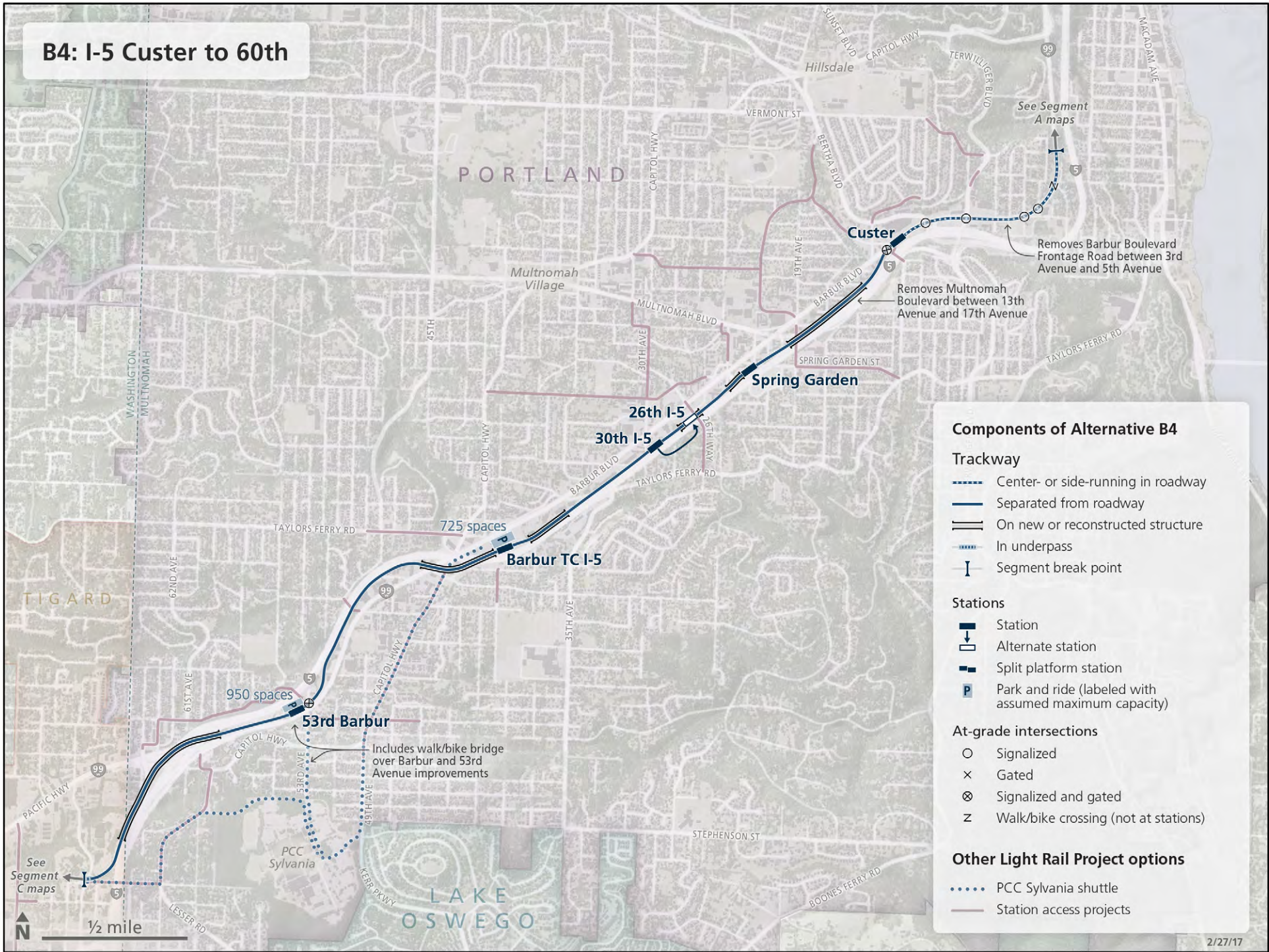
- Signalized
- × Gated
- ⊗ Signalized and gated
- z Walk/bike crossing (not at stations)

Other Light Rail Project options

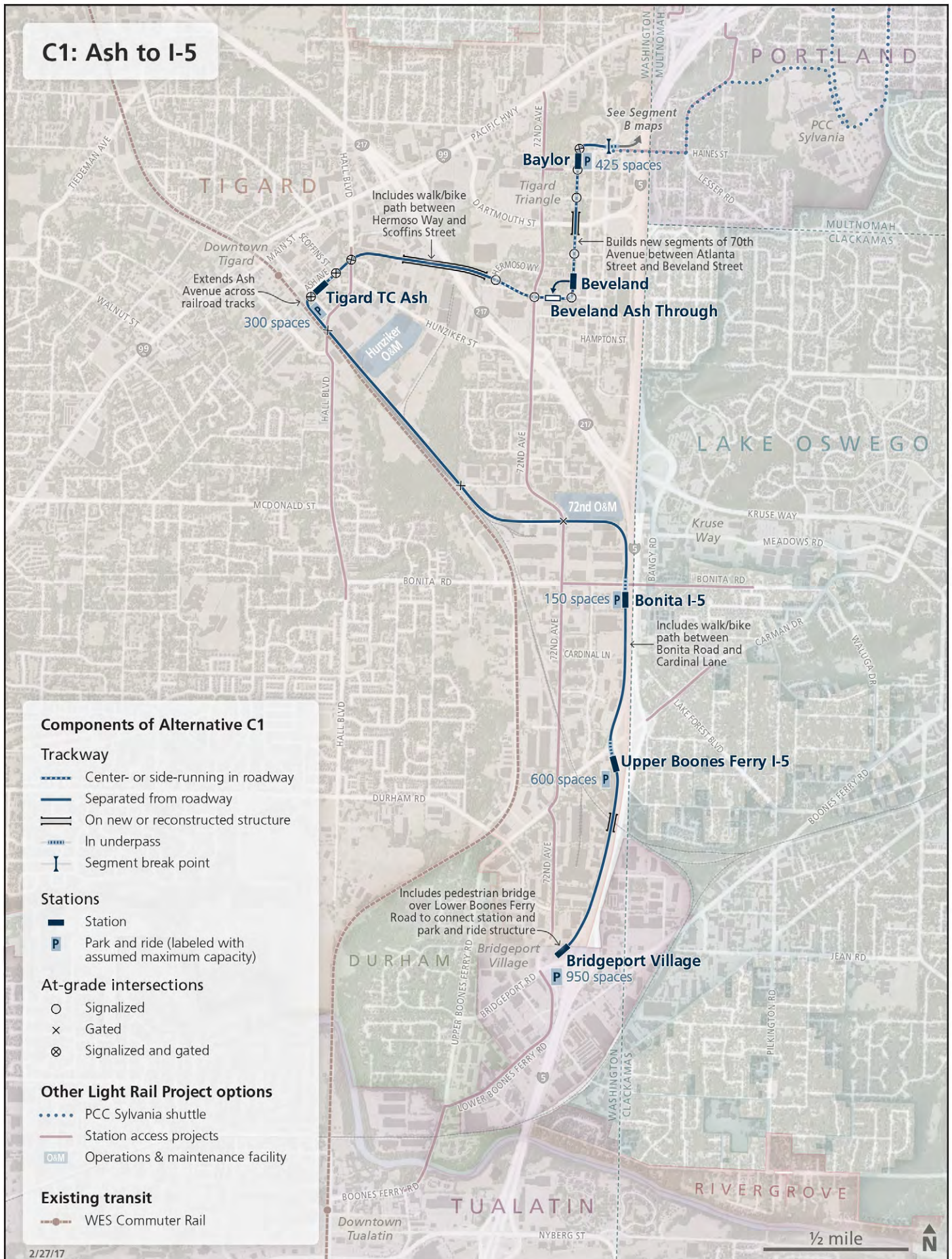
- ... PCC Sylvania shuttle
- Station access projects



