April 2015

Federal Way Link Extension

Draft Environmental Impact Statement

EXECUTIVE SUMMARY

SOUNDTRANSIT
Central Puget Sound
Regional Transit Authority

U.S. Department of Transportation
Federal Transit Administration

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SOUNDTRANSIT

April 10, 2015

Dear Recipient:

The U.S. Department of Transportation Federal Transit Administration (FTA) and Sound Transit (the Central Puget Sound Regional Transit Authority) have prepared this Draft Environmental Impact Statement (Draft EIS) on the proposed Federal Way Link Extension. Sound Transit is the project proponent.

The Draft EIS has been prepared pursuant to the National Environmental Policy Act (42 U.S.C. 4321 to 4370e) and the State Environmental Policy Act (Ch. 43.21C RCW). It has been prepared to inform the public, agencies and decision makers about the environmental consequences of building and operating the Federal Way Link Extension in the cities of SeaTac, Kent, Des Moines, and Federal Way. The Draft EIS examines the project alternatives identified by the Sound Transit Board in September 2013.

The major choices for the project involve the route of the light rail line and station locations. The Sound Transit Board will consider the Draft EIS, public and agency comments, and other information before identifying a preferred route and station locations. FTA and Sound Transit will prepare a Final EIS which will respond to comments on the Draft EIS and include an evaluation of impacts and mitigation for the preferred alternative and other alternatives considered. After completion of the Final EIS the Sound Transit Board will select the project to be built. FTA will also issue a Record of Decision, which will state FTA's decision on the project and list Sound Transit's mitigation commitments to reduce or avoid impacts.

The attached is an Executive Summary of the Draft EIS. Also available are a separately bound Draft EIS and technical reports. These documents are included on the enclosed CD. Please see the Fact Sheet of this Draft EIS regarding document availability and who to contact for further information about the Draft EIS.

Sincerely,

Kent Hale
Environmental Affairs and Sustainability

Central Puget Sound Regional Transit Authority • Union Station
401 S. Jackson St., Seattle, WA 98104-2826 • Reception: (206) 398-5000 • FAX: (206) 398-5499
www.soundtransit.org

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FEDERAL WAY LINK EXTENSION
KING COUNTY, WASHINGTON
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Submitted pursuant to
the National Environmental Policy Act (NEPA) (42 USC 4322(2)(c))
and the State Environmental Policy Act (SEPA) (Ch. 43.21C RCW)
by the
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION
and
CENTRAL PUGET SOUND REGIONAL TRANSIT AUTHORITY
(Sound Transit)
in cooperation with
FEDERAL HIGHWAY ADMINISTRATION
U.S. ARMY CORPS OF ENGINEERS
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
KING COUNTY METRO
CITY OF SEATAC
CITY OF DES MOINES
CITY OF KENT
CITY OF FEDERAL WAY

3/23/15
Date of Approval

Regional Administrator
For Federal Transit Administration, Region 10

3/23/15
Date of Approval

SEPA Responsible Official
For Central Puget Sound Regional Transit Authority

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Fact Sheet

Proposed Action

The Central Puget Sound Regional Transit Authority (Sound Transit) is proposing to expand the regional light rail system south from the city of SeaTac to Federal Way, Washington. The proposed light rail extension, called the Federal Way Link Extension (FWLE, and formerly known as the Federal Way Transit Extension), would be within the cities of SeaTac, Des Moines, Kent, and Federal Way in King County. The proposed project is part of the Sound Transit 2 (ST2) Plan, funding for which was approved by voters in 2008 (Sound Transit, July 2008). Currently, there is projected funding to construct to Kent/Des Moines in the vicinity of Highline College.

The proposed project, which is part of the larger regional network of light rail proposed under the ST2 Plan, would begin at the future Angle Lake Station in SeaTac and end in the Federal Way Transit Center area. The 7.6-mile-long project corridor generally parallels State Route (SR) 99 and Interstate 5 (I-5), which are the major north-south routes through the FWLE corridor. It generally follows a topographic ridge between Puget Sound and the Green River Valley where the city limits of SeaTac, Des Moines, Kent, and Federal Way meet.

This Draft Environmental Impact Statement (EIS) evaluates several build (light rail) alternatives and a No Build Alternative, which considers how the transportation system would operate if the proposed project were not built. The No Build Alternative also provides a baseline against which to measure the impacts of the build alternatives. The light rail alternatives include at-grade, trench, and elevated light rail alignments with different station configurations. Four alternatives are evaluated, each with between four and nine station or alignment options.

Project Proponent and State Environmental Policy Act (SEPA) Lead Agency

Central Puget Sound Regional Transit Authority (Sound Transit)
401 South Jackson Street
Seattle, Washington 98104-2826
www.soundtransit.org

Dates of Construction and Opening

Sound Transit proposes to begin construction of the FWLE by 2019, and the light rail line is expected to open to Kent/Des Moines in 2023.

National Environmental Policy Act (NEPA) Lead Agency

Federal Transit Administration
915 Second Avenue, Suite 3142
Seattle, Washington 98174-1002
www.fta.dot.gov/about/region10

NEPA Responsible Official

Richard Krochalis, Regional Administrator for Region 10
Federal Transit Administration
915 Second Avenue, Suite 3142
Seattle, Washington 98174-1002

SEPA Responsible Official

Perry Weinberg, Director, Office of Environmental Affairs and Sustainability
Sound Transit
401 South Jackson Street
Seattle, WA 98104-2826

Contacts for Additional Information

Sound Transit
Kent Hale, Senior Environmental Planner (206) 398-5103
Erin Green, Environmental Planner (206) 398-5464
Tralayne Myers, Community Outreach Specialist (206) 398-5014
Mailing Address:
Sound Transit
401 South Jackson Street
Seattle, WA 98104-2826

Federal Transit Administration
Steve Saxton, Transportation Program Specialist
Federal Transit Administration Region 10
915 2nd Avenue, Suite 3142
Seattle, WA 98174-1002
(206) 220-4311

Potential Permits and Approvals

Federal Agencies	
Federal Highway Administration (FHWA)	• The following would be needed if the project to be built involved use of I-5 right-of-way: • Air Space Lease for Use of Interstate Right-of-Way • Limited Access Break • Operations and Maintenance Agreement • NEPA Record of Decision • Design Deviation Approval • I-5 Compatibility Report
Federal Transit Administration (FTA)	• NEPA Final Environmental Impact Statement and Record of Decision • Section 106 • Section 4(f)
U.S. Army Corps of Engineers	• Clean Water Act • Section 404 Wetlands Approval
U.S. Department of the Interior	• National Historic Preservation Act Section 106 • U.S. Department of Transportation Section 4(f)
U.S. Fish and Wildlife Service	• Federal Endangered Species Act Review
National Parks Service	• Section 4(f)
National Oceanic and Atmospheric Administration Fisheries Service	• Federal Endangered Species Act Review
State, County, and Regional Agencies	
Sound Transit	• SEPA Project Approval
Washington Department of Fish and Wildlife	• Hydraulic Project Approval
Washington State Department of Archaeology and Historic Preservation	• National Historic Preservation Act Section 106 Review
Washington State Department of Ecology	• Coastal Zone Management Consistency Certification • National Pollutant Discharge Elimination System Stormwater Discharge Permit, Clean Water Act Section 402 • Underground Storage Tank (UST) 30-Day Notice • Wastewater Discharge Permit • Water Quality Certification: Clean Water Act Section 401
Washington State Department of Ecology and Puget Sound Clean Air Agency	• Notice of Construction (Air Quality)
Washington State Department of Transportation	• Air Space Lease: State Transportation Routes and Interstate Right-of-Way (with FHWA) • Construction Oversight Agreement • Utility Franchise • Design Documentation Package • General Permits • Limited Access Break (with FHWA) • Operations and Maintenance Agreement (with FHWA) • Survey Permits • I-5 Compatibility Report (with FHWA)
Cities	
SeaTac, Des Moines, Kent and/or Federal Way	• Administrative Conditional Use and/or Design Review Approvals, Binding Lot Adjustments, and Site Plan Approvals

	• Building Permits: Mechanical, Plumbing, Electrical, Signs, Fences, and Awnings • Comprehensive Plan or Development Code Consistency Review, Special Use Permits, and/or Zoning Revision Applications • Construction Permits: Clearing and Grading, Demolition, Drainage, Driveways, Haul Routes, Landscape and Irrigation, Parking, Sanitary Sewers, Side Sewers, Street Use, Tree Protection, Use of City Right-of-Way, and Walls • Conveyance (elevators and/or escalators) • Environmental Critical Areas/Sensitive Areas Review including Wetlands, Streams, Steep Slopes, Flood Zones, Critical Habitat, and Buffers • Fire Protection and Hydrant Use Permits • Inspection Record Approval and Occupancy Permits • Noise Variances • Reviews and Approvals: Planning, Design, and Arts Commissions • Right-of-Way Permit or Franchise (utilities) • Street and Alley Vacations • Permanent, Interim, or Temporary Street Use Permits • Access or Use Easements for City-owned Properties • Removal/Abandonment of Residential USTs or Underground Heating Oil Tanks • Traffic, Transportation, and Parking Approvals • Use of City Right-of-Way (for construction) • Water Meter and Water Main Permits and Approvals • Floodplain Development License • Master Use Permit • Master Development Plan Approval
Other	
Utility Providers	• Pipeline and Utility Crossing Permits • Easements and Use Agreements

Principal Contributors

This EIS was prepared by consultants at the following firms: CH2M HILL, HDR Inc., ATS, Entech Consulting Group, Michael Minor and Associates, BERK Associates, and PRR. See Appendix A2 for a detailed list of preparers and the nature of their contributions.

Date of Issue of Draft Environmental Impact Statement

April 10, 2015

Commenting on the Draft EIS

The Draft EIS will be available for a comment period of 45 days. Comments on the Draft EIS can be made in writing, by e-mail, or at the public hearings. All comments are due by close of business on May 26, 2015. Send written comments to the following address:

Attention: Federal Way Link Extension Draft EIS Comments
Sound Transit
401 South Jackson Street
Seattle, Washington 98104

E-mail comments should be sent to FWLE@soundtransit.org. Written or e-mailed comments should include an addressee and return address. You may also offer comments at a public hearing/open house:

May 6, 2015 - Federal Way
4:00 p.m. to 7:00 p.m. (public hearing begins at 5:30 p.m.)
Federal Way Community Center
876 S 333rd Street
Federal Way, WA 98003

May 7, 2015 - Des Moines
4:00 p.m. to 7:00 p.m. (public hearing begins at 5:30 p.m.)
Highline College Student Union Building
2400 S 240 Street
Des Moines, WA 98198

Next Actions

Following publication of this Draft EIS and the close of the public comment period, the Sound Transit Board of Directors is expected to consider the comments received and identify a Preferred Alternative for evaluation in the Final EIS. The Final EIS will analyze the Preferred Alternative along with the other proposed light rail alternatives and the No Build Alternative. The Final EIS will also respond to the public and agency comments on the Draft EIS. Following issuance of the Final EIS, the Sound Transit Board of Directors will make a final decision on the FWLE alignment and station locations to be built.

The Federal Transit Administration will then issue a Record of Decision (ROD) describing the project Sound Transit will build and how it will avoid, minimize, and mitigate environmental impacts.

Related Documents

- Final Supplemental Environmental Impact Statement, Long-Range Plan Update (Sound Transit, 2014)
- Federal Way Transit Extension Alternatives Analysis Level 1 Evaluation (Sound Transit, 2013a)
- Federal Way Transit Extension Alternatives Analysis Level 2 Evaluation (Sound Transit, 2013b)

- Final Environmental Impact Statement, Transportation 2040: Metropolitan Transportation Plan for the Central Puget Sound Region (Puget Sound Regional Council [PSRC], 2010a)
- Sound Transit 2: A Mass Transit Guide, The Regional Transit System Plan for Central Puget Sound (Sound Transit, 2008)
- Regional Transit Long-Range Plan Final Supplemental Environmental Impact Statement (Sound Transit, 2005a)

All the above Sound Transit documents are available on the Sound Transit Web site, www.soundtransit.org.

Cost of Document and Availability for Review and/or Purchase

This Draft EIS is available for public review in a variety of formats and locations. It is available on the Sound Transit website (http://www.soundtransit.org/Projects-and-Plans/Federal-Way-Link-Extension) and on compact disk (CD) at no cost. Paper copies are available for the cost listed below, which does not exceed the cost of reproduction:

- Executive Summary – free
- Draft EIS – $25.00
- Technical Reports – $15.00 each
- Conceptual Design Drawings (Appendix F) – $25.00

Paper copies of these documents are available for review or purchase at the offices of Sound Transit, Union Station, 401 South Jackson Street, Seattle, Washington 98104. To request any of the documents, please contact Erin Green at (206) 398-5464. To review them, please call the Sound Transit librarian at (206) 398-5344 weekdays from 8:00 a.m. to 5:00 p.m. to arrange an appointment.

Paper and CD copies of the Draft EIS documents are also available for review at the following public places:

- King County Library System:
  - Des Moines Library, 21620 11th Ave S, Des Moines
  - Kent Library, 212 2nd Ave N, Kent
  - Woodmont Library, 26809 Pacific Highway S, Des Moines
  - Federal Way 320th Library, 848 S 320th Street, Federal Way
  - Federal Way Library, 34200 1st Way S, Federal Way
- Washington State Library: Point Plaza East, 6880 Capitol Boulevard SE, Tumwater

EXECUTIVE SUMMARY

ES.1 Introduction

The Central Puget Sound Regional Transit Authority (Sound Transit) is proposing to build and operate the Federal Way Link Extension (FWLE), which would expand the regional light rail system from SeaTac to Federal Way, Washington. The proposed project would be in the cities of SeaTac, Des Moines, Kent, and Federal Way in King County (Exhibit ES-1). The FWLE is an element of Sound Transit 2: a Mass Transit Guide, The Regional Transit System Plan for Central Puget Sound (ST2), financing for which was approved by the voters in November 2008. ST2 funded construction and operation of the portion of the FWLE from SeaTac to Kent/Des Moines. The length and configuration of the constructed project will depend on project funding and project costs. However, this Draft Environmental Impact Statement (EIS) evaluates alternatives for the whole FWLE corridor from SeaTac to Federal Way.

FWLE WOULD EXPAND THE REGIONAL LIGHT RAIL SYSTEM FROM SEATAC TO FEDERAL WAY.

The FWLE will help implement the Puget Sound Regional Council's (PSRC) VISION 2040 (PSRC, 2009) and the updated Sound Transit 2014 Regional Transit Long-Range Plan (Long-Range Plan) (Sound Transit, 2014). Both of these plans call for the eventual extension of high-capacity transit service between SeaTac and Tacoma, known as the South Corridor.

This Draft Environmental Impact Statement (EIS) evaluates several build (light rail) alternatives and a No Build Alternative, which considers how the transportation system would operate if the proposed project were not built. The No Build Alternative also provides a baseline against which to measure the impacts of the build alternatives. The light rail alternatives include at-grade, elevated, and trench light rail profiles with different station configurations. Four alternatives are evaluated, each with between four and nine station or alignment options.

Exhibit ES-2 shows anticipated project milestones for the FWLE. The schedule for final design, construction, and operation will be refined as the project nears the end of environmental review and preliminary design.

