

145th and SR 522 Bus Rapid Transit

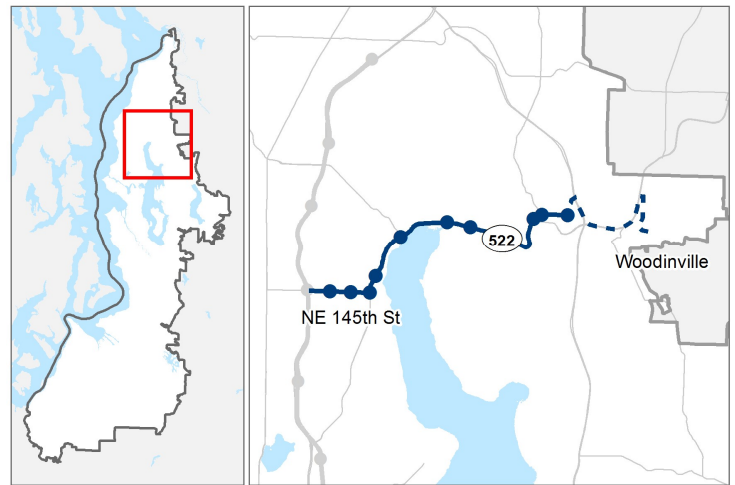
Subarea	North King
Primary Mode	BRT
Facility Type	Corridor
Length	8 miles
Date Last Modified	July 1, 2016

SHORT PROJECT DESCRIPTION

This 8-mile BRT project would design and implement BRT on NE 145th Street/SR 523 from the Link station at I-5 to SR 522, with BRT treatments continuing on SR 522 to UW Bothell, and with connecting service at lower frequencies to Woodinville. On NE 145th Street, this project would include transit priority spot treatments, with two stations. On SR 522, the majority of the corridor through Lake Forest Park, Kenmore and Bothell will feature BAT lanes to downtown Bothell, and transit priority treatments on arterials to UW Bothell.

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

REGIONAL LIGHT RAIL SPINE <i>Does this project help complete the light rail spine?</i>	No
CAPITAL COST <i>Cost in Millions of 2014 \$</i>	\$364 — \$389
RIDERSHIP <i>2040 daily project riders</i>	8,000 — 10,000
PROJECT ELEMENTS	<ul style="list-style-type: none"> • Approximately 8 miles of Bus Rapid Transit (BRT) with 9 pairs of stations and an expanded transit center at UW Bothell • Along NE 145th between I-5 and SR 522 (Lake City Way/Bothell Way), sections of the corridor will have bus lanes or queue jumps to reduce transit delays due to traffic, with BRT serving two station pairs on NE 145th Street, as well as a station pair where NE 145th and SR 522 intersect. • On SR 522, BRT will use business access transit (BAT) lanes on SR 522 from NE 145th Street to Bothell, then run on arterials to UW Bothell. Service continues to connect to I-405 BRT service and to Woodinville. The BAT lanes fill in existing “gaps” along SR 522 between NE 145th Street and 96th Avenue NE in Bothell, and add a westbound BAT lane between 98th and 96th Avenues NE • On SR 522, there will be seven pairs of stations, including where SR 522/NE 145th Street intersect, with the other station pairs serving Lake Forest Park, Kenmore, and Bothell • On-street bus transfer point at downtown Bothell, and at an expanded transit center at the UW Bothell • Three 300-space parking garages, located in Lake Forest Park, Kenmore and Bothell • BRT vehicle fleet purchase of 14 coaches (3-door articulated coaches with ST BRT livery) • Peak and off-peak headways from NE 145th Street to UW Bothell: 10 minutes • Peak and off-peak headways between UW Bothell and Woodinville: 20 minutes • Non-motorized access facilities (bicycle/pedestrian) and transit-oriented development (TOD)/planning due diligence (see separate document titled “Common Project Elements”)

145th and SR 522 Bus Rapid Transit

KEY ATTRIBUTES

NOT INCLUDED

- BRT service west beyond the Lynnwood Link station at NE 145th Street
- Capital improvements east of transit center at UW Bothell
- Reconstruction of locally funded or completed sections of BAT lane/SR 522 projects in Kenmore and Bothell, as well as right-of-way acquisitions for Bothell's improvements from Kenmore to 96th Avenue NE
- See separate document titled "Common Project Elements"
- On-going maintenance and repair of BAT lanes, sidewalks, and signalization improvements

ISSUES & RISKS

- The SR 523/NE 145th Street and SR 522 rights-of-way are constrained, and widening would affect adjacent properties in some areas
- Maintaining speed and reliability in areas with high levels of congestion and frequent driveways and cross-streets
- To minimize travel time, SR 522 BRT assumes fewer stations than local and existing ST Express service
- Leverages prior investments in SR 522 as a major transit corridor
- ST2 included a \$5 million (in \$2007) capital contribution toward a transit center and parking garage in the City of Bothell

145th and SR 522 Bus Rapid Transit

Sound Transit developed a conceptual scope of work for this 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 was developed to assist the Sound Transit Board as it developed the 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 develop a BRT corridor on NE 145th Street between the Link station at I-5 and SR 522, and continuing on SR 522 to Bothell, on local streets to UW Bothell, with transit service continuing at lower frequencies to Woodinville.