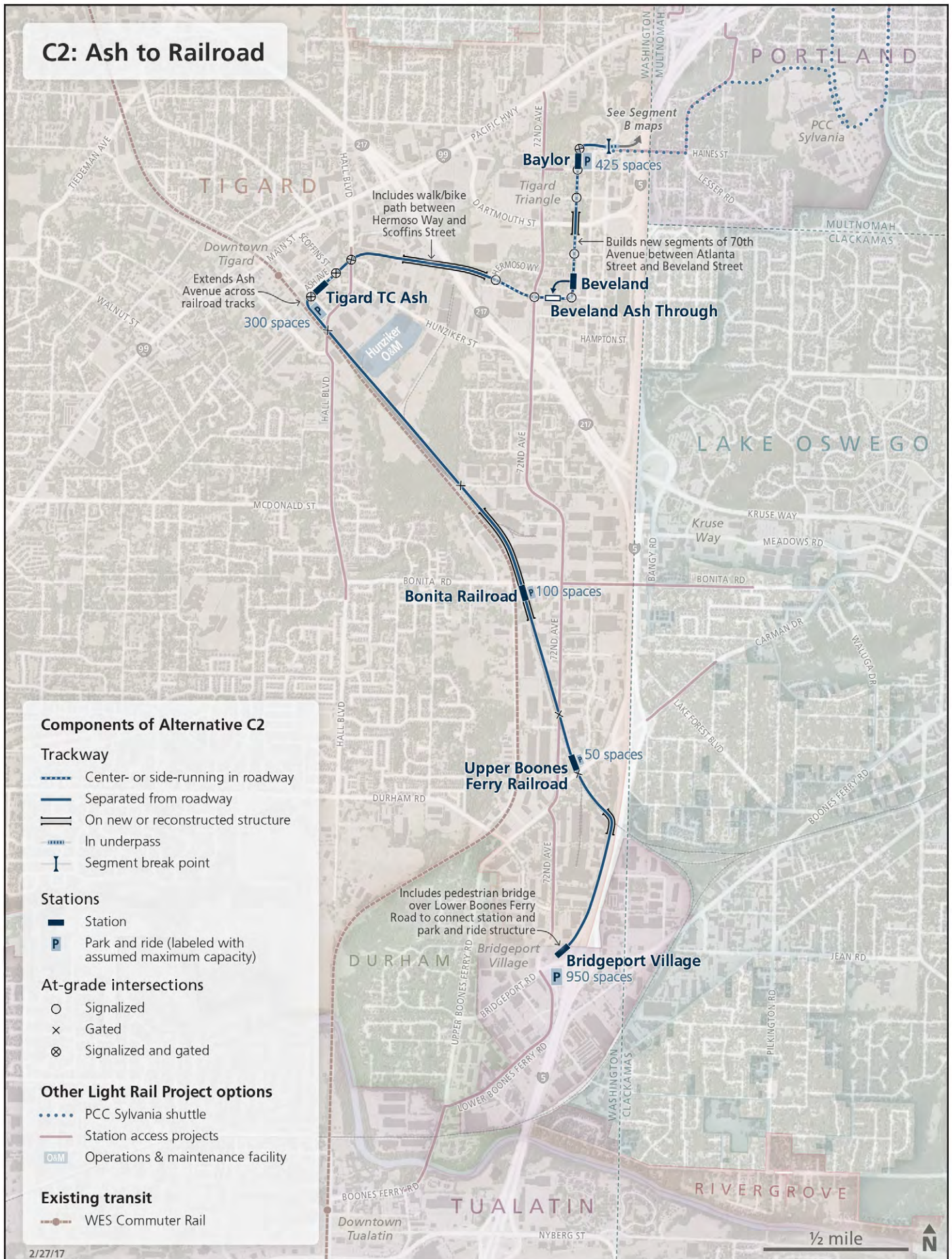




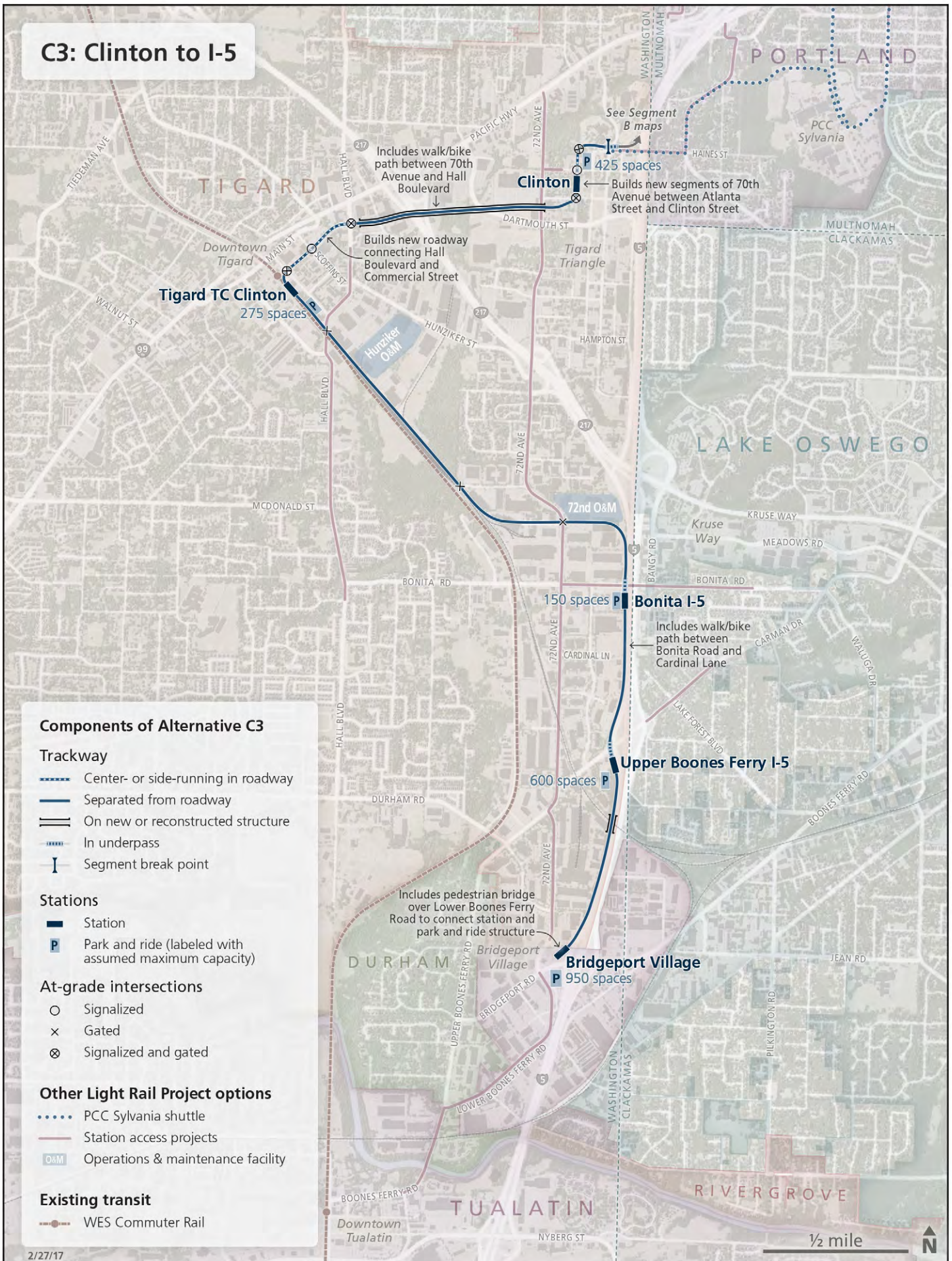
C1: Ash to I-5



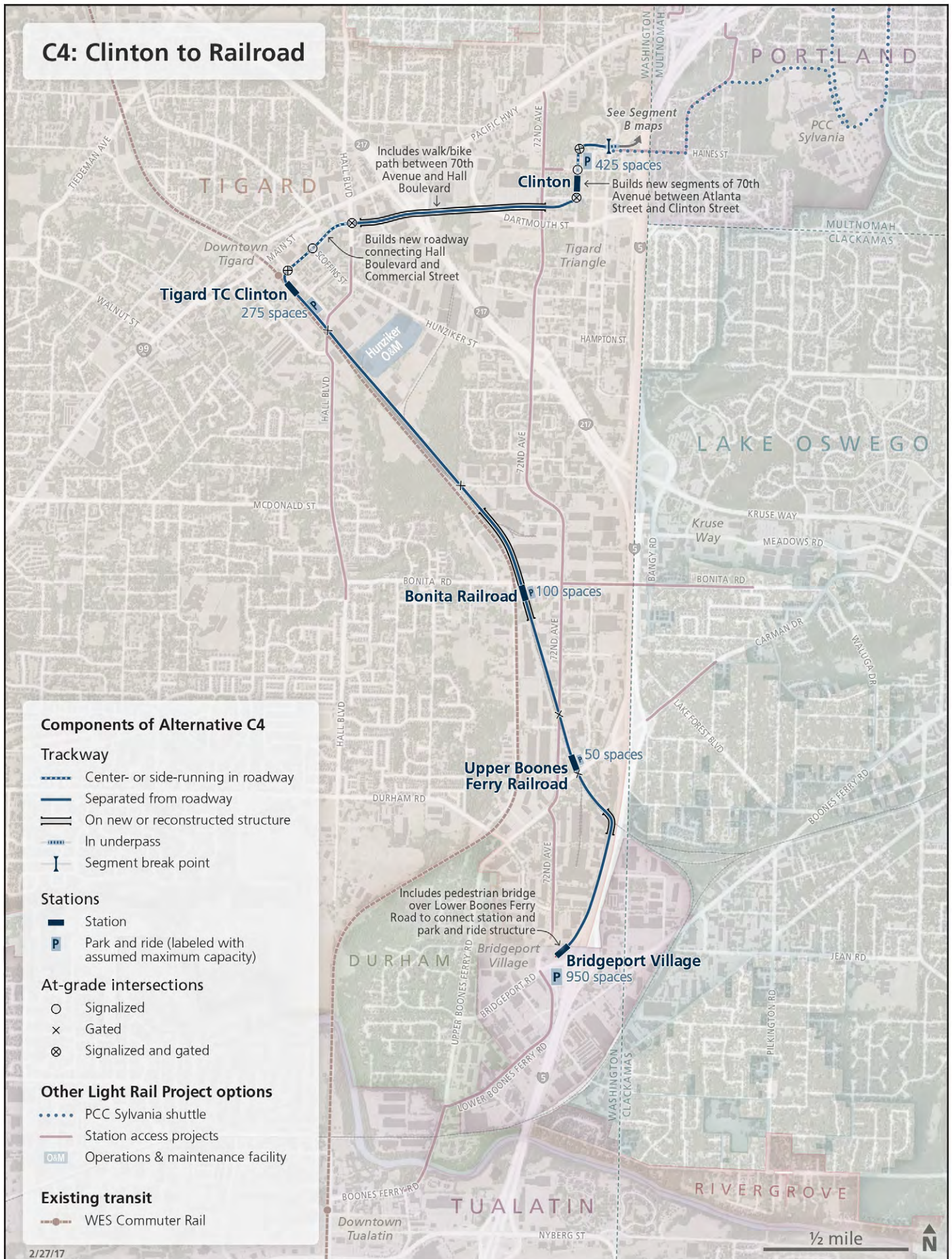
C2: Ash to Railroad



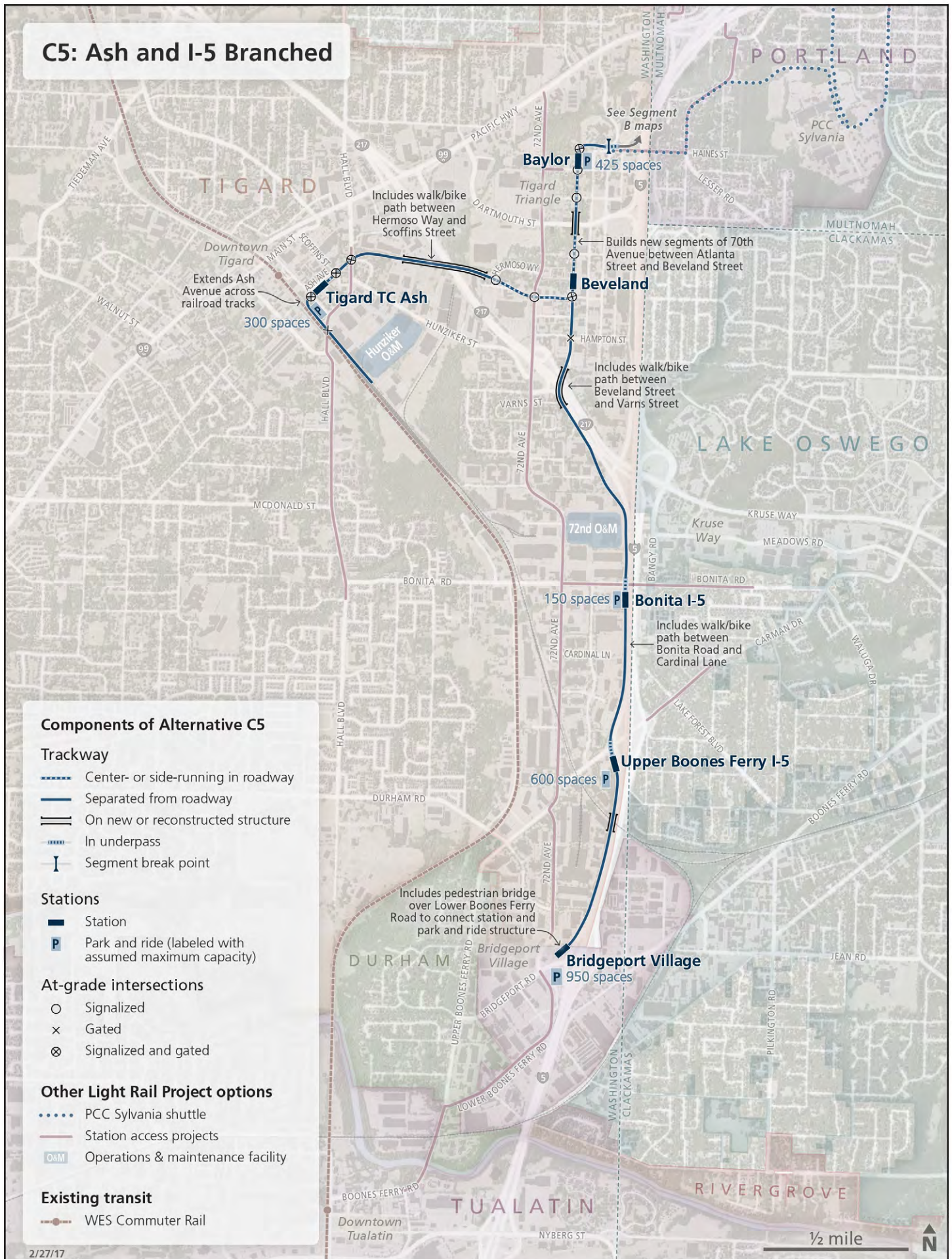
C3: Clinton to I-5



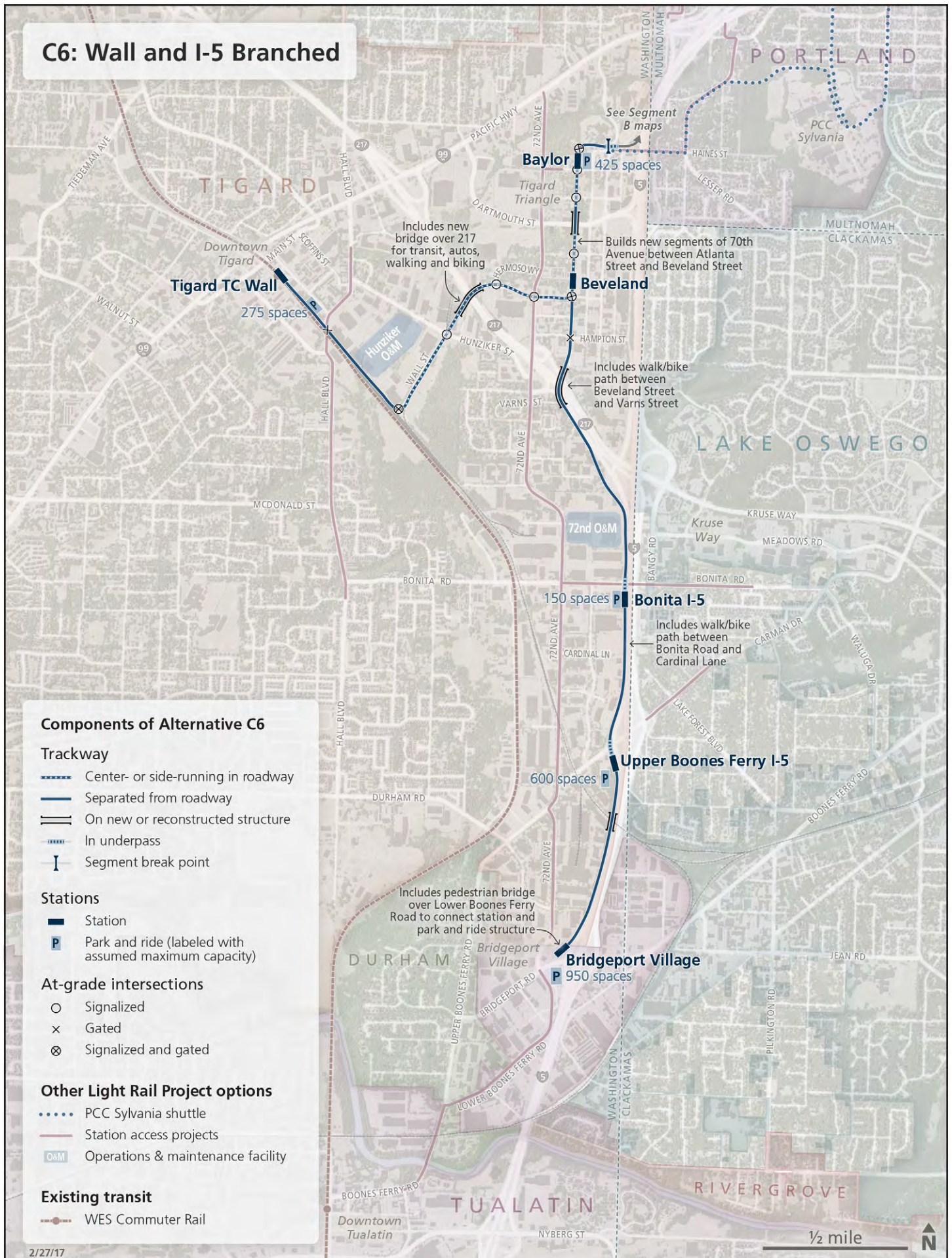
C4: Clinton to Railroad



C5: Ash and I-5 Branched



C6: Wall and I-5 Branched



Integrated Walking, Biking, Transit and Auto Improvements

Parts of the project area lack safe, continuous routes for people walking and biking. Worsening traffic conditions cause delays for buses. Portions of Tigard also lack a built-out roadway grid and connections across major barriers. As a result, the proposed light rail project includes investments to improve access along the light rail alignment for people walking, biking, taking the bus and driving. While some of these investments will be studied as distinct projects or design options, others have been "integrated" into the light rail designs for the purpose of