



Sound Transit 2

A Mass Transit Guide

The Regional Transit System Plan
for Central Puget Sound

July 2008

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Link light rail • Sounder commuter rail • ST Express regional bus • Tacoma Link light rail

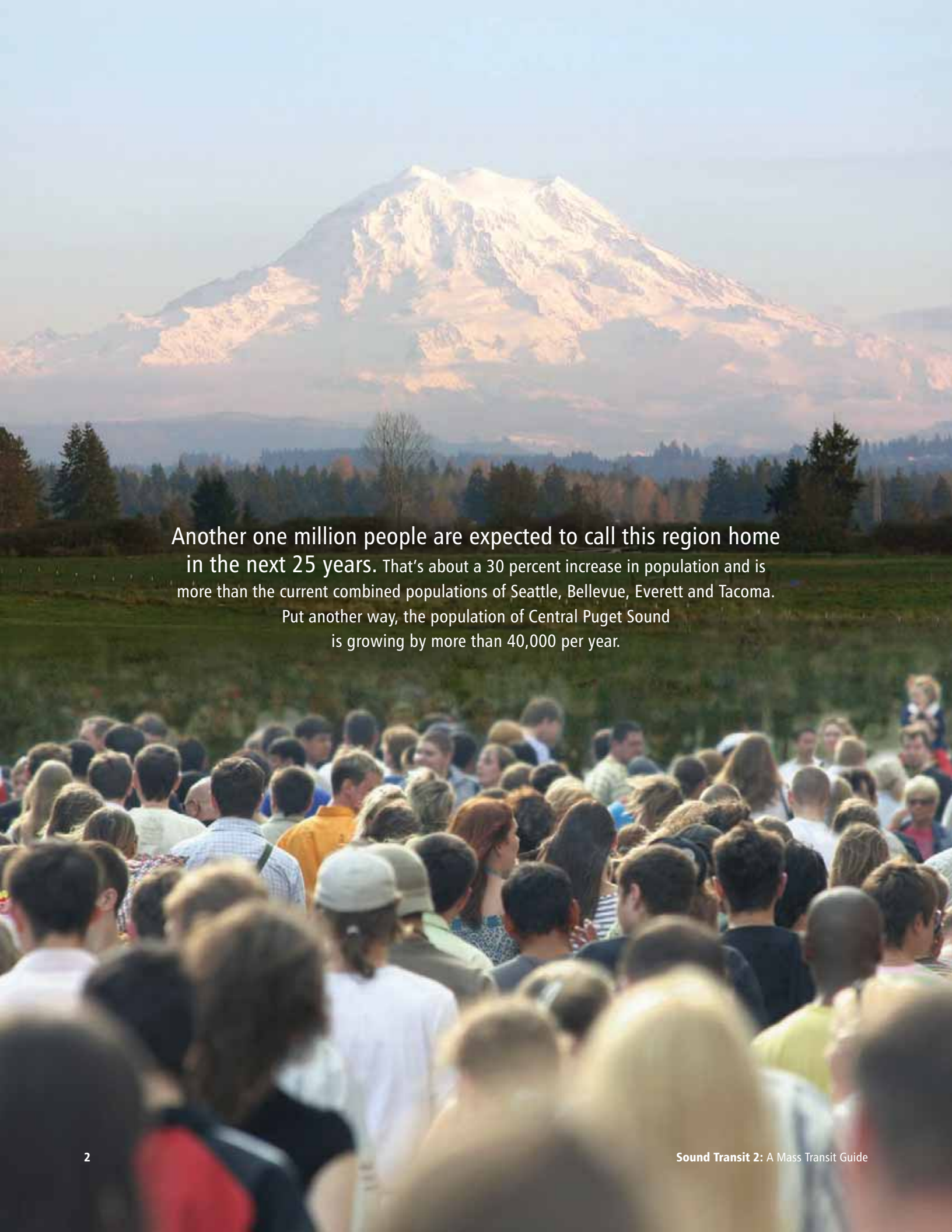
Easy connections to more places for more people.

– Sound Transit vision statement

Sound Transit plans, builds, and operates
regional transit systems and services to
improve mobility for Central Puget Sound.

– Sound Transit mission statement





Another one million people are expected to call this region home in the next 25 years. That's about a 30 percent increase in population and is more than the current combined populations of Seattle, Bellevue, Everett and Tacoma. Put another way, the population of Central Puget Sound is growing by more than 40,000 per year.

Introduction

Sound Transit proposes to improve and expand the regional mass transit system. The agency has been working since 1996 on the first phase of a regional mass transit system in the Central Puget Sound region that includes Link light rail, Sounder commuter trains and ST Express buses. This initial phase, called *Sound Move*, was approved by voters in 1996 in response to burgeoning growth and traffic problems.

Sounder commuter trains currently operate in a 74-mile corridor from Everett to Tacoma, with construction of an eight-mile extension to Lakewood underway. ST Express buses operate on every major highway in the region. Link light rail serves Downtown Tacoma, and it will open for service between Seattle and Sea-Tac International Airport in 2009. Together, these services carry more than 14 million riders a year reliably around the region to jobs, shopping, school, sporting events and other places they need to go.

Construction of the Link light rail extension between Downtown Seattle and the University District is expected to begin in late 2008, with service to start in 2016.

Even with those investments, however, improving transportation continues to be one of the biggest challenges facing this region.

Another one million people are expected to call this region home in the next 25 years. That's about a 30 percent increase in population and is more than the current combined populations of Seattle, Bellevue, Everett and Tacoma. Put another way, the population of the Central Puget Sound region is growing by more than 40,000 people per year.

By the year 2030, growth will lead to a 35 percent increase in employment and a 30 percent increase in vehicle travel in the region. By 2030, the typical commuter could spend nearly an entire work week of additional time stuck in traffic. Weekday rush hour could last from breakfast through dinner, strangling the movement of traffic and freight, jeopardizing our economy, and hurting the environment.

With a strong mass transit foundation in place and more growth on the way, additional investment is needed to ensure mobility for people and to help the Central Puget Sound region's transportation system run smoothly. An expanded mass transit system that builds on what we have is more important than ever.

In response, Sound Transit is proposing a plan that builds on the *Sound Move* program called Sound Transit 2. The Sound Transit 2 Plan (ST2) would expand the existing light rail system to serve three major travel corridors. Link light rail would extend from North Seattle into Snohomish County, across Lake Washington into East King County, and south of Sea-Tac International Airport to Federal Way. ST2 would also expand Sounder commuter rail and ST Express regional bus service significantly. A map showing ST2 Regional Transit System Plan improvements can be found on Page 16.

The ST2 Plan was developed through an open public process over a four-year period. During that period, Sound Transit coordinated closely with cities and counties and conducted substantial public outreach. With more jobs and people on the way, the time is now to continue building our transportation future.



New light rail from Downtown Seattle to Sea-Tac Airport opens 2009; extension to UW opens 2016



74 miles of Sounder commuter rail with 10 stations



ST Express bus routes offer all-day, two-way service around the region



Tacoma Link light rail connects Tacoma Dome Station to Downtown Tacoma



More than \$800 million invested in transit centers, HOV direct access ramps and park-and-ride lots



PugetPass easy transfer fare system



ST2 would extend light rail from North Seattle into Snohomish County, across Lake Washington into East King County, and south of Sea-Tac International Airport to Federal Way.

Light rail trains carry people to and from East King County in this conceptual image. By 2020, nearly 40 percent of all Bellevue jobs and about 62 percent of its future population growth is projected to be in the downtown core. (Source: The Bellevue Downtown Implementation Plan)

ST2: The Future

ST2 includes a major expansion of the Link light rail system. Light rail is currently operating in Downtown Tacoma, and a nearly 16-mile line currently under construction between Downtown Seattle and Sea-Tac International Airport is scheduled to open in 2009. An extension from Downtown Seattle to the University of Washington is scheduled to open in 2016.

The ST2 Plan builds on these Link light rail lines and the region's investment in Sounder commuter rail and ST Express bus service. ST2 proposes a future in which someone can ride a light rail train to a job or appointment from the Overlake Transit Center area of Redmond west to Bellevue, Downtown Seattle or the University of Washington; from Lynnwood to Northgate and on to the University of Washington, Downtown Seattle and the airport; or from the Redondo/Star Lake area near Federal Way to the vicinity of Highline Community College, the airport and on to Downtown Seattle. The ST2 Plan would extend the rail system to serve nearly 50 percent of the region's current population and employment centers, providing a reliable transportation option for most of the region's citizens.

Because it runs on its own tracks separated from traffic, light rail is quick and reliable. It will take 19 minutes to travel on a light rail train from Downtown Bellevue to the International District Station and nearby Qwest and Safeco fields, 11 minutes from Overlake Transit Center to Downtown Bellevue, 15 minutes from Northgate to Downtown Seattle, 28 minutes from Downtown Seattle to Lynnwood, or 12 minutes from Redondo/Star Lake to the airport. And because trains are not stuck in traffic, riders can count on the ride being the same every day – rain or shine. With trains running up to 20 hours a day, and every few minutes at peak times, riders won't need to carry a schedule or map.



ST2 would increase ST Express bus service by 17 percent.

When all proposed ST2 projects are completed, half of all work trips to Downtown Seattle are expected to be on transit. The number of people taking transit to work during peak commuting hours will increase in the other major regional centers being served by the plan's investments. Together these investments will enable more people to get around reliably and predictably. With ST2 in place, Sound Transit ridership is projected to grow to over 100 million per year in 2030. The system will also have additional capacity to absorb future growth well beyond 2030.

The new investments proposed in the ST2 Plan are estimated to cost approximately \$13.4 billion (including inflation) to construct over the next 15 years. These regional investments in new mass transit infrastructure include regional express bus, commuter rail and light rail facilities. In addition to these capital improvements, the plan provides funding for operating and maintaining the system. Operations and maintenance costs are estimated at \$1.9 billion (including inflation) through 2023. The financial plan also funds reserves and debt service – for detailed information see the "Paying for the System" section later in this document.

The ST2 Plan is consistent with established long-range regional transportation and land use plans. The Puget Sound Regional Council (PSRC) created the Vision 2040 plan to be a strategy for directing growth in an environmentally responsible way, while fostering economic development and providing efficient transportation. In addition, the PSRC created the Destination 2030 plan to be the region's comprehensive long-range transportation plan. Grounded in Vision 2040's growth management and transportation policies, Destination 2030 provides a multimodal plan for investing in roads, ferries, transit and freight mobility through the year 2030. Destination 2030 is now being updated by the PSRC to reflect the transportation needs of Vision 2040 and is expected to be complete in 2010.

