

**REDMOND TECHNOLOGY CENTER STATION TO SE REDMOND TO DOWNTOWN REDMOND LIGHT RAIL (EAST LINK)**



**MAP KEY**

- AT GRADE
- ELEVATED
- STATION AREA
- LIGHT RAIL ST2
- ST2 LRT STATION

*Alignments and stations shown are representative and are identified for purposes of cost estimating, ridership forecasting and other evaluation measures.*

LENGTH (MILES)	3.7	
REGIONAL LIGHT RAIL SPINE	YES	
RIDERSHIP (DAILY PROJECT RIDERS)	7,000—9,000	
CAPITAL COST (2014 \$ M)	\$1,038—\$1,111	
ANNUAL O&M COST (2014 \$ M)	\$11	
TRAVEL TIME (MIN)	8	
RELIABILITY	HIGH	
SYSTEM INTEGRATION	MEDIUM	
EASE OF NON-MOTORIZED ACCESS	MEDIUM-LOW	
PERCENT OF NON-MOTORIZED ACCESS	25—80%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	2 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	MEDIUM-HIGH
	MARKET SUPPORT	MEDIUM-HIGH
	POP PER ACRE (2014/2040)	6 / 7
	EMP PER ACRE (2014/2040)	13 / 18
SOCIOECONOMIC BENEFITS	ACTIVITY UNITS	18 / 26
	POP+EMP PER ACRE (2014/2040)	46% / 9%
	MINORITY/LOW-INCOME	5,300 / 6,900
	POPULATION (2014/2040)	12,100 / 17,400
	EMPLOYMENT (2014/2040)	

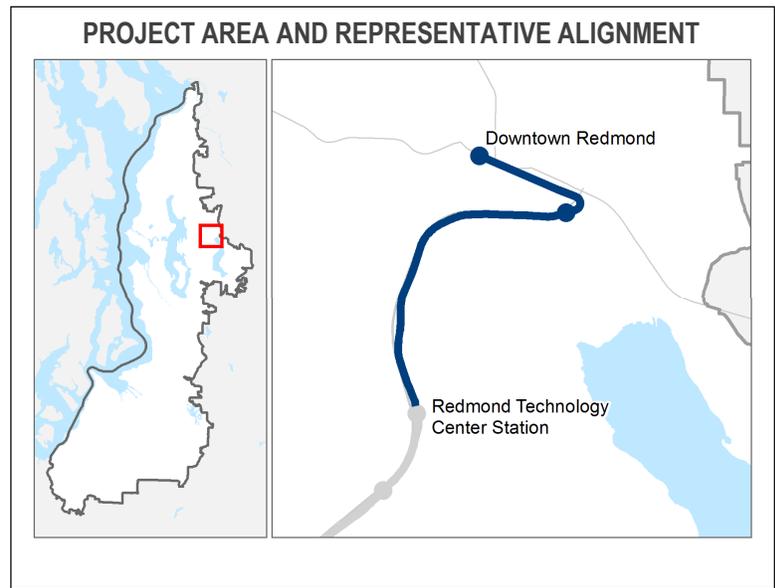
# Redmond Technology Center Station to SE Redmond to Downtown Redmond Light Rail (East Link)

Subarea	East King
Primary Mode	Light Rail
Facility Type	Corridor
Length	3.7 miles
Version	Draft ST3 Plan
Date Last Modified	March 28, 2016

**SHORT PROJECT DESCRIPTION**

This project would extend East Link to Downtown Redmond, as described in ST Board Resolution R2013-09 and the FTA and FHWA Record of Decision. The project would include stations at Southeast Redmond and Downtown Redmond.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*



KEY ATTRIBUTES	
<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	Yes
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$1,038 — \$1,111
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	7,000 — 9,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 3.7 miles of light rail with a mixture of cut-and-cover, retained-cut, at-grade, and elevated profiles</li> <li>• One elevated station: SE Redmond</li> <li>• One at-grade station: Downtown Redmond</li> <li>• Stations accommodate 4-car trains</li> <li>• Peak headways: 6 minutes</li> <li>• Parking garage at the Southeast Redmond station with approximately 1,400 stalls</li> <li>• Downtown Redmond terminal station with tail tracks (with double crossover) up to 850 feet long to the west of the station for train layover and turnback operations</li> <li>• Purchase of 14 light rail vehicles; note that 10 vehicles will be accommodated at the Link Operations and Maintenance Satellite Facility (OMSF) (per the OMSF FEIS), and the remaining 4 vehicles will be accommodated at another ST maintenance facility</li> <li>• Per light rail vehicle allowance (for 4 vehicles) for maintenance facility capacity</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, bus/rail integration facilities, and sustainability measures (see separate document titled "Common Project Elements")</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• Parking not included at Downtown Redmond station</li> <li>• See separate document titled "Common Project Elements"</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• Risk associated with construction adjacent to SR 520</li> <li>• Crossing over SR 520 from SE Redmond to Downtown Redmond will need additional analysis</li> <li>• Coordination with City of Redmond for guideway and station along Redmond Central Connector</li> </ul>

# Redmond Technology Center Station to SE Redmond to Downtown Redmond Light Rail (East Link)

## KEY ATTRIBUTES

### ISSUES & RISKS

- Relocation of sewer line under segments of the Redmond Central Connector
- The multi-use function of the Downtown Redmond segment of the Eastside Rail Corridor will require substantial coordination and must be consistent with Redmond and Sound Transit's Light Rail Easement Agreement (Redmond's Spur Rail Corridor, Downtown City Segment) (2012), and the Redmond Central Connector Master Plan (2011) and Infrastructure Alignment Plan Process (2010)
- At-grade crossings along Redmond Central Connector; at-grade profiles included in this project could result in more potential conflicts with other modes; this could affect speed and reliability
- Accommodating light rail storage and tail tracks in mixed-use residential/commercial area and in a constrained area
- The number of vehicles required to operate the intended service frequencies to Downtown Redmond is 14; ten of those vehicles will be accommodated at the OMSF (per the OMSF FEIS), and the other 4 vehicles will be accommodated at another ST maintenance facility
- Recent widening of SR 520 may require modification of the project design that could alter potential effects to Marymoor Park
- Flood prone areas along Sammamish River and Bear Creek that may experience effects of climate change
- Light rail is a permitted use in the City of Redmond

# Redmond Technology Center Station to SE Redmond to Downtown Redmond Light Rail (East Link)

State and federal project-level environmental reviews have been completed for this project. The cost estimate is based on the alignment and station areas subsequently selected by the Sound Transit Board. Specific project elements assumed here for cost estimating and evaluation purposes (e.g. profile, station sites, number of parking stalls, etc.) are subject to change since final decisions on specific project elements will be determined through additional environmental review, if necessary, and final engineering and design efforts. Additional opportunities for public participation will be provided at that time.

## Long Description:

This project would complete East Link to Downtown Redmond, as described in ST Board Resolution R2013-09 and the FTA and FHWA Record of Decision, and as identified in the Regional Transit Long-Range Plan as completing the light rail spine to Downtown Redmond. This project would extend light rail from the Redmond Technology Center Station (formerly called the Overlake Transit Center Station) to Downtown Redmond. The route would follow SR 520 to an elevated Southeast Redmond Station southeast of the SR 520/SR 202 intersection. The route would then turn west, cross over the SR 520/SR 202 interchange and enter the former BNSF Railway corridor (now known as the Redmond Central Connector). The alignment would transition to at-grade and continue to the Downtown Redmond station west of Leary Way.

## Assumptions:

- Accommodation of the Redmond Central Connector trail per the Redmond/Sound Transit light rail easement (2012)
- Accommodates future extension of 168<sup>th</sup> Avenue NE at-grade across tracks; this would require reconstruction of 168<sup>th</sup> Avenue NE on the south side of the tracks to raise its profile
- No parking facilities at the Downtown Redmond station
- For non-motorized station access allowances, the Southeast Redmond station is categorized as a suburban station and the Downtown Redmond station is characterized as an urban station
- For bus/rail integration, facilities have been assumed at Downtown Redmond station

## Environmental:

Environmental compliance pursuant to the State Environmental Policy Act (SEPA) for East Link was completed with the East Link Project Final Environmental Impact Statement (EIS) issued on July 15, 2011, and the East Link Extension 2013 SEPA Addendum issued on March 26, 2013. The Federal Transit Administration (FTA) and Federal Highway Administration issued a Record of Decision (ROD) for the project on November 16, 2011 and November 17, 2011, respectively, completing the National Environmental Policy Act process. The East Link segment from the Redmond Technology Center Station to Downtown Redmond was covered in the Final EIS and FTA ROD.

Sound Transit will complete additional project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- The right-of-way required for the guideway is mostly within the SR 520 and Eastside Rail Corridor rights-of-way, but property acquisitions are possible for some adjacent parcels
- Property acquisition required for stations and parking
- If Marymoor Park is affected as a result of design modifications, property acquisition may be required to mitigate those effects
- Per-vehicle allowance (for 4 vehicles) for maintenance facility capacity
- Property acquisition for bus/rail integration facility

## Potential Permits/Approvals Needed:

- Anticipated permits and approvals are identified in the East Link Project Final Environmental Impact Statement Executive Summary (pp. iv-v, July 2011)
- City of Redmond Site Plan Entitlement Permit

## Project Dependencies:

- East Link completion to the Redmond Technology Center Station
- Completion of the OMSF

# Redmond Technology Center Station to SE Redmond to Downtown Redmond Light Rail (East Link)

**Potential Project Partners:**

- WSDOT
- City of Redmond
- King County
- FTA
- Transit partners serving project: King County Metro

# Redmond Technology Center Station to SE Redmond to Downtown Redmond Light Rail (East Link)

## Cost:

State and federal project-level environmental reviews have been completed for this project. The cost estimate is based on the alignment and station areas subsequently selected by the Sound Transit Board. Specific project elements assumed here for cost estimating and evaluation purposes (e.g. profile, station sites, number of parking stalls, etc.) are subject to change since final decisions on specific project elements will be determined through additional environmental review, if necessary, and final engineering and design efforts. Additional opportunities for public participation will be provided at that time.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$55.39	\$59.27
Preliminary Engineering & Environmental Review	\$30.16	\$32.27
Final Design & Specifications	\$59.79	\$63.97
Property Acquisition & Permits	\$83.30	\$89.13
Construction	\$609.83	\$652.51
Construction Management	\$53.81	\$57.57
Third Parties	\$12.16	\$13.01
Vehicles	\$74.20	\$79.39
Contingency	\$59.79	\$63.97
<b>Total</b>	<b>\$1,038.42</b>	<b>\$1,111.11</b>

**Design Basis:**

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.47	\$0.50
Sustainability	\$5.64	\$6.04
Parking access	\$73.11	\$78.22
Non-motorized (bicycle/pedestrian) access	\$13.18	\$14.10
Bus/rail integration facilities	\$2.75	\$2.94

# Redmond Technology Center Station to SE Redmond to Downtown Redmond Light Rail (East Link)

Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <p><b>Regional Light Rail Spine</b> Does project help complete regional light rail spine?</p>	Yes	
 <p><b>Ridership</b> 2040 daily project riders</p>	7,000 — 9,000	
 <p><b>Capital Cost</b> Cost in Millions of 2014 \$</p>	\$1,038 — \$1,111	
 <p><b>Annual O&amp;M Cost</b> Cost in Millions of 2014 \$</p>	\$11	
 <p><b>Travel Time</b> In-vehicle travel time along the project (segment)</p>	8 min	
 <p><b>Reliability</b> Percentage of alignment/route in exclusive right-of-way</p>	High	
 <p><b>System Integration</b> Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</p>	Medium	Low to medium current activity; Medium number of potential future bus transit connections in Downtown Redmond and Southeast Redmond
 <p><b>Ease of Non-motorized Access</b> Qualitative assessment of issues and effects related to non-motorized modes</p>	Medium-Low	Low to medium intersection density providing non-motorized access with SR 520 and wetlands as barriers
	<p><b>Percent of Non-motorized Mode of Access</b> Percent of daily boardings</p>	25-80%
 <p><b>Connections to PSRC-designated Regional Centers</b> Number of PSRC-designated regional growth and manufacturing/industrial centers served</p>	2 centers	Redmond-Overlake, Redmond Downtown
 <p><b>Land Use and Development/TOD Potential</b> Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</p>	Medium-High	Strong support in local and regional plans; approx. 50% land is compatibly zoned
	<p>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</p> <p>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</p>	Medium-High Pop/acre = 2014: 6; 2040: 7 Emp/acre = 2014:13; 2040: 18 Pop + Emp/acre = 2014: 18; 2040: 26
 <p><b>Socioeconomic Benefits</b> Existing minority / low-income populations within 0.5 mile of potential station areas</p> <p>2014 and 2040 population within 0.5 mile of potential station areas</p> <p>2014 and 2040 jobs within 0.5 mile of potential station areas</p>	46% Minority; 9% Low-Income  Pop: 2014: 5,300; 2040: 6,900  Emp: 2014: 12,100; 2040: 17,400	

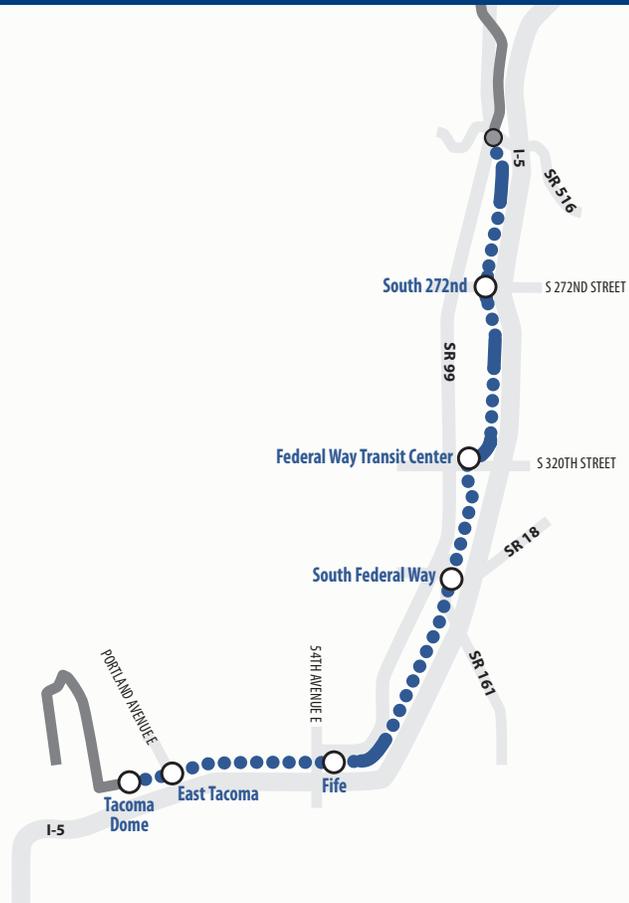
For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

