
ST3 Regional High-Capacity Transit System Plan

Evaluation Methodology Report



SOUND TRANSIT

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Acronyms and Abbreviations

BRT	bus rapid transit
HCT	high-capacity transit
LRT	light rail transit
O&M	operations and maintenance
SEIS	Supplemental Environmental Impact Statement
ST	Sound Transit
ST2	Sound Transit 2 system plan (approved by voters in November 2008)
ST3	Sound Transit 3 system plan
TOD	transit-oriented development

DRAFT

1 Introduction

Sound Transit has initiated development of its next phase of high-capacity transit (HCT) system planning and implementation. Similar to the two previous system plans, *Sound Move* and Sound Transit 2 (ST2), the Sound Transit 3 (ST3) system planning process will consider new projects that would expand as well as enhance the existing HCT system.

The evaluation of projects to be included in ST3 will occur within the context of the overall Long-Range Plan (LRP). The LRP, updated in 2014, shapes the number and types of projects that can be carried forward into the ST3 evaluation process. During this ST3 evaluation process, this initial list of projects will then be narrowed down to a set of new and enhanced existing facilities and services that meet the overall principles, goals, and objectives of the agency. As a performance-driven agency, Sound Transit will use performance-related measures to assess and select projects and services to be included in a new system plan to be presented to the region's voters.

As was the case with the processes carried out in previous decades for *Sound Move* and ST2, the ST3 evaluation effort will focus on alternatives development for HCT corridors and supporting services and facilities.

1.1 Purpose of ST3 Evaluation Methodology

The evaluation methodology for ST3 will serve the following purposes:

- Provides structure to the evaluation process
- Documents the process for determining draft and final priority project lists
- Establishes the method for evaluating projects and comparing different packages of projects
- Identifies a systematic process for organizing information regarding potential benefits, effects, and costs
- Provides decision makers with a procedure for identifying key differences among packages of projects
- Ensures consistency in the evaluation of packages of projects

2 ST3 System Plan Development Process

The evaluation methodology described in this report will serve to guide the evaluation and packaging of improvements to be included in an ST3 system plan that will be presented to voters for potential funding approval. The report will be updated as system planning progresses. This methodology report will be reviewed by the state-required Expert Review Panel.

This section describes the proposed decision-making framework and flow process for developing an ST3 system plan. Figure 1 summarizes the process for getting from a lengthy list of possible transit improvement projects to an adopted system plan.



Figure 1. Summary of ST3 System Plan Development Process

2.1 Identification of Potential Transit Projects from the LRP

In 2014, the Sound Transit Board adopted the updated LRP based on the *Regional Transit Long-Range Plan Update - Final Supplemental Environmental Impact Statement (SEIS)* and a series of high-capacity transit corridor studies. The LRP was updated to include a number of new high-capacity transit corridors and supporting services. The LRP is fiscally unconstrained, which means that the transit options contained in the plan are not limited by funding availability. In contrast, the system plan will be fiscally constrained, with funding subject to voter approval.

In order to develop a draft list of priority projects to study as candidate projects for potential inclusion in the system plan, Sound Transit first established a “universe of projects” to consider. The 2014 LRP was used as a starting point, including the HCT corridors as well as representative projects described below. Projects that met the initial considerations (Table 1) for projects identified below were included in the “universe of projects” to consider.

Table 1. Initial Considerations for Projects

Initial Considerations for Projects	Inclusion in “Universe of Projects”
1. Has this project already been eliminated by ST Board action or implemented or constructed?	If the answer is “Yes,” not included in “universe of projects”
2. Is this project separate from another project that is being implemented or carried forward?	If the answer is “Yes,” can be included in “universe of projects” if also a “Yes” to Question 3.
3. Is it included or consistent with the LRP?	If the answer is “Yes,” can be included in “universe of projects” if also a “Yes” to Question 2.

2.1.1 HCT Corridor Projects

The corridor projects that will be studied during system planning are based on the HCT corridors included in the updated LRP. Corridors included in the LRP include those already implemented under previous system plans (Sound Move and ST2), and potential extensions that are not currently funded (e.g., Ballard to downtown Seattle, Kirkland to Bellevue to Issaquah, and Federal Way to Tacoma). The LRP also includes new corridors added during the update, such as light rail from Everett to North Everett, BRT along Madison Street from downtown Seattle to Capitol Hill, and light rail from Downtown Tacoma to Tacoma Community College. HCT corridors in the LRP are representative in nature, intended to broadly represent an area for planning purposes only. Specific alignments for HCT corridors would be identified during any future project-level environmental reviews.

2.1.2 Representative Projects (e.g., supporting projects and services)

Representative projects are potential projects that could be built along any existing or future transit corridors included in the Long-Range Plan. These include potential stations, operations and maintenance facilities, transit centers, pedestrian bridges, HOV access ramps, etc. Specific projects, locations, operating characteristics, and levels of service would be evaluated and determined during future system planning and project-level reviews. A list of possible representative projects was included in Appendix A of the *Regional Transit Long-Range Plan Update Final Supplemental Environmental Impact Statement (SEIS)*.