EXHIBIT ES-1
SOUND TRANSIT REGIONAL LIGHT RAIL SYSTEM

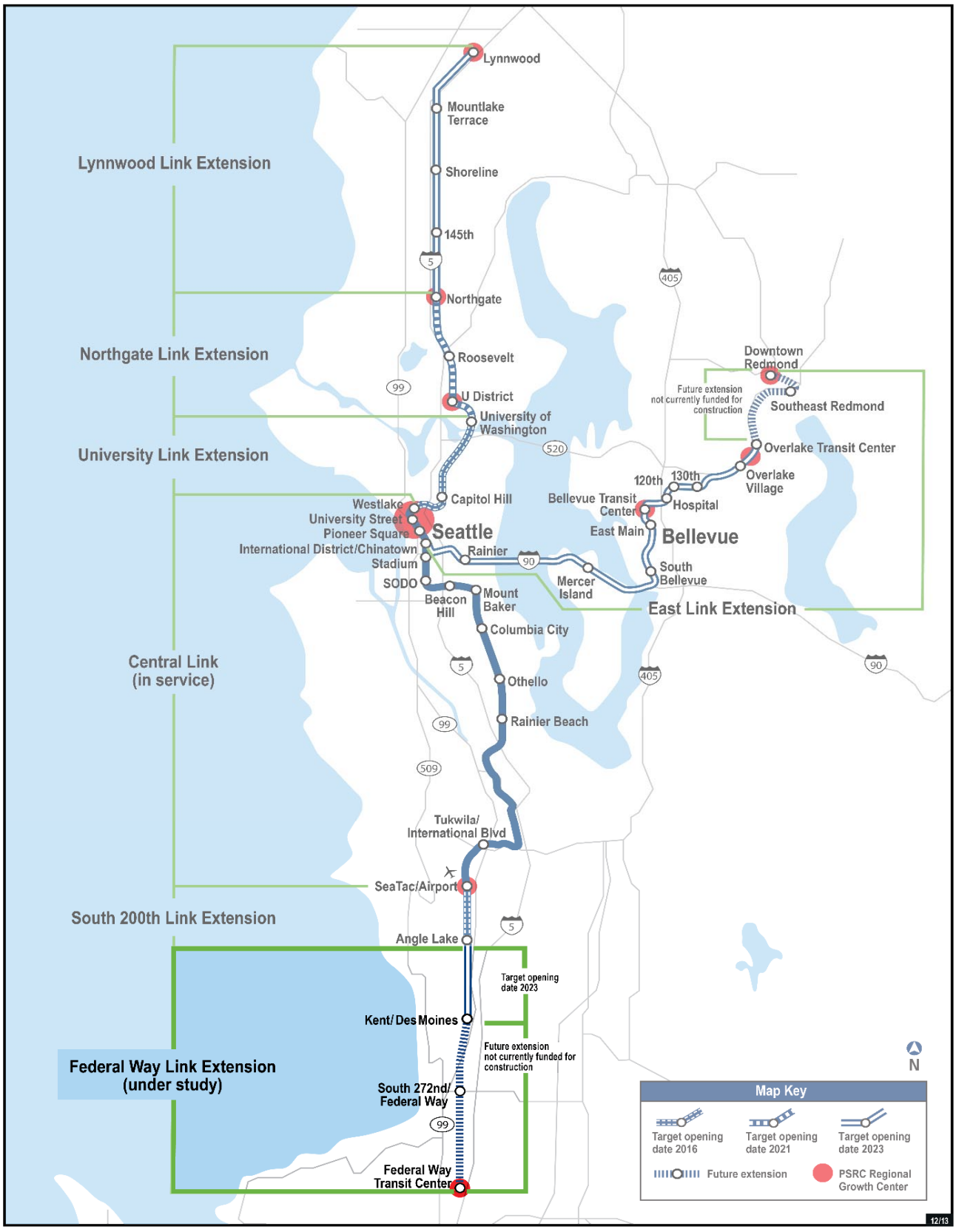
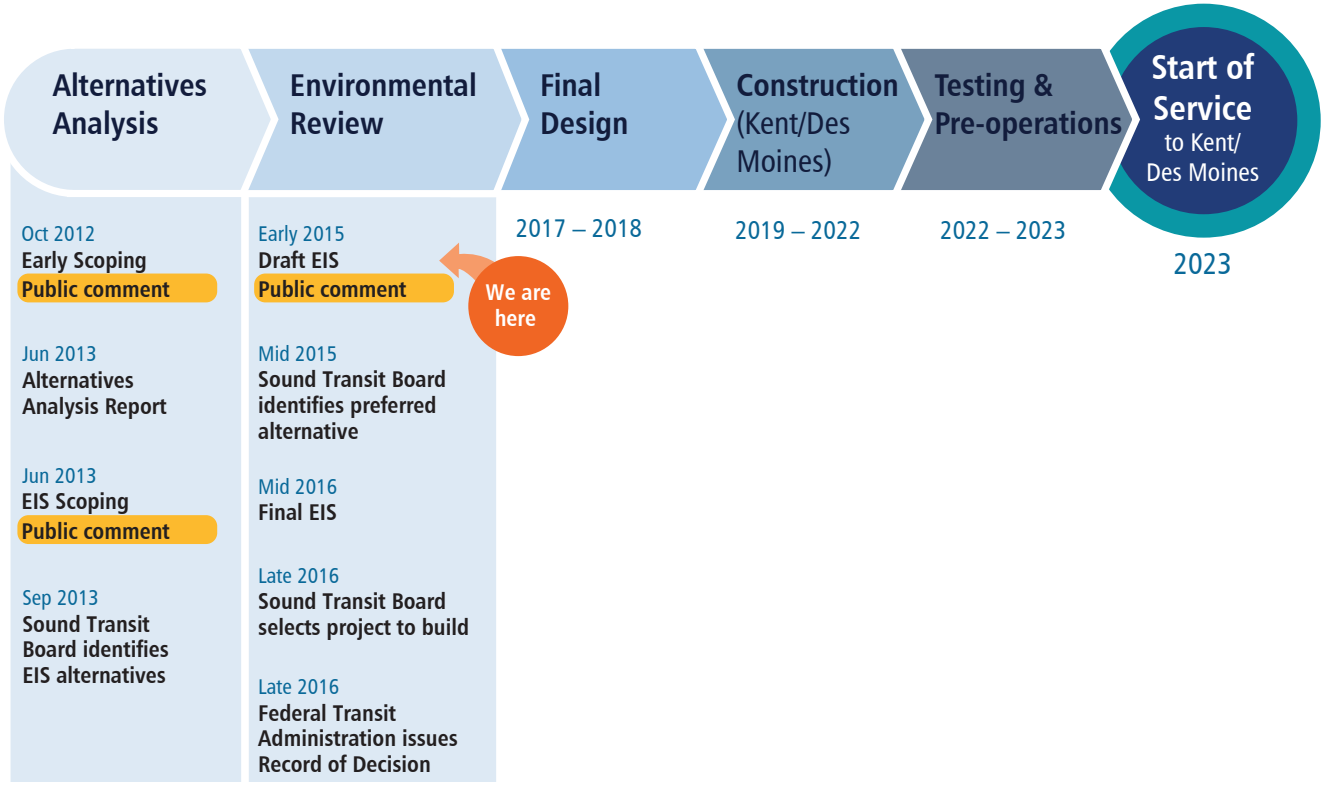


EXHIBIT ES-2
PROJECT MILESTONES



ES.2 Purpose & Need

ES.2.1 PURPOSE

The purpose of the FWLE is to expand the Sound Transit Link light rail system from the city of SeaTac to the cities of Des Moines, Kent, and Federal Way in King County in order to:

- Provide a rapid, reliable, accessible, and efficient alternative for travel to and from the corridor and other urban growth and activity centers in the region, with sufficient capacity to meet projected demand.
- Expand mobility by improving connections to the regional multimodal transportation system with peak and off-peak service.
- Provide the high-capacity transit (HCT) infrastructure and service to support the adopted regional and local land use, transportation, and economic development plans. Plans such as PSRC's VISION 2040 call for growth to be concentrated in designated urban centers connected to each other by HCT. Several individual cities have adopted land use plans to support this regional vision.
- Advance the Sound Transit's Long-Range Plan vision, goals, and objectives for high-quality regional transit service connecting major activity centers in King, Pierce, and Snohomish counties.
- Implement a financially feasible HCT system to help preserve and promote a healthy environment.

FWLE WILL DELIVER HIGH-CAPACITY TRANSIT TO URBAN CENTERS LOCATED THROUGHOUT THE FEDERAL WAY CORRIDOR.

ES.2.2 NEED

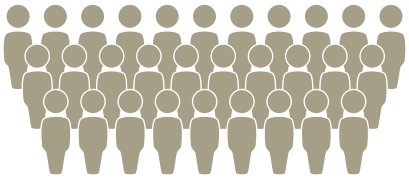
The following conditions within the project corridor demonstrate the need for the project:

- Increasing congestion on Interstate 5 and on the key arterials leading in and out of the study area will further degrade existing transit performance and reliability.
- North-south transit demand is expected to grow by about 40 to 75 percent by 2035 as a result of residential and employment growth in the FWLE corridor. This growth will require additional and more reliable transportation options than currently exist.
- Reliable and efficient peak and off-peak transit service is needed to connect people in the FWLE corridor with the region's growth centers.
- The corridor has a high concentration of transit-dependent populations who need efficient and reliable regional transit connectivity.
- Regional and local plans call for HCT in the corridor consistent with PSRC's VISION 2040 and Sound Transit's Long-Range Plan.
- Environmental and sustainability goals of the state and region include reducing vehicle miles traveled and auto-related greenhouse gas emissions.

ES.3 FWLE Meets the Need

Reliability of bus service in 2035 is expected to degrade compared to existing conditions in the project corridor. Under the No Build Alternative, which includes currently funded and committed road and transit improvements, key transit facilities, such as the I-5 HOV lanes, are expected to have speeds decrease by up to 30 percent in the peak direction of travel during the afternoon-evening rush hour. Without the FWLE, the 2035 transit hours of service to downtown Seattle would be more limited from the Federal Way Transit Center and the Redondo Heights/Star Lake service areas. With the FWLE operating in the corridor, light rail would be more reliable than bus transit because it would operate in an exclusive right-of-way and have no at-grade vehicle crossing conflicts. Adding the FWLE would improve service frequency and provide continuous two-way service for 21 hours a day between the FWLE and many Puget Sound regional destinations.

Bus service frequency in 2035 without the FWLE is expected to operate at the same level as existing conditions or better. However, service frequency to other regional destinations besides Downtown Seattle would be more limited and generally only provided in the peak direction of travel. Light rail to Federal Way would improve the service frequency for connections between Federal Way, Kent, Des Moines, SeaTac, and many other Puget Sound regional destinations, including Downtown Seattle, the University of Washington, Northgate, Lynnwood, Bellevue, Overlake and Redmond. Bus passenger loads would also increase beyond capacity without the FWLE as more pressure is put on the transit system. Several bus routes would exceed their seating capacity, while both bus and light rail would operate at acceptable levels of service with the FWLE, due to the transfer of some bus riders to light rail.



7,500-8,000 NEW RIDERS ARE EXPECTED

The FWLE would provide people who live and work in the FWLE corridor an alternative mode of transportation to get between the corridor and other regional centers, and would complement other local and regional transit services. Of the projected 24,000 to 27,500 riders who would board light rail in the FWLE corridor each day, approximately 7,500 to 8,000 are expected to be new transit riders. The projected ridership forecast for each alternative is based on the adopted regional land use forecasts provided by PSRC, as well as several other factors such as station locations, access to stations, and light rail travel times. Ridership forecasts for all alternatives are estimated to be similar as the alternative station locations and light rail travel times are relatively similar. With a Kent/Des Moines Station interim terminus, however, the daily ridership would vary due to the proximity of stations to SR 99 and transit connections at those stations. The SR 99 Alternative would have the highest ridership, with 9,000 riders, and the I-5 Alternative would have the lowest ridership, with 5,500 riders. The SR 99 to I-5 and I-5 to SR 99 Alternative would both have 8,500 riders. With a S 272nd Station interim terminus, the daily ridership would differ less, with a total project ridership of 12,500 for the SR 99, SR 99 to I-5, and I-5 to SR 99 alternatives, and a ridership of 10,000 for the I-5 Alternative. This would occur because of transit

connections at the S 272nd Star Lake Station, making it easier for riders to transfer to the FWLE at this location.

Providing reliable, frequent service for 21 hours a day to multiple regional destinations would provide greater transit connectivity for transit-dependent populations than is available today. This would have benefits for transit-dependent populations, including access to more employment opportunities and better access to services only provided in larger regional centers, such as Seattle or Bellevue. The FWLE would also reduce vehicle miles traveled by 40,000 miles and vehicle hours traveled by 2,000 hours each weekday. This would also result in reduced vehicle emissions in the corridor.

The FWLE would help fulfill plans for the South Corridor that have been envisioned since the 1990s. Providing HCT was called for in PSRC and Sound Transit plans, and financing for the extension to S 272nd Street in Federal Way was approved by voters in 2008 as part of the ST2 funding package. This package also funded environmental review of an extension from S 272nd Street to Tacoma, which the FWLE would also help implement as far as the Federal Way Transit Center.

ES.4 Alternatives Considered

This Draft EIS compares the environmental effects of a No Build Alternative and four light rail alternatives for the FWLE. The alternatives were defined by the Sound Transit Board of Directors (Board) after early scoping, an alternatives analysis, environmental scoping, and public and agency input, which considered a wide range of alternatives.

ES.4.1 ALTERNATIVES DEVELOPMENT

An early scoping period was held from October 18, 2012, to November 19, 2012, to encourage public and agency input on the project purpose and need and potential alternatives to study in the FWLE corridor. Following the early scoping period, an alternatives analysis process was completed to identify alternatives to study further in the Draft EIS. During this process, Sound Transit developed and reviewed 14 preliminary alternatives for the FWLE corridor between SeaTac and Federal Way. Several alternatives were eliminated because of ridership, cost, construction risk, and environmental impacts.

The NEPA/SEPA scoping period took place from June 17, 2013, to July 17, 2013. Sound Transit conducted the scoping process in consultation with city and county agencies; affected tribes; regional, state, and federal agencies; interest groups; businesses; affected communities; and the public.

RELATIONSHIP TO OTHER TRANSPORTATION AND TRANSIT PROJECTS

The FWLE would intersect with several existing and planned roadway and transit projects. Two that warrant special consideration are the RapidRide A Line operated by King County Metro and the SR 509 Extension Project planned by WSDOT. The RapidRide A Line would continue to serve along SR 99 with the project and would provide local service between the stations and access to the Link system. Riders using the RapidRide A Line would be able to transfer to light rail and the regional transportation system at the Kent/Des Moines Station or Federal Way Transit Center Station. If the SR 99 Alternative is selected, they would also be able to transfer at the S 272nd Redondo Station.

The SR 509 Extension Project would extend SR 509 from its current southern terminus at S 188th Street in SeaTac east to I-5. Appendix F, Conceptual Design Plans, shows the proposed SR 509 Extension in relation to the FWLE. Although no transportation plans include or identify funding to build this project, the FWLE alternatives have been designed to accommodate its full build-out.

Because of these uncertainties, the No Build Alternative does not include the SR 509 extension in the regional transportation network. However, this Draft EIS does include it in the cumulative impacts analysis (Chapter 6) as a reasonably foreseeable future action.

ES.4.2 NO BUILD ALTERNATIVE

The No Build Alternative would be the transportation system and environment as they would exist without the proposed project. The No Build Alternative includes a variety of projects, funding packages, and proposals in the central Puget Sound Region that are planned to occur with or without the FWLE. Improvements with the No Build Alternative primarily consist of funded or committed roadway and transit actions by state, regional, and local agencies combined with other projects that are considered likely to be implemented based on approved and committed funding. PSRC population and employment growth projections for 2035 are the same for the No Build and build alternatives. With the No Build Alternative, Sound Transit would still build the Northgate Link Extension, the Lynnwood Link Extension, the East Link Extension, and a new light rail operations and maintenance satellite facility. Sound Transit would also purchase additional light rail vehicles to serve the expanded system and would provide service enhancements to the Sound Transit Regional Express bus and Sounder commuter rail systems. Minor local bus service additions by King County Metro are also expected; however, the overall bus network and its service levels were generally assumed to remain similar to today.

ES.4.3 BUILD ALTERNATIVES

This section summarizes the four build alternatives evaluated, the impacts associated with each alternative, and the various station and alignment options. It also summarizes potential additional stations that could be added to the project if additional funding were available. These potential additional stations were not included in ST2 and further evaluation of their consistency with the ST2 Plan would be required before they could be added to the FWLE. Exhibits ES-3A to ES-3D and Table ES-1 provide an overview of these alternatives, options, and potential additional stations.