analysis. Most of the integrated improvements are located on roadways that will be altered by light rail construction. Although supplementary information may be developed to weigh the trade-offs of including certain integrated improvements, for the Draft EIS analysis these project elements will be treated as part of the definition of certain light rail alternatives and not as individual projects or options.

Walking and Biking Infrastructure

Sidewalks and bike lanes will generally be included on any streets rebuilt to accommodate light rail running in the center of the roadway. Streets that could receive such treatments include SW Naito Parkway and SW Barbur Boulevard in Portland, and SW 70th Avenue, SW Ash Avenue and SW Wall Street in Tigard. For certain alternatives in Segment B, Outer Portland, sidewalk and bike lane infill is also assumed to be included on the stretches of SW Barbur Boulevard where the light rail alignment is located adjacent to I-5. In Tigard, all of the alignment alternatives are assumed to include multi-use paths on the light rail structures over Highway 217 to provide improved walking and biking access between downtown Tigard and the Tigard Triangle.

Shared Transitway for Buses

In Segment A, Inner Portland, all alignment alternatives are assumed to include a paved light rail trackway that would allow buses to bypass traffic congestion between SW Capitol Highway and the downtown Portland Transit Mall. For alternatives A1, Barbur, and A2-BH, Naito with Bridgehead Reconfiguration, these buses would briefly depart from the shared transitway near SW Gibbs Street to serve a stop with access to Marquam Hill, Lair Hill and the South Waterfront. For alternative A2-LA, Naito with Limited Access, the buses would pull over at a stop within the shared transitway adjacent to the light rail station.

New Roadway Connections

The alignment alternatives also include some new roadway connections that could be constructed together with the light rail project. The annotations on the individual alternative maps call out roadway projects that will be studied as part of each alternative, such as a new auto crossing over Highway 217 with alternative C6, Wall and I-5 Branched. Some of these integrated roadway projects may not be fully eligible for federal transit funding and may require supplemental funding from other sources.

Park and Ride Facilities

In Segments B and C, the alignment alternatives include several park and ride facilities and the proposed light rail stations. For the purpose of environmental analysis, each alignment alternative includes all compatible park and ride facilities. The maximum possible size of park and ride facilities is being studied in the Draft EIS in order to cover all possible impacts. The broader corridor park and ride strategy will be analyzed and discussed outside of the Draft EIS, with options for fewer facilities overall and lower capacities at individual locations.