2.2 Development and Consideration of Core Priorities

In early 2015, at the start of system planning, the Sound Transit Board determined core priorities for developing a system plan based on the goals and objectives in the LRP. The core priorities are being utilized to guide ST3 system planning. Following are the goals and objectives from the LRP that were used as the basis for development of the core priorities.

2.2.1 Goals

- Provide a public transportation system that helps ensure long-term mobility, connectivity, and convenience for citizens of the Puget Sound region for generations to come
 - Provide reliable, convenient, and safe public transportation services between regional growth centers and create an integrated system of transit services and fares
 - Create a regional transit system that provides measurable economic, environmental, and community benefits
- Preserve communities and open space
 - Support communities' ability to develop—consistent with state and regional laws and growth management policies—in ways that keep our neighborhoods livable and protect our natural resources and open space
- Contribute to the region's economic vitality
 - Increase access to jobs, education, and other community resources; enhance the region's ability to move goods and services
- Preserve our environment
 - Conserve land and energy resources, and reduce greenhouse gas emissions, other air pollutants, and vehicle miles traveled
- Strengthen communities' use of the regional transit network
 - Encourage the development, or redevelopment, of areas around transit stations, transit centers, and park-and-ride lots with a mix of transit-oriented activities at a pedestrian scale and orientation to enhance current and future transit use

2.2.2 Objectives

- Keep the region moving
 - Increase the percentage of people using public transportation throughout the region for all trips, not just trips to work

- 1 – Increase the percentage of people using transit for their trips to work and the percentage using transit
- 2 to reach major regional employment centers
- 3 – Increase public transportation ridership at a rate faster than the population is growing
- 4 – Reduce the average time it takes to make a trip by transit
- 5 – Increase transit speeds and improve the reliability of transit service
- 6 – Make it easier to use transit to reach jobs, schools, medical facilities, recreation, and shopping
- 7 throughout the region
- 8 – Support ridesharing, vanpooling, and other commute trip reduction programs that complement the
- 9 regional transit system
- 10 • Offer cost-effective and efficient transportation solutions
- 11 – Offer the most efficient and effective services and facilities possible within available resources
- 12 • Create a sustainable regional transit system that provides community, social, economic, and
- 13 environmental benefits
- 14 – Help limit urban sprawl, maintain open space, and protect natural resources
- 15 – Support creation of communities that are easy to reach and use on foot, by bicycle, on transit, and by
- 16 people with disabilities
- 17 – Support vibrant, walkable communities and place-making around HCT stations
- 18 – Increase transportation options that use less energy and consume less land resources
- 19 – Reduce greenhouse gas emissions and other pollutants
- 20 – Plan and implement HCT services consistent with the Puget Sound Regional Council’s long-range
- 21 growth management, environmental, economic, and transportation strategy
- 22 – Support a regional transit system that helps contribute to the health of people in the region
- 23 • Develop equitable transportation solutions
- 24 – Offer transit projects and services that benefit subareas consistent with the agency’s adopted
- 25 definition of equity
- 26 – Support efficient, high-frequency, and accessible transit service to low-income and minority
- 27 populations
- 28 • Create a financially feasible system
- 29 – Develop a system that is affordable to build, run, and use
- 30 • Offer regional services that work well with other transportation services
- 31 – Work with local public transportation providers and the state Department of Transportation to
- 32 coordinate services and continue to provide a single-fare card

2.2.3 Core Priorities for Development of the System Plan

Based on the LRP goals and objectives listed above, the core priorities identified by the Sound Transit Board for development of the system plan are as follows:

- Complete the Link light rail spine (North Everett to Tacoma Mall, and from downtown Seattle to downtown Redmond)
- Increase ridership
- Connect the region's designated centers with HCT
- Promote transit-friendly land uses and supporting transit-oriented development (TOD)
- Advance "Logical Next Steps" projects beyond the spine within financial capacity
- Promote socioeconomic equity
- Integrate with other transit operators/transportation systems
- Improve multi-modal access

2.3 Development of Priority Projects List (Draft and Final)

Once the "universe of projects" was compiled and the Sound Transit Board discussed the core priorities for development of the system plan, some key themes and criteria started to emerge. The Board identified the priority of completing the regional spine connecting the region's major cities, and also serving other areas of high demand for mass transit. Seattle-area members of the Board have emphasized that the agency must focus on how to reach both Ballard and West Seattle as part of ST3. The Board also wants to emphasize other key priorities including system integration, multi-modal access to station areas, catalyzing density, social equity and long-term operational efficiency. In addition, the Board wants to lay the groundwork for ST4 while planning ST3. From these themes and criteria, the Board developed a draft list of priority projects to be further studied for potential inclusion in a financially constrained system plan.