As the Regional Transit Authority (under Chapters 81.104 and 81.112 RCW), Sound Transit is responsible for regional high-capacity transit system planning in the context of Destination 2030. Sound Transit updated its Regional Transit Long-Range Plan in 2005. ST2 is the next phase of transit improvements for the Central Puget Sound region.

The ST2 light rail expansions have the long-term capacity to serve trains running every four minutes in each direction, with each train carrying up to 800 people.



When all proposed ST2 projects are completed, half of all work trips to Downtown Seattle are expected to be on transit.





In the first half of 2008, ridership on ST Express regional buses and Sounder commuter rail grew by 14 percent and 29 percent respectively over the same period in 2007.

The ST2 Plan

ST2 will substantially expand the regional mass transit system by extending and adding more light rail lines and increasing commuter rail and regional express bus service. This new service will enhance and add high-capacity transit in the region's main travel corridors. The result will be service that cuts through congestion and provides ridership capacity to accommodate the region's needs.

System access

Value from a high-capacity transit system comes from the ability of that system to transport people reliably, rapidly and efficiently. That is only possible when people are able to access the system. Access solutions vary by transit mode and community. In recognition of these varying needs, Sound Transit will, in consultation with its local transit partners and host jurisdictions, conduct access and demand studies for its passenger facilities to evaluate a full range of needs and potential improvements to meet those needs. Improvements may include:

- Pedestrian improvements at or near transit facilities;
- Additional bus/transfer facilities for improving bus connections;
- Expanded parking at or near transit facilities;
- Off-site/satellite parking along existing transit routes that connect to the facility, including transit priority treatments to improve the speed and reliability of those routes;
- Bicycle access and storage at or near transit facilities; and
- New/expanded drop-off areas to encourage ride sharing.

Link light rail extensions

ST2 adds approximately 36 miles of new light rail by extending north from the University of Washington to Northgate and Lynnwood, south from Sea-Tac International Airport to the vicinity of the Redondo/Star Lake area near Federal Way, and east from Seattle to Bellevue and the Overlake Transit Center area of Redmond. Light rail trains will provide service to at least 19 planned new stations up to 20 hours a day and every few minutes during peak commuting periods.

In addition, funding is established in ST2 for further planning, preliminary engineering and environmental review for future light rail extensions. ST2 also includes a strategic right-of-way preservation program to ensure crucial properties can be protected or acquired. This will allow Sound Transit to secure property for future extensions to provide more certainty to affected property owners, and to avoid the complications and additional financial expense of acquiring property that has been recently redeveloped.

South Corridor

ST2 adds a light rail extension from Sea-Tac International Airport to the Redondo/Star Lake area near Federal Way, with three planned new stations at South 200th Street, the vicinity of Highline Community College (scheduled to open by 2020), and Redondo/Star Lake (scheduled to open by 2023). Funds, in the form of a capital contribution, are also programmed to provide for the expansion of the Tacoma Link light rail system if other public or private entities provide matching funds. Extensions that have been studied and are under consideration are north to the

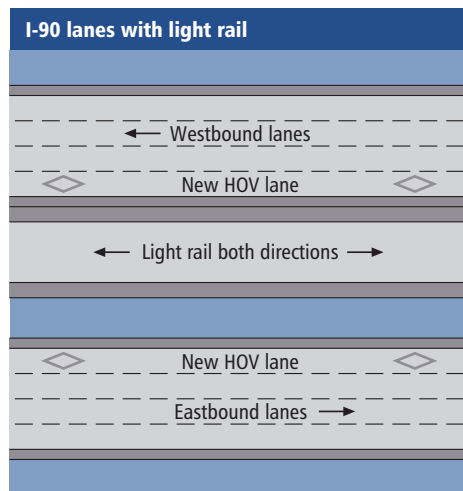
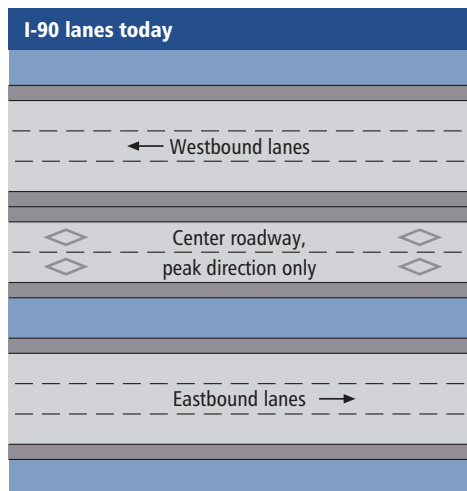


Tacoma General Hospital area or east to Fife. Funding is also provided to complete environmental documentation, preliminary engineering and partial right-of-way acquisition for light rail between Federal Way and Tacoma.

The ST2 Plan's light rail extension to Northgate will begin service by 2020.

East Corridor

ST2 expands light rail across Lake Washington via I-90 from Downtown Seattle to the Overlake Transit Center area of Redmond, with nine planned new stations serving Rainier Avenue/I-90, Mercer Island, South Bellevue, Downtown Bellevue, Overlake Hospital, the Bel-Red corridor, Overlake Village and Overlake Transit Center. The line is scheduled to be open to Bellevue by 2020 and Overlake Transit Center by 2021. Funding is also provided to complete environmental documentation and preliminary engineering for light rail between Overlake Transit Center and Downtown Redmond.



Adding light rail to I-90's Lake Washington crossing will dramatically increase the people-carrying capacity of the bridge while the existing number of vehicle lanes is maintained. This will be achieved by adding a new HOV lane in each direction on the existing bridge, as shown at left.



Bringing fast, frequent and reliable light rail to the Redondo/Star Lake area near Federal Way will position the system for future southward expansion. The plan provides funds for environmental documentation, preliminary engineering and partial right-of-way acquisition for light rail between Federal Way and Tacoma.

Kent Station is one of the region's numerous multimodal facilities where trains, buses, bikes and cars connect.

North Corridor

ST2 expands light rail north from the University of Washington to Lynnwood, adding seven planned new stations in the University District, the Roosevelt neighborhood, Northgate, 145th Street/Jackson Park, Shoreline, Mountlake Terrace and Lynnwood. This extension is scheduled to be open to Northgate by 2020 and to Lynnwood by 2023. If additional funding and/or cost savings are available, preliminary engineering and environmental review for the extension of light rail from Lynnwood Transit Center to Everett may be performed as part of the ST2 program.

ST2 also includes a new streetcar connector line between Downtown Seattle, First Hill and the future Capitol Hill light rail station. The new connector will also provide convenient access to the Sounder commuter rail system and regional bus services.

Sounder commuter rail improvements

The ST2 Plan builds on the investments already made for providing passenger rail service between Everett and Lakewood along rail lines owned by Sound Transit and the Burlington Northern Santa Fe (BNSF) Railway Company.

ST2 increases the capacity of the highly utilized Tacoma-Seattle service through additional trains and expanded train lengths. Four round trips will be added to this service. Service capacity will be further expanded by increasing the number of passenger cars per train from seven to eight, and extending platforms at some stations. Additional locomotives and passenger cars will be acquired to support this capacity and service expansion.

On the Lakewood-Tacoma-Seattle line, ST2 also includes an expanded permanent Sounder station in Tukwila and access improvements for commuter rail and bus riders at the Kent, Auburn, Sumner, Puyallup, Tacoma Dome, South Tacoma and Lakewood stations. The ST2 Plan also provides for improvements on existing tracks in Tacoma, including Tacoma Rail tracks that are used by Sounder.



On the Everett-Seattle line, potentially in conjunction with Washington State Ferries multimodal terminal improvement projects, ST2 includes the construction of a permanent Edmonds Station and access improvements to Mukilteo Station.

Funds are also included to construct, own and operate a commuter rail yard and shop facility to support the level of service for Sounder trains at full operational capacity, enabling the agency to more efficiently maintain and operate Sounder.

The ST2 Plan also includes two provisional commuter rail stations along the Everett-Seattle corridor at Broad Street and Ballard that can be implemented subject to the availability of additional funds.

ST Express regional bus improvements

Recognizing the recent high growth in ridership experienced by Sound Transit and all our partner transit agencies in the Central Puget Sound region, the ST2 Plan rapidly improves ST Express bus service in the highest-need corridors. Specifically, ST2 provides annual operating and fleet expansion funds to increase service levels in the following corridors – I-5 (Everett to Seattle and Tacoma to Seattle); I-90 (Issaquah to Bellevue and Seattle); I-405 (Everett to Bellevue and Renton to Bellevue); SR 167 (Puyallup, Sumner, Auburn, Kent, Tukwila and Renton to Bellevue); and SR 522 (Woodinville and Bothell to Seattle) – by improving service frequency, expanding hours of operation and adding trips to relieve overloads. It also includes new routes in the SR 520 corridor to further develop bus rapid transit (BRT) connecting Redmond, Bellevue, the University of Washington and Downtown Seattle, taking advantage of transit speed and reliability improvements programmed as part of the Washington State Department of Transportation (WSDOT) SR 520 Bridge Replacement and HOV Project.

In conjunction with King County Metro Transit bus services in the SR 520 corridor, Sound Transit will restructure ST Express services to improve overall service reliability and frequencies to at least every 15 minutes in both directions all day long on weekdays. Sound Transit will also seek to provide improved passenger amenities such as real-time next bus arrival information at stations. High service levels, streamlined transit facilities and congestion management will result in a fast, reliable and high-capacity BRT system in the corridor.

Beginning in 2009, ST2 includes a sufficient number of buses and the operating funds to provide a total of 100,000 annual platform hours above *Sound Move* planned levels. ST2 continues this service hour expansion on I-5, I-405, SR 520, SR 522, SR 167 and I-90 through the 15-year life of the plan. In cooperation with Community Transit in Snohomish County, ST2 provides significant investment in expanding ST Express service levels by 30 percent in the I-5 and I-405 corridors from Everett to Seattle and Bellevue respectively.



The ST2 Plan will provide bus rapid transit service on the SR 520 corridor.



Sound Transit will work with WSDOT, Community Transit, Everett Transit, King County Metro and Pierce Transit to find solutions to rising congestion on HOV facilities in an effort to improve bus speed and reliability.

Throughout implementation, Sound Transit will work with WSDOT, Community Transit, Everett Transit, King County Metro and Pierce Transit to find solutions to rising congestion on HOV facilities in an effort to improve bus speed and reliability.

As bus maintenance capacity and fleet become available, Sound Transit will implement additional service as quickly as possible. Total annual ST Express service hours across the region will be increased by about 17 percent by 2020. ST2 also includes contributions from Sound Transit to help fund new or improved transit centers in Burien and Bothell in partnership with others.

When light rail opens in the various corridors, the majority of ST Express service in those corridors will be redeployed, resulting in a net overall increase in transit service.