**KENT/DES MOINES  
TO TACOMA DOME  
LIGHT RAIL**

**MAP KEY**

- AT GRADE
- ELEVATED
- STATION AREA
- LIGHT RAIL ST2
- ST2 LRT STATION

*Alignments and stations shown are representative and are identified for purposes of cost estimating, ridership forecasting and other evaluation measures.*

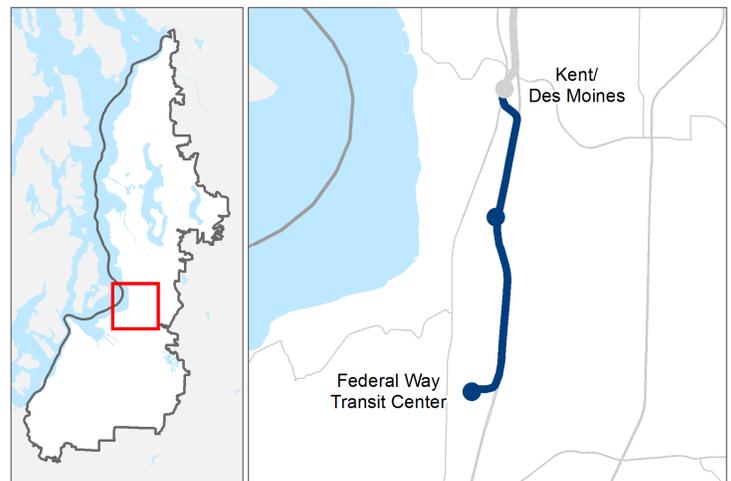


LENGTH (MILES)	15		
REGIONAL LIGHT RAIL SPINE	YES		
RIDERSHIP (DAILY PROJECT RIDERS)	45,000—59,000		
CAPITAL COST (2014 \$ M)	\$3,505—\$3,751		
ANNUAL O&M COST (2014 \$ M)	\$45		
TRAVEL TIME (MIN)	28		
RELIABILITY	HIGH		
SYSTEM INTEGRATION	MEDIUM		
EASE OF NON-MOTORIZED ACCESS	MEDIUM-LOW		
PERCENT OF NON-MOTORIZED ACCESS	20—35%		
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	3 CENTERS		
LAND USE AND DEVELOPMENT/ TOD POTENTIAL	PLANS AND POLICIES	MEDIUM	
	MARKET SUPPORT	MEDIUM-LOW	
	POP PER ACRE (2014/2040)	4 / 7	
	EMP PER ACRE (2014/2040)	4 / 7	
SOCIOECONOMIC BENEFITS	ACTIVITY UNITS	POP+EMP PER ACRE (2014/2040)	8 / 14
	MINORITY/LOW-INCOME	52% / 20%	
	POPULATION (2014/2040)	12,300 / 20,000	
	EMPLOYMENT (2014/2040)	12,300 / 20,900	

# Kent/Des Moines to Federal Way Transit Center Light Rail

<b>Subarea</b>	South King
<b>Primary Mode</b>	Light Rail
<b>Facility Type</b>	Corridor
<b>Length</b>	5.3 miles
<b>Version</b>	Draft ST3 Plan
<b>Date Last Modified</b>	March 28, 2016

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



### SHORT PROJECT DESCRIPTION

This project would extend light rail from Kent/Des Moines to the Federal Way Transit Center adjacent to I-5 with one trenched station at South 272<sup>nd</sup>, and one elevated station at the Federal Way Transit Center. Kent/Des Moines to South 272<sup>nd</sup> is part of the ST2 program; however, due to reduced agency revenues experienced during the Great Recession, implementation has been deferred.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

### KEY ATTRIBUTES

<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	Yes
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$1,080 — \$1,156
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	17,000 — 20,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 5.3 miles of light rail in a mixture of at-grade and elevated guideway</li> <li>• 1 trenched station: South 272<sup>nd</sup>, sized to accommodate 4-car trains</li> <li>• 1 elevated station: Federal Way Transit Center, sized to accommodate 4-car trains</li> <li>• Parking garage at the South 272<sup>nd</sup> Station with approximately 1,240 stalls</li> <li>• Parking garage at the Federal Way Transit Center with approximately 400 stalls</li> <li>• Purchase of 19 light rail vehicles</li> <li>• Peak headways: 6 minutes</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• Additional bus facilities beyond those already identified in the Federal Way Link Extension Draft EIS</li> <li>• See separate document titled “Common Project Elements”</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• The alignment passes through a decommissioned landfill</li> <li>• Alignment reflects current plans for SR 509 extension, and anticipates other less defined improvements to I-5</li> <li>• Requires FHWA/WSDOT approvals for use of interstate right-of-way</li> <li>• Light rail requires a conditional use permit in Kent and specific development guidelines have been established; light rail will be operating in Kent by 2023, as an ST2 project; Kent includes light rail in their Comprehensive Plan</li> </ul>

# Kent/Des Moines to Federal Way Transit Center Light Rail

KEY ATTRIBUTES	
ISSUES & RISKS	<ul style="list-style-type: none"><li>• Light rail is not currently listed as a permitted use in Des Moines but a zoning overlay has been established for light rail station areas; light rail will be operating in Des Moines by 2023, as an ST2 project; Des Moines includes light rail in their Comprehensive Plans</li><li>• Light rail is not currently a permitted use in Federal Way but is specifically defined as an essential public facility; the Comprehensive Plan includes light rail</li></ul>

# Kent/Des Moines to Federal Way Transit Center Light Rail

Assumed project elements, such as alignment, number of stations, and number of parking stalls, are consistent with state and federal environmental project-level environmental reviews that are currently underway for this project as part of the Federal Way Link Extension Project. Specific project elements assumed here for cost estimating and evaluation purposes (e.g. profile, station sites, number of parking stalls, etc.) are subject to change since final decisions on specific project elements will be determined through completion of environmental review updates, if necessary, and final engineering and design efforts.

## Long Description:

This project would construct an extension of light rail from Kent/Des Moines to the Federal Way Transit Center adjacent to I-5 to continue expansion of the regional light rail system. The alignment would begin at Kent/Des Moines and have stations at South 272<sup>nd</sup> and the Federal Way Transit Center. The information below was derived from the Federal Way Link Extension Draft Environmental Impact Statement dated April 10, 2015 and the July 23, 2015 Sound Transit Board action identifying a Preferred Alternative along I-5 for the Federal Way Link Extension project.

The alignment will begin at the elevated Kent/Des Moines Station. It will continue south of S 240<sup>th</sup> Street, at which point it will turn to the east. The alignment will continue to the east until it reaches I-5. It will continue south adjacent to I-5. The alignment will return to at-grade just north of S 272<sup>nd</sup> Street to accommodate a trenched station at the existing Star Lake Park and Ride. A 1,240 stall parking structure will be provided at the station.

The alignment would continue south to S 216<sup>th</sup> Street as an elevated alignment. The alignment would return to at-grade at S 316<sup>th</sup> Street and turn west. It would become elevated again until 23<sup>rd</sup> Avenue S, where a new elevated station would be located. A 400 stall parking structure will be provided at the station.

## Assumptions:

- Conceptual costs are based on the I-5 alternative
- Crossover and tail track storage are included within the estimate assuming this segment acts as a terminus station for the interim
- For non-motorized station access allowances, the South 272<sup>nd</sup> station and the Federal Way Transit Center Station are categorized as Suburban stations.

## Environmental:

State and federal environmental project-level environmental reviews are currently underway for this project as part of the Federal Way Link Extension Project. On April 10, 2015, Sound Transit issued the Federal Way Link Extension Draft Environmental Impact Statement (EIS) for public review and comment. On July 23, 2015, the Sound Transit Board identified a Preferred Alternative along I-5 for more detailed study. The Final EIS is scheduled for completion in late 2016. Sound Transit will complete additional state and federal environmental reviews as necessary while developing this project. Sound Transit will also obtain and meet the conditions of all required local, state, and federal permits and approvals.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- Property acquisition will include displacing some uses, as well as partial and full acquisitions

## Potential Permits/Approvals Needed:

- Building permits: electrical, mechanical, plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (conditional use, design review, site plans, comprehensive plan or development code consistency, special use permits)
- Requires FHWA/WSDOT approvals for use of interstate right-of-way
- All required local, state and federal environmental permits
- NEPA/SEPA and related regulations

## Project Dependencies:

- Completion of Link Extension to Kent/Des Moines
- Ongoing WSDOT/FHWA Coordination

# Kent/Des Moines to Federal Way Transit Center Light Rail

## Potential Project Partners:

- Cities of Kent, Des Moines, Federal Way, Milton, Fife, and Tacoma
- Puyallup Tribe of Indians
- WSDOT
- FTA
- FHWA
- Bonneville Power Administration
- King County
- Pierce County
- Coast Guard
- Army Corps of Engineers
- Transit partners serving project: King County Metro, Pierce Transit
- Federal Way Public Schools

# Kent/Des Moines to Federal Way Transit Center Light Rail

**Cost:**  
Assumed project elements, such as alignment, number of stations, and number of parking stalls, are consistent with state and federal environmental project-level environmental reviews that are currently underway for this project as part of the Federal Way Link Extension Project. Specific project elements assumed here for cost estimating and evaluation purposes (e.g. profile, station sites, number of parking stalls, etc.) are subject to change since final decisions on specific project elements will be determined through completion of environmental review updates, if necessary, and final engineering and design efforts. Additional opportunities for public participation will be provided at that time.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$56.65	\$60.62
Preliminary Engineering & Environmental Review	\$29.87	\$31.96
Final Design & Specifications	\$73.88	\$79.05
Property Acquisition & Permits	\$75.10	\$80.36
Construction	\$595.80	\$637.51
Construction Management	\$50.74	\$54.29
Third Parties	\$18.03	\$19.30
Vehicles	\$100.70	\$107.75
Contingency	\$79.65	\$85.22
<b>Total</b>	<b>\$1,080.42</b>	<b>\$1,156.05</b>

**Design Basis:**

Conceptual

\*Cost estimate is based on DEIS I-5 Estimate, using unit pricing and cost estimating methodology specific to the FWLE project.

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.50	\$0.54
Sustainability	\$5.84	\$6.25
Parking access	\$64.93	\$69.48
Non-motorized (bicycle/pedestrian) access	\$16.95	\$18.13
Bus/rail integration facilities	N/A	N/A

# Kent/Des Moines to Federal Way Transit Center Light Rail

## Evaluation Measures:

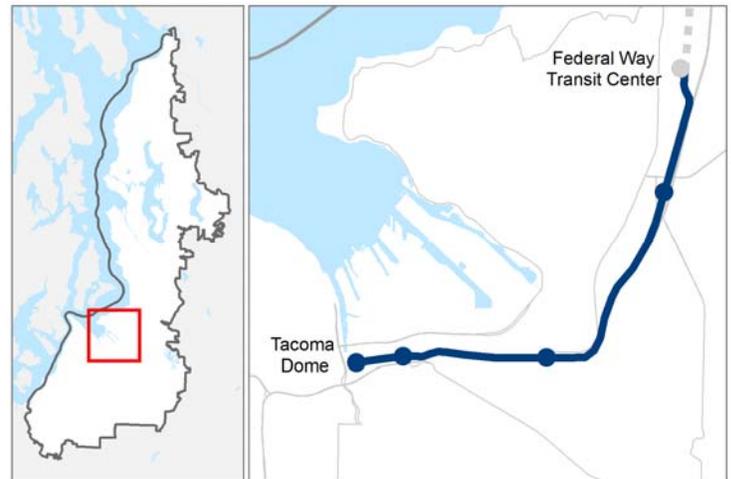
MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	Yes	
 <b>Ridership</b> <i>2040 daily project riders</i>	17,000 — 20,000	The daily project rider estimates for the rail extension from Kent/Des Moines to Tacoma are calculated for the full length to Tacoma, then allocated proportionally between Kent/Des Moines to Federal Way and Federal Way to Tacoma
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$1,080 — \$1,156	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$14	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	9 min	
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	High	100% in exclusive right-of-way
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium	Medium-high number of existing daily transit connections vicinity of Federal Way transit center; opportunities for integration with realigned bus service
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium Low	Low intersection density providing non-motorized access, I-5 as a barrier
 <b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	25-35%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	1 center	Regional Growth Center: Federal Way
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>  <i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Medium  Medium Low  Pop/acre: 2014: 7; 2040: 11 Emp/acre: 2014: 3; 2040: 6 Pop+Emp/acre: 2014: 11; 2040: 17	Strong support in local and regional plans; approximately 45% of land is compatibly zoned  Limited market support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 jobs within 0.5 mile of potential station areas</i>	57% Minority; 22% Low-Income  Pop: 2014: 7,500; 2040: 10,800  Emp: 2014: 3,400; 2040: 6,200	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

# Federal Way Transit Center to Tacoma Dome Light Rail

Subarea	South King/Pierce
Primary Mode	Light Rail
Facility Type	Corridor
Length	9.7 miles
Version	Draft ST3 Plan
Date Last Modified	March 28, 2016

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



### SHORT PROJECT DESCRIPTION

This project would extend light rail from the Federal Way Transit Center to Tacoma adjacent to I-5 with three elevated stations at South Federal Way, Fife, and East Tacoma and one at-grade/retained station at Tacoma Dome.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

### KEY ATTRIBUTES

<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	Yes
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$2,425 — \$2,595
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	28,000 — 39,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 51,425 feet (9.7 miles) of light rail in a mixture of at-grade and elevated guideway</li> <li>• 3 elevated stations: South Federal Way, Fife, and East Tacoma (in the vicinity of Portland Avenue), sized to accommodate 4-car trains</li> <li>• 1 at-grade/retained cut station: Tacoma Dome sized to accommodate 4-car trains</li> <li>• Parking garages at the South Federal Way and Fife stations, each with approximately 500 stalls; the scope of the transit parking components included in this project could be revised to include a range of strategies for providing rider access to the transit facility; along with, or instead of, parking for private vehicles or van pools, a mix of other investments could be accomplished through the budget for this project</li> <li>• A pedestrian bridge connecting the Tacoma Dome Station to Freighthouse Square</li> <li>• A new light rail bridge over the Puyallup River</li> <li>• Operations and maintenance facility</li> <li>• Purchase of 37 light rail vehicles</li> <li>• Peak headways: 6 minutes</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, bus/rail integration facilities, and sustainability measures (see separate document titled "Common Project Elements")</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• See separate document titled "Common Project Elements"</li> </ul>