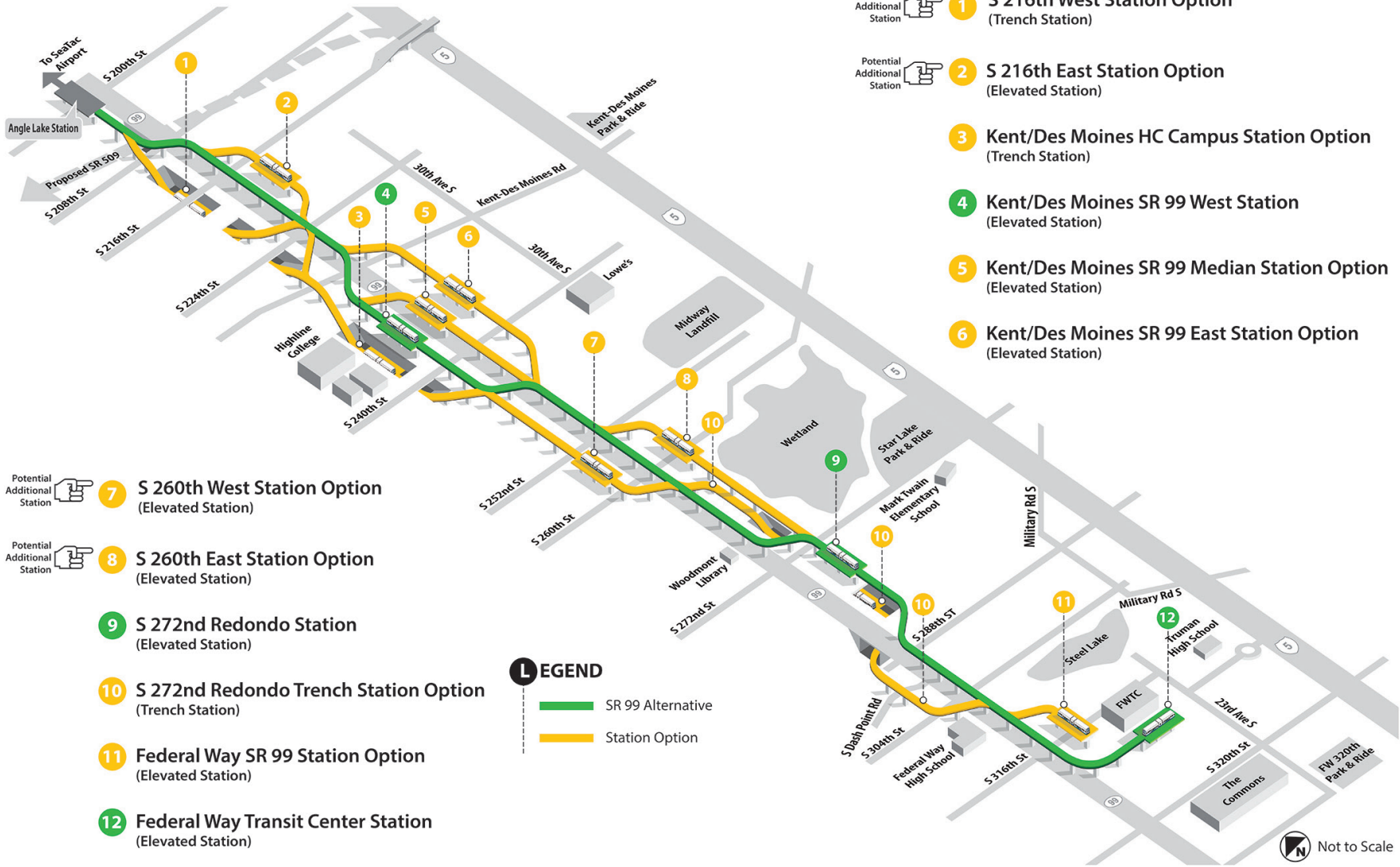
Parking would be provided at the Kent/Des Moines, S 272nd Street, and Federal Way City Center stations. All Kent/Des Moines stations would provide 1,000 spaces (500 structured, 500 surface) if the project is only initially built to Kent/Des Moines. The number of spaces could be reduced to 500 when the project is extended farther south. The S 272nd Redondo Station would have approximately 1,400 parking spaces that would be a combination of structured and surface. The S 272nd Star Lake Station would have approximately 1,240 parking spaces in structure. All Federal Way City Center stations would have approximately 400 parking spaces in structure.

TABLE ES-1
SUMMARY OF ALTERNATIVES EVALUATED IN THE DRAFT EIS

Alternative	Stations	Station Options	Potential Additional Stations	Alignment Options
No Build	▪ None	▪ None	▪ None	▪ None
SR 99	▪ Kent/Des Moines SR 99 West ▪ S 272nd Redondo ▪ Federal Way Transit Center	▪ Kent/Des Moines Highline Community College (HCC) Campus ▪ Kent/Des Moines SR 99 Median ▪ Kent/Des Moines SR 99 East ▪ S 272nd Redondo Trench ▪ Federal Way SR 99	▪ S 216th West ▪ S 216th East ▪ S 260th West ▪ S 260th East	▪ None
I-5	▪ Kent/Des Moines I-5 ▪ S 272nd Star Lake ▪ Federal Way Transit Center	▪ Kent/Des Moines At-Grade ▪ Kent/Des Moines SR 99 East ▪ Federal Way I-5 ▪ Federal Way S 320th Park-and-Ride	▪ None	▪ Landfill Median
SR 99 to I-5	▪ Kent/Des Moines 30th Avenue East ▪ S 272nd Star Lake ▪ Federal Way Transit Center	▪ Federal Way I-5 ▪ Federal Way S 320th Park-and-Ride	▪ S 216th West ▪ S 216th East	▪ Landfill Median
I-5 to SR 99	▪ Kent/Des Moines 30th Avenue West ▪ S 272nd Redondo ▪ Federal Way Transit Center	▪ S 272nd Redondo Trench ▪ Federal Way SR 99	▪ S 260th West ▪ S 260th East	▪ None

What are the Stations?	What are the Station Options?	What are the Potential Additional Station?	What is an Alignment Option?
There are three stations associated with each alternative: Kent/Des Moines, S 272nd (either Redondo or Star Lake) and Federal Way Transit Center.	Station Options are alternative locations for each station area: Kent/Des Moines, S 272nd Street, and Federal Way Transit Center. Options for a station generally have the same station characteristics and serve the same population.	The Alternative Analysis process for the FWLE identified additional station locations on SR 99. These stations could be added to the SR 99 alternatives but are not funded and would require additional approvals.	An alignment option is an alternative route along a portion of the alternative. An alignment option does not include station options.

EXHIBIT ES-3A
FWLE ALTERNATIVES



Potential Additional Station
1 S 216th West Station Option
(Trench Station)

Potential Additional Station
2 S 216th East Station Option
(Elevated Station)

3 Kent/Des Moines HC Campus Station Option
(Trench Station)

4 Kent/Des Moines SR 99 West Station
(Elevated Station)

5 Kent/Des Moines SR 99 Median Station Option
(Elevated Station)

6 Kent/Des Moines SR 99 East Station Option
(Elevated Station)

Potential Additional Station
7 S 260th West Station Option
(Elevated Station)

Potential Additional Station
8 S 260th East Station Option
(Elevated Station)

9 S 272nd Redondo Station
(Elevated Station)

10 S 272nd Redondo Trench Station Option
(Trench Station)

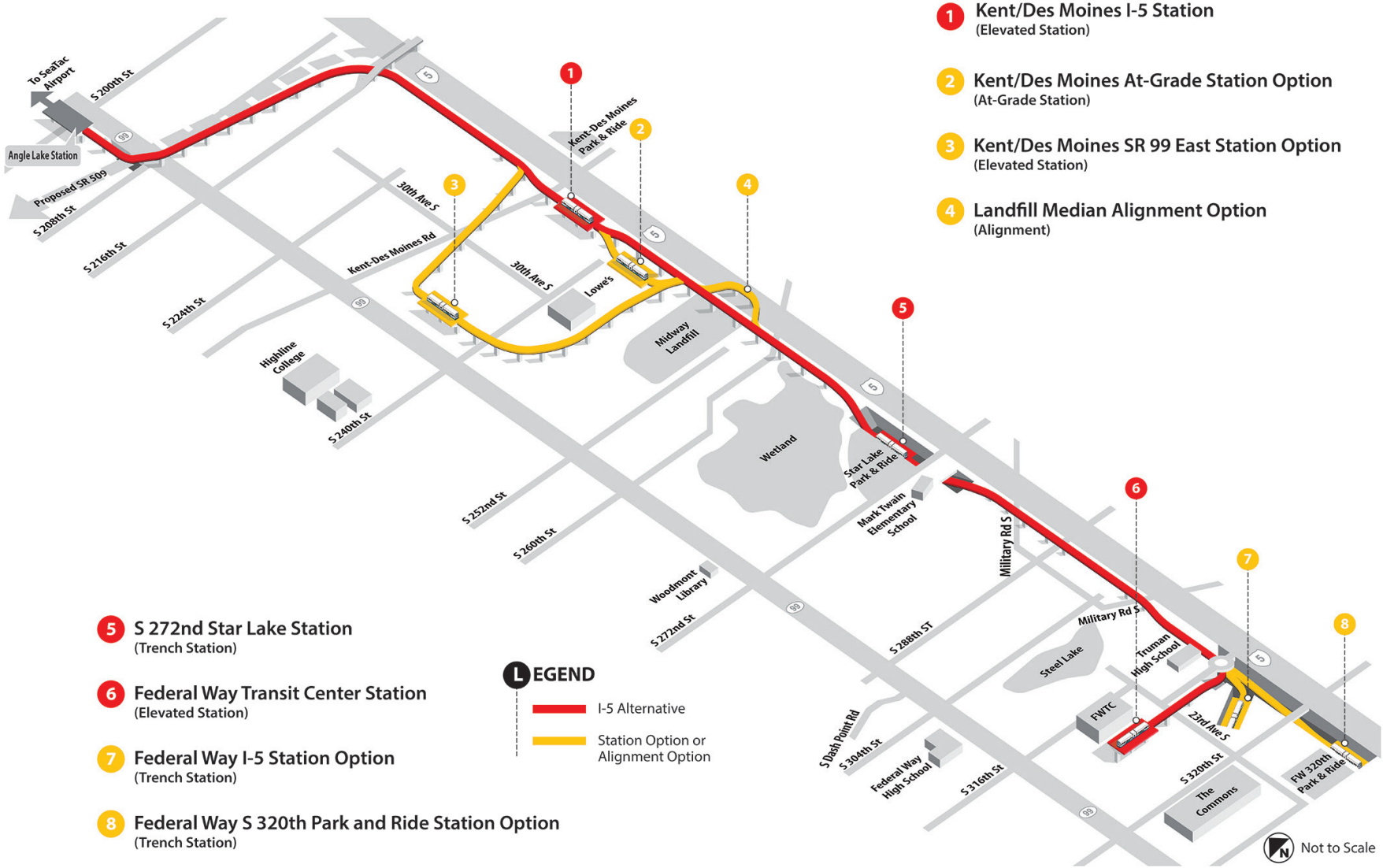
11 Federal Way SR 99 Station Option
(Elevated Station)

12 Federal Way Transit Center Station
(Elevated Station)

LEGEND
- SR 99 Alternative
- Station Option

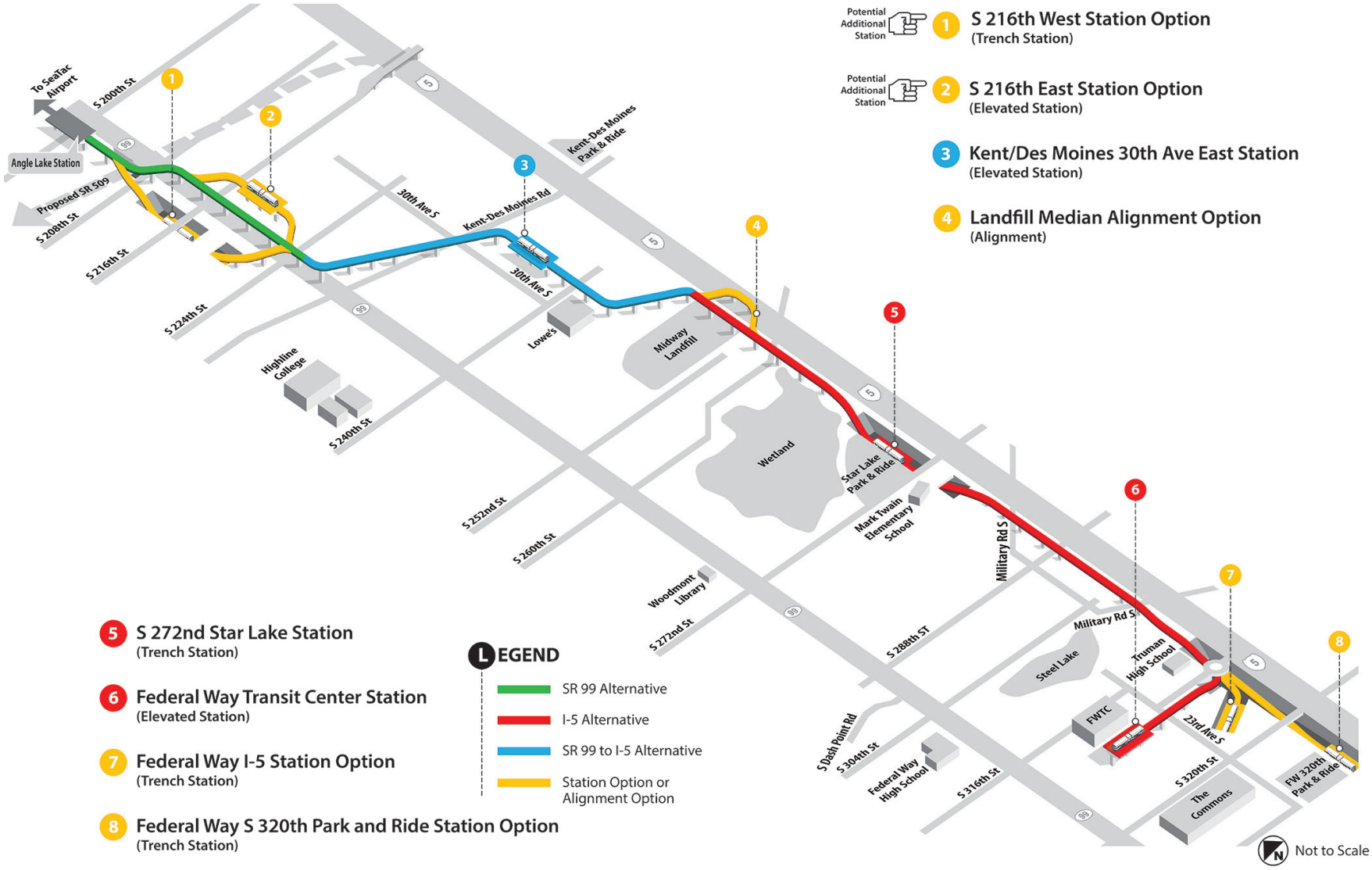
Diagrams are for illustration purposes only and are not to scale.

EXHIBIT ES-3B
FWLE ALTERNATIVES



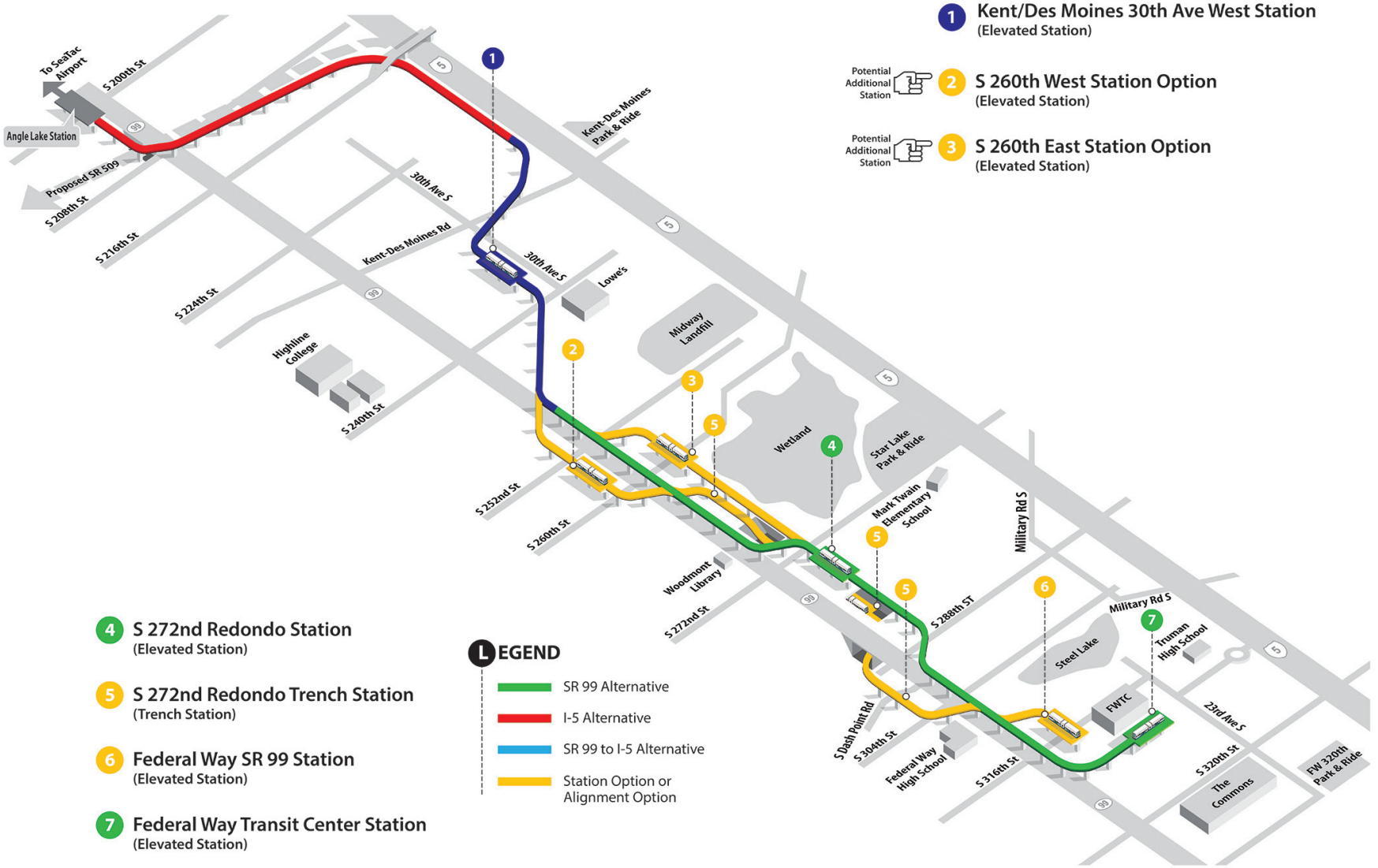
Diagrams are for illustration purposes only and are not to scale.

