

2023 ANNUAL PROGRAM REVIEW REPORT

MAY 2023



EXECUTIVE SUMMARY

Background

Sound Transit’s Board Annual Program Review, or BAPR, originates from Realignment Resolution No. 2021-05, in which the Board directed staff to prepare a yearly report on the agency’s projected financial capacity, affordability, and project status for the system expansion program. It reviews the program from April 2022 through April 2023, detailing changes in agency financial capacity and overall affordability of the system expansion program since the last BAPR.

The realignment resolution provided “affordable schedules” based on the agency’s ability to both issue and repay debt and earlier “target schedules” that were modeled based upon cost reductions for a grouping of four key projects: the West Seattle and Ballard, Everett, South Kirkland-Issaquah, and TCC Tacoma Link extensions. (Since the last report, the West Seattle and Ballard extensions have since decoupled into separate projects.) To meet the more aggressive target schedule for those projects, the agency must secure additional resources or cut project costs to fill the entire gap. The difference between the target and the affordable schedules is the program’s “affordability gap” that is apportioned to those four projects. If one project cannot close the gap that was apportioned, that remaining gap must be filled by the other three projects for the remaining projects to have the financial ability to meet their target schedules.

The West Seattle, Ballard, and Everett Link extensions are in the planning phase and are already seeing challenges and opportunities in project development. Meanwhile, the South Kirkland-Issaquah and TCC Tacoma Link extension projects will not begin project development for several more years, so they are excluded from this report. The BAPR also provides information on projects that have significant shifts in schedule or cost that have been incorporated into the Financial Plan, such as the Ballard and Tacoma Dome Link extensions.

As Sound Transit continues to build out the system as shown in the future service map, projects are facing numerous challenges that increase costs and delay schedules. To address these challenges, we



Sound Transit Future Service Map

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are evaluating cost drivers, updating our processes to be more responsive, and analyzing markets and availability of construction materials.

The next section describes key takeaways affecting the agency's ability to deliver projects.

Key takeaways



Financial capacity

The affordable schedule remains affordable, but the target schedule is not due to current projections of debt capacity and coverage. Due to project delays related to the study of new alternatives, the Ballard Link Extension cannot achieve its target schedule. With this change, individual project affordability gaps will need to be reevaluated. Additionally, with increasing operating and maintenance costs, the agency's ability to repay projected debt has not improved. This is an ongoing risk to completing projects within the Board-approved scope and on their affordable schedules.

The projections discussed here are for completing the program of expansion projects on the affordable schedule, plus operational and maintenance costs from 2017 through 2046, which is the length of the agency's long-range Financial Plan. The Spring 2023 Financial Plan projects that the affordable schedule remains within agency debt capacity.

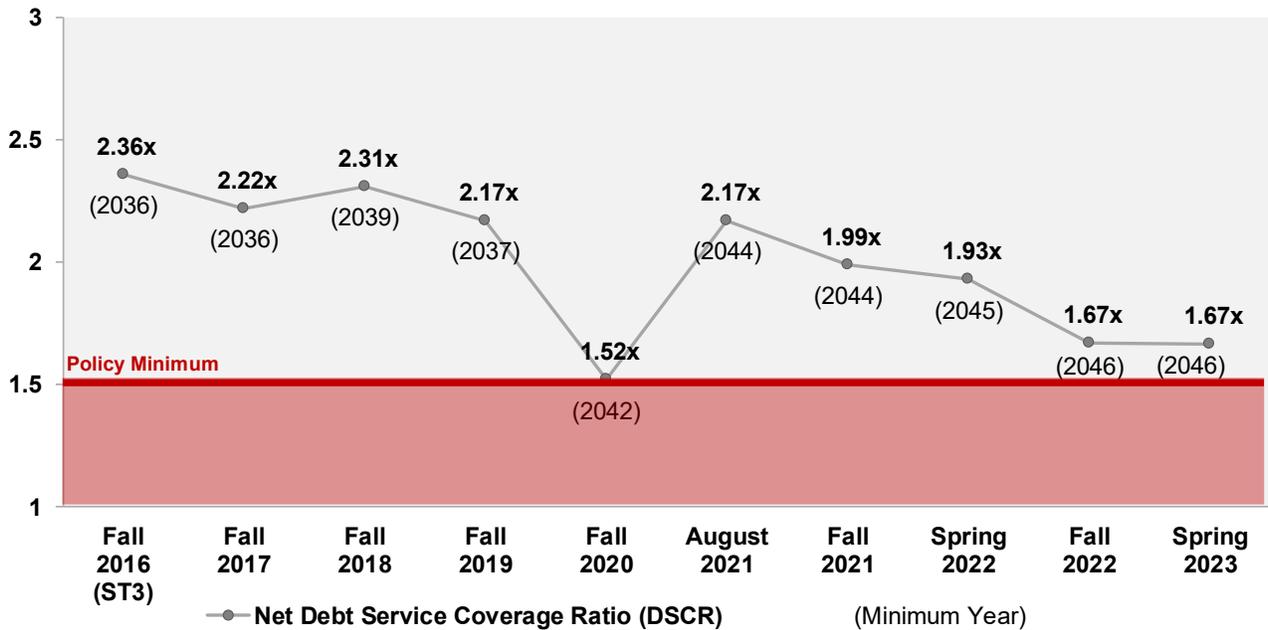
However, the projected minimum net debt service coverage ratio (DSCR), or the agency's ability to incur and pay back debt within statutory limitations, has declined from 1.93x at the time of the 2022 BAPR to 1.67x today.