On NE 145th Street (SR 523), BRT features transit priority spot treatments at SR 522/Lake City Way, 15th Avenue NE, and 5th Avenue NE, with BRT serving two station pairs and the NE 145th Street light rail station. On SR 522, the project features capital and service improvements to build on existing and planned local agency improvements to develop outside business access and transit (BAT) lanes along the corridor. Other improvements along SR 522 and downtown Bothell include transit signal priority at intersections, 7 pairs of BRT stations, and an expanded transit center at UW Bothell. Access improvements include 300-space parking garages near Lake Forest Park (1), Kenmore (1) and Bothell (1). There are also improvements to bring sidewalks to current standards where BAT lanes or other street modifications are being added, and there is an allowance for pedestrian and bicycle access improvements in the vicinity of each station.

Assumptions:

- The 145th Street Link Station will accommodate BRT vehicles
- Service span: up to 19 hours of service Monday – Saturday, 17 hours on Sunday
- Operating and Maintenance costs includes service along the NE 145th St/SR 522 corridor as well as connecting service east of the UW Bothell transit center to Woodinville
- For non-motorized station access allowances, the BRT stations are categorized as Suburban stations
- Some or all of the project elements could be implemented by local jurisdictions on behalf of Sound Transit
- The SR 522 section does not presume changes to King County Metro service for this corridor, where several peak period routes currently run
- City of Bothell has funding in place for right-of-way acquisitions needed between Kenmore city line and 96th Avenue NE
- Sections of SR 522 with bus lanes already in place or under construction (Kenmore, Bothell) would not need to be replaced

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 at stations and intersections where protected turns or lanes are to be maintained.

Potential Permits/Approvals Needed:

- WSDOT approvals for modifications to state routes
- Agreements with King County Metro for use of Kenmore park-and-ride for structured parking
- Agreements with UW Bothell for modifications within campus area
- 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)
- All required local, state, and federal environmental permits
- NEPA/SEPA and related regulations

145th and SR 522 Bus Rapid Transit

Project Dependencies:

- Completion of Lynnwood Link Extension station at NE 145th Street
- New bus operations and maintenance facility (cost included in separate project template)

Potential Project Partners:

- WSDOT
- Cities of Seattle, Shoreline, Lake Forest Park, Kenmore, Bothell, and Woodinville
- FHWA
- King County
- FTA
- UW Bothell
- Transit partners serving project corridor: King County Metro, Community Transit

145th and SR 522 Bus Rapid Transit

Cost:

Sound Transit developed a conceptual scope of work for this 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 was developed to assist the Sound Transit Board as it developed the 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	\$19.50	\$20.87
Preliminary Engineering & Environmental Review	\$10.31	\$11.03
Final Design & Specifications	\$19.13	\$20.46
Property Acquisition & Permits	\$54.78	\$58.62
Construction	\$195.09	\$208.74
Construction Management	\$17.21	\$18.42
Third Parties	\$4.63	\$4.95
Vehicles	\$23.87	\$25.54
Contingency	\$19.13	\$20.46
Total	\$363.64	\$389.10

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. For cost allowances that are not applicable for this project, "N/A" is indicated.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$1.55	\$1.66
Sustainability	N/A	N/A
Parking access	\$47.00	\$50.29
Non-motorized (bicycle/pedestrian) access	\$4.72	\$5.05
Bus/rail integration facilities	N/A	N/A

145th and SR 522 Bus Rapid Transit

Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES	
 Regional Light Rail Spine <i>Does project help complete regional light rail spine?</i>	No		
 Ridership <i>2040 daily project riders</i>	8,000 — 10,000		
 Capital Cost <i>Cost in Millions of 2014 \$</i>	\$364 — \$389		
 Annual O&M Cost <i>Cost in Millions of 2014 \$</i>	\$15		
 Travel Time <i>In-vehicle travel time along the project (segment)</i>	28 min to/from Bothell 45 min to/from Woodinville		
 Reliability <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	Medium		
 System Integration <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 number of existing daily transit connections	
 Ease of Non-motorized Access <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	
	Percent of Non-motorized Access <i>Percentage of daily boardings</i>	25-35%	
 Connections to PSRC-designated Regional Centers <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	None		
 Land Use and Development/TOD Potential <i>Quantitative/qualitative assessment of adopted Plans & Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>	Medium-Low	Three city centers, but areas with limited support in local and regional plans; 35% land compatibly zoned	
	Qualitative assessment of real estate market support for development within 1 mile of potential corridor	Medium	Moderate Market Support
	<i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential stations</i>	Pop/acre: 2014: 7; 2040: 9 Emp/acre: 2014: 2; 2040: 4 Pop+Emp/acre: 2014: 9; 2040: 12	Higher densities in the northern side of SR 522 near Kenmore and Bothell city centers
 Socioeconomic Benefits <i>Existing minority / low-income populations within 0.5 mile of potential stations</i>	33% Minority; 12% Low-Income		
<i>2014 and 2040 population within 0.5 mile of potential stations</i>	Pop: 2014: 23,800; 2040: 29,700		
<i>2014 and 2040 employment within 0.5 mile of potential stations</i>	Emp: 2014: 7,700; 2040: 12,300		

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