2.3.1 Development of the Draft Priority Projects List

Responding to the criteria identified above, the Board identified a Draft Priority Projects List (included in Appendix A), which was grouped into several categories:

- Existing system enhancements—Projects that can provide opportunities for improved or additional service along existing High-Capacity Transit Corridors (HCT) such as longer platforms for longer Sounder trains
- Realigned projects—Projects that were voter-approved in [Sound Move or Sound Transit 2 \(ST2\)](#) but were deferred due to funding limitations that emerged during the Great Recession
- Corridors from the ST2 High-Capacity Transit Corridor studies
- Studies and system-wide programs from the 2014 LRP. (The LRP listed three future HCT studies and programs to fund system-wide enhancements for access, innovations and planning for Transit-Oriented Development.)
- Enhancements supporting system expansion—Facilities and services needed to support the Sound Transit system as it expands, such as vehicle purchases and operation and maintenance facilities

2.3.2 Development of the Final Priority Projects List

In June and early July, the Draft Priority Projects List was shared with the public and jurisdictions for input and feedback. Revisions to the Priority Projects List and identification of a Final Priority Projects List are expected by the Board at the August 2015 Board meeting.

2.4 Phased Evaluation

Once the Sound Transit Board has finalized a list of final priority projects for further study, the agency will begin developing project templates, which will include the project scopes and other information required for the evaluation process. A three-part evaluation framework is proposed, as described below.

2.4.1 Round 1 Evaluation: Project Templates

During this phase of evaluation, all of the evaluation information will be presented for the priority projects in project templates. It is proposed that the Sound Transit Board use a set of prioritized evaluation criteria to evaluate these projects. Subject to Board approval, these criteria could include the following:

- Ridership—An estimated range of daily boardings for the year 2040 using the ridership forecasting model as described in the *Ridership Forecasting Methodology Report*.
- Capital Cost—An estimated range of conceptual costs in 4th Qtr 2014 \$ using historical data as described in the Capital Cost Estimating Methodology Report. Costs will be based on conceptual design or other source (e.g., ST2, EIS). Low end of range is conceptual cost estimate; high reflects additional 15%.
- Operations and Maintenance (O&M) Cost—An estimate of conceptual O&M costs in 4th Qtr 2014 \$ using historical data as described in the Operations and Maintenance Cost Methodology Report.
- Reliability—An approximate percentage of representative alignment in exclusive right-of-way.
- System Integration—A qualitative assessment of issues and effects related to connections to local bus service, based on number of daily transit connections within 0.25 mile of stations.
- Access—A qualitative assessment of issues and effects related to non-motorized modes, based on connectivity of the street system within 0.25 mile of stations and barriers to non-motorized access.
- Connectivity and Mobility—The number of PSRC-designated regional growth and manufacturing/industrials centers served by a project.
- Land Use and Development—A quantitative and qualitative assessment of future potential for transit-supportive development within 0.5 mile of potential station areas. Considerations include: supportive plans, policies and regulations; station area character; land available for development; population and employment; and likelihood for transit-supportive future development.
- Socioeconomic Benefits—The population within 0.5 mile of potential stations that are minority or low-income population (source: 2009-2013 ACS data), measured using GIS.

The results will be shown in an evaluation matrix and on individual project templates. Following this evaluation, the Sound Transit Board may set aside some projects from further consideration.

2.4.2 Round 2: Draft System Plan

At this point the Board will begin developing one or more ST3 system plan options. This phase of analysis will focus on completing system-level ridership forecasting and analysis of the system plan financial scenarios.

Financing assumptions will be developed by Sound Transit staff for use during this phase. This stage will involve the “mixing and matching” of package components in order to illustrate potential system-level benefits and impacts.

The Round 2 evaluation could involve a refined set of evaluation criteria to evaluate the projects and packages. As background, Appendix B shows the evaluation criteria used during the ST2 development process. Some of the evaluation criteria used during the ST2 development process could be used during the ST3 development process. Subject to Board approval, the criteria for ST3 could include the following:

- Ridership—An estimated range of daily project riders for each corridor for the year 2040 using the ridership forecasting model as described in the Ridership Forecasting Methodology Report.
- Capital Cost—An estimated range of conceptual costs in 2015 \$ using historical data as described in the Capital Cost Estimating Methodology Report. Costs will be based on conceptual design or other source (e.g., ST2, EIS).
- O&M Cost—An estimate of conceptual O&M costs in 2015 \$ using historical data as described in the Operations and Maintenance Cost Methodology Report.
- Travel Time—An estimated travel time in minutes between selected centers
- Reliability—The percentage of systemwide transit passenger miles on HCT
- System Integration— A qualitative assessment of issues and effects related to connections to local bus service, based on number of daily transit connections within 0.25 mile of stations .
- Access—A qualitative assessment of issues and effects related to non-motorized modes, based on connectivity of the street system within 0.25 mile of stations and barriers to non-motorized access.
- Connectivity and Mobility—The percentage of PSRC-designated regional growth and manufacturing/industrials centers served systemwide.
- Land Use and Development—A quantitative and qualitative assessment of future potential for transit-supportive development within 0.5 mile of potential station areas. Considerations include: supportive plans, policies and regulations; station area character; land available for development; population and employment; and likelihood for transit-supportive future development.
- Customer Experience—A qualitative description of convenience and ease of use for transit customers.
- Environmental Effects—A quantitative assessment of reduction in annual VMT and acres of potential property acquisition outside of public right-of-way. These could also be separate criteria.
- Socioeconomic Benefits—The percentage of total population within 0.5 mile of potential LRT stations that is minority and low-income population (source: 2009-2013 ACS data), measured using GIS.
- Public Support—A list of project sponsors
- Risk Avoidance—A qualitative assessment based on whether a project includes any high-risk components, including construction risks (e.g., tunnels, bridges); partner risks including dependencies, expectation and/or funding; requirement of unusual/special permits; environmental clearance; and policy risk(s).