As shown in 1, a projected minimum net DSCR approaching the policy minimum of 1.50x conveys an increased financial risk to completing the plan according to the Board-approved scope and schedule. To read this table: The x-axis is each Financial Plan update beginning with ST3 until the current Spring 2023 plan. The points show the minimum net DSCR in each of those plans. The number in parentheses represents year that we are projected to have the lowest (or most constrained) net DSCR.

Sound Transit will come closest to reaching its policy minimum of 1.50x DSCR in 2046. Specifically, we will have net revenues (meaning revenues minus operating expenses) only 1.67 times the amount of debt service we need to pay. From the beginning of ST3 to fall 2022, the net DSCR in the year of maximum constraint ranged from 2.36x to 1.67x, except during the realignment process from fall 2020 through August 2021.

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Table 1: Net debt service coverage ratio in year of maximum constraint



In addition, **the current plan does not indicate available debt capacity to accelerate the projects with affordability gaps to their target schedules.** Although there is an increase in remaining available debt capacity since the Fall 2022 Financial Plan, it is back to a level forecasted in the final August 2021 Realigned Financial Plan. Under the current Financial Plan projections, the level of remaining available debt capacity is not sufficient to accommodate the target schedule. (If additional federal funding, other revenues sources, or cost savings were to be achieved, the target schedule may become financially possible.) The current plan also includes uncertainty around future operating costs, which are discussed more in the Cost Drivers section of the report on page 9.

Below are key takeaways from the Spring 2023 update to the Financial Plan.

- **Capital expenditures increased**, mainly due to higher costs with the new Tacoma Dome Link Extension alternatives and the effect of inflation on project delays (Tacoma Dome and Ballard Link extensions).
- **Operating and maintenance costs increased** due to higher staffing needs and higher rates of pay for upcoming service openings and improving existing service standards, specifically for station cleanliness, fare ambassadors, safety and security, and asset maintenance (including elevators, escalators, and the downtown Seattle stations). Increased operations and maintenance cost drivers will continue to be a risk to the agency’s ability to repay debt.
- **Tax revenues decreased**, primarily due to declines in motor vehicle excise tax revenue. MVET is projected to decline as vehicle sales and growth in real household income slow.

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Cost drivers

Real estate, construction labor, and materials costs are exiting a period of historically high inflation, but the limited availability of skilled labor continues to raise staffing costs. Increasing operations and maintenance needs and costs are a risk.

Between the 2021 Realignment Plan and the first BAPR in spring 2022, significant and numerous cost drivers made it challenging to maintain cost and schedule performance consistent with the prior Financial Plan. Staff updated current and anticipated cost drivers in Q2 and Q4 2022, as required by the Board, noting similar pressures during these periods.