EXHIBIT ES-3C
FWLE ALTERNATIVES



Diagrams are for illustration purposes only and are not to scale.

EXHIBIT ES-3D
FWLE ALTERNATIVES



Diagrams are for illustration purposes only and are not to scale.

SR 99 Alternative

COST
$1.77 Billion

TRAVEL TIME
13 Minutes

DAILY RIDERSHIP
26,500 Riders

TOD POTENTIAL
119 Acres

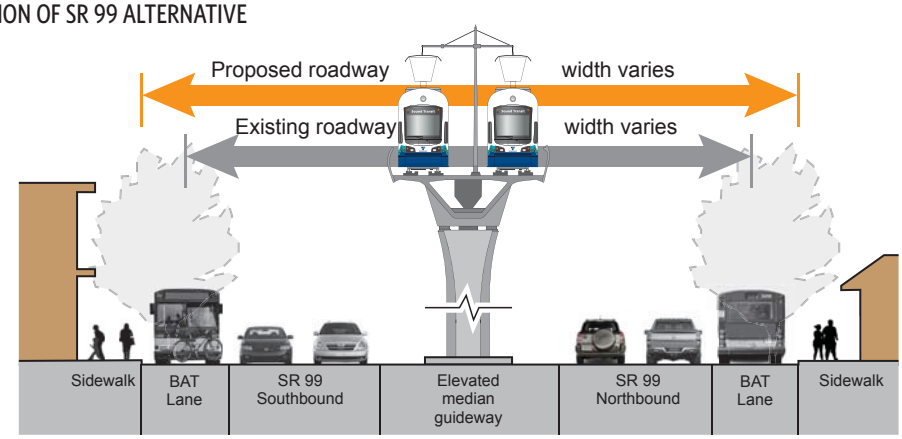
DAILY BOARDINGS

Kent/Des Moines Station 3,000 Riders

S 272nd Redondo Station 1,500 Riders

Federal Way Transit Center Station 9,000 Riders

EXHIBIT ES-4
CROSS SECTION OF SR 99 ALTERNATIVE



Proposed condition looking north (not to scale)

The SR 99 Alternative would generally follow SR 99, with stations at Kent/Des Moines, S 272nd Redondo, and the Federal Way Transit Center. It would remain in the median of SR 99 except at station areas and at crossings of Kent-Des Moines Road and S 272nd Street. The entire alignment and all stations would be elevated (Exhibit ES-4). This alternative has several station options and two potential additional stations not included in the ST2 plan. These stations are shown on Exhibit ES-5 and described on the following pages. Exhibit ES-4 shows a typical cross-section of the alignment located in the SR 99 median. Table ES-2 summarizes the impacts of the SR 99 Alternative.

The SR 99 Alternative is projected to have slightly higher ridership than the I-5 Alternative and the lowest residential displacements. It would have the greatest number of business and employee displacements, and would create more disruption to local traffic and business access during construction than other alternatives. It would have minimal impacts on ecosystems, and the least amount of new impervious area. The SR 99 Alternative would have the greatest number of noise impacts, but the lowest number of vibration impacts. This alternative would also have a potential groundborne noise impact at the new Federal Way High School Auditorium. All noise and vibration impacts could be mitigated. Traffic impacts near the Kent/Des Moines Station and S 272nd Redondo Station would be similar to other alternatives, and could be mitigated. This alternative would have visual impacts near S 216th Street and S 288th Street where residences along SR 99 could have views of Puget Sound and the Olympic Mountains partially blocked. The SR 99 Alternative would be the most supportive of transit oriented development (TOD).

EXHIBIT ES-5
SR 99 ALTERNATIVE

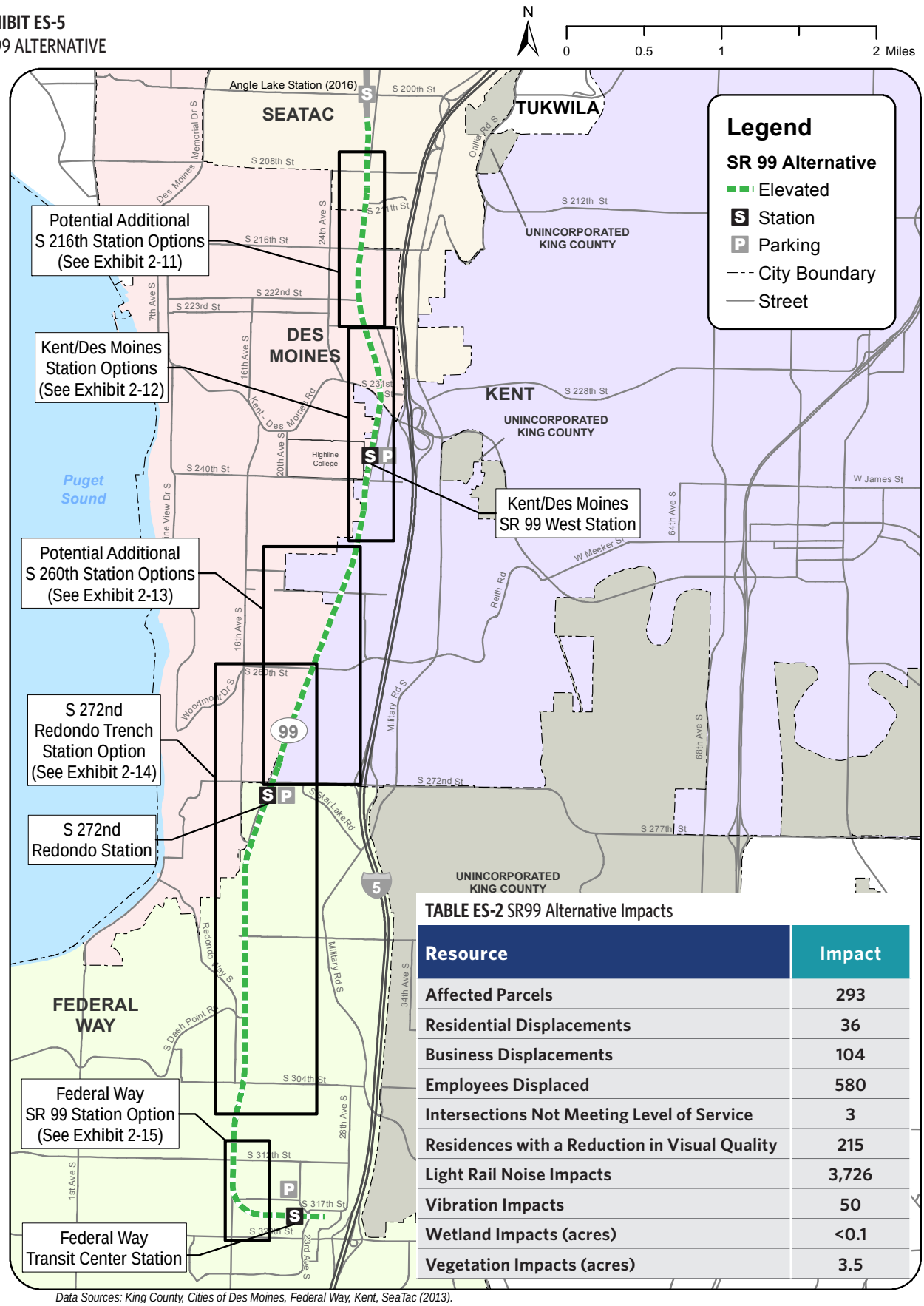


TABLE ES-2 SR99 Alternative Impacts

Resource	Impact
Affected Parcels	293
Residential Displacements	36
Business Displacements	104
Employees Displaced	580
Intersections Not Meeting Level of Service	3
Residences with a Reduction in Visual Quality	215
Light Rail Noise Impacts	3,726
Vibration Impacts	50
Wetland Impacts (acres)	<0.1
Vegetation Impacts (acres)	3.5

Data Sources: King County, Cities of Des Moines, Federal Way, Kent, SeaTac (2013).

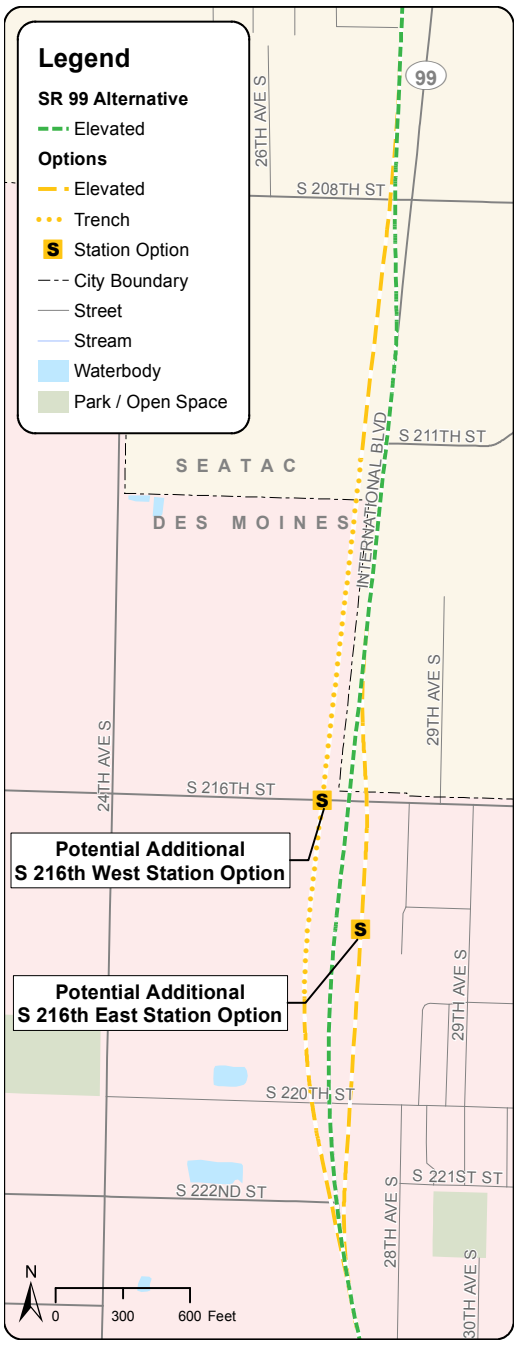
Potential Additional Station Options
S 216TH STREET

Two options are evaluated for the potential additional station at S 216th Street (Exhibit ES-6). The S 216th West Station Option would travel in a trench under S 216th Street west of SR 99 and would add $70M to the cost of the SR 99 Alternative. The S 216th East Station Option would be elevated on the east side of SR 99 and would add $70M. The east station option would result in more residential displacements than the west station option, but the west station option would result in more business and employee displacements (Table ES-3). Both would result in reduced noise impacts, and the west option would reduce vibration impacts while the east option would increase them. All noise and vibration impacts could be mitigated. There would be no additional traffic impacts or impacts on wetlands, wetland buffers, or streams with either option. The S 216th West Station Option would reduce visual impacts in this area by being in a trench on the west side of SR 99.

TABLE ES-3
PERFORMANCE MEASURES & IMPACTS COMPARED TO SR 99 ALTERNATIVE

LEGEND ↑ Increase ↓ Decrease	S 216th West Station Option	S 216th East Station Option
Performance Measures		
Cost Difference	↑ $70 million	↑ $70 million
Change in Daily Project Riders	↑ 500	↑ 500
Change in Travel Time (minutes)	No Change	No Change
TOD Potential within 1/4 mile (acres)	↑ 53	↑ 46
Resource Impacts		
Affected Parcels	↑ 6	↑ 5
Residential Displacements	No Change	↑ 26
Business Displacements	↑ 13	↑ 2
Employment Displaced	↑ 60	↑ 10
Intersections Not Meeting Level of Service	No Change	No Change
Residences with a Reduction in Visual Quality	↓ 45	No Change
Light Rail Noise Impacts	↓ 277	↓ 14
Vibration Impacts	↓ 50	↑ 16
Wetland Impacts (acres)	No Change	No Change
Vegetation Impacts(acres)	↑ 0.4	↓ 0.1

EXHIBIT ES-6
S 216TH STATION OPTIONS



Station Options

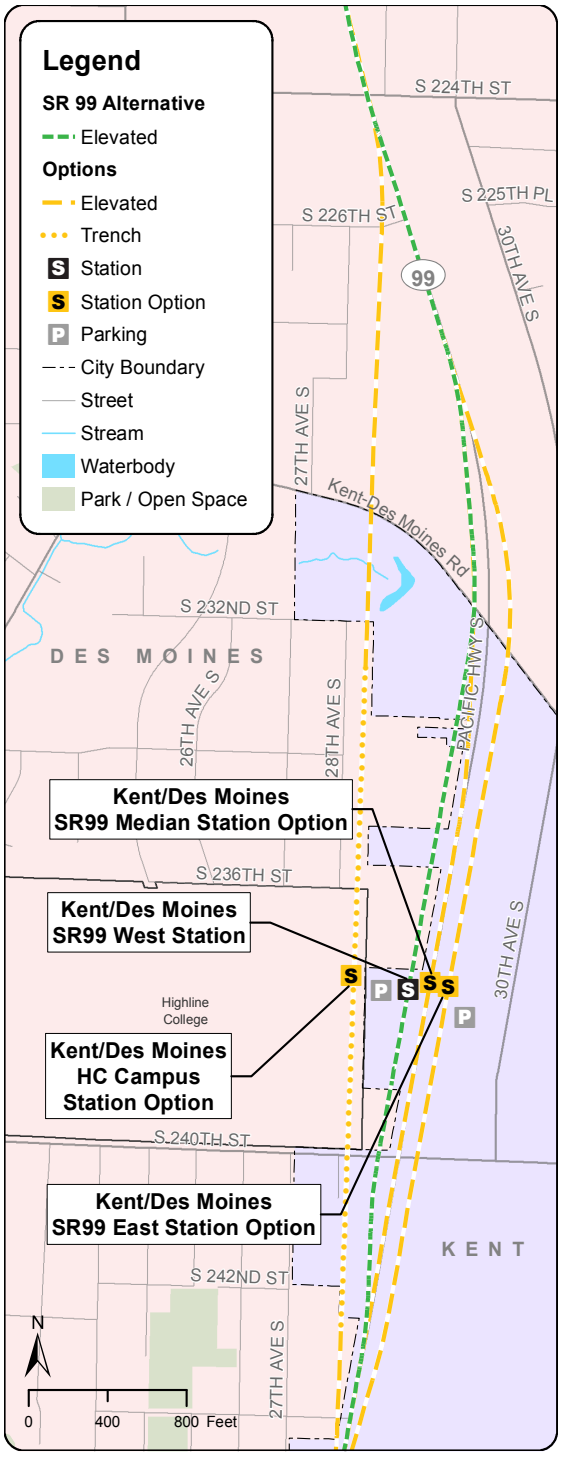
KENT/DES MOINES

The Kent/Des Moines SR 99 Median Station and East Station options (Exhibit ES-7) would increase the cost of this station, while the HC Campus Station Option would not change the project cost. All options would have increased residential displacements (Table ES-4). The SR 99 Median Station Option would have greater business displacements but fewer employees displaced while the HC Campus Station Option would impact fewer businesses but more employees. This would occur because different businesses would be impacted by each option. The Kent/Des Moines HC Campus Station Option would reduce noise impacts and increase vibration impacts, while the other options would increase noise impacts but would not change vibration impacts. All noise and vibration impacts could be mitigated. The HC Campus Station Option would also increase wetland impacts by crossing over Massey Creek.

