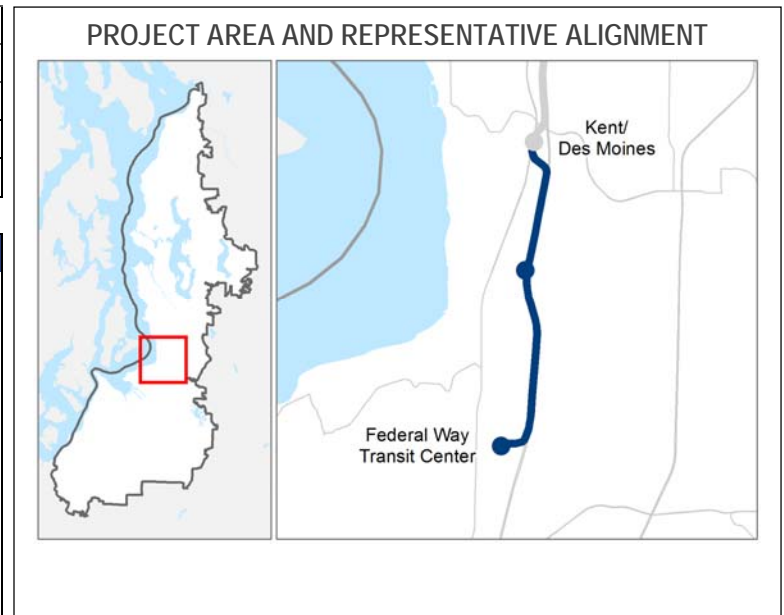


# Kent/Des Moines to Federal Way Transit Center Light Rail

Subarea	South King
Primary Mode	Light Rail
Facility Type	Corridor
Length	5.3 miles
Date Last Modified	July 21, 2016



**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>	\$962 — \$1,029
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	38,000 — 58,000
<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>• 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>• Light rail vehicles not included</li> <li>• Operations and maintenance facility not included</li> <li>• See separate documents titled "Common Project Elements," "Light Rail Operations and Maintenance Facilities," and "Light Rail Vehicles"</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; 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; 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. This project is a component of a larger project that will extend light rail from the Angle Lake station to the Federal Way Transit Center.

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)
- 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
- Purchase of additional light rail vehicles is required to operate service on this corridor

# 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	\$49.99	\$53.49
Preliminary Engineering & Environmental Review	\$29.46	\$31.52
Final Design & Specifications	\$73.06	\$78.17
Property Acquisition & Permits	\$75.10	\$80.36
Construction	\$587.60	\$628.74
Construction Management	\$50.00	\$53.50
Third Parties	\$17.87	\$19.12
Vehicles	\$0.00	\$0.00
Contingency	\$78.83	\$84.35
<b>Total</b>	<b>\$961.92</b>	<b>\$1,029.25</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. For cost allowances that are not applicable for this project, "N/A" is indicated.*

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>	38,000 — 58,000		
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$962 — \$1,029		
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$11		
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	8 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>	Medium	Strong support in local and regional plans; approximately 45% of land is 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: 7; 2040: 11 Emp/acre: 2014: 3; 2040: 6 Pop+Emp/acre: 2014: 11; 2040: 17	
 <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>