Since Q4 2022, these cost drivers have evolved such that:

- **Historically high construction costs are expected to slow:** construction costs are increasing at more moderate rates due to a stabilizing economy.
- **Real property values remain high, but increases are cooling:** real estate values remain higher than pre-pandemic levels but are cooling due to higher interest rates and other market factors, a trend beginning in the second half of 2022. Despite plateauing property values, the elevated costs of acquiring real property in the Pacific Northwest market remain a risk for projects in design and planning.
- **Limited availability of skilled construction labor is increasing costs:** skilled labor remains scarce and increasingly expensive, and hiring and retention continue to be challenging. Similarly, we are concerned that skilled labor shortages in the Pacific Northwest will persist, especially as some of the largest Sound Transit megaprojects to date are ramping up.

Increasing operations and maintenance needs and costs:

- **Higher resources needed to meet rider and community expectations:** in the post-pandemic transit environment, Sound Transit needs additional resources to ensure safety, cleanliness, and reliability in our facilities and services. This includes higher staffing levels to ensure schedule reliability, higher costs to maintain critical assets, and higher costs and staffing levels to ensure a high quality rider experience, public safety, and cleanliness.
- **Emerging and growing costs above original projections:** as new extensions open for service, operating conditions are evolving and, in some cases, increasing the predicted need for systems and infrastructure costs. Both partner and internal staffing requests have increased above original projections in response to changing service conditions, including increasing public safety and biohazard responses and new information on projects available during activation that affects resources needed to operate.



Portfolio performance

Projects in planning are trending higher in cost and taking longer to advance due to the addition and study of new alternatives, delays in identifying preferred alternatives, lengthy environmental and permitting review processes, and limited staffing at our partnering agencies and jurisdictions. Projects in construction

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are experiencing quality challenges and limited resources needed to put new segments into service.

This section of the report analyzes the health and performance of Sound Transit's system expansion portfolio across all modes.

Projects in planning make their way from initiation through environmental review, alternatives analysis, and selecting the project to be built. The Board then takes a baselining action to set the project's budget and schedule during the final design, construction, and testing/activation portion of the project. During the construction phase, project teams continually manage risks and mitigations to keep to the set cost and schedule. Staff will only make such decisions that do not affect the quality of future service across the entire system, the longevity of the infrastructure, cause increased operations and maintenance costs, or degrade the rider experience. When tradeoffs must be made, such questions will be elevated to the CEO and possibly the Board when necessary to understand the risks and make a judgment on tradeoffs that may affect the overall scope, schedule, or budget of the project.

Since the 2022 BAPR, projects in planning and construction have continued to advance despite effects from scope changes, unforeseen events, and construction quality issues, along with challenges from limited labor for internal and external teams.

Projects in planning

- **Scope changes:** Projects are facing cost increases and schedule delays due to scope changes. For example:
 - **Ballard Link Extension:** Additional time required for the selection of a preferred alternative and additional environmental process requirements associated with the addition of new station and alignment alternatives have caused delays for the Downtown to Smith Cove segment beyond the affordable schedule, with a new forecasted service date of 2039.
 - **Tacoma Dome Link Extension:** The team identified the need to consider an additional alignment alternative and station options in the Draft Environmental Impact Statement, which the Board approved in March 2023. Given this additional scope and associated costs, we are now managing the project toward a 2035 delivery (delayed from 2032).
 - **Operations and Maintenance Facility South:** Design refinements to address city code requirements and changes to the federal environmental review process following the publication of the Draft EIS have delayed publication of the Final EIS and may have a corresponding effect on the project opening date by up to three years.
- **Environmental review and permitting constraints affecting agency partners:** State, federal, and Tribal review capacity for environmental documents remains constrained due to high work volume. Obtaining agreements and navigating differing permit requirements from jurisdictions is delaying some project schedules. Local requirements and site-specific needs vary, and they will require strong collaboration to identify and work through the process.
- **Extensive work with jurisdictions:** The agency's lack of permitting authority creates a challenge for permitting and requires working closely with other jurisdictions that each have their own land use requirements, with varying levels of complexity. Some jurisdictions have numerous and evolving permitting requirements, while others are minimal and require the agency to work closely to develop

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agreements to ensure requirements are identified and addressed appropriately. Local requirements and site-specific needs vary, and they continue to require strong collaboration to identify and work through the process.