While *Sound Move* included high-occupancy vehicle (HOV) access projects that make it easier for buses to merge into freeway HOV lanes, no new such projects are included in ST2. Park-and-ride expansion, HOV direct access ramps and other system access improvement projects are a high priority in Snohomish County. Such projects at regional system access facilities in Snohomish County may be built if sufficient additional funding and/or cost savings are identified in the ST2 program. Sound Transit continues to assume that WSDOT will fund and complete construction of the core HOV lane system in accordance with its freeway HOV policy. Funding is in place for Sound Transit's share of HOV projects underway on I-90 across Lake Washington and in Renton. These are *Sound Move* projects being implemented in partnership with WSDOT.

Eastside rail corridor partnership

The ST2 Plan sets aside funds that may be used in connection with rail passenger development and associated work that may be undertaken by other local governments and public agencies for long-term passenger rail service on an existing BNSF line. This rail line, portions of which BNSF intends to abandon and which the Port of Seattle is purchasing through the federal rail-banking process, stretches from the city of Snohomish to the city of Renton, east of Lake Washington. The State of Washington has directed Sound Transit and the PSRC to complete a feasibility study of potential passenger rail on this corridor. In addition, other parties in the region have expressed an interest in passenger rail service on this line.

Eastside STart projects, like the ones at Bellevue Transit Center, add a heightened level of value to the surrounding community and help create a sense of place for residents, employees and transit users.





Any future passenger rail service along this corridor would be implemented and operated by other public and/or private parties, particularly along the portion of the corridor located in Snohomish County outside the Sound Transit District. The ST2 Plan does not include funds to operate such passenger rail service. Sound Transit's investment in this project is limited to a maximum contribution of \$50 million dollars, which may be used for engineering and design, and for the purchase of capital equipment and real estate that can either be sold or used on Sound Transit's existing transportation system. Sound Transit's investment is also contingent upon the satisfaction of the following conditions prior to December 31, 2011:

- a. Completion of the Sound Transit/PSRC feasibility study and determination that passenger rail on the Eastside BNSF corridor is feasible and would be a meaningful component of the region's future transportation system, as required by state law;
- b. The Sound Transit Board's determination that the ridership forecasts, financing plan, and capital and operating cost estimates and operating plan are reasonable and that the service will provide substantial benefits to the regional transportation system in the Sound Transit District; and
- c. Execution of an agreement with other public or private parties regarding the implementation of a passenger rail system.

If a partnership for passenger rail on the BNSF corridor in East King County is not executed by December 31, 2011, the \$50 million included in the ST2 Plan for a partnership will be reprogrammed to further the implementation of HOV BRT service in the I-405 corridor in East King County. Options for alternative investments in the I-405 corridor will be developed for Board review and approval prior to expenditure of these funds.

The ST2 Plan increases ST Express regional bus service by 17 percent.



Real-time electronic messages at Puyallup Station tell customers when the next train will arrive.

Using the system

Sound Transit has used its research and technology and fares programs to find ways of making transit more convenient and easier to use.

For example, Sound Transit is installing vehicle location systems at its Link light rail and Sounder commuter rail stations and at some ST Express transit centers. These real-time electronic messages tell customers when the next train or bus will arrive. These electronic message signs will be in place in 2009 when the Link light rail system opens.

A decade ago, transferring between transit systems in the region required customers to have several passes or to pay a separate fare on each system. Over the last 10 years, Sound Transit has partnered with local transit agencies to create an integrated fare system that allows riders to transfer easily. In 1999, a new regional "PugetPass" was created for Sounder trains and ST Express, Community Transit, Everett Transit, Pierce Transit and King County Metro buses. These agencies are working together with the Washington State Ferries and Kitsap Transit to implement new "smart card" technology in 2009 to make it even easier to travel around the region.

As part of ST2, Sound Transit will continue to explore and apply innovative technology and fare initiatives. Potential initiatives include expanding the "next bus" and "next train" electronic messaging system and installing more transit signal priority equipment to speed buses through congested intersections. Other possibilities include providing bus schedules and real-time "next bus" information on cell phones or personal handheld devices. Ticket vending machines at more locations would make it easier to buy a ticket or reload a smart card. Wireless internet access could be expanded to more Sound Transit vehicles and facilities. Electronic transit information kiosks could be installed in more places to provide more information to customers.

Ticket vending machines allow passengers to pay their fares before getting aboard the train, speeding up service for everyone.



Planning for the future

ST2 includes funds to continue progress toward completing the regional transit system envisioned in Sound Transit's Long-Range Plan. Like *Sound Move*, ST2 is another incremental investment toward completing the larger regional high-capacity transit system. Further phases will be necessary beyond ST2 to fully build out the system envisioned in the Long-Range Plan, all subject to voter approval.

In order to advance completion of further expansions of the system beyond this ST2 Plan, funding is included for a series of planning studies. These studies will help narrow the range of alternatives, evaluate potential routes and station locations, inform local comprehensive planning, prepare for formal environmental impact review and engineering, and position the Sound Transit Board to evaluate options and establish the next highest priorities for implementation of the next phase of high-capacity transit investments in the region. All of the studies will include extensive public outreach, preliminary environmental assessment and ridership forecasting, and conceptual engineering and cost estimating.

The studies include high-capacity transit from Lynnwood to the Southwest Everett Industrial Center and to Everett; the Overlake Transit Center area of Redmond to Downtown Redmond; South Bellevue to Issaquah; the Redondo/Star Lake area near Federal Way to Tacoma; Redmond to Kirkland and on to the University District; University District to Ballard and on to Downtown Seattle; Renton to Tukwila, Sea-Tac and on to Burien; and Downtown Seattle to West Seattle and on to Burien. These studies will inform the Sound Transit Board's consideration of potential updates to Sound Transit's Long-Range Plan.

In the I-405 corridor, the focus will be on planning for BRT, the preferred long-term high-capacity transit technology identified in WSDOT's I-405 Corridor Program Master Plan. This study will review current transit service and capital improvements in the corridor being implemented by Sound Transit and other transportation agencies, and explore opportunities to enhance BRT system coordination and identify additional future improvements.



High-capacity transit studies will inform the region how to expand mass transit to areas such as Everett (top), Tacoma (middle), and Redmond (below) in future phases.





The investments contained in ST2 will create regional jobs both during construction and after the system is built.

Putting the System in Place

Implementing the plan in stages

Implementation of ST2 will begin after voters approve funding for the expanded regional transit system. Individual projects will be brought into service after they proceed through planning, public outreach, environmental review, preliminary engineering, property acquisition, final design, permitting, construction and start-up/testing programs. Transit centers, parking garages and commuter rail stations typically take five to six years from planning and site selection through opening for service. Light rail extensions are more complex because they travel through multiple jurisdictions, along freeway corridors or across waterways. Light rail extensions can take approximately four to seven years for planning, public outreach, environmental review, engineering and final design, and require another four to six years to build, depending on their length and complexity. Sound Transit continually coordinates with local and state governments to streamline project approval processes while ensuring environmental and community concerns are properly addressed. While putting each component of ST2 in place, Sound Transit will use a variety of proven analytical, project management and review techniques to make sure that the system provides the greatest regional benefits.

Link light rail from Downtown Seattle to the University of Washington is scheduled to open in 2016. The First Hill streetcar connector to light rail is also scheduled to open by 2016. The ST2 Plan anticipates opening the extensions to Northgate, Bellevue and the vicinity of Highline Community College in 2020. Construction will continue to the Overlake Transit Center area of Redmond with service scheduled to start in 2021, and the extensions to Lynnwood and Redondo/Star Lake are scheduled to open for service by 2023. ST2 also provides partnership funds for an extension of Tacoma Link light rail as early as 2015.

In the south corridor, Sounder commuter rail access will be improved for stations in Tukwila, Auburn, Sumner and Puyallup by 2015. Station platforms will be extended to accommodate longer trains and four new round trips will be phased into service by 2015. Station access improvements for Mukilteo, Edmonds, Kent, Tacoma, South Tacoma and Lakewood are scheduled to be completed by 2023.





ST Express regional bus service will be improved in high demand corridors in stages as additional buses and maintenance facility capacity become available. Sound Transit will put new service on the street as quickly as possible; change and add service to respond to ridership demand; and utilize access improvements such as HOV lanes and expanded parking and station access improvements as they come on line. Sound Transit will work closely with its transit partners to coordinate, integrate and maximize bus service and restructure those services in response to new rail services.

The Sound Transit Board will consider the prioritization, sequencing and actual timing of construction and service start-up of all ST2 projects. This will include ongoing consideration of factors affecting project readiness. The Board may modify project timing as appropriate, in response to the anticipated evolution of project readiness over the ST2 implementation period, and the necessity of coordinating ST2 construction with that of regional highway projects occurring in the same corridors. Some ST2 projects are located in close proximity to WSDOT projects. To the extent practicable, Sound Transit will coordinate design of its projects with WSDOT, and both parties will work to phase construction of each project to mitigate the overall construction impacts. As ST2 light rail projects are planned and designed, consideration will be given to possible future system expansion options to facilitate future extensions. For example, extensions to Issaquah and Kirkland are being considered during planning and design of the East Link project.

Throughout the implementation of the ST2 Plan, Sound Transit's Transit-Oriented Development (TOD) program will strive to achieve pedestrian-friendly development around the high-capacity transit stations. The purpose of the TOD program is to promote development that will result in reduced automobile use, higher transit ridership, enhanced livability, walkability and sustainability in the communities Sound Transit serves. A shift from the use of cars to walking and transit will result in reductions in fuel consumption and the emission of pollutants, especially greenhouse gases.