# Federal Way Transit Center to Tacoma Dome Light Rail

KEY ATTRIBUTES	
ISSUES & RISKS	<ul style="list-style-type: none"><li>• Potential future WSDOT project at I-5/SR 161/SR 18 (Triangle project, Phase 2) and ongoing WSDOT planning for the Puget Sound Gateway Project (SR 167 Extension)</li><li>• Clearance of the Bonneville Power Administration high-voltage transmission lines</li><li>• At-grade profiles included in this project could result in more potential conflicts with other modes; this could affect speed and reliability</li><li>• Requires FHWA/WSDOT approvals for use of interstate right-of-way</li><li>• Complexity of the Puyallup River bridge crossing will require coordination and approval from the Puyallup Tribe of Indians; the new bridge may also require coordination with Coast Guard if levee is impacted</li><li>• Geotechnical challenges and potential archeological discoveries at/near the Puyallup River and Tacoma Dome area</li><li>• Construction near active freight and passenger rail lines</li><li>• Potential impacts of climate change and future sea level rise in the vicinity of the Puyallup River</li><li>• Light rail is not currently a permitted use in Federal Way but is specifically defined as an essential public facility; the Comprehensive Plan includes light rail</li><li>• Light rail is not currently a permitted use in Milton; Milton considers transit facilities special uses</li><li>• In Fife, light rail is not defined as an essential public facility but would be permitted in certain zones as a conditional use under EPF definition; the Comprehensive Plan includes light rail.</li><li>• Light rail currently operates in Tacoma and specific station area standards are codified; the Comprehensive Plan includes light rail</li></ul>

# Federal Way Transit Center to Tacoma Dome Light Rail

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would construct an extension of Link light rail from the Federal Way Transit Center to the Tacoma Dome Station generally along or near I-5. The alignment would begin at the Federal Way Transit Center and have stations at South Federal Way, Fife, East Tacoma, and the Tacoma Dome. From the Federal Way Transit Center Station the alignment would curve east to meet I-5 near S 324<sup>th</sup> Street. It would have a short at-grade section from S 322<sup>nd</sup> Street to S 333<sup>rd</sup> Street in order to cross underneath the Bonneville Power Administration high-voltage transmission lines. The alignment would then parallel the west side of I-5 with the South Federal Way Station located just south of the I-5/SR 18 interchange at S 352<sup>nd</sup> Street. The station platform would be elevated and adjacent to a 500-stall parking garage.

The alignment would continue adjacent to the west side of I-5 and be elevated. The alignment would have short at-grade sections where I-5 curves to the west as it enters Fife, where the alignment would be located underneath the proposed WSDOT – Puget Sound Gateway Project (SR 167 Extension), and between approximately 70<sup>th</sup> Avenue E and 62<sup>nd</sup> Avenue E in Fife. The alignment would remain elevated. The Fife Station would be located east of 54<sup>th</sup> Avenue E above the I-5 southbound off-ramp, and a 500-stall parking garage would be located just west of the Emerald Queen Casino.

From the Fife Station, the alignment would remain elevated. It would follow I-5 until it crosses the Puyallup River where it would follow E Bay Street to a station in East Tacoma in the vicinity of E Portland Avenue. Alternatively, the East Tacoma Station could be located on E 27<sup>th</sup> Street and E Portland Avenue. A parking facility would not be associated with either East Tacoma Station location. The alignment would continue along East 26<sup>th</sup> Street to the Tacoma Dome Station area. The station is located parallel to the existing Tacoma Dome Station and Freighthouse Square on East 26<sup>th</sup> Street between East F Street and East D Street. The station has an at-grade/retained cut platform with a pedestrian bridge connecting to Freighthouse Square.

## Assumptions:

- Reconstruction of the Federal Way/320<sup>th</sup> Park-and-Ride lot may be required; these anticipated costs were included in the cost estimate
- Raising the Bonneville Power Administration high-voltage transmission lines may be required; these costs included in the cost estimate
- WSDOT noise wall replacement may be required and is included in the cost estimate
- Completion of the WSDOT – Puget Sound Gateway Project (SR 167 Extension)
- A long span structure to cross the Puyallup River
- Reconstruction of E 26<sup>th</sup> Street may be required; these anticipated costs were included in the cost estimate
- Crossover and tail track storage are included
- A maintenance base to accommodate the additional capacity for this extension
- For non-motorized station access allowances, the South Federal Way Station, the Fife Station, and the East Tacoma Station are categorized as a Suburban stations and the Tacoma Dome station is characterized as an Urban station and an intermodal transit center
- For bus/rail integration, facilities have been assumed at the South Federal Way Station and the Fife Station
- Budget for operations and a maintenance facility is included in the cost estimate, and an operations and a maintenance facility is assumed to be built along this corridor.

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- Property acquisitions anticipated at stations and traction power substations
- Property acquisition anticipated for bus/rail integration facility
- Property acquisition anticipated for the operations and maintenance facility and access to the facility

# Federal Way Transit Center to Tacoma Dome Light Rail

## Potential Permits/Approvals Needed:

- Building permits: electrical, mechanical, plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (conditional use, design review, site plans, comprehensive plan or development code consistency, special use permits)
- Requires FHWA/WSDOT approvals for use of interstate right-of-way
- All required local, state and federal environmental permits
- NEPA/SEPA and related regulations
- US Coast Guard Bridge Permit
- Corps of Engineers Section 10

## Project Dependencies:

- Completion of Link Extension to the Federal Way Transit Center

## Potential Project Partners:

- City of Federal Way, Milton, Fife, and Tacoma
- Puyallup Tribe of Indians
- WSDOT
- FTA
- FHWA
- Bonneville Power Administration
- King County
- Pierce County
- Coast Guard
- Army Corps of Engineers
- Transit partners serving project: King County Metro, Pierce Transit

# Federal Way Transit Center to Tacoma Dome Light Rail

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

*In Millions of 2014\$*

ITEM	COST	COST WITH RESERVE
Agency Administration	\$129.09	\$138.12
Preliminary Engineering & Environmental Review	\$72.60	\$77.68
Final Design & Specifications	\$144.36	\$154.47
Property Acquisition & Permits	\$106.23	\$113.67
Construction	\$1,472.52	\$1,575.60
Construction Management	\$129.93	\$139.02
Third Parties	\$29.67	\$31.75
Vehicles	\$196.10	\$209.83
Contingency	\$144.36	\$154.47
<b>Total</b>	<b>\$2,424.87</b>	<b>\$2,594.61</b>

*Design Basis:*

Conceptual

*The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.*

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$1.22	\$1.30
Sustainability	\$12.85	\$13.75
Parking access	\$52.22	\$55.87
Non-motorized (bicycle/pedestrian) access	\$31.85	\$34.08
Bus/rail integration facilities	\$5.50	\$5.89

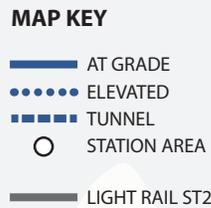
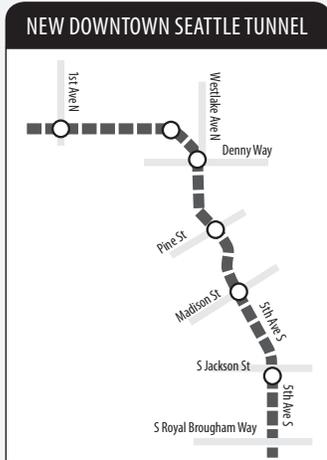
# Federal Way Transit Center to Tacoma Dome Light Rail

Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <p><b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i></p>	Yes	
 <p><b>Ridership</b> <i>2040 daily project riders</i></p>	28,000 — 39,000	The daily project rider estimates for the rail extension from Kent/Des Moines to Tacoma are calculated for the full length to Tacoma, then allocated proportionally between Kent/Des Moines to Federal Way and Federal Way to Tacoma
 <p><b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i></p>	\$2,425 — \$2,595	
 <p><b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i></p>	\$31	
 <p><b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i></p>	19 min	
 <p><b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i></p>	High	100% in exclusive right-of-way
 <p><b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i></p>	Medium	Low to medium-high number of existing daily transit connections; multi-modal integration opportunities at Tacoma Dome
 <p><b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i></p>	Medium Low	Low to medium intersection density providing non-motorized access, freeways as barriers, improved arterial crossing of I-5 at 54 <sup>th</sup> Ave E
	<p><b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i></p>	20-35%
 <p><b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i></p>	2 centers	Downtown Tacoma, Port of Tacoma MIC
 <p><b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i></p> <p><i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i></p> <p><i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i></p>	Medium	Moderate support in local and regional plans; approx. 35% land is compatibly zoned
	Low	Very limited market support
	<p>Pop/acre: 2014: 2; 2040: 5 Emp/acre: 2014: 5; 2040: 7 Pop+Emp/acre: 2014: 7; 2040: 12</p>	
 <p><b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i></p> <p><i>2014 and 2040 population within 0.5 mile of potential station areas</i></p> <p><i>2014 and 2040 jobs within 0.5 mile of potential station areas</i></p>	<p>44% Minority; 17% Low-Income</p> <p>Pop: 2014: 4,800; 2040: 9,200</p> <p>Emp: 2014: 8,900; 2040: 14,700</p>	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

## BALLARD TO DOWNTOWN SEATTLE LIGHT RAIL



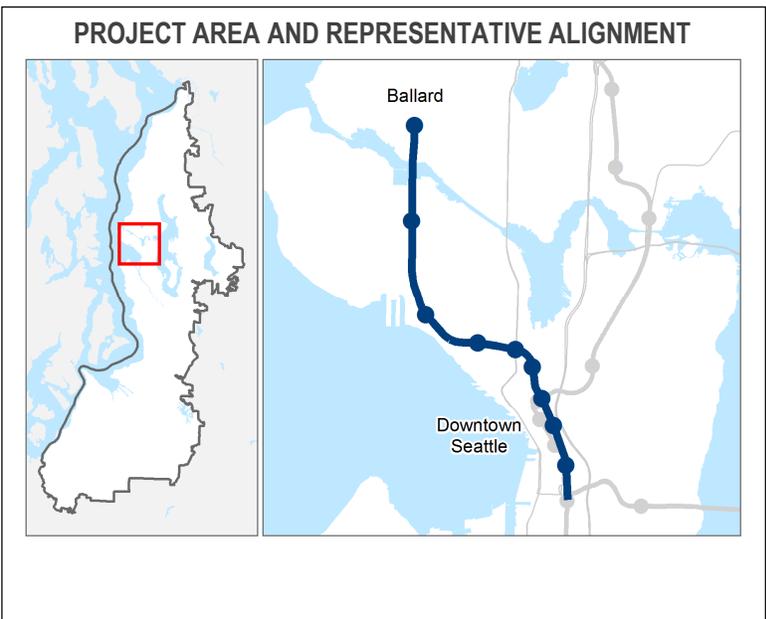
Alignments and stations shown are representative and are identified for purposes of cost estimating, ridership forecasting and other evaluation measures.

\* Daily project riders include all who would use any part of the project, including riders who use any part of the new downtown tunnel. The riders using any part of the project north of the new Westlake station are 60,000—74,000.

LENGTH (MILES)	7.1	
REGIONAL LIGHT RAIL SPINE	NO	
RIDERSHIP (DAILY PROJECT RIDERS)	114,000—145,000*	
CAPITAL COST (2014 \$ M)	\$4,450—\$4,762	
ANNUAL O&M COST (2014 \$ M)	\$38	
TRAVEL TIME (MIN)	17	
RELIABILITY	MEDIUM-HIGH	
SYSTEM INTEGRATION	HIGH	
EASE OF NON-MOTORIZED ACCESS	MEDIUM-HIGH	
PERCENT OF NON-MOTORIZED ACCESS	75—85%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	4 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	MEDIUM-HIGH
	MARKET SUPPORT	HIGH
	POP PER ACRE (2014/2040)	22 / 48
	ACTIVITY UNITS	71 / 107
SOCIOECONOMIC BENEFITS	POP+EMP PER ACRE (2014/2040)	93 / 155
	MINORITY/LOW-INCOME	32% / 17%
	POPULATION (2014/2040)	70,900 / 150,800
	EMPLOYMENT (2014/2040)	224,000 / 339,500

# Ballard to Downtown Seattle Light Rail

<b>Subarea</b>	North King
<b>Primary Mode</b>	Light Rail
<b>Facility Type</b>	Corridor
<b>Length</b>	7.1 miles
<b>Version</b>	Draft ST3 Plan
<b>Date Last Modified</b>	March 28, 2016



**SHORT PROJECT DESCRIPTION**

This project would build light rail from Downtown Seattle to Ballard’s Market Street area. It would include a mix of elevated and at-grade light rail on 15<sup>th</sup> Avenue NW and Elliott Avenue West and a rail-only movable bridge over Salmon Bay. It includes a tunnel from the Uptown neighborhood through Downtown Seattle.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

KEY ATTRIBUTES	
<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	No
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$4,450 — \$4,762
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	114,000 — 145,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 7.1 miles of light rail in combination of elevated and tunnel</li> <li>• One at-grade station: Interbay</li> <li>• Two elevated stations: Ballard, Smith Cove</li> <li>• Six tunnel stations: Seattle Center, South Lake Union, Denny, Westlake, Midtown, International District/Chinatown</li> <li>• New rail-only movable bridge over Salmon Bay</li> <li>• Budget for operations and maintenance facility</li> <li>• Purchase of 26 light rail vehicles</li> <li>• Peak headways: 6 minutes</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, bus/rail integration facilities, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• Parking not included</li> <li>• See separate document titled “Common Project Elements”</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• Risk and complexity associated with alignment through Fisherman’s Terminal/Salmon Bay and construction of a new movable bridge</li> <li>• Displacing vehicle travel lanes for the alignment</li> <li>• Risk and complexity associated with a tunnel through Downtown Seattle</li> <li>• Reliability issues related to movable bridge over Salmon Bay</li> </ul>

# Ballard to Downtown Seattle Light Rail

## KEY ATTRIBUTES

### ISSUES & RISKS

- Construction would require some impacts to Link operations, which could potentially be limited so they occur during off-peak conditions
- Constructing a new rail-only movable bridge over Salmon Bay
- Maintenance of traffic during construction on arterials
- Limited left turns along portions of the alignment
- Track crossing locations for driveway access and turns at intersections may need to be maintained in some locations
- US Coast Guard approval is needed for Salmon Bay crossing
- An alignment running west of the Ballard Bridge could require acquiring property from the Fisherman's Terminal and impact buildings, docks, vessels, and equipment associated with maritime businesses
- Existing roadway structures may need to be replaced to accommodate the alignment, depending on its location: W Dravus Street over 15<sup>th</sup> Avenue W and the Magnolia Bridge flyover over 15<sup>th</sup> Avenue W
- The alignment would need to vertically clear certain intersections, including 15<sup>th</sup> Avenue NW/NW Leary Way, 15<sup>th</sup> Avenue W/W Emerson Street, and Elliott Avenue W/W Mercer Place
- Potential conflicts with existing utilities
- At-grade profile included in this project could result in more potential conflicts with other modes; this could affect speed and reliability
- Providing land for a maintenance facility could require acquiring private property
- Tunnel construction in mature urban environment, including potential of encountering elevator shafts, electrical grounding rods, geothermal wells
- Light rail currently operates in Seattle and specific station area standards are codified; light rail is included in the Comprehensive Plan and other planning documents

# Ballard to Downtown Seattle Light Rail

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would build light rail from downtown Seattle to Ballard's Market Street area. The representative alignment for this light rail project would be elevated along 15<sup>th</sup> Avenue NW starting at Market Street, crossing Salmon Bay on a rail-only new bridge near the Ballard Bridge. South of Salmon Bay, the alignment would transition to an at-grade alignment along 15<sup>th</sup> Avenue NW through the Interbay corridor and Elliott Avenue W, with signal priority so trains would generally stop only at stations. The alignment would transition back to an elevated alignment at approximately Prospect Street along Elliott Avenue W, and then transition to a tunnel alignment through the Uptown neighborhood. The alignment would continue downtown to a tunnel portal and terminus south of Royal Brougham Way. This project includes nine stations – one at-grade, two elevated, and six underground.