Projects in construction

- **Construction and quality challenges:** Numerous challenges have caused change orders and project delays, including unforeseen site conditions/events, limited on-site quality inspections, pandemic-related supply chain disruptions, and difficulty hiring construction labor and staff. Projects affected by this key takeaway include the East Link, Federal Way, and Hilltop Tacoma Link extensions.
- **Limited light rail vehicles affecting availability and storage:** We are monitoring issues with light rail vehicles particularly with availability of Series 1 and Series 2 cars for daily and expanding service and adequate storage to clean and maintain enough vehicles to serve the growing system, from both the OMF Central and OMF East.
- **Activation activities – preparing for safe and reliable service from day one:** As our regional light rail system more than doubles in the next few years, the agency will experience competition for activation resources to deliver safe, reliable service. We continue to study and adjust how to bring service online as efficiently as possible. The schedule delay from construction challenges and quality issues have stressed the agency’s ability to safely open multiple extensions in a short period, so staff continue to study how to minimize or eliminate these challenges.

Shifts in project estimates and schedules since 2022 BAPR

Several changes to schedules and financial plan project cost estimates have occurred since the last program review. As summarized in the tables below, these shifts affect projects in both planning and construction.

- Projects in planning with schedule changes include Ballard Link Extension, Tacoma Dome Link Extension, I-405 Stride BRT, SR 522/NE 145th Stride BRT, Stride Bus Base North, and Series 3 Light Rail Vehicles. Additionally, we have adjusted the Tacoma Dome Link Extension cost estimate in the Financial Plan to reflect anticipated increased costs for the Pacific Highway/SR 99 alternative. (This new alternative is currently at <1% design, and a preliminary rough order of magnitude estimate has been identified as a placeholder.)
- There are also small decreases to some cost estimates due to moving sustainability allocations from project budgets and placing them in a sustainability fund carried in the Financial Plan (as approved in Resolution No. R2022-21). These funds are still available to projects and will be added back to projects at major milestones to reflect actual sustainability investments.
- Some projects in development have recent cost estimates that are not incorporated in the Financial Plan at this point due to timing of finalization and review. These will be incorporated into the Financial Plan in the update following being shared with the Board at a major project milestone, likely fall 2023. These include the Operations and Maintenance Facility North, SR 522/NE 145th Stride Bus Rapid Transit, and Stride Bus Base North.

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Table 2: Projects in planning: Shifts in cost estimates and schedule from 2022 BAPR

Projects in Planning	FP Costs Estimates, 2023\$ in Millions				Forecasted Service Date		
	Name	2022 BAPR	2023 BAPR	2023\$	%	2022 BAPR	2023 BAPR
Ballard Link Extension	\$ 11,134	\$ 11,120	\$ (14)	-0.1%	2037	2039	2
Boeing Access Road Infill Station	\$ 261	\$ 257	\$ (4)	-1.6%	2031	2031	-
Bus Base North	\$ 361	\$ 361	\$ -	-	2025	2026	1
DuPont Sounder Extension	\$ 467	\$ 458	\$ (9)	-2.0%	2045	2045	-
Everett Link Extension*	\$ 6,076	\$ 6,045	\$ (31)	-0.5%	2037	2037	-
Graham Street Infill Station	\$ 121	\$ 118	\$ (3)	-2.9%	2031	2031	-
I-405 Stride BRT	\$ 1,279	\$ 1,279	\$ -	-	2026	2028	2
Lakewood Station Access Improvements	\$ 53	\$ 53	\$ -	-	2030	2030	-
North Corridor Maintenance of Way	\$ 58	\$ 58	\$ -	-	2027	2027	-
Operations & Maintenance Facility North	\$ 1,530	\$ 1,530	\$ -	-	2034	2034	-
Operations & Maintenance Facility South	\$ 1,447	\$ 1,447	\$ -	-	2029	2029	-
Series 3 Light Rail Vehicles	\$ 2,023	\$ 2,023	\$ -	-	2032	2035	3
Sounder South Capacity Expansion	\$ 1,339	\$ 1,339	\$ -	-	2046	2046	-
South Tacoma Station Access Improvements	\$ 55	\$ 55	\$ -	-	2030	2030	-
SR 522/NE 145th Street Stride BRT	\$ 672	\$ 672	\$ -	-	2026	2027	1
Tacoma Dome Link Extension	\$ 4,077	\$ 4,673	\$ 597	14.6%	2032	2035	3
Tacoma Dome Station Access & Parking Improvements	\$ 19	\$ 19	\$ -	-	2032	2032	-
West Seattle Link Extension	\$ 3,989	\$ 3,967	\$ (22)	-0.5%	2032	2032	-

NOTE: The small reductions in project estimates are from the removal of sustainability allocations, which have been placed in a substantiality fund carried in the Financial Plan. These will be added back to projects at baselining, in amounts that may differ from what was removed.