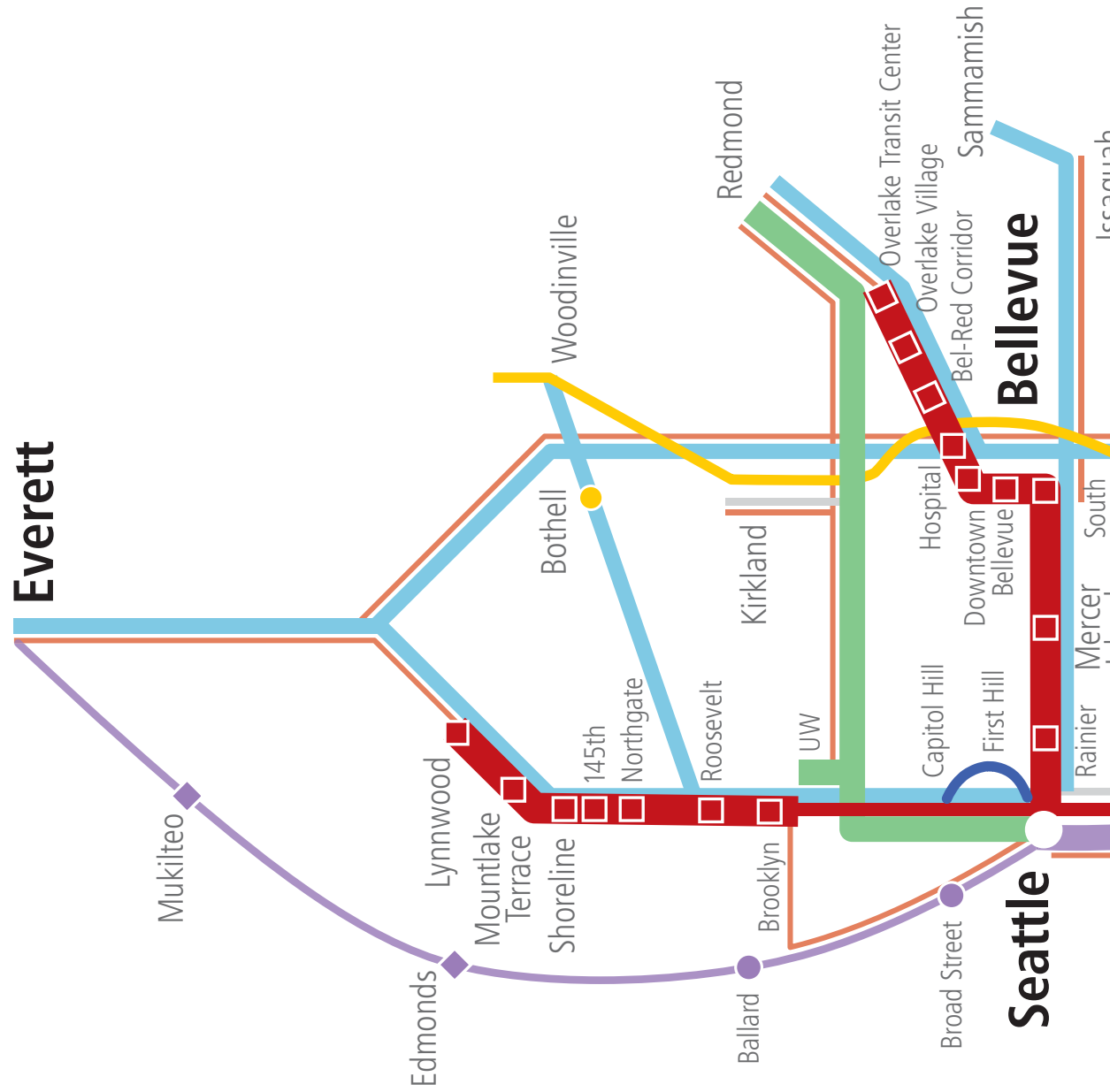
Mass transit expansions will result in reduced automobile use, higher transit ridership and enhanced livability, walkability and sustainability in communities across the region.



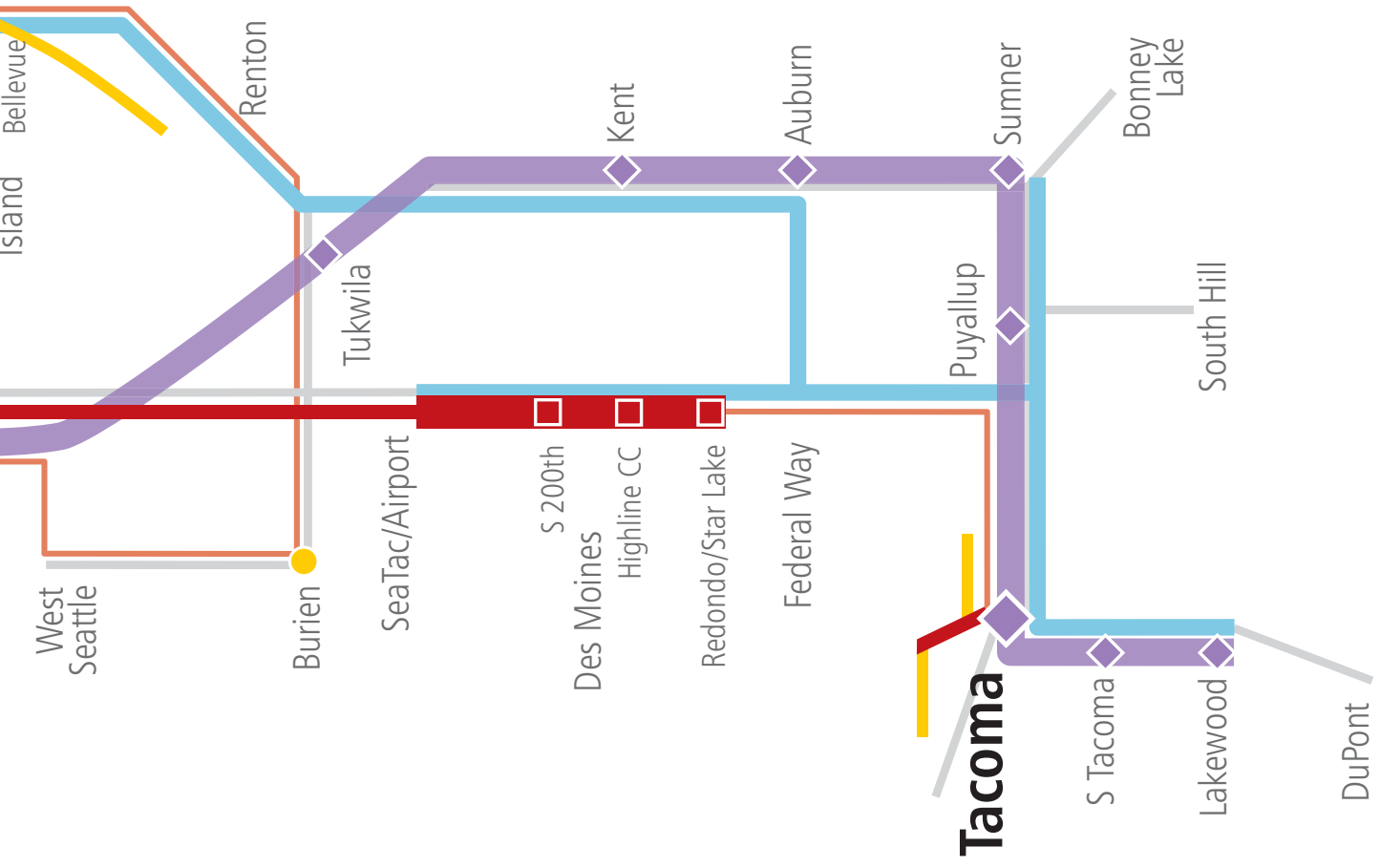
Sound Transit 2

A MASS TRANSIT GUIDE

The Regional Transit System Plan for Central Puget Sound



- ST2 at a glance**
- Adds approximately 36 miles of new light rail, with at least 19 new stations
 - Adds 4 round trip Sounder commuter rail trains between Lakewood and Seattle
 - Improves Sounder stations along the entire line – north and south
 - Adds 17% more ST Express regional bus service
 - Adds a new streetcar connector line in Seattle



Legend	
Link light rail	Extension: new service and station
	Planning, environmental, design, and potential right-of-way purchase
	Existing light rail — UW to SeaTac
Sounder commuter rail	New/improved service or station
	Provisional station subject to funding availability
	Existing commuter rail service
ST Express regional bus	New/improved service
	New bus rapid transit (BRT) service or station
	Existing bus service
Other supporting investments	Regional transit partnership contribution
	First Hill Link connector



ST2 expands access to regional transit system facilities across the region, such as Tacoma Dome Station, above.

As Sound Transit plans potential locations for rail stations and other facilities, evaluations of transit-oriented or joint development will occur at each location. Sustainable station development results from the combined efforts of local jurisdictions and public and private partners. Sound Transit will work with those parties and also evaluate which jurisdictions are encouraging appropriate land uses and densities to reinforce efficient land use and transit connectivity.

Approximately midpoint in the ST2 program implementation, or when the environmental review of all light rail extensions is substantially complete, Sound Transit will evaluate what projects might be funded through a new voter-approved ballot measure and consider a workplan and schedule for such a measure. Sound Transit staff will prepare an evaluation of further system expansion and submit it for Board consideration. This evaluation will at a minimum:

- Determine whether ST2 program implementation is on course as planned;
- Analyze the results of the planning studies to draw conclusions on the appropriateness of pursuing additional corridor development;
- Recommend corridors for additional high-capacity transit development; and
- Assess the potential tools available and/or necessary to develop financing strategies for such corridor development (for instance, federal or state grants, additional revenue authority, use of existing revenues or other funding partnerships), along with associated risks and opportunities.

Managing the existing system

System Access Program

Convenient and efficient access for customers using the system is critical to the effectiveness of the regional transit system and for expanding system ridership. A System Access Program is established to promote the development of facilities to improve connections between surrounding communities and stations, transit centers and other customer boarding locations.

The System Access Program aims to leverage existing or planned investments at or near these facilities. For example, in order to improve bicycle and pedestrian access, funds from this program could be matched with funds from other parties to connect a station to the regional trail system. Candidates for application of the program include the Tukwila/International Boulevard and Sea-Tac

International Airport stations, where trails and bicycle lanes lie to the east and west. A new trail extension is planned to the west, but additional facilities are needed to complete bicycle connections to the stations. Other potential System Access Program uses may include new and/or improved pedestrian and bicycle facilities, additional bus bays for expanding connecting bus service, capital improvements that improve bus speed and reliability along routes connecting to stations, and improved passenger drop-off/pick-up facilities at stations.

A portion of the program’s funds will be allocated through a competitive process where project ideas will be regularly solicited and evaluated for funding consideration. Evaluation criteria will be established and may include, but are not limited to, the level of matching funds from outside sources, the ability to overcome small barriers or close small gaps that are present along pedestrian and bicycle routes, and the potential to reduce reliance on auto use and parking for station access.

Bus/ferry-rail service integration

Buses and ferries are an integral part of the rail expansion in ST2. Sound Transit is working closely with its transit partners – Everett Transit, Community Transit, King County Metro, Pierce Transit and Washington State Ferries – to develop a coordinated bus/ferry-rail network that fully utilizes the unique qualities and strengths of all transit modes. By coordinating bus/ferry-rail service planning and by designing stations for efficient intermodal connections, the rail expansions proposed in ST2 can strengthen existing bus and ferry systems and achieve region-wide mobility benefits that extend far beyond the rail alignments.

Providing rail service in high-traffic areas allows buses to avoid congested segments of the roadway system, improving transit’s on-time performance and efficiency. Convenient bus and ferry connections to rail stations extend the geographic reach of rail far beyond the immediate station areas, providing additional transit connections and expanded regional and neighborhood transit access to the high-capacity transit system. Since some bus service that operates parallel to rail will no longer be needed, the savings in bus service hours can be reinvested to increase bus service elsewhere.