Once approved, the evaluation criteria will be included as Appendix C. The results of the Round 2 evaluation will be presented in an evaluation matrix and, as appropriate, on updated individual project templates. An example of the evaluation matrix is shown in Appendix B. It is expected that the Round 2 evaluation will be completed when the Sound Transit Board identifies one or more options as draft ST3 Plan(s) and releases these for public comment.

2.4.3 Round 3: Evaluation of Final System Plan

This phase will focus on refining the draft final plan, as well as collecting and responding to public comment.

2.5 Adoption of ST3 System Plan by ST Board

It is expected that the Phased Evaluation process described above will culminate in the Sound Transit Board approval of a final ST3 Plan in July 2016 for submittal to voters within the Sound Transit District in November 2016.

Appendix A

Draft Priority Projects List

Project Number	Corridor or Representative Project	Mode	Subarea	Description
C-01a	Downtown Seattle to Ballard (Market Street vicinity), primarily at-grade along Elliott and 15 th Avenue	Light Rail	North King	This project would build light rail from downtown Seattle to Ballard's Market Street area via the Uptown neighborhood. It would include a moveable bridge over Ship Canal and at-grade light rail in exclusive lanes on 15 th Avenue W, with signal priority so trains would generally stop only at stations.
C-01b	Downtown Seattle to Ballard (Market Street vicinity), primarily elevated along Elliott and 15 th Avenue with tunnel options	Light Rail	North King	This project would build light rail from downtown Seattle to Ballard's Market Street area. It would include primarily elevated light rail on 15 th Avenue NW and Elliott Avenue W and a movable bridge over the Ship Canal. . It could include tunnel options through the Uptown neighborhood into downtown Seattle.
C-01c	Downtown Seattle to Ballard (Market Street vicinity), primarily elevated/tunnel options	Light Rail	North King	This project would provide light rail from downtown Seattle to Ballard's Market Street area via Uptown and Interbay with elevated and tunnel options. It could use a movable bridge or tunnel to cross the Ship Canal.
C-01d	Downtown Seattle to Ballard (Market Street vicinity), primarily at-grade along Westlake Avenue	Light Rail	North King	This project would build light rail from downtown Seattle to Ballard's Market Street area via Westlake Avenue and serve South Lake Union and Fremont. It would be built at-grade in exclusive lanes with signal priority. It could use a movable bridge or tunnel to cross the Ship Canal.
C-02	Ballard to University District	Light Rail	North King	This project would build light rail in a tunnel from Ballard's Market Street area to the vicinity of the U District light rail station now under construction. Riders wishing to continue north or south on Link would transfer at that station.
C-03a	Downtown Seattle to West Seattle/Junction, elevated	Light Rail	North King	This project would build light rail from downtown Seattle, over the existing West Seattle Bridge or a new bridge crossing, to West Seattle's Alaska Junction in a primarily elevated profile.
C-03b	Downtown Seattle to West Seattle/Junction, at-grade	Light Rail	North King	This project would build light rail from downtown Seattle, over the existing West Seattle Bridge, to West Seattle's Alaska Junction in a primarily at-grade profile.
C-03c	Downtown Seattle to Delridge/White Center	Light Rail	North King/South King	This project would build light rail from downtown Seattle, on a new, low-level bridge crossing the Duwamish River, to White Center via Delridge with at-grade and elevated sections.
C-04	New Downtown Seattle Light Rail Tunnel Connection	Light Rail	North King	This project would connect Ballard and West Seattle light rail extensions by building a new tunnel through downtown Seattle.
C-05	New Downtown Seattle Light Rail Surface Connection: At-grade	Light Rail	North King	This project would connect Ballard and West Seattle light rail extensions by building a new at-grade light rail connection through downtown Seattle.
C-06	Downtown Seattle Transit Tunnel existing station passenger capacity improvements	Light Rail	North King	This project would improve passenger circulation and provide additional passenger capacity in existing Downtown Seattle Transit Tunnel stations as the regional transit system expands. It will examine the access-egress needs and identify, design, and construct improvements.