*Everett Link Extension has a target and affordable schedule. The target date is shown in this table.

Projects in construction with schedule changes since the last BAPR include the East Link Extension, Federal Way Link Extension, Light Rail Vehicle Fleet Expansion, Sumner, Kent, and Auburn Stations Parking & Access Improvements, Hilltop Tacoma Link Extension, and Puyallup Station Parking & Access Improvements (a new Puyallup garage opened in March), as shown in the table below.

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Table 3: Projects in construction: Shifts in cost estimates and schedule from 2022 BAPR

Projects in Construction	Costs, YOES in Millions		Change		Revenue Service Dates	
	2022 BAPR	2023 BAPR	YOES	%	2022 BAPR	2023 BAPR
Downtown Redmond Link Extension	\$ 1,530	\$ 1,530	\$ -	-	December 2024	Spring 2025
East Link Extension	\$ 3,677	\$ 3,677	\$ -	-	June 2023	Starter Line: Spring 2024 East Link: Spring 2025
Federal Way Link Extension	\$ 2,452	\$ 2,452	\$ -	-	December 2024	2025/2026
Hilltop Tacoma Link Extension	\$ 283	\$ 283	\$ -	-	March 2023	Q3 2023
Light Rail Vehicle Fleet Expansion	\$ 741	\$ 741	\$ -	-	Q3 2024	2026*
NE 130th St. Infill Station	\$ 240	\$ 240	\$ -	-	2025	Summer 2026
Lynnwood Link Extension	\$ 2,772	\$ 2,723	\$ (49)	-1.8%	July 2024	Summer/ Fall 2024
Puyallup Station Parking & Access Improvements	\$ 82	\$ 82	\$ -	-	Q1 2022	March 2023
Sumner, Kent, Auburn Station Parking & Access Improvements**	\$ 360	\$ 360	\$ -	-	2025	2027

*Represents project completion year.

** In 2022, Sumner, Kent, and Auburn Parking and Access Improvements were not baselined. The comparison point for this estimate is the Financial Plan estimate at the time of baseline (Jan 2023).

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ACRONYMS

ACRONYMS

Acronym	Terminology
BRT	Bus Rapid Transit
CCI	Consumer Cost Index (see Glossary for additional information)
CPI	Consumer Price Index (see Glossary for additional information)
DSCR	Debt Service Coverage Ratio
DSRF	Debt Service Reserve Fund
EIS	Environmental Impact Statement
LRV	Light Rail Vehicle
FTA	Federal Transit Administration
LRFP	Long-Range Financial Plan
MVET	Motor Vehicle Excise Tax
NEPA	National Environmental Policy Act
O&M	Operations and Maintenance
OMF	Operations and Maintenance Facility
ROW	Right of Way
ROWI	Right of Way Index
SEPA	State Environmental Policy Act
SOGR	State of Good Repair
TCC	Tacoma Community College
TDLE	Tacoma Dome Link Extension
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIP	Transit Improvement Plan
WSDOT	Washington State Department of Transportation
YOE	Year of Expenditure

INTRODUCTION

Overview of Annual Program Review

Consistent with the requirements of Board Resolution R2021-05, Section 4, the Annual Program Review evaluates “shifts in projected financial capacity resulting from updated cost, revenue, and debt capacity projections and the readiness of projects to benefit from such shifts,” and provides that information to the Board for review and consideration. Additionally, this information informs the Board’s decision-making on the annual Transportation Improvement Plan and budget, as well as the agency’s long-range Financial Plan. Section 8 of R2021-05 also requires current and anticipated cost drivers to be reported biannually, and this report, along with the Annual Proposed Budget and Financial Plan, will be put forward to meet this requirement.