A community effort

The public played a key role in shaping Sound Transit’s Long-Range Plan and ST2, and will play an even greater role in ST2’s implementation.

Sound Transit will continue its open public involvement process with many opportunities to inform and involve the community. This is particularly important when planning, designing and constructing specific projects so that the unique character and needs of each community can be reflected in the finished project.



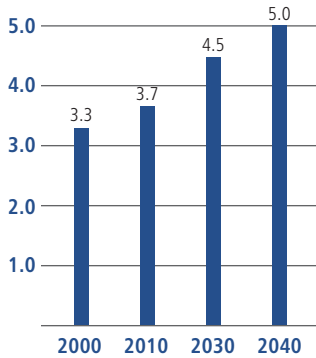
Buses and ferries are an integral part of the rail expansion in ST2 by extending the reach of rail far beyond immediate station areas.



Thousands of comments from community members helped shape the ST2 plan.

Regional population growth

Snohomish, King, Pierce and Kitsap counties (in millions)



Source: Puget Sound Regional Council

The Sound Transit District

The Sound Transit District is more than 1,000 square miles with a population of about 2.86 million people. There are currently more than 50 cities in the district, which includes most of the urban areas of King, Pierce and Snohomish counties.

Sound Transit is governed by an 18-member board of directors made up of local elected officials including mayors, city council members, county executives and county council members from within the Sound Transit District, and the Secretary of the Washington State Department of Transportation.

Annexations

After voters within the district boundaries have approved a ballot proposition authorizing local taxes to support implementation of the ST2 Plan, the Sound Transit Board may approve resolutions calling for elections to annex areas outside, but adjacent to, the Sound Transit District.

The legal requirements to annex areas into the Sound Transit District include the following:

The Sound Transit Board may call for annexation elections after consulting with any affected transit agencies and with the approval of the legislative authority of the city or town (if the area is incorporated) or with the approval of the area's county council (if it is unincorporated).

Citizens in areas to be annexed are provided an opportunity to vote on proposed annexation and imposition of taxes at rates already imposed within the Sound Transit District boundaries.

If approved by the voters, changes to the Sound Transit District boundaries may require changes in the make-up of the Sound Transit Board membership. Board membership must be "representative" of the proportion of the population from each county that falls within the Sound Transit District.

The Sound Transit District

- Includes urbanized areas of Snohomish, King and Pierce counties
- 1,000 square miles
- 52 cities



Extending service outside Sound Transit boundaries

Sound Transit may extend new services beyond its boundaries to make connections to significant regional destinations and allow areas outside of the district to function as part of the regional system.

Such service extension would require agreements with the affected local transit agency and/or other appropriate government agencies.

Sound Transit will enter into agreements with agencies beyond the district boundary to integrate fares. This will allow flexible transfers between various transit operators and prevent people who live outside the district from being penalized financially for making regional trips by transit instead of by automobile.

Benefits of the Plan

Transportation improvements are clearly linked to the growth, development, quality of life and economic vitality of a region. ST2 proposes a range of transit improvements building on the investments Sound Transit has already made, with major extensions of Link light rail to serve more of the Central Puget Sound region’s urban centers, along with improvements in Sounder commuter rail and enhancements to ST Express bus services and facilities. These improvements add major new capacity in the region’s most congested corridors to help serve the transportation demands of the people and businesses already here, as well as anticipated growth.

Transit investments create value within a community that goes beyond where or how many projects are built. Personal mobility, regional connections, the availability of transportation alternatives, and impacts on growth patterns, quality of life and the economic well-being of the region are all tangible outcomes that must be considered in deciding on transit investments.

The regional transit improvements included in ST2 will have many benefits for people throughout the Puget Sound region and will further the realization of the long-term growth management and quality of life goals embodied in Vision 2040, the Sound Transit Long-Range Plan and local land use policies. Some of those benefits are briefly described below, and in more detail in Appendix C.



With the ST2 Plan, transit ridership in the region is projected to grow by more than 65 percent over 2006.

Table 1: Regional transit ridership and transfer rate

	Existing in 2006	2030 without ST2	2030 with ST2
Daily			
Transit trips	329,000	482,000	544,000
Transit boardings	424,000	661,000	808,000
Annual			
Transit trips	98 million	145 million	165 million
Transit boardings	127 million	199 million	246 million
Percent using ST	12%	40%	65%
Transfer rate	1.29	1.37	1.49

Table 2: Summary of projected Sound Transit ridership by mode in 2030

	Annual riders	Daily riders
Link light rail	86.5 million	280,000
Tacoma Link	2 million	6,000
Sounder commuter rail	6.5 million	24,000
ST Express bus	14 million	48,000
Total	109 million	358,000

Transit ridership

By 2030, the completed projects in *Sound Move* and ST2, along with continued growth in people riding local buses, means that public transit in the Sound Transit District will be carrying an estimated 165 million trips a year, twice as many as in 1996. Over 100 million of these trips will be on Sound Transit. Most importantly, these new transit trips will be concentrated in the region’s most congested corridors on bus routes and rail lines serving the region’s densest downtowns and urban centers.

The most important measure of any transit investment is whether it attracts riders and serves them well. The most direct way to measure this factor is the number of people riding transit. With the ST2 Plan, transit ridership in the region is projected to grow by more than 65 percent over 2006.

Table 1 compares regional transit ridership in 2006 with ridership projections for 2030, with and without the ST2 investments.

Table 2 summarizes the daily and annual boardings projected for Link light rail, Sounder commuter rail and ST Express bus in 2030 with the ST2 Plan.



Transit reliability – that is, on-time performance – is ensured through exclusive rights-of-way that are completely free of delays from traffic congestion.

Transit capacity

The capacity of rail transit is a combination of the size of the vehicles and how frequently they run. As with highway capacity, the important measure for rail capacity is the maximum passenger carrying capacity during the peak period, when service is most in demand. This is usually referred to as “peak passengers per hour in the peak direction.” Projected ridership for Link light rail in 2030, seven years after ST2 system build-out, shows it will have capacity to meet demand well into the future.

The per-hour and all-day passenger moving capacity of the ST2 light rail system is significant, especially compared to a roadway of similar width with mixed traffic.

The difference between the ultimate system capacity and the ridership forecast shortly after opening represents the excess capacity available to accommodate a large amount of future ridership demand in the decades after the system is built. **Table 3** presents the hourly passenger capacity of the ST2 light rail system at points in the system with varying frequencies of train service, at three different loading standards: all passengers seated, a comfortable level of standing passengers and a “crowded” load that might only be accommodated during peak times for short segments, such as a major event.

Table 3: Light rail system capacity (passengers per hour per direction)

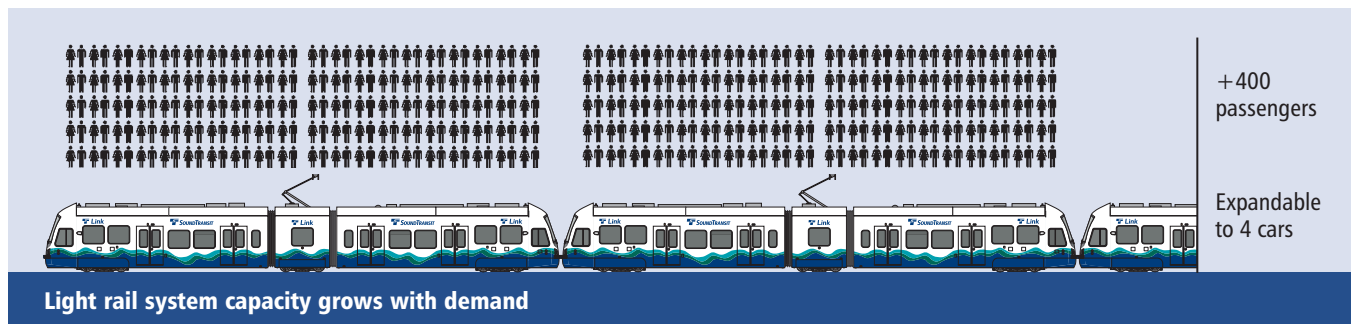
Peak frequency (minutes)	4-car trains per hour	Seated capacity (74 per car)	Comfortable capacity (150 per car)	Crowded capacity (200 per car)
2	30	8,880	18,000	24,000
4	15	4,440	9,000	12,000
6	10	2,960	6,000	8,000
8	7.5	2,220	4,500	6,000

As the region’s population grows, Sound Transit can serve the rising demand by increasing the frequency and length of light rail trains. A four-car light rail train can carry up to 800 people. At maximum capacity, running four-car trains every four minutes offers the ability to move 12,000 riders per hour in each direction, or 24,000 riders per hour in both directions.

Travel time savings and reliability

Within the Sound Transit District, bus travel times slow by about one percent per year, mostly due to increased road congestion and increased pedestrian activity in centers. Without improvements in transit, existing bus travel times would be expected to be about 22 percent slower by 2030.

Expanding the region’s network of fixed guideway transit operating in its own right-of-way separate from roadway congestion helps protect transit riders from increasing travel times. Travel times for drivers will improve as more people get out of their cars and use transit, providing more room on the road.



Tables 4 and 5 illustrate the expected travel time savings for the region’s drivers and transit riders, achieved by the investments included in the ST2 Plan. Looking ahead to 2030, seven years after ST2 investments are complete, the region’s highway drivers and transit riders are projected to save about 25 million and 19 million hours a year respectively.

Reliability means arriving at the same time every time, regardless of gridlock or weather conditions. Reliability is a critical factor in how people plan their travel and budget their time. Transportation system reliability has continued to decline in the Puget Sound region for several decades, both for car drivers and for transit riders. This is primarily related to increases in the severity of traffic congestion, and in the greater likelihood of congestion occurring at any time of day or on any day of the week.

When people need to arrive somewhere by a specified time, whether to be on time for work, or to catch a plane or to watch a child’s soccer game, they know that if the trip involves one of the region’s most congested corridors at peak hours they should allow a great deal of extra time to get there. Increasingly, the problem of congested peak hours has spread to all hours of the day and even to the weekends.

Buses are caught in the same traffic as cars and trucks. Freeway HOV facilities speed buses, but even these ramps and lanes often break down in the crush of peak period traffic, bad weather and accidents. Sounder commuter rail and Link light rail, although they share some grade crossings with vehicles, operate on their own rights-of-way free from conflicts with other traffic.

Reliability on streets and highways is affected by many things including accidents, stalled vehicles and weather conditions, but the most important factor in the Central Puget Sound region is the volume of traffic and delays caused by congestion.