## Assumptions:

- Alignment generally along existing arterials
- Traction power substations are generally placed at 1-mile intervals, close to stations, if possible, with additional right-of-way acquisition included
- For non-motorized station access allowances, the Ballard and Seattle Center stations are categorized as Urban stations and the South Lake Union, Denny, Westlake, Midtown, and International District/Chinatown stations are categorized as Urban/CBD stations; the Interbay and Smith Cove stations are categorized as Urban stations with a Major Bicycle Intercept
- For bus/rail integration, facilities have been assumed at the Ballard and Smith Cove stations
- Budget for operations and maintenance facilities is included in cost estimate.

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- Generally located within existing city-owned street right-of-way
- The alignment would require displacing vehicle travel lanes, and would not expand ROW except at some intersections and stations
- Potential property acquisitions anticipated at stations and intersections where protected turns are to be maintained
- Potential easements anticipated for tunnel alignments under privately-owned properties
- The alignment would require property acquisition for the operations and maintenance facility, access to the facility, and traction power substations
- Property acquisition for bus/rail integration facility

## Potential Permits/Approvals Needed:

- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- USCG Bridge Permit
- US Army Corps of Engineers Section 10
- FAA/Air Navigation Review
- All required local, state, and federal environmental permits; NEPA/SEPA and related regulations

# Ballard to Downtown Seattle Light Rail

**Project Dependencies:**

This project requires the connection of the existing Central Link line currently running through the Downtown Seattle Transit Tunnel to a line extension to West Seattle. The operations plan assumes that trains from Ballard would connect to the existing Central Link line south at Royal Brougham Way and continue south to Rainier Valley and beyond.

**Potential Project Partners:**

- City of Seattle
- King County
- U.S. Army Corps of Engineers
- Transit partner serving this project: King County Metro
- U.S. Coast Guard
- FTA
- Port of Seattle

# Ballard to Downtown Seattle Light Rail

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$236.86	\$253.44
Preliminary Engineering & Environmental Review	\$133.75	\$143.12
Final Design & Specifications	\$265.94	\$284.55
Property Acquisition & Permits	\$404.84	\$433.18
Construction	\$2,712.55	\$2,902.43
Construction Management	\$239.34	\$256.10
Third Parties	\$53.39	\$57.12
Vehicles	\$137.80	\$147.45
Contingency	\$265.94	\$284.55
<b>Total</b>	<b>\$4,450.41</b>	<b>\$4,761.94</b>

Design Basis:

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.99	\$1.06
Sustainability	\$8.29	\$8.87
Parking access	N/A	N/A
Non-motorized (bicycle/pedestrian) access	\$46.13	\$49.36
Bus/rail integration facilities	\$5.50	\$5.89

## Ballard to Downtown Seattle Light Rail

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No	
 <b>Ridership</b> <i>2040 daily project riders</i>	114,000 — 145,000	Daily project riders include all who would use any part of the project, including riders who use any part of the new downtown tunnel. The riders using any part of the project north of the new Westlake station are 60,000 - 74,000
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$4,450 — \$4,762	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$38	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	17 min	
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	Medium-High	100% in exclusive right-of-way; reliability could be affected by movable bridge over Salmon Bay
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	High	Medium-low to high number of existing transit connections and strong opportunities for integration with realigned bus service
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium-High	Low to high intersection densities providing non-motorized access, with rail lines and steep hillsides as barriers
	<b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	75-85%
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	4 centers	Ballard-Interbay MIC, Uptown, South Lake Union, Seattle CBD
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>	Medium-High	Strong support in local and regional plans; approx. 35% land is compatibly zoned
	<i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>	High
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>	32% Minority; 17% Low-Income	
<i>2014 and 2040 population within 0.5 mile of potential station areas</i>	Pop: 2014: 70,900; 2040: 150,800	
<i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	Emp: 2014: 224,000; 2040: 339,500	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

**WEST SEATTLE TO DOWNTOWN SEATTLE LIGHT RAIL**

**MAP KEY**

- AT GRADE
- ELEVATED
- STATION AREA
- LIGHT RAIL ST2

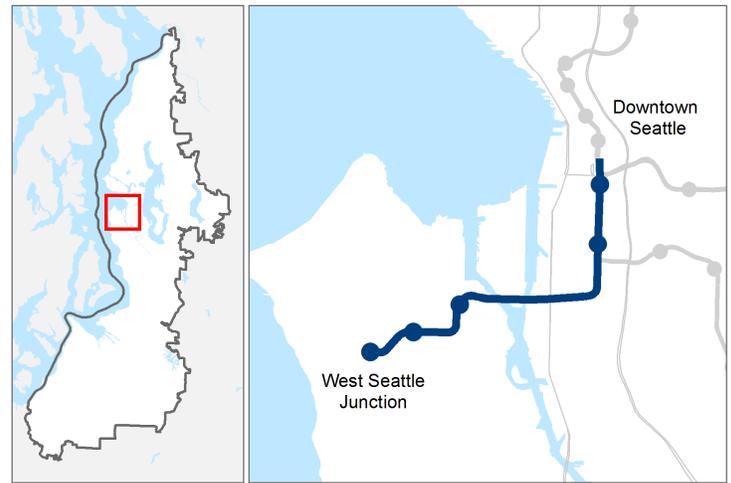


LENGTH (MILES)	4.7	
REGIONAL LIGHT RAIL SPINE	NO	
RIDERSHIP (DAILY PROJECT RIDERS)	31,000—36,000	
CAPITAL COST (2014 \$ M)	\$1,886—\$2,018	
ANNUAL O&M COST (2014 \$ M)	\$22	
TRAVEL TIME (MIN)	12	
RELIABILITY	HIGH	
SYSTEM INTEGRATION	MEDIUM-HIGH	
EASE OF NON-MOTORIZED ACCESS	MEDIUM-LOW	
PERCENT OF NON-MOTORIZED ACCESS	70—80%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	2 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	MEDIUM-LOW
	MARKET SUPPORT	MEDIUM
	POP PER ACRE (2014/2040)	6 / 9
	EMP PER ACRE (2014/2040)	15 / 17
SOCIOECONOMIC BENEFITS	ACTIVITY UNITS	21 / 25
	POPULATION (2014/2040)	28% / 12%
	EMPLOYMENT (2014/2040)	13,400 / 18,300
		31,500 / 35,200

# West Seattle to Downtown Seattle Light Rail

<b>Subarea</b>	North King
<b>Primary Mode</b>	Light Rail
<b>Facility Type</b>	Corridor
<b>Length</b>	4.7 miles
<b>Version</b>	Draft ST3 Plan
<b>Date Last Modified</b>	March 28, 2016

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



### SHORT PROJECT DESCRIPTION

This project would provide a light rail connection from Downtown Seattle to the vicinity of West Seattle’s Alaska Junction neighborhood including an alignment primarily on elevated light rail, a new rail-only fixed span crossing of the Duwamish River, and five stations.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

### KEY ATTRIBUTES

<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	No
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$1,886 — \$2,018
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	31,000 — 36,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 4.7 miles of light rail in combination of elevated and tunnel</li> <li>• One at-grade station: Stadium</li> <li>• Four elevated stations: SODO, Delridge, Avalon, Alaska Junction</li> <li>• Stations are approximately 400 feet long to accommodate 4-car trains</li> <li>• High-level rail-only fixed span crossing of the Duwamish River</li> <li>• Budget for operations and maintenance facility</li> <li>• Purchase of 18 light rail vehicles; Peak headways: 6 minutes</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), bus/rail integration facilities, transit-oriented development (TOD)/planning due diligence, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• Parking not included</li> <li>• See separate document titled “Common Project Elements”</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• Construction would require some impacts to Central Link operations during off-peak conditions</li> <li>• The project crosses the Duwamish River in vicinity of Terminal 18 which is a highly constrained and utilized corridor with potential for soil contamination; a fixed span crossing is assumed and would require an over-water clearance of approximately 150 feet</li> <li>• Topography in West Seattle presents design challenges</li> <li>• Light rail currently operates in Seattle and specific station area standards are codified; light rail is included in the Comprehensive Plan and other planning documents</li> </ul>

# West Seattle to Downtown Seattle Light Rail

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This representative light rail project would connect West Seattle to downtown Seattle via Alaska Street, Fauntleroy Way, Genesee Street, Delridge Avenue, Spokane Street, and the SODO Busway. The alignment would include five stations – one at-grade, and four elevated. The alignment would include new connection to existing Downtown Seattle Transit Tunnel south of International District/Chinatown Station, a new rail-only high-rise bridge structure over the Duwamish Waterway (with a vertical clearance of approximately 150 feet above the waterway), elevated alignment over Alaskan Way Viaduct (SR99) and S. Spokane Viaduct, and an elevated alignment in West Seattle.

## Assumptions:

- Generally within existing street right-of-way
- No additional parking assumed
- Traction power substations are generally placed at 1-mile intervals, close to stations, if possible, with additional right-of-way acquisition included
- For non-motorized station access allowances, the Alaska Junction, Avalon, Delridge, and SODO stations are categorized as Urban stations and the Stadium station is categorized as an Urban/CBD station
- For bus/rail integration, facilities have been assumed at the Delridge and Alaska Junction stations
- Budget for operations and maintenance facility is included in cost estimate.

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- Potential property acquisitions anticipated at stations and intersections where protected turns are to be maintained
- The alignment would require property acquisition for the operations and maintenance facility, access to the facility, and traction power substations
- Property acquisition for bus/rail integration facility

## Potential Permits/Approvals Needed:

- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- USCG Bridge Permit
- US Army Corps of Engineers Section 10
- FAA/Air Navigation Review
- All required local, state, and federal environmental permits
- NEPA/SEPA and related regulations

## Project Dependencies:

The operations plan assumes that trains from West Seattle would continue north through the Downtown Seattle Transit Tunnel to Northgate and beyond.

# West Seattle to Downtown Seattle Light Rail

**Potential Project Partners:**

- City of Seattle
- Port of Seattle
- Transit partner serving this project: King County Metro
- King County
- Coast Guard
- U.S. Army Corps of Engineers
- FTA

# West Seattle to Downtown Seattle Light Rail

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$100.80	\$107.85
Preliminary Engineering & Environmental Review	\$53.30	\$57.03
Final Design & Specifications	\$105.61	\$113.01
Property Acquisition & Permits	\$232.01	\$248.25
Construction	\$1,077.26	\$1,152.67
Construction Management	\$95.05	\$101.71
Third Parties	\$21.32	\$22.82
Vehicles	\$95.40	\$102.08
Contingency	\$105.61	\$113.01
<b>Total</b>	<b>\$1,886.37</b>	<b>\$2,018.42</b>

Design Basis:

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.69	\$0.74
Sustainability	\$14.23	\$15.22
Parking access	N/A	N/A
Non-motorized (bicycle/pedestrian) access	\$21.97	\$23.51
Bus/rail integration facilities	\$5.50	\$5.89

# West Seattle to Downtown Seattle Light Rail

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES	
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No		
 <b>Ridership</b> <i>2040 daily project riders</i>	31,000 — 36,000		
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$1,886 — \$2,018		
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$22		
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	12 min		
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	High	100% in exclusive right-of-way	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium-High	Low to medium number of existing daily transit connections from West Seattle to SODO and opportunities for integration with realigned bus service	
	<b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium-Low	Low to medium intersection density providing non-motorized access with open space, large parcels as barriers
	<b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	70-80%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	2 centers	Seattle CBD, Duwamish MIC	
	<b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>	Medium-Low	Moderate support in local and regional plans; approx. 15% land is compatibly zoned
	<i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Medium  Pop/acre: 2014: 6; 2040: 9 Emp/acre: 2014: 15; 2040: 17 Pop+Emp/acre: 2014: 21; 2040: 25	Moderate market support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	28% Minority; 12% Low-Income  Pop: 2014: 13,400; 2040: 18,300  Emp: 2014: 31,500; 2040: 35,200		

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

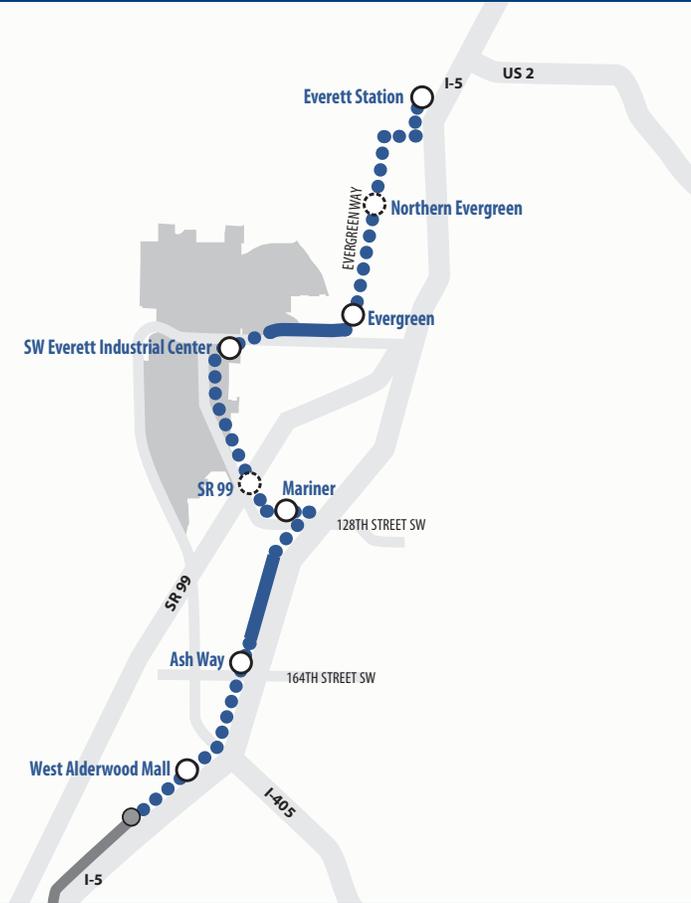
**LYNNWOOD TO EVERETT LIGHT RAIL**

**MAP KEY**

- AT GRADE
- ELEVATED
- STATION AREA
- PROVISIONAL STATION AREA
- LIGHT RAIL ST2
- ST2 LRT STATION

*Alignments and stations shown are representative and are identified for purposes of cost estimating, ridership forecasting and other evaluation measures.*

\* Does not include provisional stations. Costs undergoing refinement.