Other Project Options

The proposed Light Rail Project includes several major non-rail components with multiple options.

Marquam Hill Connection Options

The project would include a connection from a light rail station on SW Barbur Boulevard or SW Naito Parkway to Marquam Hill. The purpose of this connection is to improve the transit access to the various medical facilities and employment centers located on Marquam Hill. Several connection options are being studied in the Draft EIS.

Bridgehead Reconfiguration Project with Barbur Alignment

The Draft EIS will consider a project to reconfigure SW Naito Parkway and the access to the west end of the Ross Island Bridge. This project, called the "bridgehead reconfiguration," could be paired with either the Barbur or the Naito light rail alignment. For the Naito alignment, two alternatives are under consideration: one includes the bridgehead reconfiguration (A2-BH) and one reconstructs the roadway with the existing limited access configuration (A2-LA). For the Barbur alignment, the bridgehead reconfiguration will be studied as a separate project.

Barbur Side-Running Multi-Use Path Design Option

A design option has been developed for a separated walking and biking path along the east side of SW Barbur Boulevard between SW Hamilton Street and SW 2nd Avenue. For the purpose of analysis of this design option, the multi-use path is assumed to replace the full sidewalks and bike lanes included with the alignment alternatives, resulting in a narrower cross-section through this stretch of Barbur. Later design refinement could consider other variations, such as a multi-use path on the east side of Barbur combined with a southbound bike lane.

PCC Sylvania Shuttle Options

The steering committee has identified multiple strategies for connecting the proposed light rail line to the Portland Community College (PCC) Sylvania campus. The light rail project is assumed to include construction of a walking and biking connection on SW 53rd Avenue from SW Barbur Boulevard to the PCC Sylvania campus. This investment is included as a part of each Segment B alignment alternative, so it is not shown on the station access project maps in this document.

The Draft EIS will also compare two different shuttle bus options to connect students, faculty and staff from light rail stations to the campus. The two shuttle options being studied are:

- Barbur Transit Center (TC) and Baylor/Clinton Shuttle
- 53rd Shuttle

The Barbur TC and Baylor/Clinton Shuttle would operate in mixed traffic with stops at Barbur Transit Center, the PCC Sylvania campus and the Baylor or Clinton light rail station in the Tigard Triangle. The 53rd Shuttle would operate in mixed traffic along SW 53rd Avenue between the 53rd Avenue light rail station and the PCC Sylvania campus. A gate between SW 53rd Avenue and SW G Street would provide access to the campus for the shuttles without allowing auto access. Both shuttle options would include the construction of new bus bays on campus to provide capacity for the additional service.

Operations and Maintenance Facility Options

The additional light rail vehicles associated with the project would require a new facility for storage, cleaning and maintenance. Two operations and maintenance facility location options are under consideration in the Draft EIS, both in Tigard, including several layout variations. An expansion of the existing Ruby Junction operations and maintenance facility in Gresham would be included with most of the Tigard facility variations.

The two facility locations under consideration in Tigard are near SW Hunziker Street and between SW 72nd Avenue and I-5. The Hunziker Facility includes three layout variations, of which two would include expansion of the Ruby Junction facility. The 72nd Facility includes two layout variations, which would both include a Ruby Junction expansion.