TABLE ES-4
PERFORMANCE MEASURES & IMPACTS COMPARED TO SR 99 ALTERNATIVE

LEGEND ↑ Increase ↓ Decrease	HC Campus Station Option	SR 99 Median Station Option	SR 99 East Station Option
Performance Measures			
Cost Difference	No Change	↑ $20 million	↑ $10 million
Change in Daily Project Riders	No Change	No Change	No Change
Change in Travel Time (minutes)	No Change	No Change	No Change
TOD Potential within 1/4 mile (acres)	↓ 2	↑ 9	↑ 7
Resource Impacts			
Affected Parcels	↑ 19	↑ 1	↓ 9
Residential Displacements	↑ 39	↑ 14	↑ 34
Business Displacements	↓ 7	↑ 2	↓ 1
Employment Displaced	↑ 40	↓ 10	↓ 80
Intersections Not Meeting Level of Service	No Change	No Change	No Change
Residences with a Reduction in Visual Quality	↑ 15	No Change	No Change
Light Rail Noise Impacts	↓ 154	↑ 8	↑ 16
Vibration Impacts	↑ 12	No Change	No Change
Wetland Impacts (acres)	↑ 0.2	No Change	No Change
Vegetation Impacts(acres)	↓ 0.3	↓ 0.9	↓ 1.5

EXHIBIT ES-7
KENT/DES MOINES STATION OPTIONS



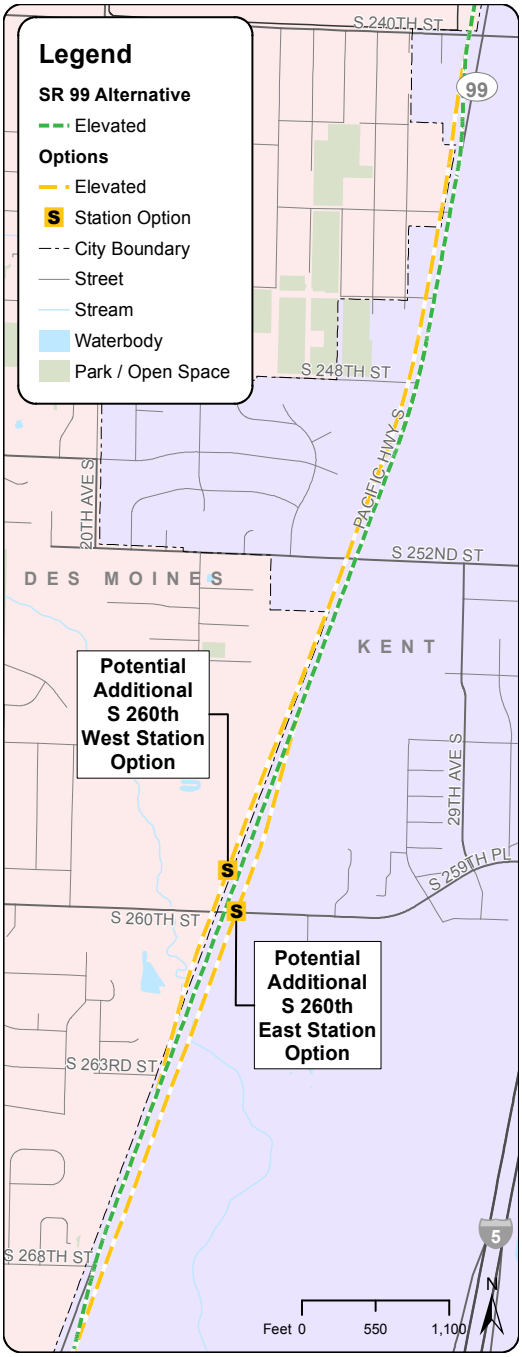
Potential Additional Station Options
S 260TH STREET

The potential additional station at S 260th Street (Exhibit ES-8) would add between $50M and $70M to the cost of the SR 99 Alternative. Both S 260th potential additional station options would increase business and employee displacements, while only the east station option would increase residential displacements (Table ES-5). Both options would increase vibration impacts but would decrease noise impacts. All noise and vibration impacts could be mitigated. Both station options would cross McSorley Creek and the S 260th East Station Option would result in additional impacts on the McSorley Creek Wetlands and forested areas.

TABLE ES-5
PERFORMANCE MEASURES & IMPACTS COMPARED TO SR 99 ALTERNATIVE

LEGEND ↑ Increase ↓ Decrease	S 260th West Station Option	S 260th East Station Option
Performance Measures		
Cost Difference	↑ $50 million	↑ $70 million
Change in Daily Project Riders	↑ 500	↑ 500
Change in Travel Time (minutes)	No Change	No Change
TOD Potential within 1/4 mile (acres)	↑ 36	↑ 43
Resource Impacts		
Affected Parcels	↓ 15	↓ 6
Residential Displacements	No Change	↑ 3
Business Displacements	↑ 18	↑ 21
Employment Displaced	↑ 140	↑ 80
Intersections Not Meeting Level of Service	No Change	No Change
Residences with a Reduction in Visual Quality	No Change	No Change
Light Rail Noise Impacts	↓ 150	↓ 6
Vibration Impacts	↑ 12	↑ 2
Wetland Impacts (acres)	↑ 0.1	↑ 0.4
Vegetation Impacts(acres)	↑ 0.4	↑ 0.3

EXHIBIT ES-8
S 260TH STATION OPTIONS



Station Option

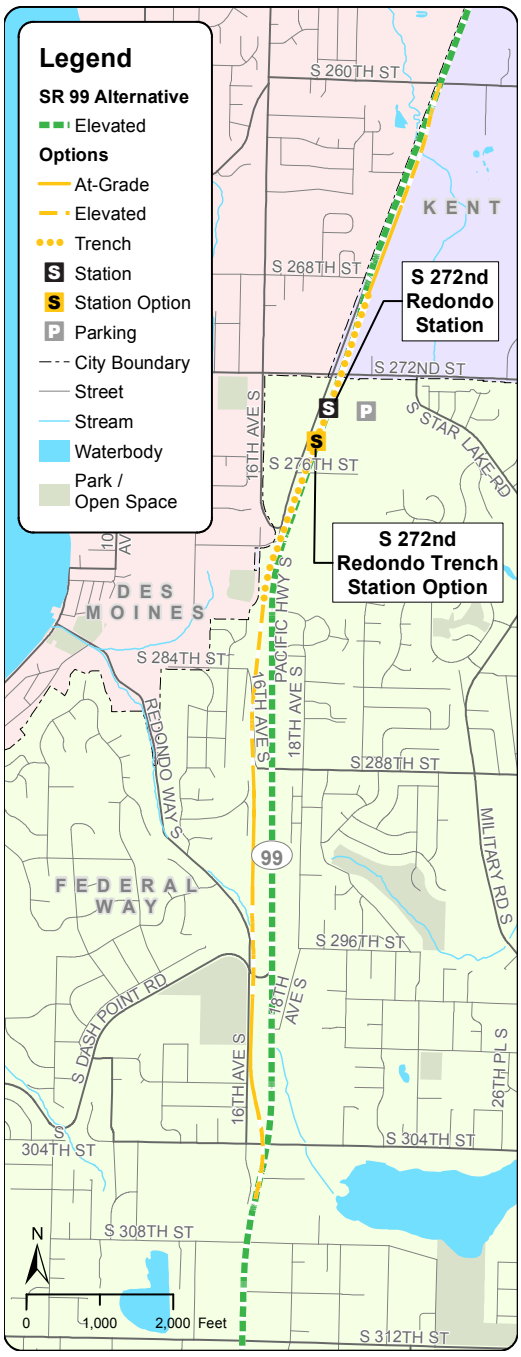
S 272ND REDONDO TRENCH

The S 272nd Redondo Trench Station Option (Exhibit ES-9) would cost $20M less than the SR 99 Alternative (Table ES-6). This option would increase residential displacements and would not change the number of business displacements, although the number of employees displaced would be greater due to different businesses being impacted. This option would cross McSorley Creek and Redondo Creek and would result in additional impacts on the McSorley Creek Wetlands. This option would not result in visual impacts on views of Puget Sound from SR 99 near S 288th Street, but it would still result in visual impacts on residences west of and below SR 99 where it would be elevated to the west of these properties. This option would have the greatest reduction in noise impacts of all options, but also the greatest increase in vibration impacts. All noise and vibration impacts could be mitigated.

TABLE ES-6
PERFORMANCE MEASURES & IMPACTS COMPARED TO SR 99 ALTERNATIVE

LEGEND ⇧ Increase ⇩ Decrease	S 272nd Redondo Trench Station Option
Performance Measures	
Cost Difference	⇩ $20 million
Change in Daily Project Riders	No Change
Change in Travel Time (minutes)	No Change
TOD Potential within 1/4 mile (acres)	⇩ 5
Resource Impacts	
Affected Parcels	⇩ 21
Residential Displacements	⇧ 4
Business Displacements	No Change
Employment Displaced	⇧ 60
Intersections Not Meeting Level of Service	No Change
Residences with a Reduction in Visual Quality	⇩ 10
Light Rail Noise Impacts	⇩ 519
Vibration Impacts	⇧ 181
Wetland Impacts (acres)	⇧ 0.4
Vegetation Impacts(acres)	⇧ 3.3

EXHIBIT ES-9
S 272ND REDONDO TRENCH STATION OPTION



Station Option
FEDERAL WAY SR 99

The Federal Way SR 99 Station Option (Exhibit ES-10) would be closer to SR 99, reducing the overall length of this alternative and reducing the cost by $70M and reducing business and employee displacements (Table ES-7). There would be greater noise impacts, but all noise impacts could be mitigated. This option would impact 0.7 acre of the Federal Way Town Square Park that is currently used for parking and landscaping. The loss of parking could be mitigated. There would be no additional ecosystem, traffic, or vibration impacts and no additional residential displacements.

EXHIBIT ES-10
FEDERAL WAY SR 99 STATION OPTION

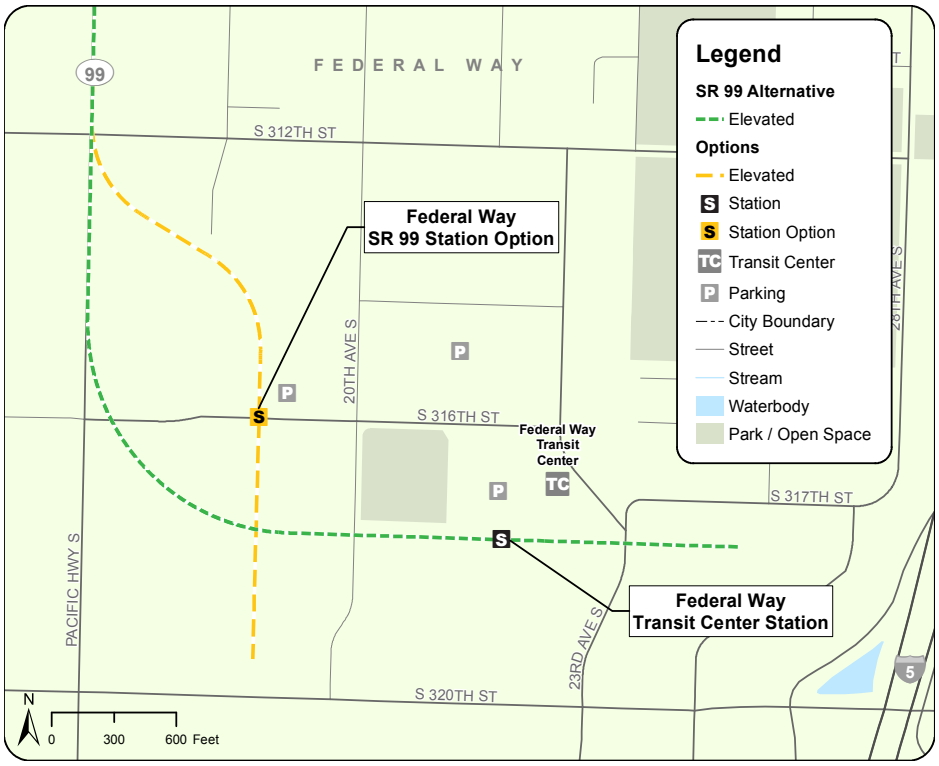


TABLE ES-7
PERFORMANCE MEASURES & IMPACTS COMPARED TO SR 99 ALTERNATIVE

LEGEND ▲ Increase ▽ Decrease	FW SR 99 Station Option
Performance Measures	
Cost Difference	▽ $70 million
Change in Daily Project Riders	▽ 500
Change in Travel Time (minutes)	▽ 1
TOD Potential within 1/4 mile (acres)	▲ 11
Resource Impacts	
Affected Parcels	▽ 8
Residential Displacements	No Change
Business Displacements	▽ 13
Employment Displaced	▽ 20
Intersections Not Meeting Level of Service	No Change
Residences with a Reduction in Visual Quality	No Change
Light Rail Noise Impacts	▲ 44
Vibration Impacts	No Change
Wetland Impacts (acres)	No Change
Vegetation Impacts(acres)	▽ 0.4

I-5 Alternative

COST
$1.42 Billion

TRAVEL TIME
13 Minutes

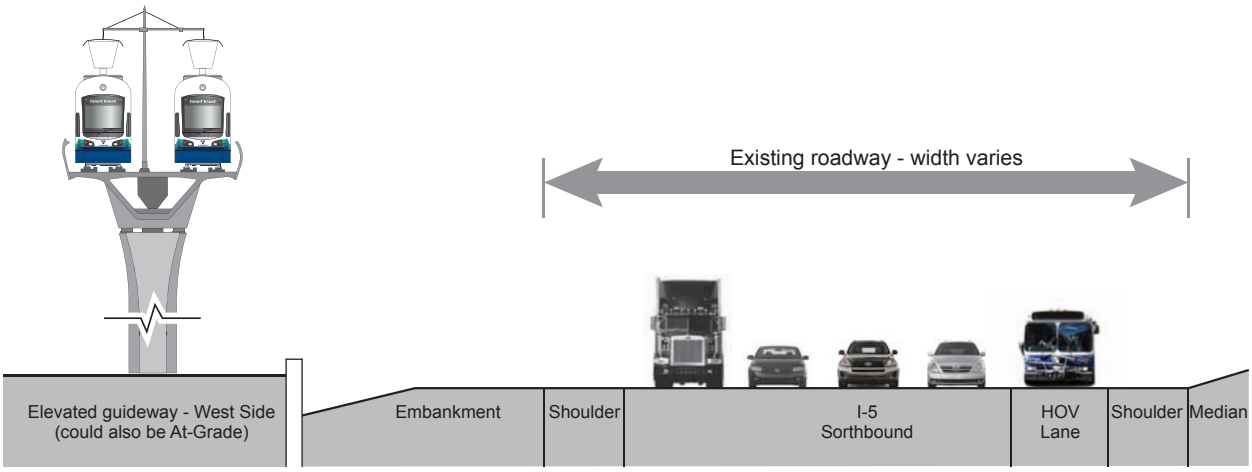
DAILY RIDERSHIP
25,500 Riders

TOD POTENTIAL
76 Acres

DAILY BOARDINGS

Kent/Des Moines Station 2,000 Riders
S 272nd Redondo Station 2,000 Riders
Federal Way Transit Center Station 9,000 Riders

EXHIBIT ES-11
TYPICAL CROSS SECTION OF I-5 ALTERNATIVE



Proposed condition looking north (not to scale)

The I-5 Alternative (Exhibits ES-11 and ES-12) would head south from the Angle Lake Station and cross to the east side of SR 99 in the vicinity of the proposed SR 509 extension (for description, see p. 6). It would be located in or adjacent to the future SR 509 Washington State Department of Transportation (WSDOT) right-of-way until S 231st Street, and would allow for the planned future build-out of I-5 in this area. Between S 231st Street and S 317th Street, the alignment would be mostly within the WSDOT right-of-way for I 5 except to access stations, which would be located outside of WSDOT right-of-way. The I-5 Alternative would be at-grade where existing topography allows and road crossings are not present.