LENGTH (MILES)	15.4	
REGIONAL LIGHT RAIL SPINE	YES	
RIDERSHIP (DAILY PROJECT RIDERS)	35,000—43,000	
CAPITAL COST (2014 \$ M)	\$4,041—\$4,324*	
ANNUAL O&M COST (2014 \$ M)	\$53*	
TRAVEL TIME (MIN)	31	
RELIABILITY	HIGH	
SYSTEM INTEGRATION	MEDIUM	
EASE OF NON-MOTORIZED ACCESS	MEDIUM-LOW	
PERCENT OF NON-MOTORIZED ACCESS	20—35%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	3 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	MEDIUM
	MARKET SUPPORT	MEDIUM
	ACTIVITY UNITS	
	POP+EMP PER ACRE (2014/2040)	8 / 13
	EMP PER ACRE (2014/2040)	7 / 12
	POP+EMP PER ACRE (2014/2040)	15 / 25
SOCIOECONOMIC BENEFITS	MINORITY/LOW-INCOME	42% / 17%
	POPULATION (2014/2040)	24,100 / 38,900
	EMPLOYMENT (2014/2040)	21,300 / 37,000

# Lynnwood to Everett Light Rail

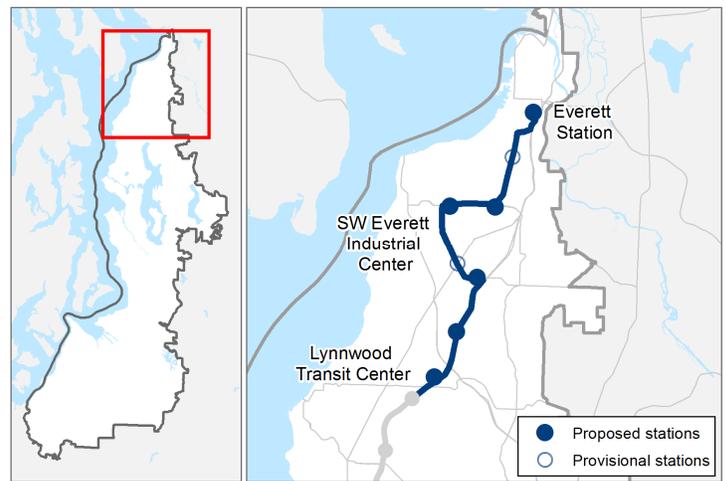
<b>Subarea</b>	Snohomish
<b>Primary Mode</b>	Light Rail
<b>Facility Type</b>	Corridor
<b>Length</b>	15.4 miles
<b>Version Number</b>	Draft System Plan
<b>Date Last Modified</b>	March 28, 2016

## SHORT PROJECT DESCRIPTION

This project would provide a 15.4-mile elevated and at-grade light rail extension from the Lynnwood Transit Center to Everett Station via Airport Way to Southwest Everett Industrial Center, then along SR 526 to Evergreen Way and 41st Street to Everett Station, with six stations. Two provisional stations are identified but are not included in the capital cost or other project measures.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



## KEY ATTRIBUTES

<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	Yes
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$4,041 — \$4,324* *Costs undergoing refinement
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	35,000 — 43,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 15.4 miles of elevated and at-grade light rail, all in exclusive right-of-way</li> <li>• Six stations serving West Alderwood Mall, Mariner park-and-ride, Ash Way park-and-ride, Southwest Everett Industrial Center, SR 526/Evergreen Way and Everett Station, with provisional stations at SR 99/Airport Road and northern Evergreen Way</li> <li>• Stations accommodate 4-car trains</li> <li>• New 550-space parking structure at Mariner Park and Ride, and new 1,000-space parking structure at Everett Station</li> <li>• Operations and maintenance facility</li> <li>• Purchase of 72 light rail vehicles</li> <li>• Peak headways: 3 minutes between Lynnwood Transit Center and 128<sup>th</sup> Street, and 6 minutes between 128<sup>th</sup> Street and Everett Station</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, bus/rail integration facilities, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• See separate document titled “Common Project Elements”</li> <li>• Costs for the provisional stations</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• Crossing over SR 526 requires long spans</li> <li>• Development near an active airport with federal restrictions on heights of nearby facilities</li> </ul>

# Lynnwood to Everett Light Rail

KEY ATTRIBUTES	
ISSUES & RISKS	<ul style="list-style-type: none"><li>• Development of alignment along 128<sup>th</sup> Street SW, Airport Way and Evergreen Way, which are high-volume arterials with a large number of driveways, intersections, and adjacent properties</li><li>• Maintenance of traffic during construction along arterials, SR 526, I-5</li><li>• Construction along I-5 and SR 526 in areas with limited access and available right-of-way</li><li>• Construction effects to bus transit operations for Community Transit Swift BRT along SE 128<sup>th</sup> Avenue and Airport Way</li><li>• Multimodal access for a station serving the Southwest Everett Industrial Center</li><li>• Light rail is not currently a permitted use in Everett and is permitted in Snohomish County as an essential public facility and as a conditional use or through a development agreement; it is included in both Comprehensive Plans and other planning documents</li></ul>

# Lynnwood to Everett Light Rail

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

The 15.4-mile, 6-station representative alignment for the light rail extension begins at the Lynnwood Transit Center station, the terminus of the Lynnwood Link Extension. The first part of the alignment runs elevated along Alderwood Mall Boulevard, crossing to an elevated station in the vicinity of West Alderwood Mall, then runs north generally parallel to I-5, crossing over the SR 525/I-405 interchange and staying elevated to reach an elevated station at the Ash Way park-and-ride. The alignment continues with a mix of at-grade and elevated profiles west and north along I-5 to an elevated light rail station near the Mariner park-and-ride. From there, it continues elevated along 128<sup>th</sup> Street SW and Airport Road turns east at SR 526 to an elevated station serving the Southwest Everett Industrial Center. It then crosses over SR 526 on an elevated structure, descends to mostly at-grade and retained fill along SR 526, and then becomes elevated again as it turns north to follow Evergreen Way to an elevated station near SR 526. The alignment continues elevated along Evergreen Way and Rucker Avenue before heading east on 41st Street to an elevated station at Everett Station. The station at the Mariner park-and-ride has a 550-stall parking structure, and the Everett Station has a new 1,000-space parking structure; both of these structures may replace areas currently used for surface parking, displacing up to 600 surface parking spaces. Two provisional stations, one at SR 99/Airport Road and the other at northern Evergreen Way, are not included in the estimated project cost, nor are they included in travel time, ridership forecasts or other measures of project performance.

## Assumptions:

- Generally along existing roadways, with sections along state routes, major arterials and I-5
- For non-motorized station access allowances, the Everett Station is characterized as Urban with an intermodal transit center, and all other stations are categorized as suburban.
- Budget for operations and maintenance facility is included in cost estimate; An operations and maintenance facility is assumed to be built along this corridor.

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc., with overhead and underground utilities located along several sections of the corridor.

## Right-of-Way and Property Acquisition:

- Elevated alignment, stations and parking may require acquiring part or all of some adjacent parcels, particularly in areas with other development near the right-of-way and where the alignment turns to follow different transportation facilities

## Potential Permits/Approvals Needed:

- Building permits: electrical, mechanical, plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (conditional use, design review, site plans, comprehensive plan or development code consistency, special use permits)
- Federal Aviation Administration/Air Navigation Review and other approvals
- All required local, state and federal environmental permits
- NEPA/SEPA and related regulations

# Lynnwood to Everett Light Rail

**Project Dependencies:**

Dependent on the completion of the Lynnwood Link Extension.  
Funding for the provisional stations is not included in the Draft ST3 System Plan

**Potential Project Partners:**

- City of Lynnwood
- City of Everett
- Snohomish County
- WSDOT
- FTA and FHWA
- Transit partners serving project: Everett Transit and Community Transit
- Boeing Company (e.g., for pedestrian/non-motorized access to restricted Boeing plant)

# Lynnwood to Everett Light Rail

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$216.02	\$231.14
Preliminary Engineering & Environmental Review	\$112.90	\$120.81
Final Design & Specifications	\$224.63	\$240.35
Property Acquisition & Permits	\$324.53	\$347.24
Construction	\$2,291.19	\$2,451.57
Construction Management	\$202.16	\$216.32
Third Parties	\$45.55	\$48.74
Vehicles	\$399.39	\$427.35
Contingency	\$224.63	\$240.35
<b>Total</b>	<b>\$4,041.00*</b>	<b>\$4,323.87*</b>

Design Basis:

Conceptual

\*Costs undergoing refinement

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$1.16	\$1.25
Sustainability	\$18.18	\$19.45
Parking access	\$80.94	\$86.61
Non-motorized (bicycle/pedestrian) access	\$43.92	\$46.99
Bus transfer facilities	\$5.50	\$5.89

# Lynnwood to Everett Light Rail

## Evaluation Measures:

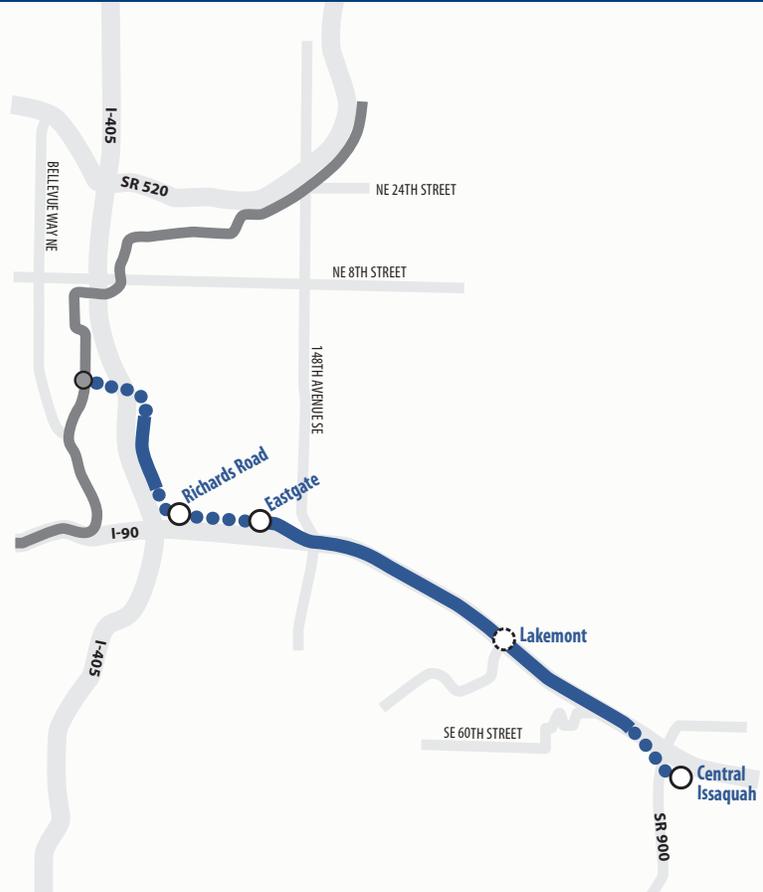
MEASURE	MEASUREMENT/RATING	NOTES	
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	Yes		
 <b>Ridership</b> <i>2040 daily project riders</i>	35,000 — 43,000		
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$4,041 — \$4,324	Does not include provisional stations. Costs undergoing refinement.	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$53	Does not include provisional stations	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	31		
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	High	100% in exclusive right-of-way	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium	Low to medium-high number of existing daily transit connections, but several stations with opportunities for integration with realigned bus service and planned BRT	
	<b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium-Low	Low to medium intersection densities providing access, with large parcels, freeways and major arterials limiting access
	<b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	20-35%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	3 centers	Lynnwood City Center, Southwest Everett Industrial Center, Everett	
	<b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>	Medium	Strong support in local and regional plans; approximately 55% land compatibly zoned
	<i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>	Medium	Moderate market support
	<i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Pop/acre: 2014: 8; 2040: 13 Emp/acre: 2014: 7; 2040: 12 Pop+Emp/acre: 2014: 15; 2040: 25	Includes large industrial parcels and areas of I-5, SR 526 and other major roadways
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i> <i>2014 and 2040 population within 0.5 mile of potential station areas</i> <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	42% minority; 17% low-income Pop: 2014: 24,100; 2040: 38,900 Emp: 2014: 21,300; 2040: 37,000		

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

**BELLEVUE TO ISSAQUAH LIGHT RAIL**

**MAP KEY**

- AT GRADE
- ELEVATED
- STATION AREA
- PROVISIONAL STATION AREA
- LIGHT RAIL ST2
- ST2 LRT STATION



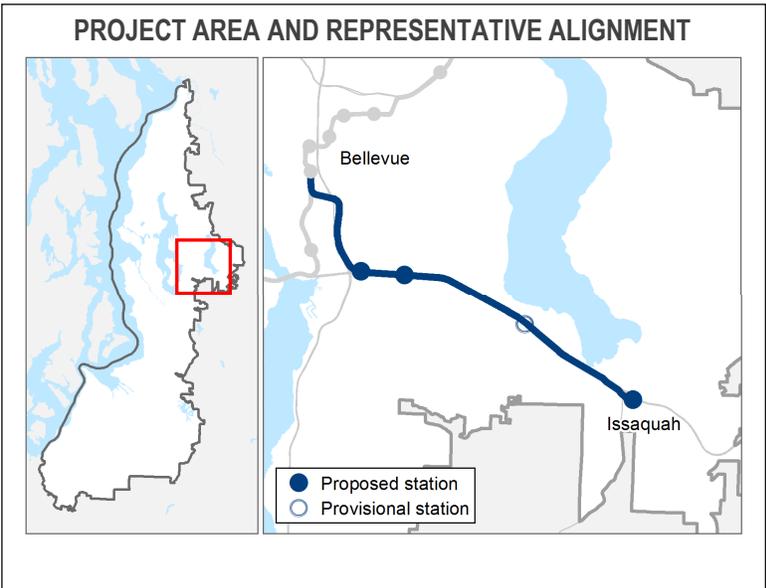
*Alignments and stations shown are representative and are identified for purposes of cost estimating, ridership forecasting and other evaluation measures.*

\* Does not include provisional station.