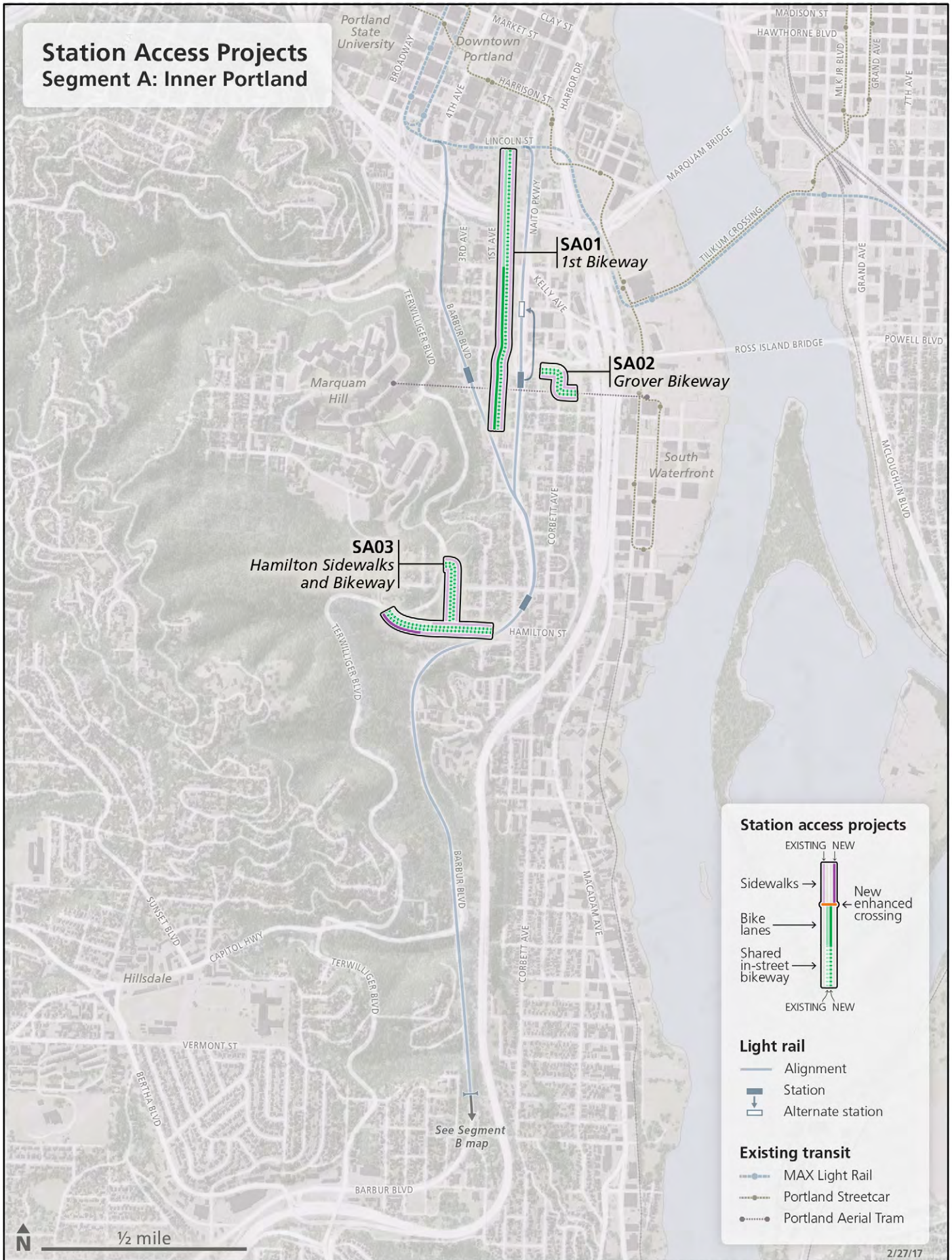
Station Access Projects

The Draft EIS is considering station access projects that would provide local connections to the light rail alignment. The locations and types of these non-integrated projects are shown on the following pages. These projects were drawn from the SW Corridor Shared Investment Strategy, adopted by the steering committee in 2013, as well as input from the public and project partners.

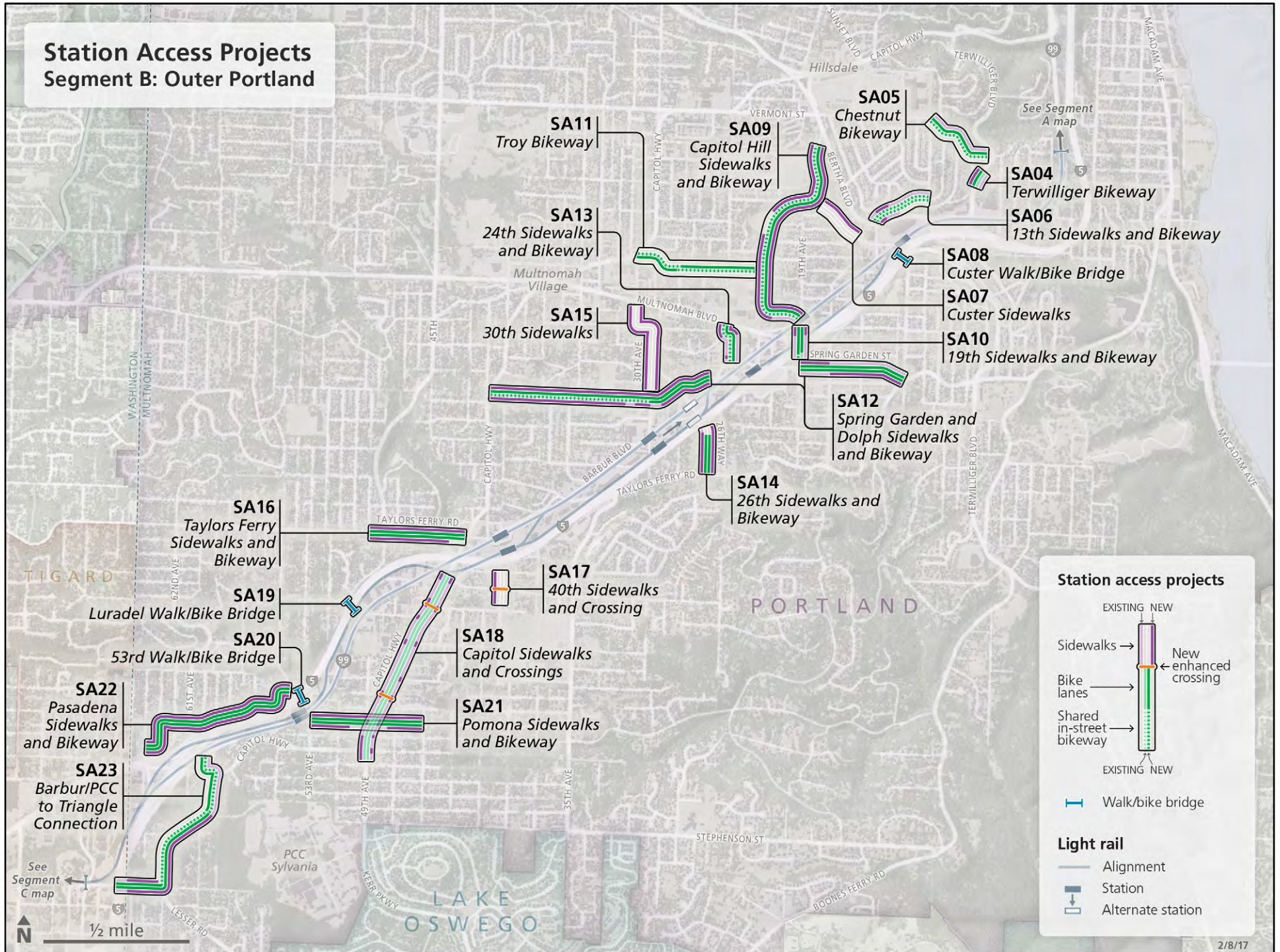
Similar to the light rail alignment alternatives, these projects represent multiple options still under consideration. Impacts identified by the Draft EIS, as well as factors such as cost and local support, will be weighed by the Southwest Corridor Steering Committee when selecting which station access projects to include in the Preferred Alternative.

The maps on the following three pages show the general scope and location of each station access project under consideration. The projects will continue to be refined based on further discussion and public input.