Table ES-8 summarizes the impacts of the I-5 Alternative. The I-5 Alternative would have the highest number of residential displacements but the lowest number of business displacements. It would have the most impacts on wetlands, wetland buffers, and forested areas, and would require relocating Bingaman Creek north of S 288th Street and enclosing it in a pipe south of S 288th Street. Noise impacts would affect residences on the west side of I-5, and would require reconstructing an existing I-5 sound wall. The I-5 Alternative would have the lowest number of noise impacts but the greatest number of vibration impacts. All noise and vibration impacts could be mitigated. This alternative would have temporary construction impacts on the playfield at Mark Twain Elementary School, where a portion of the playfield would need to be closed for construction of a lidded trench for the light rail. The playfield would be restored to existing conditions following construction. Vegetation removal from the west side of I-5 would lower the visual quality from medium to low for many adjacent residences. The I-5 Alternative would be the least supportive of TOD.

EXHIBIT ES-12
I-5 ALTERNATIVE

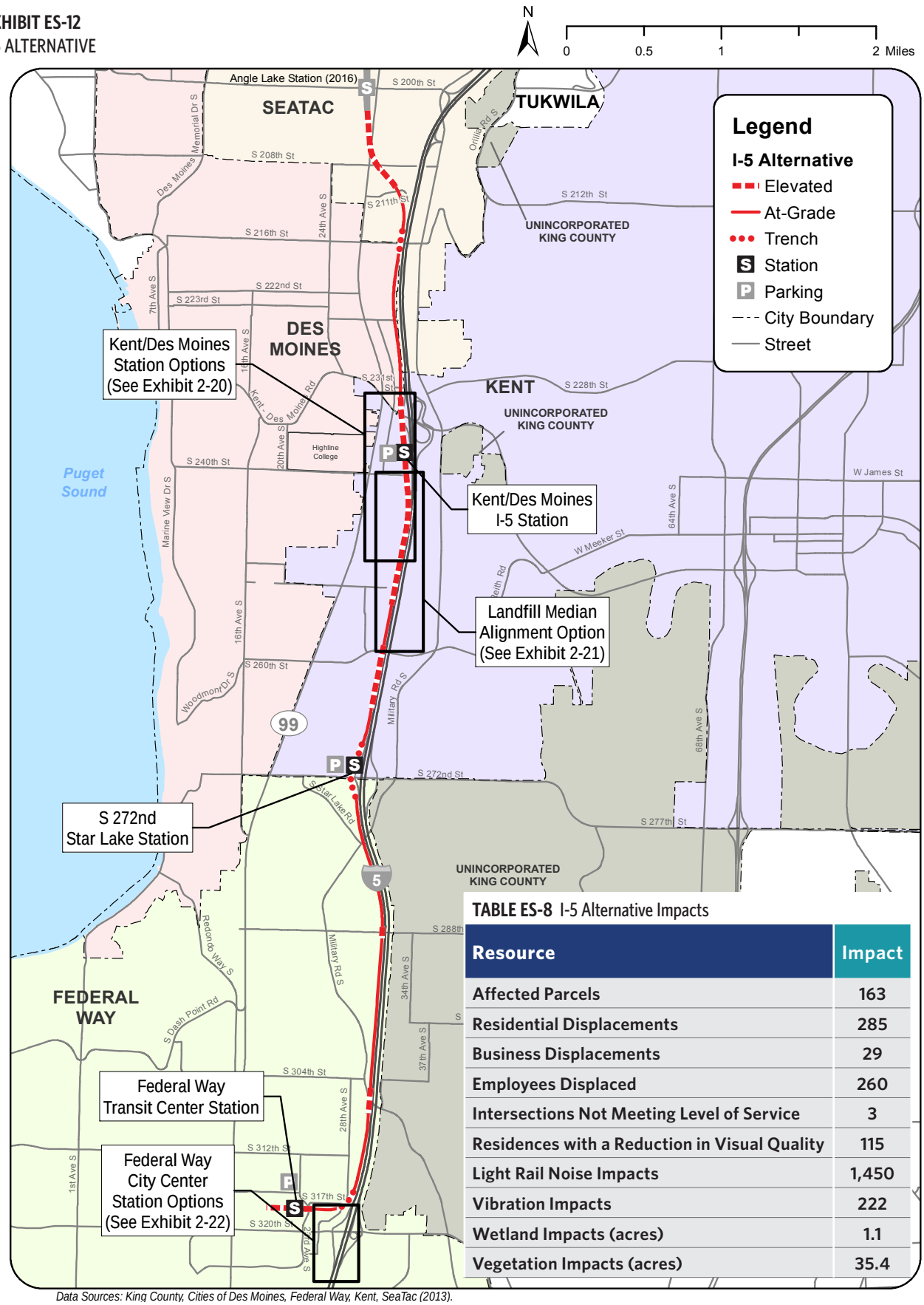


TABLE ES-8 I-5 Alternative Impacts

Resource	Impact
Affected Parcels	163
Residential Displacements	285
Business Displacements	29
Employees Displaced	260
Intersections Not Meeting Level of Service	3
Residences with a Reduction in Visual Quality	115
Light Rail Noise Impacts	1,450
Vibration Impacts	222
Wetland Impacts (acres)	1.1
Vegetation Impacts (acres)	35.4

Data Sources: King County, Cities of Des Moines, Federal Way, Kent, SeaTac (2013).

Station Options

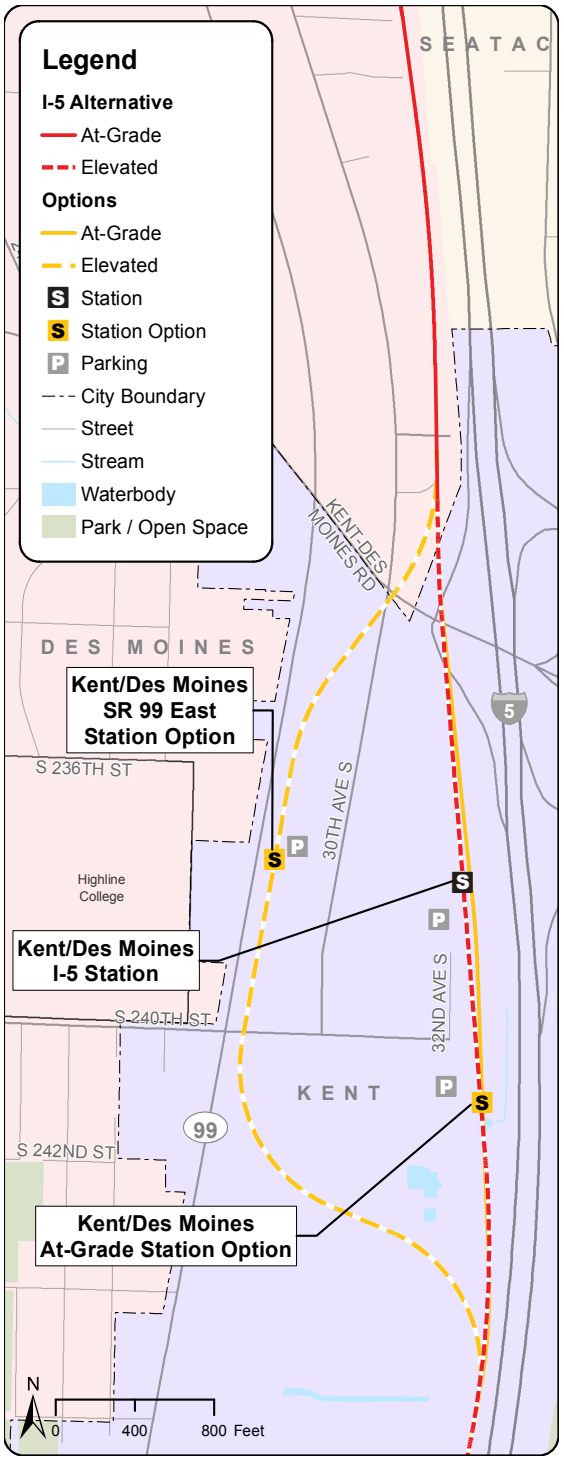
KENT/DES MOINES

The Kent/Des Moines At-Grade Station Option (Exhibit ES-13) would cost $100M less than the I-5 Alternative, while the SR 99 East Station Option would increase costs by $20M. Both options would reduce residential displacements, while only the SR 99 East Station Option would increase business and employee displacements (Table ES-9). Noise impacts would increase with both options, and vibration impacts would be reduced with the SR 99 East Station Option. All noise and vibration impacts could be mitigated. The At-Grade Station Option would result in traffic impacts at one additional intersection, which could be mitigated.

TABLE ES-9
PERFORMANCE MEASURES & IMPACTS COMPARED TO I-5 ALTERNATIVE

LEGEND ↑ Increase ↓ Decrease	At-Grade Station Option	SR 99 East Station Option
Performance Measures		
Cost Difference	↓ $100 million	↑ $20 million
Change in Daily Project Riders	No Change	↑ 500
Change in Travel Time (minutes)	No Change	↑ 1
TOD Potential within 1/4 mile (acres)	↓ 3	↑ 8
Resource Impacts		
Affected Parcels	↓ 5	↑ 7
Residential Displacements	↓ 99	↓ 27
Business Displacements	↓ 5	↑ 17
Employment Displaced	↓ 40	↑ 130
Intersections Not Meeting Level of Service	↑ 1	No Change
Residences with a Reduction in Visual Quality	No Change	No Change
Light Rail Noise Impacts	↑ 41	↑ 103
Vibration Impacts	↑ 1	↓ 20
Wetland Impacts (acres)	No Change	↓ 0.6
Vegetation Impacts(acres)	↓ 1.3	↓ 3.6

EXHIBIT ES-13
I-5 KENT / DES MOINES STATION OPTIONS



Alignment Option

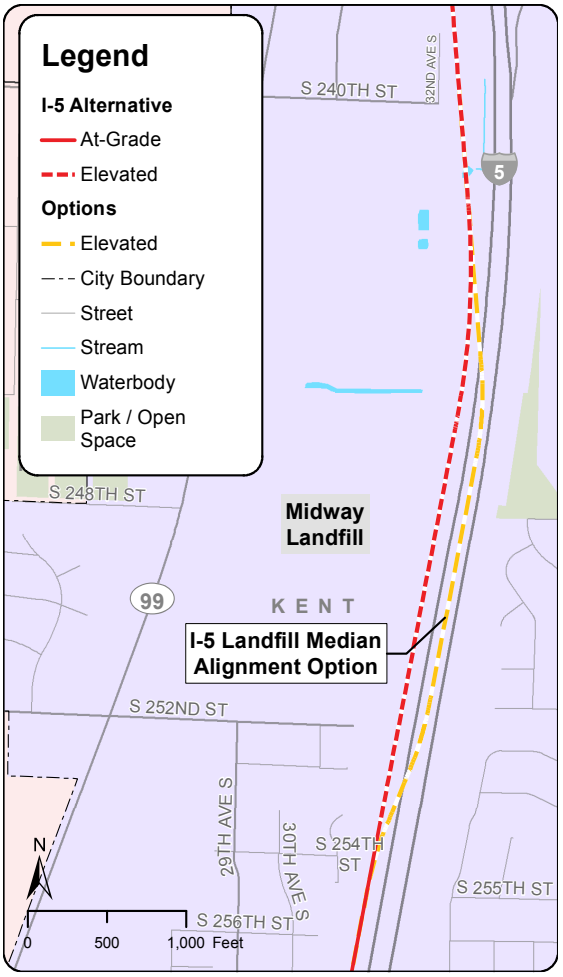
LANDFILL MEDIAN ALIGNMENT OPTION

There would be minimal changes in impacts associated with this alignment option (Exhibit ES 14 and Table ES-10). It could decrease costs by up to $10M when compared to the I-5 Alternative, by eliminating the removal of waste from the landfill. This option could also avoid the engineering and regulatory challenges associated with crossing the Midway Landfill. Use of the I-5 median for light rail in this area may conflict with WSDOT's long-term plans for use of the median. This option would have additional noise impacts but would reduce vegetation removal. Construction of the guideway in the median would require short-term, temporary narrowing of the inside shoulder between approximately S 240th Street and S 252nd Street for up to 6 months. This temporary shoulder closure could result in a short-term increase in crashes during construction.

TABLE ES-10
PERFORMANCE MEASURES & IMPACTS COMPARED TO I-5 ALTERNATIVE

LEGEND ↑ Increase ↓ Decrease	Landfill Median Alignment Option
Performance Measures	
Cost Difference	↓ $10 million
Change in Daily Project Riders	Not Applicable
Change in Travel Time (minutes)	Not Applicable
TOD Potential within 1/4 mile (acres)	Not Applicable
Resource Impacts	
Affected Parcels	No Change
Residential Displacements	↑ 1
Business Displacements	No Change
Employment Displaced	No Change
Intersections Not Meeting Level of Service	No Change
Residences with a Reduction in Visual Quality	No Change
Light Rail Noise Impacts	↑ 73
Vibration Impacts	No Change
Wetland Impacts (acres)	No Change
Vegetation Impacts(acres)	↓ 0.5

EXHIBIT ES-14
I-5 LANDFILL MEDIAN ALIGNMENT OPTION



Station Options

FEDERAL WAY CITY CENTER

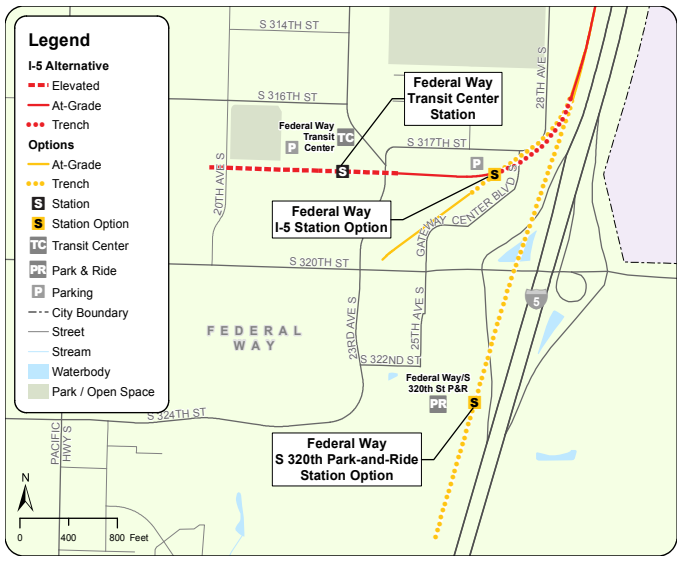
The Federal Way City Center station options (Exhibit ES-15) would be center-platform stations with a cross-over and tail track after the station platform.

The Federal Way I-5 Station Option would cost $40M less than the Federal Way Transit Center Station, while the Federal Way S 320th Park-and-Ride Station Option would cost $120M more. Both options would decrease business displacements, although the I-5 Station Option would increase the number of employee displacements because different businesses would be impacted. Only the S 320th Park-and-Ride Station Option would increase residential displacements (Table ES-11). The S 320th Park-and-Ride Station Option would have greater impacts to vegetation and vibration impacts but fewer noise impacts. The I-5 Station Option would have greater noise impacts but no change in vibration impacts. All noise and vibration impacts could be mitigated.

TABLE ES-11
PERFORMANCE MEASURES & IMPACTS COMPARED TO I-5 ALTERNATIVE

LEGEND ⇧ Increase ⇩ Decrease	FW I-5 Station Option	S 320th P&R Station Option
Performance Measures		
Cost Difference	⇩ $40 million	⇧ $120 million
Change in Daily Project Riders	⇩ 500	No Change
Change in Travel Time (minutes)	⇩ 1	⇩ 1
TOD Potential within 1/4 mile (acres)	⇩ 22	⇩ 11
Resource Impacts		
Affected Parcels	⇧ 2	⇩ 3
Residential Displacements	No Change	⇧ 19
Business Displacements	⇩ 5	⇩ 20
Employment Displaced	No Change	⇩ 210
Intersections Not Meeting Level of Service	No Change	No Change
Residences with a Reduction in Visual Quality	No Change	No Change
Light Rail Noise Impacts	⇧ 20	⇩ 120
Vibration Impacts	No Change	⇧ 2
Wetland Impacts (acres)	No Change	⇧ 0.1
Vegetation Impacts(acres)	⇩ 0.1	⇧ 1.7

EXHIBIT ES-15
FEDERAL WAY CITY CENTER STATION OPTIONS



SR 99 to I-5 Alternative

COST

1.48 Billion

TRAVEL TIME

14 Minutes

DAILY RIDERSHIP

26,000 Riders

TOD POTENTIAL

92 Acres

DAILY BOARDINGS

Kent/Des Moines Station **2,500** Riders

S 272nd Redondo Station **2,000** Riders

Federal Way Transit Center Station **9,000** Riders

OPTIONS FOR THE SR 99 TO I-5 ALTERNATIVE

This alternative could have the following station or alignment options that are associated with the SR 99 Alternative north of Kent-Des Moines Road and with the I-5 Alternative south of Kent-Des Moines Road:

- Potential additional station at S 216th (West and East options)
- Landfill Median Alignment Option
- Federal Way I-5 S 320th Station Option
- Federal Way I-5 Station Option

These options would have the same impacts as identified for these options on the previous pages.