LENGTH (MILES)	9	
REGIONAL LIGHT RAIL SPINE	NO	
RIDERSHIP (DAILY PROJECT RIDERS)	11,000—15,000	
CAPITAL COST (2014 \$ M)	\$1,594—\$1,706*	
ANNUAL O&M COST (2014 \$ M)	\$30*	
TRAVEL TIME (MIN)	25	
RELIABILITY	MEDIUM-HIGH	
SYSTEM INTEGRATION	MEDIUM-LOW	
EASE OF NON-MOTORIZED ACCESS	MEDIUM-LOW	
PERCENT OF NON-MOTORIZED ACCESS	25—35%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	2 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	MEDIUM
	MARKET SUPPORT	MEDIUM-LOW
	POP PER ACRE (2014/2040)	4 / 5
	EMP PER ACRE (2014/2040)	10 / 13
SOCIOECONOMIC BENEFITS	ACTIVITY UNITS	14 / 18
	POP+EMP PER ACRE (2014/2040)	14 / 18
	MINORITY/LOW-INCOME	37% / 9%
	POPULATION (2014/2040)	6,000 / 7,400
	EMPLOYMENT (2014/2040)	14,000 / 19,200

# Bellevue to Central Issaquah Light Rail

Subarea	East King
Primary Mode	Light Rail
Facility Type	Corridor
Length	9 miles
Version	Draft ST3 Plan
Date Last Modified	March 28, 2016



**SHORT PROJECT DESCRIPTION**

This project would provide a light rail connection from Issaquah to downtown Bellevue including an alignment primarily at-grade, with three new stations and one provisional station.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

KEY ATTRIBUTES	
<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	No
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$1,594 — \$1,706
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	11,000 — 15,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 9 miles of new at-grade and elevated light rail</li> <li>• Two elevated stations: Central Issaquah, Richards Road (Factoria)</li> <li>• One at-grade station: Eastgate</li> <li>• One provisional station in the vicinity of Lakemont. The design would accommodate a future elevated station in the vicinity of Lakemont Boulevard SE.</li> <li>• Stations accommodate 4-car trains</li> <li>• Minor improvements to East Link’s East Main Station, Bellevue Downtown Station and Wilburton Station to accommodate riders from this line</li> <li>• Widen the existing sidewalk on the west side of the 142<sup>nd</sup> Place SE overpass from the Eastgate flyer stop to the north and provide weather protection, if this work can be accomplished without structural modifications to the overpass</li> <li>• 500 stall parking garage and pedestrian bridge over I-90 constructed in Central Issaquah</li> <li>• Signals and gates for at-grade rail crossings</li> <li>• Purchase of 30 light rail vehicles</li> <li>• Peak headways: 6 minutes</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), bus/rail integration facilities, transit-oriented development (TOD)/planning due diligence, bus/rail integration facilities, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• Cost does not include construction of a station in the vicinity of Lakemont Boulevard SE</li> <li>• Maintenance and storage facility</li> <li>• Construction of trail in Eastside Rail Corridor in Bellevue (except relocation as required by the HCT)</li> </ul>

# Bellevue to Central Issaquah Light Rail

KEY ATTRIBUTES	
NOT INCLUDED	<ul style="list-style-type: none"><li>Easement Agreement)</li><li>• See separate document titled "Common Project Elements"</li></ul>
ISSUES & RISKS	<ul style="list-style-type: none"><li>• Alignment is in close proximity to residential uses</li><li>• Project construction will interrupt East Link operations at interlined sections</li><li>• Project will impact WSDOT facilities where alignment is adjacent to or crosses over ramps and mainline lanes.</li><li>• Widening the 142<sup>nd</sup> Place SE overpass sidewalk will require some closures of the existing freeway station and possible I-90 westbound main lines.</li><li>• Representative alignment crosses Eastside Rail Corridor on east side of I-405 in vicinity of SE 8<sup>th</sup> Street</li><li>• 72" King County interceptor sewer line is located in the Eastside Rail Corridor</li><li>• Potential future PSE transmission line in the Eastside Rail Corridor</li><li>• Light rail is a permitted use in Bellevue only if the alignment is approved by the Bellevue City Council; it is not currently a permitted use in Issaquah; light rail is included in both cities' Comprehensive Plans and other planning documents</li></ul>

# Bellevue to Central Issaquah Light Rail

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would build light rail from the East Link Wilburton Station in Bellevue to Central Issaquah (consistent with the Central Issaquah Plan). The project would build the elevated Central Issaquah Transit Station, south of I-90, with 500 parking stalls and a pedestrian bridge crossing over I-90. The project would travel from Central Issaquah on an elevated guideway to enter the I-90 median. The LRT guideway continues at-grade in the I-90 median (on structure over Lakemont Boulevard SE) to the Eastgate Park-and-Ride, where it crosses to the north side of I-90 via an elevated structure then transitions back to at-grade. The representative station at Eastgate is at-grade along the southern side of the existing transit center, allowing the existing direct access ramps and 142<sup>nd</sup> Place SE structure to remain. The project would include widening the 142<sup>nd</sup> Place SE overpass sidewalk which will require some closures of the existing freeway station and possibly the I-90 westbound main line. West of the Eastgate Park-and-Ride, the LRT guideway travels along the north side of I-90. An elevated station on the north side of I-90 will be located near Richards Road SE to serve the Factoria area. The guideway continues along I-90 until it reaches I-405 where it turns north. The LRT guideway travels along the east side of I-405 at-grade to SE 8<sup>th</sup> Street where it transitions to an elevated guideway before heading west over I-405. The elevated guideway crosses over SE 8<sup>th</sup> Street, 112<sup>th</sup> Avenue SE and then interlines with East Link tracks south of the Main Street Station. The Bellevue to Issaquah line would include minor improvements to East Link's East Main, Bellevue Downtown and Wilburton Stations. North of Wilburton Station, trains would continue to the East Link storage/yard lead tracks to allow for turn-backs.

## Assumptions:

- Generally within existing transportation rights-of-way, mostly I-405, and I-90, but with sections along local arterials and some private properties.
- The sidewalk improvements on the 142<sup>nd</sup> Place SE overpass at Eastgate will only be built if structural modifications to the bridge are not required
- For non-motorized station access allowances, the Richard Roads, Eastgate, and Central Issaquah stations are categorized as suburban stations
- For bus/rail integration, facilities have been assumed at Eastgate and Central Issaquah.

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- Right-of-way required for guideway is mostly within I-405, I-90, and arterial rights-of-way, but property acquisitions are possible for some adjacent parcels and along the SE 8<sup>th</sup> Street corridor
- Property acquisition required for stations and parking
- Property acquisition for bus/rail integration facilities

## Potential Permits/Approvals Needed:

- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- All required local, state, and federal environmental permits
- WSDOT and FHWA approval for the use of and/or crossings of I-405 and I-90 rights-of-way
- NEPA/SEPA and related regulations

# Bellevue to Central Issaquah Light Rail

**Project Dependencies:**

Requires operational integration and coordination with East Link  
Identification of additional funding to build the provisional Lakemont station

**Potential Project Partners:**

- WSDOT
- Cities of Bellevue and Issaquah
- King County
- Transit partner serving project: King County Metro
- FTA
- FHWA

# Bellevue to Central Issaquah Light Rail

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$85.39	\$91.36
Preliminary Engineering & Environmental Review	\$43.20	\$46.23
Final Design & Specifications	\$85.72	\$91.72
Property Acquisition & Permits	\$166.18	\$177.81
Construction	\$874.33	\$935.53
Construction Management	\$77.15	\$82.55
Third Parties	\$17.54	\$18.77
Vehicles	\$159.00	\$170.13
Contingency	\$85.72	\$91.72
<b>Total</b>	<b>\$1,594.23</b>	<b>\$1,705.83</b>

Design Basis:

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.74	\$0.79
Sustainability	\$9.76	\$10.45
Parking access	\$26.11	\$27.94
Non-motorized (bicycle/pedestrian) access	\$26.36	\$28.21
Bus/rail integration facilities	\$5.50	\$5.89

# Bellevue to Central Issaquah Light Rail

## Evaluation Measures:

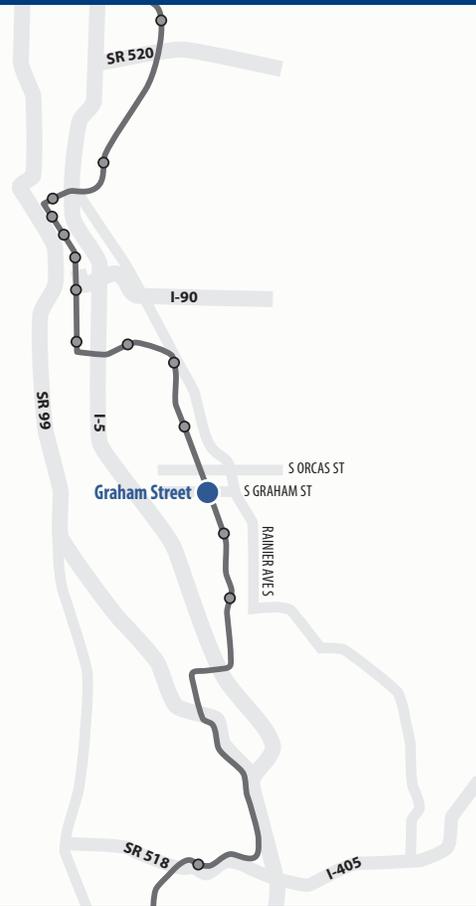
MEASURE	MEASUREMENT/RATING	NOTES	
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No		
 <b>Ridership</b> <i>2040 daily project riders</i>	11,000 — 15,000		
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$1,594 — \$1,706	Does not include provisional station	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$30	Does not include provisional station	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	25 min	Travel time between East Link Wilburton Station and Central Issaquah Station	
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	Medium-High	Some at-grade crossings	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium-Low	Low to medium number of existing daily transit connections from Wilburton to Issaquah and future integration opportunities with light rail service	
	<b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium-Low	Low to medium intersection densities providing nonmotorized access, crossings available at I-90 stations. Large parcels a barrier.
	<b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	25-35%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	2 centers	Bellevue Downtown, Central Issaquah	
	<b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>	Medium	Moderate support in local and regional plans; approx. 45% land is compatibly zoned
	<i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Medium-Low  Pop/acre = 2014: 4; 2040: 5 Emp/acre = 2014: 10; 2040: 13 Pop + Emp/acre = 2014: 14; 2040: 18	Limited market support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	37% Minority; 9% Low-Income  Pop: 2014: 6,000; 2040: 7,400  Emp: 2014: 14,000; 2040: 19,200		

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

**INFILL LIGHT RAIL STATION:  
GRAHAM STREET**

**MAP KEY**

- LIGHT RAIL ST2
- ST2 LRT STATION

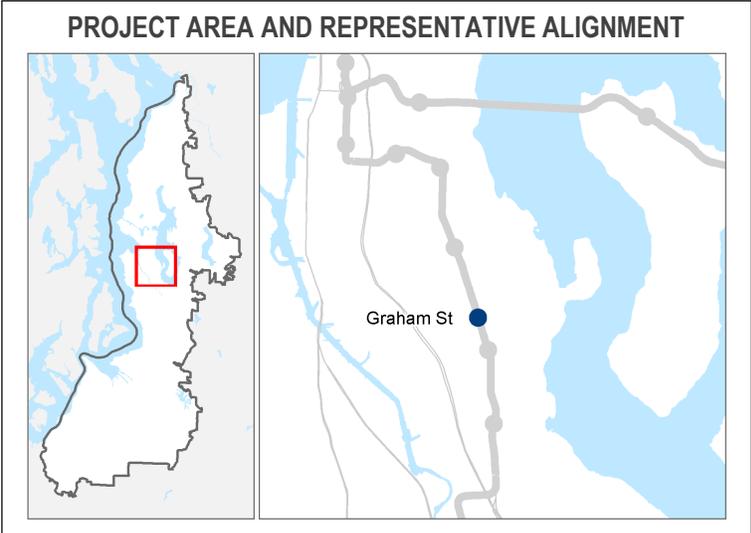


\* Reflects reductions in ridership at nearby stations due to overlapping ridership catchment areas, and reductions in ridership at downstream stations due to the travel time increase for trains stopping at this new station

LENGTH (MILES)	--	
REGIONAL LIGHT RAIL SPINE	NO	
RIDERSHIP (DAILY PROJECT RIDERS)	1,500—2,500*	
CAPITAL COST (2014 \$ M)	\$71—\$76	
ANNUAL O&M COST (2014 \$ M)	\$1	
TRAVEL TIME (MIN)	1	
RELIABILITY	N/A	
SYSTEM INTEGRATION	MEDIUM-HIGH	
EASE OF NON-MOTORIZED ACCESS	MEDIUM	
PERCENT OF NON-MOTORIZED ACCESS	70—80%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	0 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	MEDIUM
	MARKET SUPPORT	MEDIUM
	POP PER ACRE (2014/2040)	17 / 16
	ACTIVITY UNITS	3 / 3
	POP+EMP PER ACRE (2014/2040)	20 / 19
SOCIOECONOMIC BENEFITS	MINORITY/LOW-INCOME	81% / 25%
	POPULATION (2014/2040)	8,500 / 7,900
	EMPLOYMENT (2014/2040)	1,500 / 1,600

# Infill Light Rail Station: Graham Street

<b>Subarea</b>	North King
<b>Primary Mode</b>	Light Rail
<b>Facility Type</b>	Infill Station
<b>Length</b>	N/A
<b>Version</b>	Draft ST3 Plan
<b>Date Last Modified</b>	March 28, 2016



**SHORT PROJECT DESCRIPTION**

This project would provide a new infill station on the Central Link light rail line in the vicinity of Graham Street.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

KEY ATTRIBUTES	
<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	No
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$71 — \$76
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	1,500 — 2,500
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• One at-grade station</li> <li>• Station would be approximately 400 feet long to accommodate 4-car trains</li> <li>• Purchase of 1 light rail vehicle</li> <li>• Peak headways: 6 minutes</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• Parking not included</li> <li>• See separate document titled “Common Project Elements”</li> <li>• Project costs do not include \$10M potential contribution from the City of Seattle that is part of the Move Seattle levy.</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• Additional station would increase travel time along the line</li> <li>• This project would require the construction of a new station while maintaining operations on the existing Central Link line; likely impacts during construction would include single track operations of the Central Link line between Othello and Mt. Baker stations, lane closures and detours on Martin Luther King Way and impacts to local access</li> <li>• Utility relocation and construction</li> <li>• Light rail currently operates in Seattle and specific station area standards are codified; light rail is included in the Comprehensive Plan and other planning documents</li> </ul>

# Infill Light Rail Station: Graham Street

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would construct a new station on Martin Luther King Way between Graham Street and Morgan Street along the existing Central Link light rail line. This project would affect approximately 1/3 of a mile of Martin Luther King Way. Key project elements include the following:

- Widening of Martin Luther King Way to accommodate the station and tapering to the north and south of the station
- Modifications to existing sidewalks, landscaping, drainage, utilities and street lights along Martin Luther King Way in the station vicinity
- New pedestrian signal
- Modifications to the Martin Luther King Way/Graham Street intersection

## Assumptions:

- No additional parking assumed
- Construction would be accomplished with an active Central Link light rail service
- For non-motorized station access allowances, the Graham Street station is categorized as an Urban station

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

Property acquisition required for this proposed infill station.