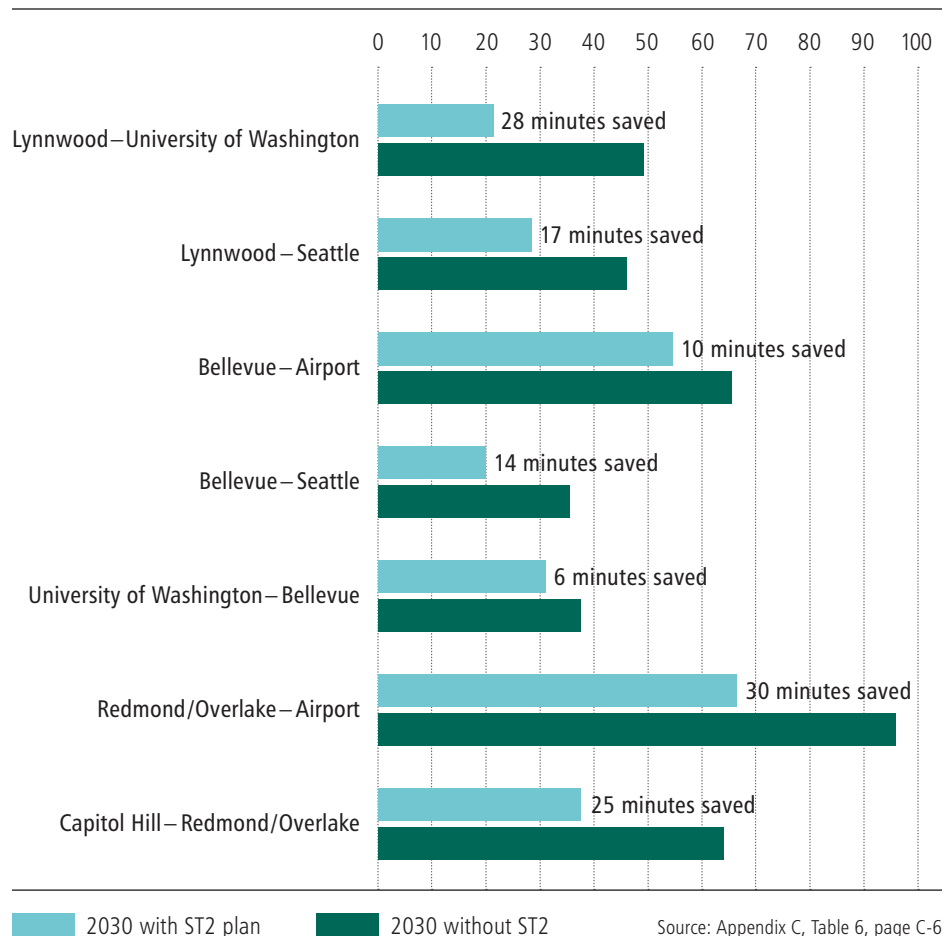
Table 4: Projected travel time savings for drivers and freight

Drivers & freight 2030 with ST2	
Reduction in annual vehicle miles traveled (switched to transit)	268 million
Annual highway delay reduced	25 million hours

Table 5: Projected travel time savings for transit riders

Transit riders 2030 with ST2	
Daily hours saved	60,000
Total annual hours saved	19 million

Projected average transit travel times



Source: Appendix C, Table 6, page C-6



Each year, rising congestion means drivers have to allow more and more time to reach their destinations. This is illustrated by the travel time allowances at right that are necessary to have a 95 percent chance of arriving on time.

WSDOT tracks reliability on the freeways for major commutes between pairs of cities, and calculates “95 percent reliable travel times.” This is the amount of time a driver needs to plan for to arrive on time 19 times out of 20.

WSDOT data for major corridors shows reliability on the region’s highways to be steadily declining. **Table 6** shows WSDOT’s estimates of how much time a driver needs to allow for travel between certain points in the regional system due to the unpredictability of highway travel in the region.

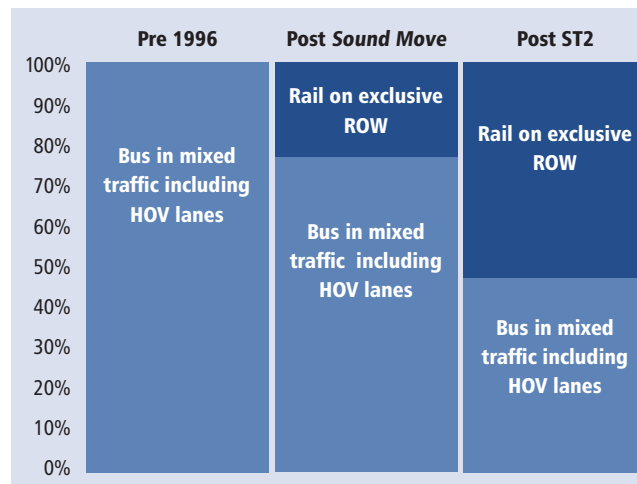
Transit reliability is related to a number of factors, but most significantly to the portion of the trip that occurs in exclusive right-of-way. **Figure 1** illustrates the increased access to exclusive right-of-way that will be experienced by the region’s transit riders with ST2.

Table 6: Regional highway travel time reliability

Route description	Travel time at posted speeds	Average peak travel time	Travel time for 95% on-time arrival	On-time arrival % increase
From Seattle	(in minutes)	(in minutes)	(in minutes)	
Seattle–Everett	24	43	60	40%
Seattle–Redmond via SR 520	15	30	44	47%
Seattle–Bellevue via I-90	11	18	32	78%
Seattle–Bellevue via SR 520	10	21	32	52%
Seattle–Issaquah	16	23	37	61%
Seattle–SeaTac	13	19	28	47%
Seattle–Federal Way	22	37	56	52%
From Bellevue				
Bellevue–Everett	23	44	62	41%
Bellevue–Seattle via I-90	11	28	46	64%
Bellevue–Seattle via SR 520	10	26	38	46%
Bellevue–Tukwila	13	33	45	36%
From other locations				
Renton–Auburn via SR 167	10	20	33	65%

Source: WSDOT Gray Notebook: Measures, Markers, and Mileposts 9/30/07 p. 68

Figure 1: Percentage of passenger miles in mixed traffic vs. exclusive right-of-way



Transit reliability is related to the portion of the trip that occurs in exclusive right-of-way. As the percentage of rail trips increases, transit reliability will also increase.

Sound Transit’s Link light rail operates entirely on exclusive right-of-way. In addition, most of the right-of-way is grade separated with no interference from traffic. Even where there is no grade separation, Link light rail operates in exclusive right-of-way with signal preemption. This allows the service to maintain a very high level of reliability at all times of the day.

Upon completion of the ST2 investments, the share of all transit riders in the region using Sound Transit’s services grows from 12 percent today to 65 percent in 2030. Much of the bus service in new rail corridors can be reinvested elsewhere in the region, resulting in an overall increase in transit service and access beyond the rail lines.

Transit system accessibility

The reach of the regional transit investments made in *Sound Move* and in ST2 is much greater than just the immediate vicinity of rail stations and transit centers. **Figure 2** shows the access to the regional light rail and commuter rail systems when all ST2 improvements are in service. It depicts the geographic coverage of an average ½ mile walk access and average 2½ mile park-and-ride access to the rail stations, and the reach of existing local bus services (including an average ¼ mile walk distance to the bus) that would allow access to the rail system with one transfer. Within the Sound Transit District, over 70 percent of residents and over 85 percent of employees would have convenient access to the region’s rail system in 2030.

Activity center drive-alone travel reductions

Table 7 on the following page presents the percentage of work and college trips made by transit riders to a selected set of regional centers. Increasing access to regional centers by transit reduces the need for automobiles that contribute to roadway congestion and delay, fuel consumption and air pollution, and use of scarce land resources for parking. The existing transit share data is from the 2000 U.S. Census Journey-to-Work survey as compiled by PSRC. Percentages include ridership on scheduled fixed-route transit service. Excluded are paratransit, dial-a-ride, carpools and vanpools.

Figure 2: Combined regional rail access

As shown in the shaded areas, the ST2 rail investments would be accessible to 70 percent of the region’s population and 85 percent of its jobs in 2030.

Note: This does not include areas served by ferries or bus routes that are outside the Sound Transit District.

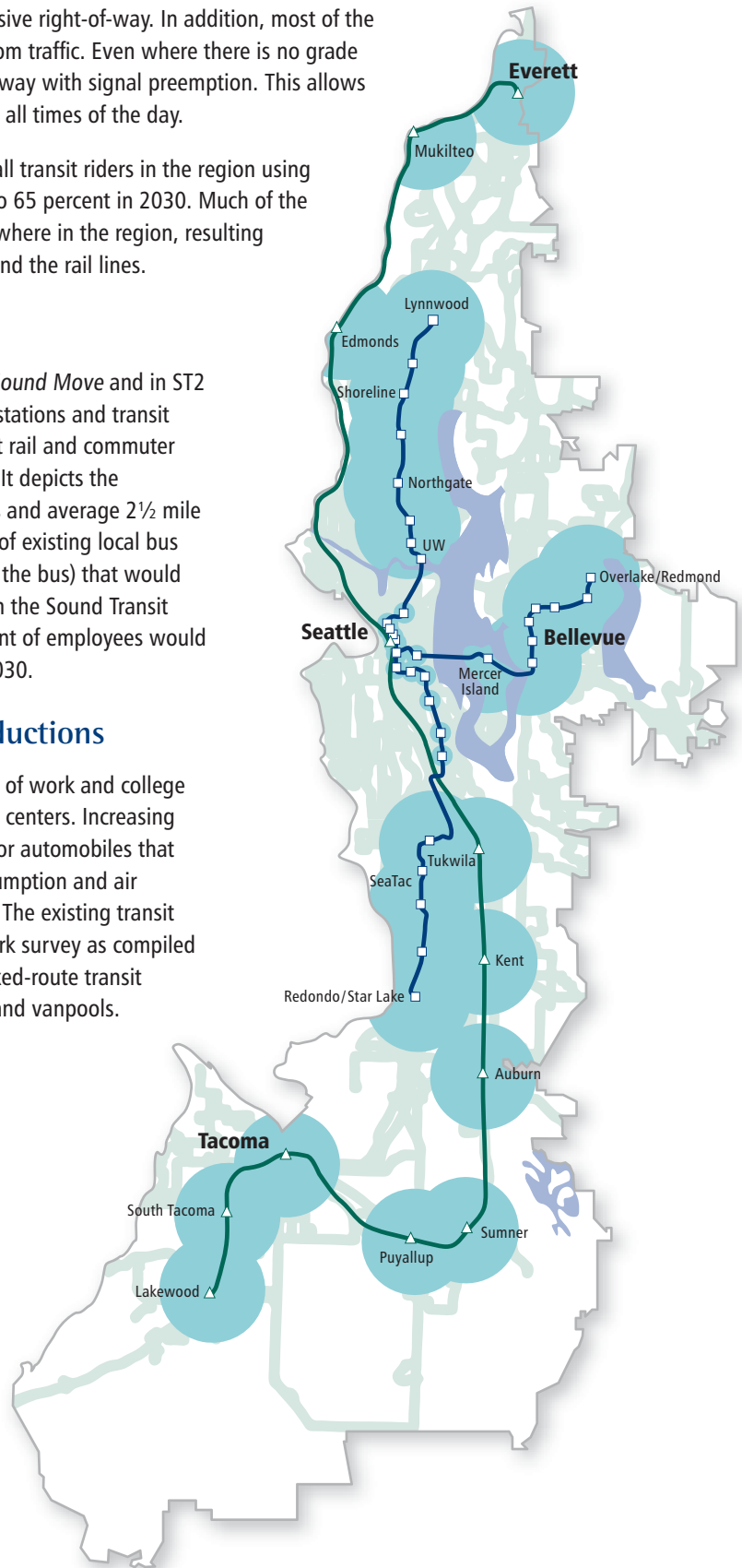
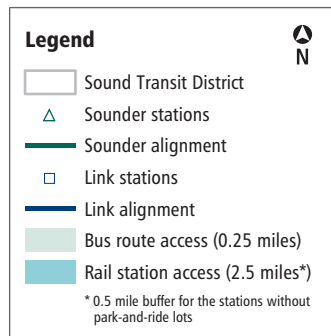