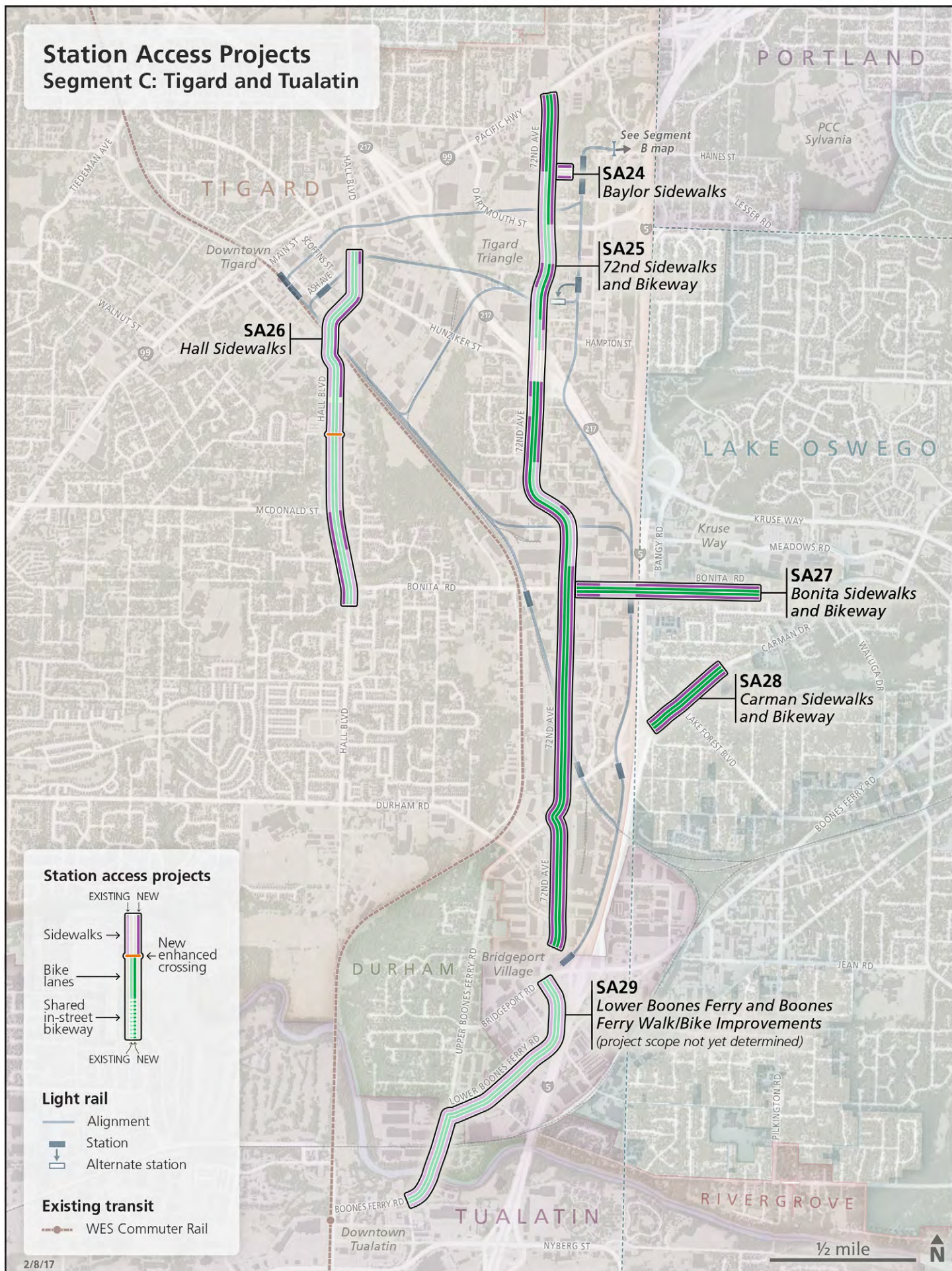
Station Access Projects Segment A: Inner Portland



Station Access Projects Segment B: Outer Portland



Station Access Projects Segment C: Tigard and Tualatin



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Project Purpose and Need

Project Purpose

The purpose of the Southwest Corridor light rail project is to directly connect Tualatin, downtown Tigard, Southwest Portland, and the region's central city with light rail, high quality transit and appropriate community investments in a congested corridor to improve mobility and create the conditions that will allow communities in the corridor to achieve their land use vision. Specifically, the project aims to, within the Southwest Corridor:

- Provide light rail transit service that is cost-effective to build and operate with limited local resources
- Serve existing transit demand and significant projected growth in ridership resulting from increases in population and employment in the corridor
- Improve transit service reliability, frequency, and travel times, and provide connections to existing and future transit networks including WES commuter rail
- Support adopted regional and local plans including the 2040 Growth Concept, the Barbur Concept Plan, the Tigard Triangle Strategic Plan and the Tigard Downtown Vision to accommodate projected significant growth in population and employment
- Complete and enhance multimodal transportation networks to provide safe, convenient and secure access to transit and adjacent land uses
- Advance transportation projects that increase active transportation and encourage physical activity
- Provide travel options that reduce overall transportation costs
- Improve multimodal access to existing jobs, housing and educational opportunities and foster opportunities for commercial development and a range of housing types adjacent to transit
- Ensure benefits and impacts promote community equity
- Advance transportation projects that are sensitive to the environment, improve water and air quality, and help achieve the sustainability goals and measures in applicable state, regional, and local plans

Project Need

A light rail transit project in the Southwest Corridor is needed to address the following issues:

- Transit service to important destinations in the corridor is limited, and unmet demand for transit is increasing due to growth
- Limited street connectivity and gaps in pedestrian and bicycle networks create barriers and unsafe conditions for transit access and active transportation
- Travel is slow and unreliable on congested roadways
- There is a limited supply and range of housing options in the Southwest Corridor with good access to multimodal transportation networks, and jobs and services are not located near residences
- Regional and local plans call for high capacity transit in the corridor to meet local and regional land use goals
- State, regional and local environmental and sustainability goals require transportation investments to reduce greenhouse gas emissions.

For the full project Purpose and Need statement, including more detailed information on the project need, see the project library at www.swcorridorplan.org.