## Potential Permits/Approvals Needed:

- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- All required local, state, and federal environmental permits
- NEPA/SEPA and related regulations

## Project Dependencies:

N/A

## Potential Project Partners:

- City of Seattle
- Transit partner serving this project: King County Metro
- King County
- FTA

# Infill Light Rail Station: Graham Street

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$3.83	\$4.09
Preliminary Engineering & Environmental Review	\$1.71	\$1.83
Final Design & Specifications	\$3.38	\$3.62
Property Acquisition & Permits	\$14.92	\$15.97
Construction	\$34.52	\$36.94
Construction Management	\$3.05	\$3.26
Third Parties	\$0.88	\$0.94
Vehicles	\$5.30	\$5.67
Contingency	\$3.38	\$3.62
<b>Total</b>	<b>\$70.98</b>	<b>\$75.94</b>

Design Basis:

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above:

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.22	\$0.23
Sustainability	\$1.82	\$1.95
Parking access	N/A	N/A
Non-motorized (bicycle/pedestrian) access	\$4.39	\$4.70
Bus/rail integration facilities	N/A	N/A

# Infill Light Rail Station: Graham Street

## Evaluation Measures:

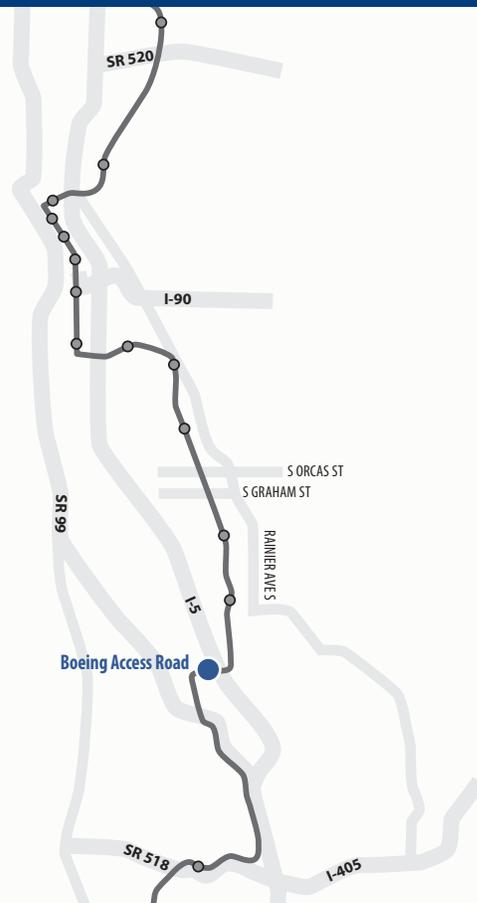
MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No	
 <b>Ridership</b> <i>2040 daily project riders</i>	1,500 — 2,500	Reflects reductions in ridership at nearby stations due to overlapping ridership catchment areas, and reductions in ridership at downstream stations due to the travel time increase for trains stopping at this new station
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$71 — \$76	Capital cost estimate does not include \$10M contribution from the City of Seattle (Move Seattle)
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$1	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	1 min	Approximate travel time added to corridor due to additional station
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	N/A	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium-High	Medium-low number of existing daily transit connections vicinity of Graham Street on Rainier Avenue
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium	Medium intersection density providing non-motorized access with some large parcels as barriers
	<b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	70-80%
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	0 centers	
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>  <i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Medium	Moderate support in local and regional plans; approx. 25% land is compatibly zoned
	Medium  Pop/acre: 2014: 17; 2040: 16 Emp/acre: 2014: 3; 2040: 3 Pop+Emp/acre: 2014: 20; 2040: 19	Moderate market support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	81% Minority; 25% Low-Income  Pop: 2014: 8,500; 2040: 7,900  Emp: 2014: 1,500; 2040: 1,600	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

**INFILL LIGHT RAIL STATION:  
BOEING ACCESS ROAD**

**MAP KEY**

- LIGHT RAIL ST2
- ST2 LRT STATION

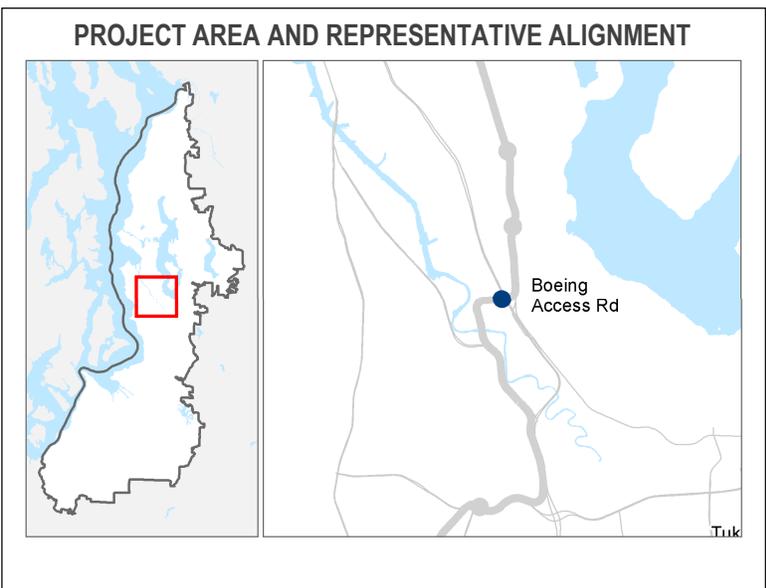


\* Reflects reductions in ridership at downstream stations due to the travel time increase for trains stopping at this new station

LENGTH (MILES)	--	
REGIONAL LIGHT RAIL SPINE	NO	
RIDERSHIP (DAILY PROJECT RIDERS)	1,500—2,000*	
CAPITAL COST (2014 \$ M)	\$124—\$133	
ANNUAL O&M COST (2014 \$ M)	\$1	
TRAVEL TIME (MIN)	1	
RELIABILITY	N/A	
SYSTEM INTEGRATION	MEDIUM	
EASE OF NON-MOTORIZED ACCESS	LOW	
PERCENT OF NON-MOTORIZED ACCESS	25—35%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	2 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	LOW
	MARKET SUPPORT	MEDIUM-LOW
	POP PER ACRE (2014/2040)	3 / 4
	ACTIVITY UNITS	3 / 6
SOCIOECONOMIC BENEFITS	POP+EMP PER ACRE (2014/2040)	7 / 10
	MINORITY/LOW-INCOME	83% / 12%
	POPULATION (2014/2040)	1,600 / 1,900
	EMPLOYMENT (2014/2040)	1,700 / 3,100

# Infill Light Rail Station: Boeing Access Road

<b>Subarea</b>	North King
<b>Primary Mode</b>	Light Rail
<b>Facility Type</b>	Infill Station
<b>Length</b>	N/A
<b>Version</b>	Draft ST3 Plan
<b>Date Last Modified</b>	March 28, 2016



**SHORT PROJECT DESCRIPTION**

This project would provide a new infill station on the Central Link light rail line in the vicinity of Boeing Access Road and I-5.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

KEY ATTRIBUTES	
<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	No
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$124 — \$133
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	1,500 – 2,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• One elevated station</li> <li>• Station would be approximately 400 feet long to accommodate 4-car trains</li> <li>• Purchase of 1 light rail vehicle</li> <li>• Peak headways: 6 minutes</li> <li>• Bus transfer and layover facility</li> <li>• At-grade Park and Ride lot with 300 stalls</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, bus/rail integration facilities, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• See separate document titled “Common Project Elements”</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• This project would require the construction of a new station while maintaining operations on the existing Central Link light rail line</li> <li>• The project is adjacent to active freight and passenger rail lines and I-5</li> <li>• The project could impact wetland areas south of the site</li> <li>• Traffic analysis would be required to examine impact of new signal at the intersection of Boeing Access Road and the station entrance on traffic flow at nearby ramps to I-5</li> <li>• Could be impacted if a Sounder Station is also added at Boeing Access Road</li> <li>• Light rail exists in Tukwila and is a permitted use; light rail is mentioned in the Comprehensive plan</li> </ul>

# Infill Light Rail Station: Boeing Access Road

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would construct a new station between I-5 and the BNSF railroad and to the south of Boeing Access Road. Key project elements include the following:

- Aerial station on Central Link light rail with side platforms
- Bus transfer and layover facility
- 300 stall at-grade parking lot
- Roadway connection from Boeing Access Road to the bus transfer and layover facility
- Modifications to Boeing Access Road to accommodate pedestrian and vehicle access to the station including a new signal
- Design would accommodate pedestrian connection from potential new commuter rail stop adjacent to the station. (The description and cost estimate for the pedestrian connection to the commuter rail station is provided in the template for project C-10)

## Assumptions:

- Construction could be accomplished with an active Central Link light rail service
- For non-motorized station access allowances, the Boeing Access Road is categorized as a Suburban station
- For bus/rail integration, facilities have been assumed at the Boeing Access Road station

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- Property acquisition required for this proposed infill station, including BNSF

## Potential Permits/Approvals Needed:

- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- All required local, state, and federal environmental permits
- NEPA/SEPA and related regulations

## Project Dependencies:

None, although the utility of the station would be enhanced significantly with the construction of an adjacent station for the Sounder commuter rail line to facilitate intermodal transfers (see project C-10).

## Potential Project Partners:

- Cities of Seattle and Tukwila
- WSDOT
- Transit partner serving project: King County Metro
- FTA
- FHWA
- BNSF
- King County

# Infill Light Rail Station: Boeing Access Road

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$6.61	\$7.07
Preliminary Engineering & Environmental Review	\$3.71	\$3.97
Final Design & Specifications	\$7.39	\$7.90
Property Acquisition & Permits	\$10.08	\$10.78
Construction	\$75.33	\$80.61
Construction Management	\$6.65	\$7.11
Third Parties	\$1.68	\$1.79
Vehicles	\$5.30	\$5.67
Contingency	\$7.39	\$7.90
<b>Total</b>	<b>\$124.12</b>	<b>\$132.81</b>

Design Basis:

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.22	\$0.23
Sustainability	\$2.74	\$2.93
Parking access	\$3.08	\$3.30
Non-motorized (bicycle/pedestrian) access	\$8.79	\$9.40
Bus transfer facilities	\$2.75	\$2.94

# Infill Light Rail Station: Boeing Access Road

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No	
 <b>Ridership</b> <i>2040 daily project riders</i>	1,500 – 2,000	Reflects reductions in ridership at downstream stations due to the travel time increase for trains stopping at this new station
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$124 — \$133	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$1	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	1 min	Approximate travel time added to corridor due to additional station
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	N/A	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium	Medium-low number of existing daily transit connections vicinity of Boeing Access Road
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Low	Low intersection density providing non-motorized access with SR 900 and open space as barriers
 <b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	25-35%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	2 centers	North Tukwila and Duwamish MICs
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>	Low	Very limited support in local and regional plans; approx. 0% land is compatibly zoned
	<b>Medium-Low</b> Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas Pop/acre: 2014: 3; 2040: 4 Emp/acre: 2014: 3; 2040: 6 Pop+Emp/acre: 2014: 7; 2040: 10	Limited market support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i> <i>2014 and 2040 population within 0.5 mile of potential station areas</i> <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	83% Minority; 12% Low-Income Pop: 2014: 1,600; 2040: 1,900 Emp: 2014: 1,700; 2040: 3,100	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

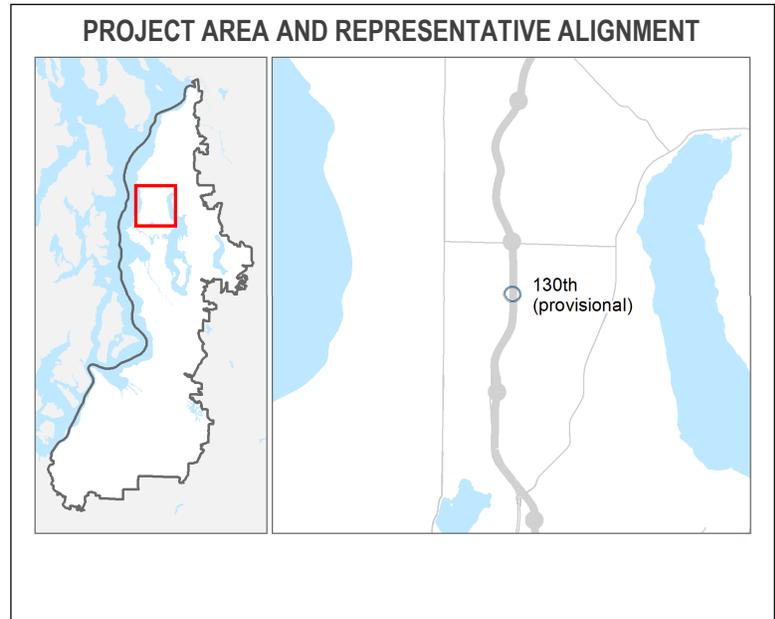
# Infill Light Rail Station: 130<sup>th</sup> Street (Provisional)

Subarea	North King
Primary Mode	Light Rail
Facility Type	Station
Length	N/A
Version	Draft ST3 Plan
Date Last Modified	March 28, 2016

## SHORT PROJECT DESCRIPTION

This project would be included as a provisional elevated station at I-5 and NE 130th Street along the Lynnwood Link Extension corridor. The station was identified by the Sound Transit Board as a potential future station during the selection of the route, profile, and stations for the Lynnwood Link Extension. As a provisional station, this project would require identification of additional funding not currently included in the Draft System Plan in order to be built.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*



## KEY ATTRIBUTES

<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	No
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$79 — \$85
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	<1,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• One elevated station: north of NE 130<sup>th</sup> Street</li> <li>• Street-level plaza along 5<sup>th</sup> Avenue NE and NE 130<sup>th</sup> Street</li> <li>• Station accommodates 4-car trains</li> <li>• Purchase of 3 light rail vehicles</li> <li>• Peak headways: 3 minutes</li> <li>• 1 percent for art per Sound Transit Policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, and sustainability measures (see separate document titled “Common Project Elements”)</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>• Additional parking not included</li> <li>• See separate document titled “Common Project Elements”</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• Potential complexity of building station while maintaining service</li> <li>• Operation of this project results in an increase in travel time across the system; ridership gained with the addition of this station could be offset by ridership reductions at closest stations</li> <li>• Light rail currently operates in Seattle and specific station area standards are codified; light rail is included in the Comprehensive Plan and other planning documents</li> </ul>

# Infill Light Rail Station: 130<sup>th</sup> Street (Provisional)

Project elements are defined here based on State and federal environmental project-level environmental reviews that were completed for this project as part of the Lynnwood Link Extension Project. Specific project elements assumed here for cost estimating and evaluation purposes are subject to change since final decisions on specific project elements will be determined following system planning additional environmental review if necessary, and final engineering and design efforts. Additional opportunities for public participation will be provided at that time.