The SR 99 to I-5 Alternative (Exhibit ES-16) would have the same alignment as the SR 99 Alternative from the Angle Lake Station to just north of Kent-Des Moines Road, where it would transition to 30th Avenue S with a station north of S 240th Street and then would transition to the I-5 right-of-way and be the same as the I-5 Alternative to the Federal Way Transit Center. Stations at S 272nd Street and the Federal Way Transit Center would be the same as the I-5 Alternative. Table ES-12 summarizes the impacts of the SR 99 to I-5 Alternative.

The ridership with the SR 99 to I-5 Alternative would be the same as the I-5 to SR 99 Alternative, slightly lower than the SR 99 Alternative, and slightly higher than the I-5 Alternative. The cost would be greater than the I-5 Alternative but less than the SR 99 or I-5 to SR 99 Alternatives. The travel time for this alternative would be approximately 1 minute longer than the other alternatives.

The SR 99 to I-5 Alternative would have the lowest number of parcels affected and would avoid many of the business displacements associated with the SR 99 Alternative, as well as many of the residential displacements associated with the I-5 Alternative. It would have most of the same impacts on ecosystems as the I-5 Alternative, including wetland impacts, impacts on Bingaman Creek, and impacts on forested areas along I-5. Also similar to the I-5 Alternative, this alternative would have temporary impacts on the playfield at Mark Twain Elementary, where the playfield would need to be closed while a lidded trenched guideway is constructed through it. The playfield would be restored to existing conditions following construction. Noise impacts would be less than the SR 99 Alternative and I-5 to SR 99 Alternative, but greater than the I-5 Alternative, while vibration impacts would be greater than the SR 99 and I-5 to SR 99 alternatives, but less than the I-5 Alternative. All noise and vibration impacts could be mitigated.

EXHIBIT ES-16
SR 99 TO I-5 ALTERNATIVE

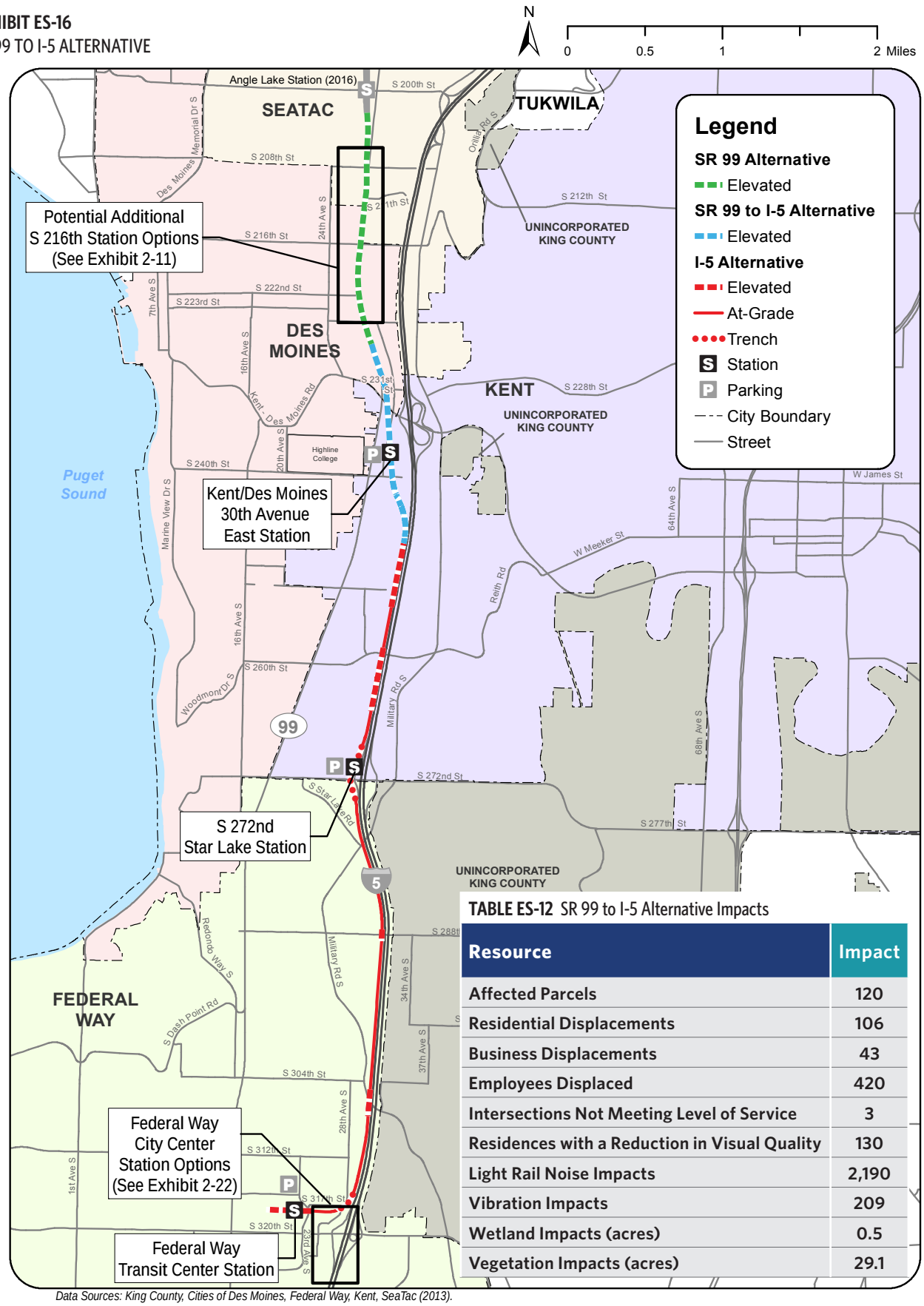


TABLE ES-12 SR 99 to I-5 Alternative Impacts

Resource	Impact
Affected Parcels	120
Residential Displacements	106
Business Displacements	43
Employees Displaced	420
Intersections Not Meeting Level of Service	3
Residences with a Reduction in Visual Quality	130
Light Rail Noise Impacts	2,190
Vibration Impacts	209
Wetland Impacts (acres)	0.5
Vegetation Impacts (acres)	29.1

Data Sources: King County, Cities of Des Moines, Federal Way, Kent, SeaTac (2013).

I-5 to SR 99 Alternative

COST
$1.72 Billion

TRAVEL TIME
13 Minutes

DAILY RIDERSHIP
26,000 Riders

TOD POTENTIAL
126 Acres

DAILY BOARDINGS

Kent/Des Moines Station 2,500 Riders
S 272nd Redondo Station 1,500 Riders
Federal Way Transit Center Station 9,000 Riders

OPTIONS FOR THE I-5 TO SR 99 ALTERNATIVE

This alternative could have the following station or alignment options that are associated with the I-5 Alternative north of Kent-Des Moines Road and with the SR 99 Alternative south of Kent-Des Moines Road:

- Potential additional station at S 260th (West & East options)
- 272nd Redondo Trench Station Option
- Federal Way SR 99 Station Option

These options would have the same impacts as identified for these options on the previous pages.

The I-5 to SR 99 Alternative (Exhibit ES-17) would have the same alignment as the I-5 alternative from the Angle Lake Station to just north of Kent-Des Moines Road. The alignment would then transition to 30th Avenue S with a station north of S 240th Street. After leaving this station, the alignment would transition to the SR 99 median and be the same as the SR 99 Alternative to the Federal Way Transit Center. Stations at S 272nd Street and the Federal Way Transit Center would be the same as the SR 99 Alternative. This alternative would be elevated except from S 211th Street to S 216th Street, and from S 218th Street to S 231st Street, where it would be at-grade next to the I-5 right-of-way. Table ES-13 summarizes the impacts of the I-5 to SR 99 Alternative.

The ridership with the I-5 to SR 99 Alternative would be the same as the SR 99 to I-5 Alternative, slightly lower than the SR 99 Alternative, and slightly higher than the I-5 Alternative. The cost would be greater than the I-5 and the SR 99 to I-5 alternatives, but slightly less than the SR 99 Alternative. The I-5 to SR 99 Alternative would avoid some of the residential displacements associated with the I-5 Alternative but would have almost the same number of business displacements as the SR 99 Alternative. Similar to the SR 99 Alternative, it would have minimal impacts on ecosystems, with elevated crossings of all streams and minor wetland and vegetation impacts along SR 99. This alternative would have the second highest number of noise impacts after the SR 99 Alternative, but the least number of vibration impacts. Visual quality impacts would be slightly less than the SR 99 Alternative.

EXHIBIT ES-17
I-5 TO SR 99 ALTERNATIVE

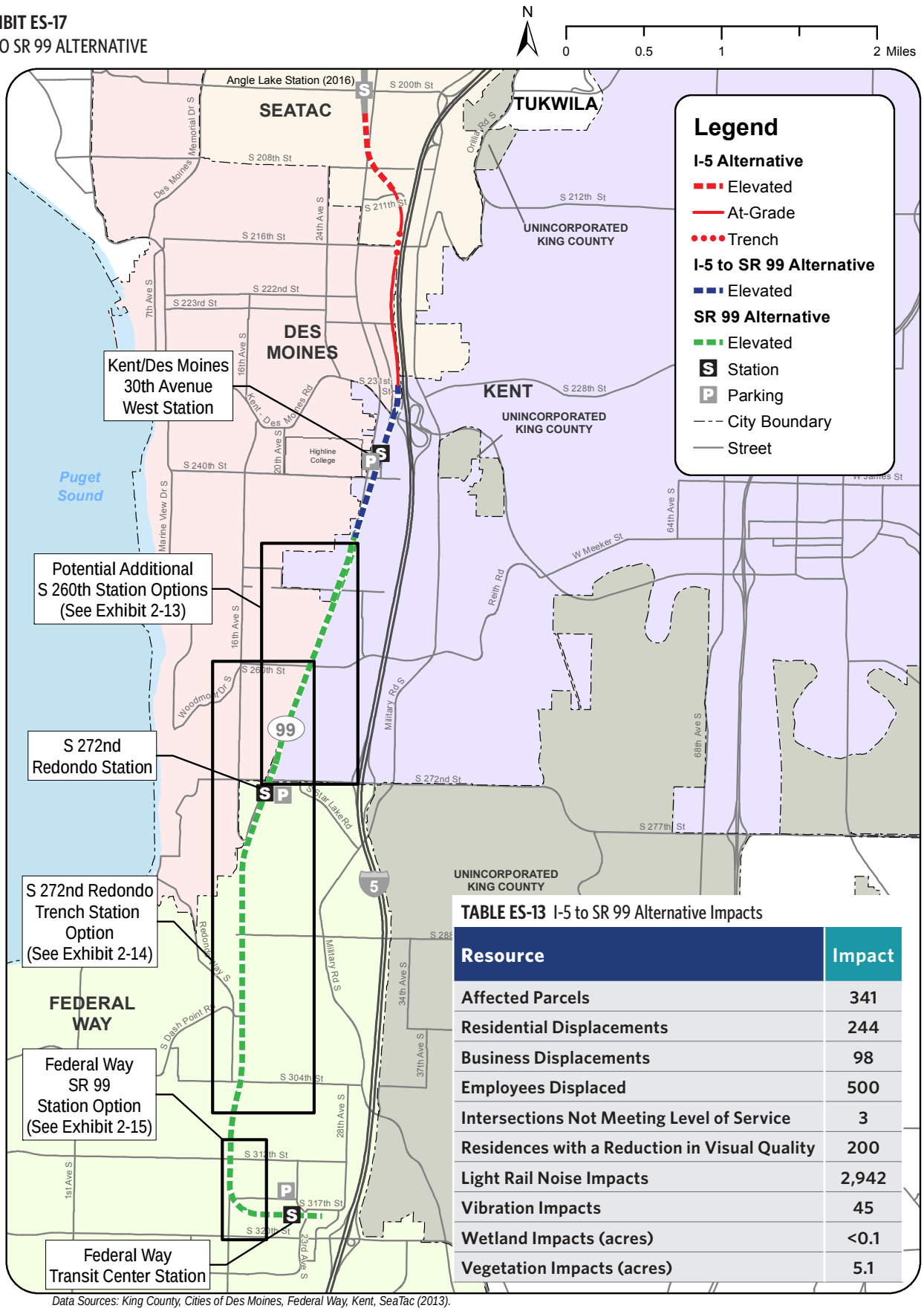


TABLE ES-13 I-5 to SR 99 Alternative Impacts

Resource	Impact
Affected Parcels	341
Residential Displacements	244
Business Displacements	98
Employees Displaced	500
Intersections Not Meeting Level of Service	3
Residences with a Reduction in Visual Quality	200
Light Rail Noise Impacts	2,942
Vibration Impacts	45
Wetland Impacts (acres)	<0.1
Vegetation Impacts (acres)	5.1

Data Sources: King County, Cities of Des Moines, Federal Way, Kent, SeaTac (2013).

ES.5 Comparison of Alternatives

This section summarizes key measures and impacts for all alternatives. Table ES-14 shows these measures and impacts for each alternative with the range of impacts for the options associated with each alternative in parentheses afterwards. As shown in Table ES-14, ridership and travel time would be similar for all alternatives, although alternatives with stations closer to SR 99 would have slightly higher ridership. Residential displacements would be higher for the I-5 alternatives, while business displacements would be higher for the SR 99 alternatives. The I-5 and SR 99 to I-5 alternatives would have the greatest impacts on wetlands, wetland buffers, streams, and forested areas, while the SR 99 Alternative would avoid impacts on most wetlands and streams.

TABLE ES-14
FWLE ALTERNATIVE CHARACTERISTICS AND IMPACTS

	Alternative (Range of Impacts with Options)			
	SR 99	I-5	SR 99 to I-5	I-5 to SR 99
Performance Measures				
Cost (2014 Dollars in billions)	**$1.77** ($1.68-$2.00)	**$1.42** ($1.27-$1.56)	**$1.48** ($1.43-$1.67)	**$1.72** ($1.63-$1.79)
Daily Project Riders	**26,500** (26,000-27,500)	**25,500** (24,000-25,500)	**26,000** (25,500-26,500)	**26,000** (25,500-27,000)
Travel Time in minutes	**13** (12-13)	**13** (12-14)	**14** (13-14)	**13** (12-13)
TOD Potential within 1/4 mile (acres)	**119** (118-235)	**76** (51-84)	**92** (70-145)	**126** (121-180)
Resource Impacts				
Parcels Affected	**293** (240-315)	**163** (155-172)	**120** (117-128)	**341** (298-341)
Residential Displacements	**36** (36-108)	**285** (186-305)	**106** (106-152)	**244** (244-251)
Business Displacements	**104** (84-140)	**29** (4-46)	**43** (23-56)	**98** (85-119)
Employees Displaced	**580** (480-980)	**260** (10-390)	**420** (210-480)	**500** (480-640)
Intersections Not Meeting Level of Service	**3** (3-3)	**3** (3-4)	**3** (3-3)	**3** (3-3)
Acres of Land Converted to Transportation Use	**51** (49-80)	**48** (47-55)	**42** (41-56)	**55** (55-71)
Residences with a Reduction in Visual Quality	**215** (160-230)	**115** (115-115)	**130** (85-130)	**200** (190-200)
Number of Light Rail Noise Impacts Before Mitigation *[All impacts can be mitigated]*	**3,726** (2,015-3,786)	**1,450** (1,330-1,646)	**2,190** (1,793-2,210)	**2,942** (2,340-2,986)
Number of Vibration/ Ground Borne Noise Impacts *[All impacts can be mitigated]*	**50** (0-271)/ **1** (1-1)	**222** (202-225)/ **0** (0-0)	**209** (209-227)/ **0** (0-0)	**45** (45-238)/ **1** (1-1)
Acres of Wetland/ Wetland Buffer Impacted	**< 0.1** (<0.1-0.7)/ **0.2** (0.2-0.8)	**1.1** (0.5-1.2)/ **1.1** (0.9-2.3)	**0.5** (0.5-0.6)/ **0.9** (0.9-1.1)	**< 0.1** (<0.1-0.5)/ **0.3** (0.3-0.7)
Length of Stream Impacts in Feet / Acres of Stream Buffers Impacted	**0** (0-0)/ **< 0.1** (<0.1-0.5)	**1,055** (1,055-1,055)/ **2.4** (2.4-2.4)	**1,055** (1,055-1,055)/ **2.4** (2.4-2.4)	**0** (0-0)/ **< 0.1** (<0.1-0.5)
Vegetation Impacts (acres)	**3.5** (1.6-7.6)	**35.4** (31.2-37.1)	**29.1** (28.5-31.2)	**5.1** (4.7-8.8)
Number of Historic Properties Impacted	**1** (1-2)	**0** (0-0)	**0** (0-0)	**1** (1-1)
Number of Parks Impacted	**0** (0-1)	**0** (0-0)	**0** (0-0)	**0** (0-1)

Construction for alternatives along SR 99 would be more disruptive to the community due to closure of lanes adjacent to the construction area. Construction on I-5 for alternatives along I-5 would not affect traffic on I-5 except for the Landfill Median Alignment Option. Partial closures of cross streets over or under I-5 would be required for construction over or under these streets. The I-5 and SR 99 to I-5 alternatives would result in temporary construction impacts on the playfield at Mark Twain Elementary, while the Federal Way SR 99 Station Option for the SR 99 and I-5 to SR 99 alternatives would have permanent and temporary construction impacts on the Federal Way Town Square Park.