Table 7: Projected activity center mode splits

	Existing transit share of commute trips	ST2 2030 share of commute trips
Northgate	6%	9%
University District	20%	33%
Downtown Bellevue	8%	12%
Downtown Seattle	40%	50%

Table 8: CO₂ equivalents (E) of ST2 emission reductions¹

ST2 annual average emission reductions	
138,943 metric tons CO₂E	
which is equivalent to	
25,400	passenger vehicles;
323,100	barrels of oil consumed;
1,900	gasoline tanker trucks;
12,300	single-family homes;
1,000	acres of forest preserved;
700	railcars of coal; or
47,900	tons of landfill waste

¹ Source: EPA Clean Energy Calculations and References, <http://www.epa.gov/cleanenergy/energy-resources/refs.html>.

Vehicle miles traveled, fuel use and greenhouse gas reductions

New transit riders using the investments in the ST2 Plan will reduce daily vehicle miles traveled in the region by about 870,000 miles per day, or 268 million miles per year. That equates to annual fuel savings of about nine million gallons. Not burning that fuel would save the region about 360 metric tons of equivalent CO₂ emissions each day and approximately 100,000 tons per year in 2030. According to the federal Environmental Protection Agency, this level of emission reductions is equivalent to the emission production levels included in **Table 8**.

Transportation system cost and delay reductions

According to the U.S. Census Bureau, in 2003 the average family in our region spent 18 percent of disposable income on transportation, more than any other expenditure except housing. The average household has 2.3 people, owns 2.4 cars and spends \$9,350 a year on transportation.

The most expensive costs of driving are owning and insuring a vehicle. A family that can own one less car because of better transit service can save thousands of dollars a year on transportation. A family that owns the same number of cars, but drives less will save on vehicle operating costs – gas, oil, parking, tires and maintenance. For example, based on current average vehicle fuel economy and fuel cost of about \$4.00 per gallon, ST2 transit investments would save the region about \$100,000 per day, or about \$37 million per year.

For those commuting by transit to places with high parking costs, the savings in parking are substantial. For example, a monthly PugetPass good for unlimited \$2.25 rides (the two-zone peak hour fare on King County Metro) costs \$81. According to the PSRC, the average cost of parking in the region’s downtowns in 2006 was \$138 a month. For the average transit commuter to Downtown Seattle, savings in parking would be approximately \$700 a year, on top of the savings on gas and other vehicle operating costs.

As important as out-of-pocket expenses, the ST2 investments would also save about 25 million hours of delay per year for drivers and freight, and 19 million hours per year for transit riders. Rather than sitting in traffic or slower transit, residents would be able to better use their time with their families or in productive work. Residents of the region would save over \$600 million per year in today’s dollars, based on an average value of time of about \$14 per hour, about half the region’s average wage rate.²

² Sound Transit, Draft Benefit-Cost Methodology Report, June 2008.



Paying for the System

Financial plan framework

State law provides the basis for funding regional transit investment through authorization of voter-approved taxes and bonding. The ST2 Plan will be funded by a combination of existing local taxes (four-tenths of one percent sales and use tax, three-tenths of one percent motor vehicle excise tax to be ended after 2028), new voter-approved local taxes (an additional five-tenths of one percent sales and use tax), federal grants and fares. Sound Transit will issue bonds backed by local tax collections within the Sound Transit District to help implement the ST2 Plan.

The agency will seek legislative authority to replace or substantially reduce its reliance on the sales and use tax as the primary funding source for regional transit improvements, consistent with all contractual commitments. In order to replace the revenue that would be lost by reducing or eliminating the sales and use tax, the agency will seek legislative authority to raise an equal amount of revenue from other sources more directly related to regional transportation such as tolls, user-based fees, vehicle or other transportation related taxes.

Funding

The proposed plan is built on the following funding elements (all dollar values include inflation and represent year of expenditure dollars):

Sound Move surplus: Revenue generated from Sound Transit’s existing *Sound Move* taxes (four-tenths of one percent sales and use tax and three-tenths of one percent motor vehicle excise tax), will continue to be used in addition to grants, fares and other miscellaneous sources. The revenue generated from *Sound Move* surplus that is available to be applied to the ST2 program is estimated to be \$2.3 billion.

ST2 sales and use tax: The plan will seek voter approval to raise the local sales and use tax an additional five-tenths of one percent. Revenue from the five-tenths of one percent sales and use tax increase is estimated to generate \$7.8 billion through 2023.

Because it runs on its own tracks separated from traffic, light rail is quick and reliable.



ST2 quickly expands ST Express bus and Sounder commuter rail while building out the regional light rail system.



ST2 rail investments result in an 8.9 percent rate of return to the region, paying for themselves in about a decade.

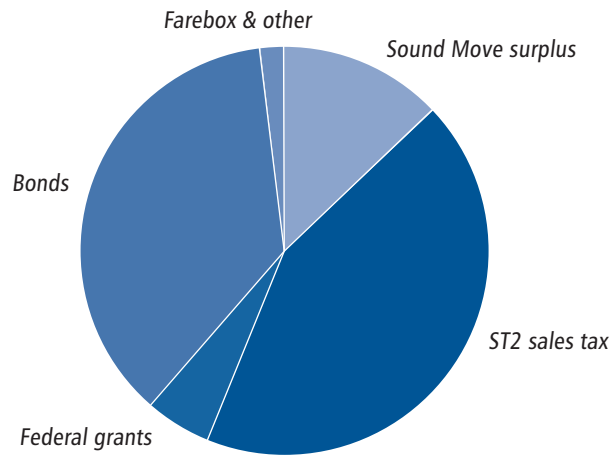
Federal support: The ST2 Plan assumes an additional \$895 million in federal grants to build out the system, supplementing local resources. These federal grants for capital programs include Federal Transit Administration formula grants and full funding grant agreements. No state or local grants are assumed for implementing the ST2 Plan.

Bonding: Because transit facilities provide benefits over a long span of time, it is reasonable to finance a portion of their construction over a period that extends well beyond the construction timeframe. Sound Transit’s debt financing capacity will be calculated by evaluating all revenues and deducting total operating expenses for net revenues available for debt service. The Sound Transit Board recognizes that its future bondholders will hold first claim against taxes pledged as repayment for outstanding bonds. The ST2 Plan includes an estimated \$6.5 billion in bond financing from 2009-2023.

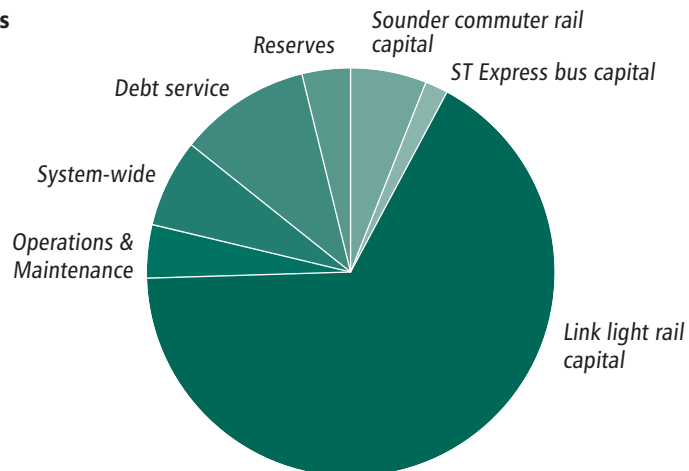
Fares: Sound Transit currently collects fare revenues from passengers using the system. As the ST2 system is built out, the agency will continue to collect fares and other operating revenue. The ST2 related fares and other operating revenues are estimated to be \$219 million from 2009-2023.

Interest Earnings: The ST2 related interest earnings on net cash balances are estimated to be \$143 million from 2009-2023. Financial policies attribute these revenues to fund system-wide costs.

Sources of funds



Uses of funds



Source: Appendix A, page A-4

Estimated costs

The ST2 Plan will cost an estimated \$17.8 billion in capital and operating investments to expand the regional high-capacity transportation system – Link light rail, Sounder commuter rail, and ST Express bus service. The capital and other associated costs that would be incurred from 2009 through 2023 are as follows:

Sounder commuter rail: \$1.1 billion for additional track space leases, locomotives and coach cars, maintenance facilities, and stations and improvements.

ST Express bus: \$344 million for expanded park-and-rides, transit centers, station access improvements, bus fleet and maintenance facilities.

Link light rail: \$11.8 billion for approximately 36 miles of light rail to extend service to Lynnwood, the Overlake Transit Center area of Redmond, and Redondo/Star Lake. The light rail cost estimate includes the First Hill streetcar connector, Tacoma Link extension partnership funds and the Eastside rail corridor partnership.

Transit operations and maintenance: \$730 million through 2023 for new light rail, commuter rail and regional bus services. The ST2 Plan funds transit operations indefinitely. The costs estimated here are for the first 15 years of ST2 transit operations through 2023.

System-wide activities: \$1.3 billion through 2023. ST2 will fund system-wide expenditures, including the agency's research and technology and fares programs, future phase planning, administration and other expenditures that are necessary to maintain and plan for regional transit consistent with the voter-approved system plan.

Debt service: \$1.8 billion through 2023. In order to finance the plan, the ST2 Plan anticipates the issuance of 30-year bonds as necessary to maximize the financial capacity required to complete the plan. The \$1.8 billion in debt service reflects costs for 2009-2023 for bonds issued for ST2 projects. Debt service will continue until the final bonds are retired.