## Long Description:

As defined in the Lynnwood Link Extension project, this elevated light rail station would be located just north of NE 130<sup>th</sup> Street on the east side of I-5. The elevated light rail alignment being constructed as part of the ST2-funded Lynnwood Link Extension project would be designed to accommodate future construction of a station at this location. The station would include a street-level plaza along 5<sup>th</sup> Avenue NE and NE 130<sup>th</sup> Street.

## Assumptions:

- Funds to design and construct this provisional station are not included in the Draft Plan.
- Elevated light rail station
- Guideway being constructed as part of the Lynnwood Link Extension would be designed to accommodate station
- For non-motorized station access allowances, the NE 130<sup>th</sup> Street Station is categorized as an urban station

## Environmental:

This station was previously included in alternatives considered in the Lynnwood Link Final EIS. If it advances, Sound Transit will complete any additional project-level state and federal environmental reviews. Sound Transit will also obtain and meet the conditions of all required local, state, and federal permits and approvals; provide mitigation for significant impacts; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

Space for future infill station is being acquired by Lynnwood Link Extension

## Potential Permits/Approvals Needed:

- Building permits: electrical, mechanical, plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (conditional use, design review, site plans, comprehensive plan or development code consistency, special use permits)
- All required local, state and federal environmental permits
- NEPA/SEPA and related regulations

## Project Dependencies:

Lynnwood Link Extension

Identification of additional funding not included in the Draft ST3 System Plan

## Potential Project Partners:

- City of Seattle
- WSDOT
- FHWA
- FTA
- King County
- Transit partners serving this station: King County Metro

# Infill Light Rail Station: 130<sup>th</sup> Street (Provisional)

## Cost:

Project elements are defined here based on State and federal environmental project-level environmental reviews that were completed for this project as part of the Lynnwood Link Extension Project. Specific project elements assumed here for cost estimating and evaluation purposes are subject to change since final decisions on specific project elements will be determined following system planning, additional environmental review if necessary, and final engineering and design efforts. Additional opportunities for public participation will be provided at that time.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$4.25	\$4.55
Preliminary Engineering & Environmental Review	\$2.17	\$2.32
Final Design & Specifications	\$4.27	\$4.57
Property Acquisition & Permits	\$0.00	\$0.00
Construction	\$43.60	\$46.65
Construction Management	\$3.85	\$4.12
Third Parties	\$1.05	\$1.13
Vehicles	\$15.90	\$17.01
Contingency	\$4.27	\$4.57
<b>Total</b>	<b>\$79.38</b>	<b>\$84.93</b>

Design Basis:

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.23	\$0.25
Sustainability	\$2.74	\$2.93
Parking access	N/A	N/A
Non-motorized (bicycle/pedestrian) access	\$4.39	\$4.70
Bus/rail integration facilities	N/A	N/A

# Infill Light Rail Station: 130<sup>th</sup> Street (Provisional)

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No	
 <b>Ridership</b> <i>2040 daily project riders</i>	<1,000	Travel time increase for trains stopping at this new station would reduce ridership at downstream stations.
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$79 — \$85	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$2	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	1 min	Approximate travel time added to corridor due to additional station
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	N/A	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium	Low number of existing daily transit connections vicinity of NE 130th Street (Seattle); opportunities for integration with potential future realigned bus service
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium-Low	Medium to low intersection density providing non-motorized access, with I-5 and open space as barriers
 <b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	70-80%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	No centers	
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>  <i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Medium-Low  Medium-Low  Pop/acre: 2014: 9; 2040: 10 Emp/acre: 2014: 1; 2040: 2 Pop+Emp/acre: 2014: 10; 2040: 12	Very limited support in local and regional plans; approx. 5% land is compatibly zoned  Limited Market Support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 jobs within 0.5 mile of potential station areas</i>	34% minority; 11% low-income  Pop: 2014: 4,400; 2040: 5,100  Emp: 2014: 700; 2040: 1,000	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

**TACOMA LINK  
EXTENSION TO  
TACOMA COMMUNITY  
COLLEGE**



LENGTH (MILES)	4.4	
REGIONAL LIGHT RAIL SPINE	NO	
RIDERSHIP (DAILY PROJECT RIDERS)	13,000—17,000	
CAPITAL COST (2014 \$ M)	\$447—\$478	
ANNUAL O&M COST (2014 \$ M)	\$13	
TRAVEL TIME (MIN)	14	
RELIABILITY	MEDIUM-HIGH	
SYSTEM INTEGRATION	MEDIUM-LOW	
EASE OF NON-MOTORIZED ACCESS	MEDIUM-LOW	
PERCENT OF NON-MOTORIZED ACCESS	70—80%	
CONNECTION TO PSRC-DESIGNATED REGIONAL CENTERS	2 CENTERS	
LAND USE AND DEVELOPMENT/TOD POTENTIAL	PLANS AND POLICIES	MEDIUM-LOW
	MARKET SUPPORT	MEDIUM
	ACTIVITY UNITS	
SOCIOECONOMIC BENEFITS	POP PER ACRE (2014/2040)	7 / 11
	EMP PER ACRE (2014/2040)	5 / 8
	POP+EMP PER ACRE (2014/2040)	12 / 19
	MINORITY/LOW-INCOME	38% / 17%
	POPULATION (2014/2040)	15,700 / 25,700
	EMPLOYMENT (2014/2040)	12,100 / 19,100

# Tacoma Link Extension to Tacoma Community College

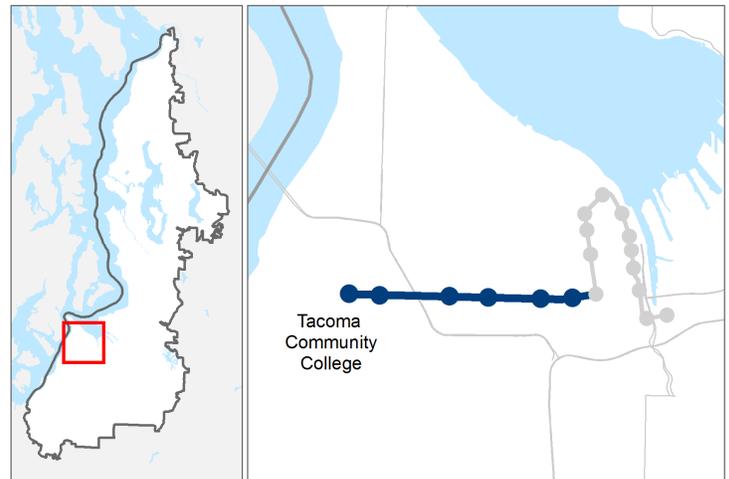
<b>Subarea</b>	Pierce
<b>Primary Mode</b>	Light Rail
<b>Facility Type</b>	Corridor
<b>Length</b>	4.4 miles
<b>Version</b>	Draft ST3 Plan
<b>Date Last Modified</b>	March 28, 2016

## SHORT PROJECT DESCRIPTION

This project would extend Tacoma Link from Downtown Tacoma to Tacoma Community College and include modifications to existing and planned Tacoma Link infrastructure.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



## KEY ATTRIBUTES

<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	No
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$447 — \$478
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	13,000 — 17,000
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>• Approximately 3.5 miles of mostly at-grade light rail, with a portion of elevated track over SR-16</li> <li>• Four center platform stations: Sprague, Union, Stevens, and Tacoma Community College (TCC)</li> <li>• Two side platform stations: Pearl and Hilltop (in the vicinity of S Ainsworth Avenue)</li> <li>• Stations accommodate 1-car trains</li> <li>• Use of existing travel lanes to provide for a combination of exclusive and mixed traffic, center-running track along S 19<sup>th</sup> Street from MLK Jr Way to SR 16. From SR 16 to TCC, the track will run parallel to S 19<sup>th</sup> Street, to the north, within exclusive ROW; the crossing of SR 16 will be on an independent bridge</li> <li>• This project will operate principally in its own right-of-way.</li> <li>• Reconstruction/expansion of S 19<sup>th</sup> Street from S Wilkeson Street to SR 16</li> <li>• Grind and overlay existing roadway from MLK Jr Way to S Wilkeson Street</li> <li>• Expansion of O &amp; M facility and new vehicle storage facility at the project terminus</li> <li>• Add 0.9 miles of northbound track from Union Station to the Tacoma Dome Station via Puyallup Avenue</li> <li>• Purchase of 8 light rail vehicles</li> <li>• Peak headways: 6 minutes</li> <li>• 1 percent for art per ST policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian), transit-oriented development (TOD)/planning due diligence, and sustainability measures (see separate document titled "Common Project Elements")</li> </ul>
<b>NOT INCLUDED</b>	See separate document titled "Common Project Elements"
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>• Light rail currently operates in Tacoma and specific station area standards are codified; light rail mentioned in the Comprehensive Plan</li> </ul>

# Tacoma Link Extension to Tacoma Community College

KEY ATTRIBUTES	
ISSUES & RISKS	<ul style="list-style-type: none"><li>Integration of service with ST2 planned extension and roadway operations along S 19<sup>th</sup> Street</li></ul>

# Tacoma Link Extension to Tacoma Community College

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would construct an extension of Tacoma Link from Downtown Tacoma to Tacoma Community College. Leaving the planned MLK/S 19<sup>th</sup> Street station near St. Joseph Medical Center, the alignment would follow MLK Jr Way to S 19<sup>th</sup> Street. It would then travel along S 19<sup>th</sup> Street to the existing transit center at Tacoma Community College (S 19<sup>th</sup> Street and S Mildred Street).

## Assumptions:

- Service would operate at 6 minute headways during the peak periods and 10 minute headways during the off peak periods
- Existing single track alignment is not sufficient for operations; installation of a second track from Union Station to the Tacoma Dome Station via Puyallup Avenue
- Stations include: shelters, signage, lighting, seating, ticket vending machines, CCTVs
- Center platform stations were used where possible
- Side platforms were used when alignment is side running
- Active signal control is used to minimize delay at signalized intersections
- For non-motorized station access allowances, all stations are categorized as Urban stations

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

Property acquisitions anticipated at stations, for the vehicle storage, and traction power substations

## Potential Permits/Approvals Needed:

- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Master use
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- All required local, state, and federal environmental permits
- NEPA/SEPA and related regulations

## Project Dependencies:

- Completion of Tacoma Link Expansion project to to MLK/S 19<sup>th</sup> Street station

## Potential Project Partners:

- City of Tacoma
- Transit partners serving project: Pierce Transit
- Tacoma Community College
- Federal Transit Administration
- Washington State Department of Transportation

# Tacoma Link Extension to Tacoma Community College

## Cost:

Sound Transit has developed a conceptual scope of work for this candidate project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information is being developed to assist the Sound Transit Board as it develops an ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$23.90	\$25.57
Preliminary Engineering & Environmental Review	\$12.88	\$13.78
Final Design & Specifications	\$24.63	\$26.35
Property Acquisition & Permits	\$38.15	\$40.82
Construction	\$251.23	\$268.82
Construction Management	\$22.17	\$23.72
Third Parties	\$5.13	\$5.48
Vehicles	\$44.06	\$47.15
Contingency	\$24.63	\$26.35
<b>Total</b>	<b>\$446.78</b>	<b>\$478.05</b>

Design Basis:

Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$0.76	\$0.82
Sustainability	\$3.74	\$4.00
Parking access	N/A	N/A
Non-motorized (bicycle/pedestrian) access	\$6.59	\$7.05
Bus/rail integration facilities	N/A	N/A

# Tacoma Link Extension to Tacoma Community College

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES	
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No		
 <b>Ridership</b> <i>2040 daily project riders</i>	13,000 — 17,000		
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$447 — \$478		
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$13		
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	14 min		
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	Medium High	At-grade crossings	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium Low	Low to medium-low number of existing daily transit connections from Tacoma Community College to S Trafton Street	
	<b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium Low	Medium to low intersection density providing non-motorized access, with large parcels as barriers
	<b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	70-80%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	2 centers	Regional growth centers: Tacoma Downtown, University Place	
	<b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>	Medium Low	Moderate support in local and regional plans; approx. 25% land is compatibly zoned
	<i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Medium  Pop/acre = 2014: 7; 2040: 11 Emp/acre = 2014: 5; 2040: 8 Pop + Emp/acre = 2014: 12; 2040: 19	Moderate market support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	38% Minority; 17% Low-Income  Pop: 2014: 15,700; 2040: 25,700  Emp: 2014: 12,100; 2040: 19,100		

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>