An analysis of TOD at the station areas found that the Federal Way Transit Center Station and Federal Way SR 99 Station Option would have the most land available for TOD, followed by the Kent/Des Moines SR 99 West Station, Kent/Des Moines SR 99 Median Station Option, and the Kent/Des Moines SR 99 East Station Option (for both the SR 99 Alternative and the I-5 Alternative). Station locations closer to I-5 generally have lower TOD potential than those near SR 99 due to the barrier that I-5 creates for development within a ¼ mile distance of these stations.

Potential additional stations at S 216th Street and S 260th Street would increase the amount of land available for TOD for alternatives that could include these stations.

Existing sound wall along a portion of an elevated guideway.

ES.6 Avoidance, Minimization, and Mitigation Measures

Sound Transit is committed to complying with applicable federal, state, and local environmental regulations and applying reasonable mitigation measures to reduce significant adverse impacts. The Draft EIS identifies potential measures to mitigate adverse impacts of the project alternatives. Avoidance and minimization measures committed to as part of the project are identified along with other potential measures that would reduce or eliminate impacts. These measures would be refined through final design and permitting. The National Environmental Policy Act Record of Decision (ROD) would be issued after the Final EIS and would include a list of all committed mitigation measures for the project to be built.

The following is a summary of select potential mitigation measures for impacts that the project alternatives may not be able to fully minimize or avoid:

Wetlands and Streams: Sound Transit is committed to no net loss of wetland function and area on a project-wide basis. Sound Transit would work to avoid and minimize adverse effects on wetlands and streams through project design, where possible.

If impacts cannot be avoided or minimized, Sound Transit would provide compensatory mitigation to account for lost values in the same area. Mitigation would meet the requirements of local critical area ordinances.

Noise: Noise impacts would be mitigated by building sound walls, installing building insulation, and other measures.

Vibration: Sound Transit would install ballast mats, resilient rail fasteners, or other specialized track work to reduce groundborne vibration where necessary.

Visual impacts: Sound Transit would incorporate visual enhancement measures into the project and include the following measures to address adverse impacts where they would occur: landscaping or visual screening, aesthetic treatment of walls, pedestrian improvements, and elevated structures designed to minimize bulk.

Parks: Mitigation measures may include purchase of replacement land, enhancement or restoration of existing parks, or financial compensation.

Transportation: Mitigation of impacts on transportation such as longer delays and congestion at intersections could include restriping, adding right- or left-turn pockets, allowing U-turn movements at intersections, and adding or optimizing traffic signals.

ES.7 Significant and Unavoidable Adverse Impacts

With the avoidance, minimization, and potential mitigation measures described in Chapter 3 (Transportation Environment and Consequences), Chapter 4 (Affected Environment and Environmental Consequences), and Chapter 5 (Construction), significant adverse impacts would be avoided for most alternatives. Operational impacts that might not be fully mitigated include the following:

- The elevated guideway associated with the SR 99 Alternative and I-5 to SR 99 Alternative would have visual impacts on multi-family residences on the east side of SR 99 near S 288th Street, where many residences have views of Puget Sound and the Olympic Mountains. The S 272nd Redondo Trench Station Option would avoid the impacts on these residences, but would have visual impacts on residences on the west side of SR 99.
- Removal of vegetation along I-5, along with other project components such as retaining walls or an elevated guideway, would have visual impacts for some residences adjacent to the I-5 right-of-way with the I-5 Alternative, SR 99 to I-5 Alternative, and I-5 to SR 99 Alternative.
- The reach of Bingaman Creek south of S 288th Street would be placed in a pipe with the I-5 Alternative and the SR 99 to I-5 Alternative, requiring offsite or compensatory mitigation. Although mitigation would be provided, this reach of stream would be permanently enclosed.

Temporary impacts during construction may not be avoidable and could be significant and adverse in some locations. These impacts could include temporary but long-term lane or roadway closures, loss of parking, and noise and vibration along portions of any alternative. Detour routes, when available, would reduce the impact of roadway closures, although delays, congestion, and inconvenience would still occur. There could be adverse impacts on businesses adjacent to SR 99 from alternatives that travel on or adjacent to this corridor, especially for businesses that depend on drive-by traffic.

ES.8 Public and Agency Involvement

Sound Transit and the Federal Transit Administration (FTA) have been engaging the public and agencies since the start of early scoping in 2012. The 30-day early scoping period included two public meetings and one agency meeting, and comments were accepted at these meetings as well as via mail and online during this period. An online survey was also conducted during this period. Sound Transit initiated the Draft EIS process with formal public environmental scoping in June and July 2013, which included meetings with the public and agencies, a comment period, and public notices and advertisements. Sound Transit also hosted public events and meetings with agencies and interested groups as the Draft EIS was being prepared in 2013 and 2014. The release of the Draft EIS includes a formal public review and comment period, including public meetings with hearings, as described in Section ES.11, Next Steps. Appendix B of the Draft EIS has additional details about the project's public involvement and agency coordination plan, including how Sound Transit and FTA are reaching out to low-income and minority populations in the project vicinity.

163 PEOPLE ATTENDED THE SCOPING MEETINGS IN 2013 AND 19 WRITTEN COMMENTS WERE RECEIVED. 113 PEOPLE TOOK AN ONLINE SURVEY.

ES.9 Other Environmental Considerations

ES.9.1 SECTION 4(F) RESOURCES

Federal law protects historic properties and significant, publicly owned parks and recreation areas from being adversely affected by US Department of Transportation projects Under Section 4(f) of the Department of Transportation Act, the Department of Transportation generally cannot approve a transportation project that uses or adversely affects such properties unless (1) there is no feasible and prudent alternative, and (2) the project minimizes the impacts as much as possible. When the DOT determines that the transportation use of a Section 4(f) property has only a *de minimis* impact, the Section 4(f) restrictions are waived.

The Federal Way SR 99 Station Option for the SR 99 Alternative and the I-5 to SR 99 Alternative would directly impact 0.7 acre of the Federal Way Town Square Park that is used for parking and landscaping. The City of Federal Way believes Town Square Park is a recreational resource of local significance and thus a Section 4(f) property. FTA and the City are discussing ways to minimize the project's impacts to the park and whether such measures would reduce the impacts to a *de minimis* level. The FWLE would only impact parking stalls and landscaping and would not adversely affect the park's recreational activities, features and attributes. FTA is the lead federal agency for DOT on the FWLE and as such would make the final determination on *de minimis* for this resource following the public comment period.

The project's potential Section 4(f) use of historic properties is limited to partial acquisitions of two parcels on which eligible buildings are located. One such parcel contains most of Highline College, including several historic buildings as well as associated parking lots. The SR 99 Alternative HC Campus Station Option associated with the SR 99 Alternative would use one end of one of the parking lots. Similarly, the SR 99 Alternative, the I-5 to SR 99 Alternative and the Federal Way SR 99 Station Option would acquire a narrow strip of the parking lot serving the US Bank property on SR 99 in Federal Way. The acquisition and use of land under either of these scenarios would not affect the physical integrity of NRHP-eligible buildings and would have only a slight effect on the buildings' setting. FTA's preliminary determination is that these would be *de minimis* uses.

See Appendix E for more information about Section 4(f).

ES.9.2 ENVIRONMENTAL JUSTICE

This Draft EIS analyzes environmental justice consistent with federal authorities. The analysis assesses whether the FWLE alternatives would result in disproportionately high and adverse effects on minority and/or low-income populations. The analysis, described in Chapter 7, also describes the specific outreach efforts made during project development to involve minority and low-income populations and discusses the benefits of the FWLE to these populations.

After considering the project's potential effects, taking into account mitigation and avoidance measures as well as anticipated benefit to minority and low-income populations, FTA has made a preliminary determination that the FWLE would not have disproportionately high and adverse impacts on minority and low-income populations. In addition, the project would provide benefits to people served by the light rail project, including minority and low-income residents. Benefits from the project include improved access to all transit modes; a more reliable and more efficient transportation system; improved mobility through the project vicinity; transit travel time savings; improved accessibility to employment; and extended transit service hours. Although all populations would have access to these benefits to the same extent, they would accrue to a higher degree to minority and low-income populations because these groups are more likely to use transit.

ES.10 Areas of Controversy and Issues to Be Resolved

Areas of controversy and issues that remain to be resolved include the following:

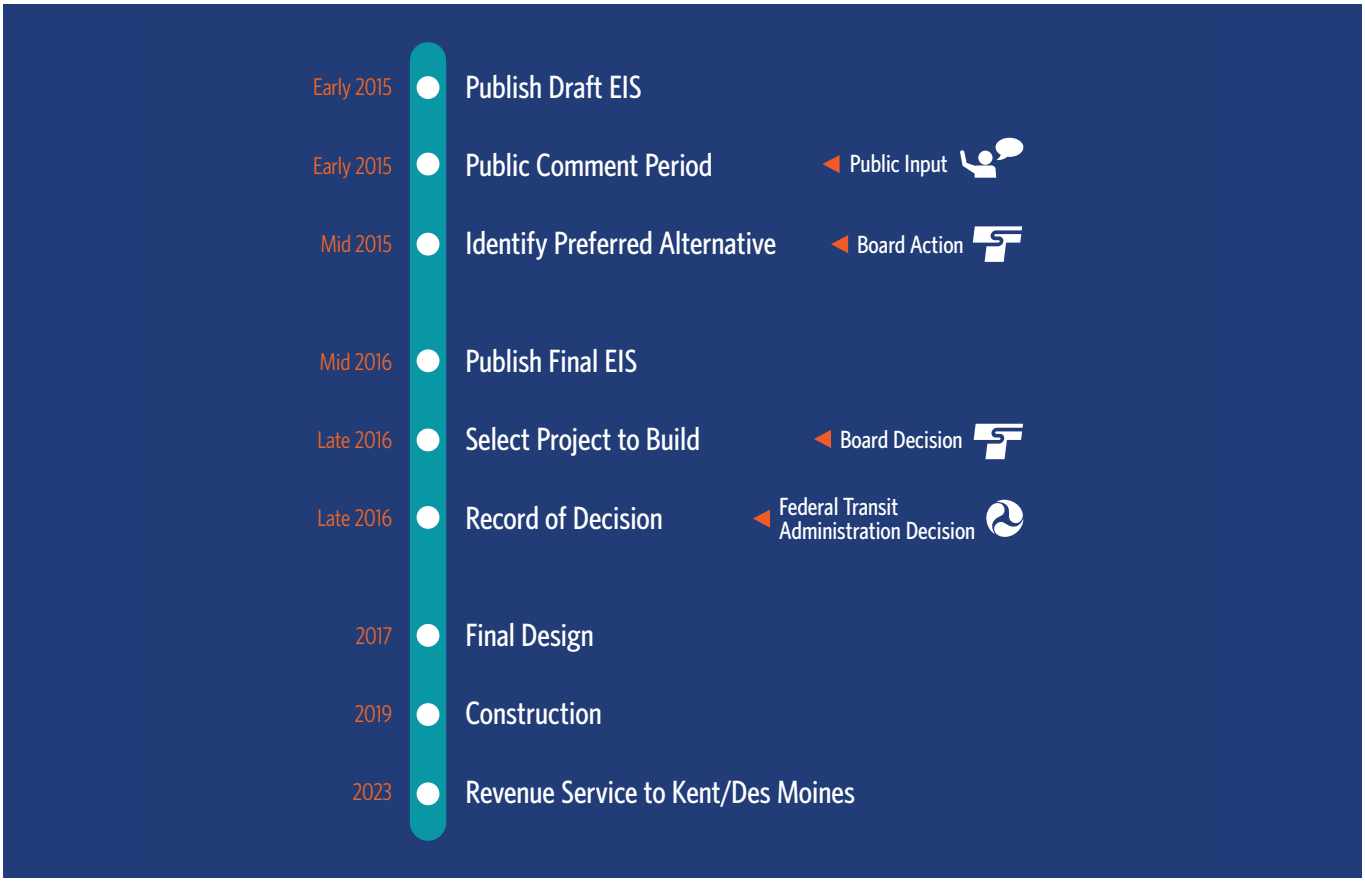
- **Funding plan for the project:** Current projections show that funding from ST2 tax revenue should be available to construct the FWLE from Angle Lake Station to the Kent/Des Moines Station. Funding sources for the extension to S 272nd Street and the Federal Way Transit Center have not been identified. While Sound Transit may apply for federal grants to help fund this portion of the project, funding from local tax revenue would be needed for much of this extension, and ST2 only authorized construction funding to S 272nd Street.
- **Potential additional stations:** Potential additional stations at S 216th Street and S 260th Street were not evaluated in the ST2 planning process, which analyzed ridership and cost for each station. They were not included in ST2, and further evaluation of consistency with the ST2 Plan would be required before any of them could be added to the FWLE.
- **Location of I-5 Alternative within WSDOT right-of-way:** If the Sound Transit board identifies a preferred alternative that would use portions of the I-5 right of way (ROW), Sound Transit must secure from WSDOT and FHWA agreements and approvals for such use and for other proposed modifications to other parts of the freeway (such as moving freeway noise walls). Sound Transit has coordinated with FHWA and WSDOT during conceptual design to identify where the alternatives evaluated in the Draft EIS could potentially use the I-5 ROW. If an alternative using I-5 right-of-way is identified as preferred, additional design coordination and analysis will occur during the development of the Final EIS. Ultimate approvals would not occur until final design of the FWLE. During final design, FHWA and WSDOT could require modifications or place other conditions on the project which could require environmental reviews.

Sound Transit would continue to coordinate with the appropriate federal, state, and local agencies and jurisdictions to address these issues. Additional areas of controversy and issues to be resolved will likely be identified during the Draft EIS comment period. These issues will be addressed in the Final EIS.

ES.11 Next Steps

Following publication of this Draft EIS, the following steps are anticipated (see Exhibit ES-2 for anticipated schedule milestones):

- **Draft EIS review and comment period:** The Draft EIS will be available for public and agency comment for 45 days. In addition, public hearings will be held during this comment period to receive oral testimony. Please see the Fact Sheet at the beginning of the Draft EIS for details.
- **Identification of Preferred Alternative:** Following the Draft EIS comment period, it is anticipated that the Sound Transit Board will identify a Preferred Alternative for evaluation in the Final EIS. The Preferred Alternative will be identified after considering the Draft EIS, public and agency feedback, and other relevant information. The final decision on the alternative to be built will not be made until after the Final EIS is issued.
- **Final EIS:** The Final EIS will document and respond to comments received on the Draft EIS, describe and evaluate the Preferred Alternative in combination with other alternatives, and describe proposed mitigation commitments associated with the project.
- **Project decision:** After completion of the Final EIS, the Sound Transit Board will consider the alternatives evaluated in the Final EIS and then select the project to be built.
- **Federal approval:** FTA will issue a decision document referred to as the federal ROD, which states FTA's decision on the project, identifies the alternatives considered, and itemizes mitigation commitments. Issuance of the ROD is required before any federal funding or approvals. If an alternative that uses the I-5 right-of-way is selected, FHWA would also issue a ROD.



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