Project Number	Corridor or Representative Project	Mode	Subarea	Description
C-07	Transit Tunnel (International District to Northgate) improvements enabling increases in system frequency	Light Rail	North King	This project would study, identify, and evaluate capital and operating options in the Transit Tunnel (International District to Northgate) to potentially improve the frequency of trains to less than three minutes. This could include funding projects such as train operations, upgraded train control signal technology, ventilation, access/egress improvements, etc.
C-08	Infill Light Rail Station: Graham Street	Light Rail	North King	This project would add an at-grade station on Link light rail in the vicinity of Graham Street/Eddy Street.
C-09	Infill Light Rail station: Boeing Access Road	Light Rail	South King/ North King	This project would add an elevated Link light rail station in the vicinity of Boeing Access Road.
C-10	Infill Sounder Station: Boeing Access Road	Commuter Rail	South King/ North King	This project would add a commuter rail station to the existing South Sounder service in the vicinity of Boeing Access Road along the BNSF tracks.
C-11	Madison Street BRT	Bus Rapid Transit	North King	This project would connect the Colman Dock area in downtown Seattle with First Hill, Capitol Hill and the Central District using buses in exclusive lanes with signal priority and other features that improve passenger capacity and travel times.
E-01	Overlake Transit Center to SE Redmond to Downtown Redmond (East Link)	Light Rail	East King	This project would extend East Link to downtown Redmond, as addressed in the project's Record of Decision. The project would include stations at SE Redmond and downtown Redmond.
E-02a	I-405 BRT: Lynnwood to SeaTac in HOV/managed lanes	Bus Rapid Transit	East King	This project would establish Bus Rapid Transit that would operate primarily in HOV/managed lanes from Lynnwood to SeaTac via I-405, SR 518, and SR 99. Potential improvements include direct access ramps to facilitate the movement of buses, as well as parking, freeway stations and station improvements.
E-02b	I-405 BRT Master Plan: Lynnwood to SeaTac in HOV/managed lanes	Bus Rapid Transit	East King	This project would establish Bus Rapid Transit that would operate primarily in HOV/managed lanes from Lynnwood to SeaTac via I-405, SR 518, and SR 99. Potential improvements include direct access ramps to facilitate the movement of buses, as well as parking, freeway stations and station improvements.
E-03	Totem Lake to Issaquah via Bellevue	Light Rail	East King	This project would build light rail from Totem Lake to the East Link Wilburton Station in Bellevue with some sections at-grade and other sections elevated, utilizing the Eastside Rail Corridor. It would continue to downtown Issaquah generally following the I-90 corridor.
E-04	Renton HOV Direct Access/N 8th	Bus	East King	This is a deferred project that would build a new direct access ramp at N 8th Street in Renton. It was to be designed and built in conjunction with WSDOT's I-405 widening project between Bellevue and Tukwila, which is pending funding by the state.
E-05	Kirkland HOV Direct Access and Park-and-Ride/NE 80th	Bus	East King	This project would construct new direct access ramps and a park-and-ride garage at NE 80th Street in Kirkland.
E-06	Bellevue College Connector	Access	East King	This project would construct a non-motorized connection from the Eastgate Park-and-Ride to the Bellevue College campus.
N-01	Everett Station to North Everett	Light Rail	Snohomish	This project would extend light rail from Everett Station to North Everett.

Project Number	Corridor or Representative Project	Mode	Subarea	Description
N-02a	Lynnwood Transit Center to Everett Station via the Southwest Everett Industrial Center (Paine Field)	Light Rail	Snohomish	This project would extend light rail from Lynnwood to Everett Station, serving the Southwest Everett Industrial Center (Paine Field) via I-5 and Airport Road.
N-02b	Lynnwood Transit Center to Everett Station via I-5 and SR 99/Evergreen Way	Light Rail	Snohomish	This project would extend light rail from Lynnwood to Everett Station generally via I-5, SR 99 and Evergreen Way.
N-02c	Lynnwood Transit Center to Everett via I-5	Light Rail	Snohomish	This project would extend light rail, primarily in an elevated profile, from Lynnwood to Everett Station, generally along I-5.
N-03	Edmonds Permanent Station	Commuter Rail	Snohomish	In conjunction with Washington State Ferries' Edmonds Crossing multimodal terminal project, this deferred project would relocate the interim station at Edmonds to a permanent location and expand parking. This project is dependent upon WSDOT implementing the unfunded Edmonds Crossing multimodal terminal project.
N-04	Infill Light Rail Station: 130th Street (Lynnwood Link)	Light Rail	North King	This project would add an elevated station at I-5 and N 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. Inclusion of this project in ST3 would provide funding for design and construction of the station.
N-05	Infill Light Rail Station: 220th Street (Lynnwood Link)	Light Rail	Snohomish	This project would add an elevated station at I-5 and 220th Street SW along the Lynnwood Link Extension corridor. The station was identified by the Sound Transit Board as a potential future station during selection of the route, profile and stations for the Lynnwood Link Extension. Inclusion of this project in ST3 would provide funding for design and construction of the station.
P-01	Future System Planning (ST4)	Policies and Programs	All	This project would include funds for planning efforts supporting an eventual Sound Transit 4 ballot measure that continues progress toward implementing Sound Transit's Long-Range Plan.
P-02	HCT Study: Issaquah Highlands to Overlake via Sammamish, Redmond	HCT	East King	This study would examine potential future upgrades in existing service and/or improved connections along the corridor from Issaquah Highlands to Overlake via Sammamish/Redmond. The study would be completed in coordination with local transit partners to examine a variety of options for service provision, and to maximize opportunities for regional integration.
P-03	HCT Study: Access and connection on NE 145th Street from State Route 522 to Link Light Rail	HCT	North King/East King	This study would examine options to provide improved east-west connections along NE 145th Street for communities and jurisdictions along State Route 522 to Link light rail. The study would be completed to examine a variety of options for service provision, and to maximize opportunities for regional integration.