Reserves: \$708 million through 2023. The plan funds estimated bond reserves and a two month operations and maintenance reserve.



Sounder commuter rail service led the nation in ridership growth in the first quarter of 2008. Public input supports expansion of this popular service.

ST Express ridership grew by 14 percent in the first half of 2008. ST2 expands this service in the highest need corridors by up to 30% starting in 2009.



Table 9: Uses of funds*

Uses of funds	
Capital expenditures	
Sounder commuter rail	1,101
ST Express bus	344
Link light rail	11,821
System-wide activities	153
Total capital	13,418
O&M expenditures	
Sounder commuter rail	206
ST Express bus	232
Link light rail	292
System-wide activities	1,141
Total O&M	1,871
Other	
Debt service	1,835
Contributions to reserves	708
Contribution to system-wide	
Total uses	17,832

Table 10: Sources of funds*

Sources of funds	
Sound Move taxes	2,301
ST2 sales & use tax	7,752
Federal grants	895
Bonds	6,522
Fares & other operating revenues	219
Interest	143
Total sources	17,832

* All figures in millions of year-of-expenditure dollars (2009-2023, includes inflation).
 Figures may not add exactly due to rounding.

Project scope and betterment control: One tool that Sound Transit has at its disposal to constrain unanticipated growth in the costs of projects during their implementation is a Board-adopted Scope Control Policy. The objective of the policy is to guide staff in responding to requests for enhancements to projects that increase scope, usually with a corresponding increase in costs. The policy requires:

- Written project scope definitions at every stage of project development;
- Cost estimates and budgets that correspond directly to the project scopes;
- Consideration of project alternatives that are within the project budgets;
- Inclusion of reasonable and responsible mitigation measures based on specific, significant adverse environmental impacts clearly identified in environmental documents, and which are attributable to those impacts;
- Baseline of the project scope, mitigation measures and budget following the Board's decision at the conclusion of the environmental process;
- Confirmation and re-alignment of project scope and budget at each major project development milestone (e.g., completion of preliminary engineering);
- Addition of partner-financed enhancements to the baseline scope, provided the addition does not negatively affect Sound Transit's project scope, schedule and budget; and
- Project budgets can be increased to incorporate enhancements above and beyond the baseline scope only through a two-thirds majority vote of the Sound Transit Board.

The capital cost estimates for the ST2 Plan were developed using standard cost-estimating techniques common in the transit industry and recommended by the Federal Transit Administration. They also reflect Sound Transit's experience in designing and building comparable facilities in the Central Puget Sound region. Sound Transit's cost estimating methods were reviewed by an independent Expert Review Panel that was appointed by the State of Washington. **Table 9** summarizes the estimated cost of building out the ST2 system and operating and maintaining all of the services contained in the ST2 Plan.

Table 10 summarizes the revenues that are anticipated to be used to pay for the ST2 Plan.

For a more detailed sources and uses of funds summary – including explanatory notes and distribution of sources and uses by subarea – see Appendix A.



Risk assessment

Building a complex regional transit system over an extended period involves risk. Those risks and Sound Transit's approach to addressing them are summarized below.

Tax base growth risks: The plan requires projections of revenue collections over an extended period. The agency relies on an independent revenue forecast that has been reviewed by the State's Expert Review Panel. That forecast projects sales tax revenues to grow at 4.76 percent annually from 2009-2023, compared to a 6.4 percent annual growth from 1980-2005.

Federal funds risk: The ST2 financial plan assumes \$895 million in federal funds. This assumption is based on an overall seven percent federal share of the ST2 capital program, compared with a 31 percent share for *Sound Move*. However, federal funds are contingent upon future Congressional authorization and may vary from initial ST2 projections due to federal fiscal conditions, timing of ST2 projects and competition from other transportation projects nationwide.

Costs risks: With the exception of the light rail extension from the University of Washington to Northgate, ST2 is based on conceptual engineering estimates. The risks for costs to grow beyond initial estimates include: faster than anticipated growth in construction costs; faster than anticipated growth in real estate values; the addition of new required elements or projects not currently included in the plan; and more expensive alignments or station locations than included in the plan. The Sound Transit Board will closely monitor and manage project scope and cost risks to minimize cost increases. In addition, the ST2 Plan includes contingencies within the project budgets that allow for uncertainties and unforeseen conditions that arise during the design and construction of the projects.

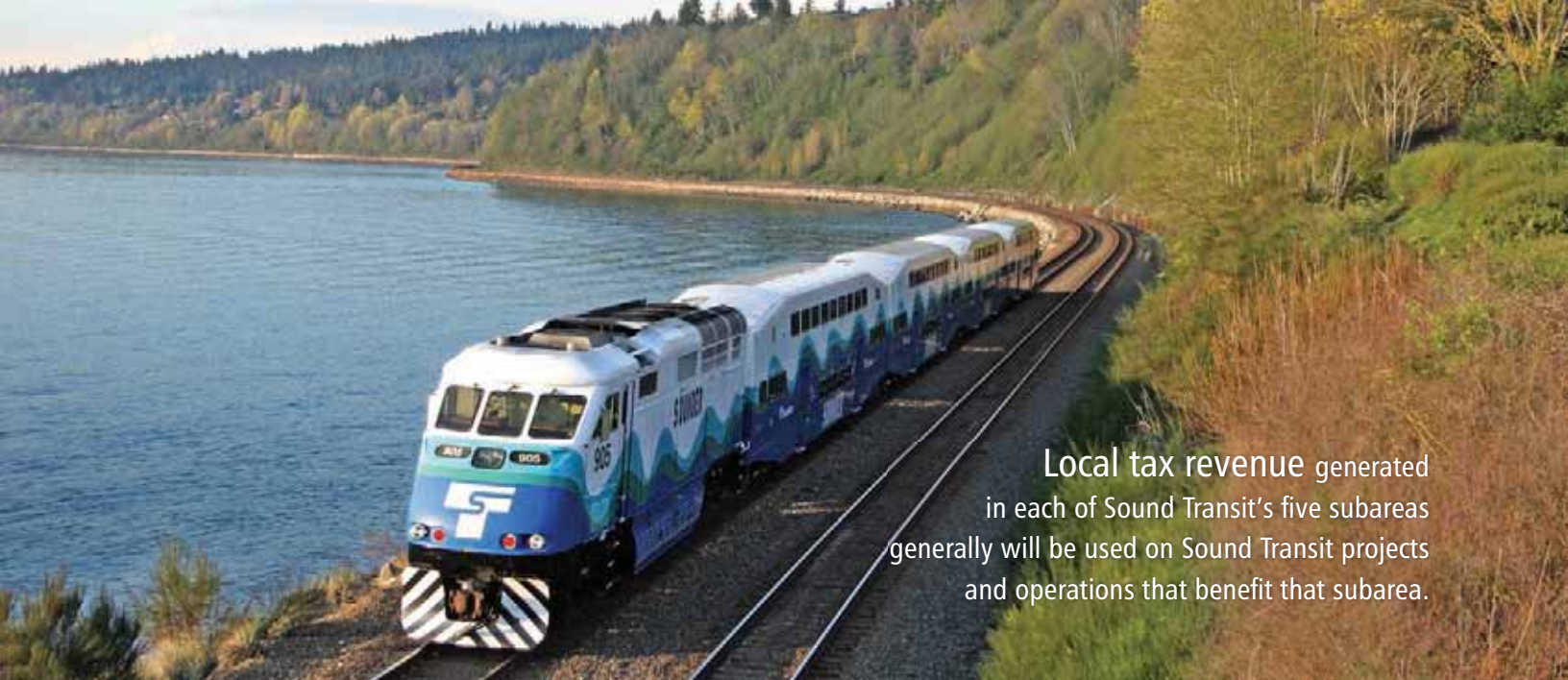
The ST2 financial plan also contains additional contingency to deal with revenue shortfalls or cost increases. The agency plans to maintain a 50 percent annual contingency (after payment of operating expense) above the amount necessary to pay debt service (1.5x net coverage policy). In the event that a subarea's revenues are insufficient to cover its costs, the agency's currently approved policies provide the Sound Transit Board with these options:

- Modify the scope of the projects;
- Use excess subarea financial capacity and/or inter-subarea loans;
- Extend the time to complete the system; or
- Seek legislative authorization and voter approval for additional resources.

The Puget Sound region is a dynamic economic engine that would benefit from reliable, safe and sustainable transit investment to maintain its vitality well into the future.



The ST2 Plan includes contingencies within the project budgets that allow for uncertainties and unforeseen conditions that arise during the design and construction of the projects.



Local tax revenue generated in each of Sound Transit's five subareas generally will be used on Sound Transit projects and operations that benefit that subarea.

Sounder commuter rail service between Everett and Seattle, with service to Mukilteo and Edmonds, runs along the shores of Puget Sound.

Financial policies

The ST2 financial plan is based on the following principles, which are documented in the agency's financial policies and included as Appendix B. The financial policies also reflect the framework for completing ST2 and provide tools for the Sound Transit Board to respond to future conditions. For more detailed revenue and expenditure information, see Appendix A.

Distributing revenues equitably: Local tax revenue generated in each of Sound Transit's five subareas generally will be used on Sound Transit projects and operations that benefit that subarea. Subareas may fund projects or services located outside of the geographic boundary of the subarea when the project benefits the residents and businesses of the funding subarea.

Financial management: To effectively manage voter-approved revenues and to efficiently manage the transit system, Sound Transit will maintain policies for debt and investment management, risk management, capital replacement, fares and operating expenses and grants management.

Public accountability: Sound Transit will hire independent auditors and appoint a citizen oversight committee to monitor Sound Transit performance in carrying out its public commitments.

Voter approval requirement: The Sound Transit Board recognizes that the taxes approved by voters are intended to implement the system and to provide permanent funding for future operations, maintenance, capital replacement and debt service for voter-approved projects, programs and services. The Board has the authority to fund those future costs through a continuation of the local taxes authorized by the voters. However, the Board pledges that after the voter-approved plan is completed, subsequent phase capital programs that continue local taxes at rates above those necessary to build, operate and maintain the system and retire outstanding debt, will require approval by a vote of the citizens within the Sound Transit District.

Sales tax rollback: Upon completion of the capital projects in ST2 and *Sound Move*, the Board will initiate steps to roll back the rate of sales tax collected by Sound Transit. Sound Transit will initiate an accelerated pay off schedule for any outstanding bonds whose retirement will not otherwise impair the ability to collect tax revenue and complete ST2 or *Sound Move*, or impair contractual obligations and bond covenants. Sound Transit will implement a sales tax rollback to a level necessary to pay the accelerated schedule for debt service on outstanding bonds, system operations and maintenance, fare integration, capital replacement and ongoing system-wide costs and reserves.

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