Project Number	Corridor or Representative Project	Mode	Subarea	Description
P-04	HCT Study: Northern Lake Washington Crossing	HCT	North King/East King	This study would examine options for expanding high-capacity transit connections across northern Lake Washington that may be needed when ridership demand exceeds available capacity. This study would examine alternatives including and parallel to State Route 522 and State Route 520, including connections from Sand Point to Kirkland and Redmond/and or Bellevue. The study would be completed to examine a variety of options for service provision, and to maximize opportunities for regional integration.
R-01	ST Express Service	Express Bus	All	This project would fund capital and operating improvements for ST Express regional bus service supporting the high-capacity transit extensions that are selected for the Sound Transit 3 measure.
R-02	Vehicle Purchases	Bus/Rail	All	This project would fund expanding the Link light rail, Sounder commuter rail, and ST Express bus fleets as the regional transit system grows.
R-03	Maintenance and Storage Facilities	All	All	This project would add maintenance and storage facilities for the Link light rail, Sounder commuter rail and ST Express bus fleets to support system expansion.
R-04	System Repair and Enhancement	Policies and Programs	All	Under this program, investments necessary to maintain and operate an expanded regional transit system would be identified and funded. A potential project list is under development and review by Sound Transit staff.
R-05	System Access Program (ped, bike and parking)	Policies and Programs	All	This project would fund planning and implementation of investments to improve access to the regional transit system, including improvements for pedestrians, bicyclists, buses and private vehicles. Funds would be prioritized per Sound Transit's System Access Policy.
R-06	Innovation and Technology Program	Policies and Programs	All	This program would fund planning and implementation of programs outside the scope of large capital projects, which can improve the functioning and use of the regional transit system through innovative best practices, technologies and partnerships.
R-07	Transit Oriented Development Program	Policies and Programs	All	Program to fund additional TOD analysis and support conducted as part of project development in accordance with the TOD Policy (Resolution No. R2012-14). Funding could be used for activities such as planning, detailed market studies, analysis of potential Agency TOD sites, and related activities necessary to bring surplus properties to the market, and both Community and Agency TOD development support.
R-08	Agency administration, insurance and reserves	Policies and Programs	All	Beyond investments in individual projects, implementing the ST3 program will require agency-wide capital and operating programs including: - Insurance for capital and operating programs, - Bond, capital replacement, operating and other reserves, - Staffing and other administrative costs to implement the ST3 program.
S-01	Kent/Des Moines to Redondo/Star Lake (272nd) (Federal Way Link)	Light Rail	South King	This deferred project would extend light rail from the Kent/Des Moines station to Redondo/Star Lake (in the vicinity of South 272nd Street) per the Record of Decision that will be completed as part of Federal Way Link Extension.

Project Number	Corridor or Representative Project	Mode	Subarea	Description
S-02	Redondo/Star Lake (272nd) to Federal Way (Federal Way Link)	Light Rail	South King	This project would extend light rail south from Redondo/Star Lake (South 272nd Street) to the Federal Way Transit Center area per the Record of Decision that will be completed as part of Federal Way Link Extension.
S-03	Federal Way to Tacoma Dome Station via I-5	Light Rail	South King/Pierce	This project would extend light rail from the Federal Way Transit Center area to Tacoma Dome Station. This option would generally follow I-5 primarily on an elevated structure or on a mix of elevated and at-grade sections.
S-04	Federal Way to Tacoma Dome Station via 99	Light Rail	South King/Pierce	This project would extend light rail from the Federal Way Transit Center area to Tacoma Dome Station generally following SR 99 in a primarily elevated profile or with a mix of elevated and at-grade sections.
S-05	Tacoma Dome Station to Tacoma Mall	Light Rail	Pierce	This project would extend light rail from the Tacoma Dome Station to a station in the vicinity of the Tacoma Mall.
S-06	Expand Sounder South Train Platforms to 8 cars	Commuter Rail	South King/Pierce	This deferred project would expand the capacity of south Sounder commuter rail service by extending the existing station platforms to accommodate 8-car trains.
S-07	Additional South Sounder platform extensions (Beyond 8-car extension included in S-06)	Commuter Rail	South King/Pierce	This project would extend south Sounder station platforms beyond 8-car trains to increase passenger capacity. (Note: Project S-06 would extend platforms to eight cars.)
S-08	Additional South Sounder service	Commuter Rail	South King/Pierce	This project would increase south Sounder service beyond levels funded under the Sound Move and ST2 ballot measures through operating and capital improvements.
S-09	Auburn Station access improvements	Commuter Rail	South King	This deferred project would improve access to and from the Auburn Sounder Station. Improvements could include on or off-site parking improvements or other strategies such as pedestrian, bicycle, and transit improvements.
S-10	Kent Station access improvements	Commuter Rail	South King	This deferred project would improve access to and from the Kent Sounder Station. Improvements could include on or off-site parking improvements or other strategies such as pedestrian, bicycle, and transit improvements.
S-11	Tacoma Link Extension	Light Rail	Pierce	Tacoma Link extension to Tacoma Community College

Final Priority Projects List [To be completed when finalized.]

Appendix B

ST2 Evaluation Criteria and Evaluation Matrix

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This Appendix presents the final evaluation criteria used for the ST2 plan development (

Sound Transit HCT Planning – ST2 Plan
System and Project Evaluation Methodology
Evaluation Criteria and Measures
 February 2006

Table 1 -- Evaluation Measures for ST2 Plan Development

Project-level evaluation measures		
CRITERIA	MEASURES	NOTES
Ridership	Daily transit volumes across a specific screenline	Per day and per year
	Boardings	Per day and per year
	Passenger trips using facility	Per day
Capital Cost	Capital cost	Current-year dollars
	Cost-effectiveness	Cost per basic unit, as appropriate
O&M Cost	Annual O&M cost	Current-year dollars
	Total O&M cost over ST2 duration	Current-year dollars
Travel Time and Reliability	Travel time between centers served	Minutes in ST2 horizon year
	Percentage of project/route length in exclusive right-of-way	Percent
System Integration	Does the project extend the reach of ST service by extending or connecting to a <i>Sound Move</i> investment?	Yes/No
	Does ST directly serve or use the facility?	Yes/No
	Does the service duplicate or compete directly with another ST service?	Yes/No If yes, identify
Connectivity and Mobility	Percentage of all PSRC-endorsed centers directly served	Percent in ST2 horizon year
Land Use & Development	Acres of property acquisition at stations and transit centers	Acres
	Have the jurisdictions served adopted specific transit-supportive zoning and land use plans around the facilities?	Yes/No (Elaborate)

Exhibit 1) as well as an example of an evaluation matrix (Exhibit 2). This information serves as reference for the types of evaluation criteria and related measures that could be used for the ST3 plan development. For more information, please refer to the *Sound Transit Long-Range Plan/ ST2 Planning: System and Project Evaluation Methodology Report*.

Sound Transit HCT Planning – ST2 Plan
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Table 1 -- Evaluation Measures for ST2 Plan Development

Project-level evaluation measures		
CRITERIA	MEASURES	NOTES
Ridership	Daily transit volumes across a specific screenline	Per day and per year
	Boardings	Per day and per year
	Passenger trips using facility	Per day
Capital Cost	Capital cost	Current-year dollars
	Cost-effectiveness	Cost per basic unit, as appropriate
O&M Cost	Annual O&M cost	Current-year dollars
	Total O&M cost over ST2 duration	Current-year dollars
Travel Time and Reliability	Travel time between centers served	Minutes in ST2 horizon year
	Percentage of project/route length in exclusive right-of-way	Percent
System Integration	Does the project extend the reach of ST service by extending or connecting to a <i>Sound Move</i> investment?	Yes/No
	Does ST directly serve or use the facility?	Yes/No
	Does the service duplicate or compete directly with another ST service?	Yes/No If yes, identify
Connectivity and Mobility	Percentage of all PSRC-endorsed centers directly served	Percent in ST2 horizon year
Land Use & Development	Acres of property acquisition at stations and transit centers	Acres
	Have the jurisdictions served adopted specific transit-supportive zoning and land use plans around the facilities?	Yes/No (Elaborate)

Exhibit 1: Evaluation Measures for ST2 Plan Development

Customer Experience	Convenience, Ease of use	Qualitative Description
Environmental Benefits	Selected quantified measures (e.g., air quality)	TBD
	Acres of property acquisition outside of public right-of-way	Acres
Public Support	List of project Sponsors	
Risk Avoidance	Does the project include any high-risk components, including construction risks (e.g., tunnels, bridges)	High, Medium or Low (Explain)
	Partner risks including dependencies, expectations and/or funding	High, Medium or Low (Explain)
	Does project require any unusual/special permits?	High, Medium or Low (Explain)
	Environmental clearance	High, Medium or Low (Explain)
	Policy risk(s)	High, Medium or Low (Explain)

System-level evaluation measures		
CRITERIA	MEASURES	NOTES
Ridership	New riders	Annualized
	Daily transit volumes across a specific screenline	Per day and peak hour
	Transit trips	Per day and per year
Capital Cost	Percentage of ST2 costs dedicated to capital	Percent
	Cost-effectiveness	Cost per new rider
O&M Cost	Percentage of ST2 costs dedicated to O&M	Percent
	Annual O&M cost in ST2 horizon year	2005/6 dollars
	Farebox Recovery Ratio	Percent in horizon year

Exhibit 1: Evaluation Measures for ST2 Plan Development (continued)

Travel Time and Reliability	Transit travel time between selected centers	Minutes in ST2 horizon year
	Percentage of trips on ST services using exclusive right-of-way	Percent in ST2 horizon year
System Integration	Have opportunities to reduce <i>Sound Move</i> -funded services been realized to reduce overall O&M costs?	Yes/No
	Does the ST system have duplicative or competing ST routes?	Yes/No
	Does the ST system have duplicative or competing services operated by transit partners?	Yes/No
Connectivity and Mobility	Percentage of ST district low-income households within ½-mile of a HCT station	Percent in ST2 horizon year
	Percentage of ST district minority households within ½-mile of a HCT station	Percent in ST2 horizon year
	Percentage of ST district households within ½-mile of a HCT station	Percent in ST2 horizon year
	Percentage of ST district employment within ½-mile of a HCT station	Percent in ST2 horizon year
	Percentage of all PSRC-endorsed centers directly served	Percent in ST2 horizon year
	Percentage of ST passenger trips with a choice-transfer	Percent in ST2 horizon year
	Percentage of ST passenger trips with a forced transfer	Percent in ST2 horizon year
Land Use & Development	Acres of property acquisition at stations and transit centers	Acres
	Transit mode share in designated centers	Mode share
Customer Experience	Convenience, Ease of use	Qualitative Description

Exhibit 1: Evaluation Measures for ST2 Plan Development (continued)

ST2 Project Ratings: Summary

	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26	E27
	Enhanced Transit: ST Funding of Metro Route 269 (E. King County)	Enhanced Transit: ST Funding of Metro Route 240 (E. King County)	Express Bus: Direct Access Ramps and Parking Garage at Brickyard Park-&-Ride (E. King County)	Express Bus: Direct Access Ramps on SR 520 at 108th Avenue NE (E. King County)	Express Bus: Direct Access Ramps on I-90 at SR 900 (Issaquah)	Express Bus: Direct Access Ramps on I-405 at NE 8th Street (Renton)	Express Bus: Flyer Stop and Pedestrian Bridge on I-405 (Bothell)	Express Bus: Flyer Stop on I-405 at NE 85th Street (Kirkland)	Express Bus: BAT Lanes on SR 522 between I-405 and SR 527 (Bothell)	Express Bus: BAT Lanes on SR 522 (Bothell)	Express Bus: Transit Center and Parking Garage (Bothell)	Express Bus: Parking Garage and Transit Loading at Bothell Park-&-Ride (Bothell)	Express Bus: Parking Garage and Pedestrian Bridge over SR 522 at Kenmore Park-&-Ride (Kenmore)	Express Bus: Expansion of Kingsgate Park-&-Ride (Kirkland)	Express Bus: Parking Garage at South Kirkland Park-&-Ride (Kirkland)	Express Bus: Parking Garage and Extension of N. 8th Street (Renton)	Express Bus: Pedestrian Bridge at Overlake Transit Center (Redmond)	Express Bus: New Route between Bothell and Renton on I-405
Evaluation Criteria																		
Average Weekday Ridership	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	less than 1,000
Capital Cost	\$5.0	\$3.2	\$279.2 - \$301.6	\$46.0 - \$57.0	\$101.7 - \$109.8	N/A	\$182.3 - \$196.8	\$377.3 - \$407.5	\$22.8 - \$24.7	\$33.3 - \$36.0	\$60.5 - \$65.3	\$27.4 - \$29.6	\$49.8 - \$53.8	\$27.1 - \$29.3	\$49.8 - \$53.8	\$60.2 - \$65.0	\$12.5 - \$13.5	\$6.0
Annual Operating Cost	\$4.8	\$1.8	N/A	N/A	N/A	N/A	N/A	N.A.	N/A	N.A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$5.0
Travel Time & Reliability	Low	Low	Medium	Medium	Medium	Medium	Medium	High	Low	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Medium
Jobability & System Integration	Medium	Medium	High	High	Medium	High	Medium	Medium	High	High	High	High	Medium	Medium	Medium	Medium	High	High
Land Use & Development	Medium	High	Low	Low	Low	High	High	Medium	High	High	High	High	High	High	Low	High	High	High
Customer Experience	Medium	Medium	High	High	High	High	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	High	Medium
Risk Avoidance	High	High	Medium	Low	Low	Low	Low	Low	Medium	Medium	Medium	Medium	High	High	High	Medium	Medium	High
Public & Agency Support	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Exhibit 2: Evaluation Matrix Example

Appendix C

Evaluation Criteria for ST3

To be completed when finalized

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