Annual Program Review development is a collaborative effort across the agency involving the Portfolio Services Office; Finance; Planning, Environment, and Project Development; Design, Engineering, and Construction Management; Operations; Communications, Marketing, and Engagement; Government and Community Relations; and Legal. This approach provides a comprehensive look into the agency’s financial health and portfolio performance for all capital projects in planning (those that have not received Board approval on their cost and schedule) and construction (those that have a Board-approved baseline budget and schedule).

To determine shifts in the program’s financial health and the performance of projects in the capital portfolio, staff assessed changes in three main categories: financial capacity, cost drivers, and portfolio performance.



Financial capacity: evaluates shifts in the projected financial capacity resulting from updated cost, revenue, and available debt capacity projections.



Cost drivers: evaluates changes in project costs and schedules from cost estimates and predicts possible future shifts stemming from anticipated external pressures.



Portfolio performance: reports status of environmental review, preferred alternatives, third-party agreements, permits, and right-of-way acquisitions for projects in planning, as well as design and construction advancement, risks, and challenges for projects under construction.

FINANCIAL CAPACITY



FINANCIAL CAPACITY

The Spring 2023 Financial Plan projections indicate that the “affordable schedule” remains affordable. Remaining available debt capacity (the agency’s ability to issue debt) increased from 9.1% to 15.9%. This is due to lower projected debt issuance, project delays, and increased short-term sales tax revenue. However, there remains insufficient debt capacity to advance the projects with affordability gaps to the “target schedule.”

In contrast to improved debt capacity, net debt service coverage ratio (the agency’s ability to repay debt) has not improved from 1.67x as compared to the [Fall 2022 Financial Plan](#). Both debt capacity and coverage are important affordability metrics to monitor.

The points below summarize the major changes to the Financial Plan since fall 2022. These include:

- Lower motor vehicle excise tax (MVET) receipt projections as vehicle sales and real household income forecasts slowed.
- Higher capital expenditures from Tacoma Dome Link Extension project new alternatives and inflation’s effect on project delays (including Tacoma Dome Link Extension and Ballard Link Extension).
- Higher operating costs due to identifying additional staffing needs to meet rider and community expectations for schedule and asset reliability, safety, and cleanliness.
- Decreased projected bond issuance due to delayed project revenue service dates and higher sales tax revenue in the short term. As a result, debt service is projected to decrease.

Figure 1: Major changes to the Financial Plan, 2017–2046 (millions in YOES\$)



The Spring 2023 Financial Plan reflects the agency’s long-term financial projections for the voter-approved programs outlined in the Sound Move (1996), ST2 (2008), and ST3 (2016) ballot measures. The Financial Plan incorporates forecasts of sources of funds and program cost estimates over the

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long-range planning horizon (2017–2046). A summary of the Spring 2023 Financial Plan Source and Uses follows.

Table 4: Summary Sources and Uses, 2017–2046



Financial Plan - Sources & Uses Summary
Fall 2022 Financial Plan (Affordable Schedule)
 2017 through 2046; YOY Dollars in Millions

	Snohomish	North King	South King	East King	Pierce	Systemwide	Total
Sources of Funds							
Tax Revenues							
Sales and Use Tax	8,862	23,372	9,365	20,663	13,265	-	75,527
Motor Vehicle Excise Tax	1,411	2,083	1,298	2,704	2,007	-	9,503
Property Tax	678	2,167	671	1,850	834	-	6,200
Rental Car Tax	10	17	106	12	13	-	157
Total Tax Revenues	10,961	27,639	11,440	25,229	16,119	-	91,387
Other Revenue							
Grant Revenue	2,664	4,273	2,649	2,402	1,986	1,171	15,145
Fare Revenue	459	3,623	873	875	605	-	6,436
Other Revenue	22	116	88	113	73	305	716
Interest Earnings	-	-	-	-	-	801	801
Total Other Revenue	3,145	8,012	3,609	3,390	2,665	2,277	23,098
Bond Proceeds (with DSRF)	7,013	13,452	5,362	-	231	-	26,059
TIFIA Proceeds	479	1,180	941	1,398	-	-	3,998
Changes in Cash (add'l funding to offset deficits)	955	427	784	(999)	(84)	0	1,083
Total Sources	22,554	50,710	22,136	29,017	18,930	2,277	145,625
Uses of Funds							
Capital Expenditures							
Light Rail Transit	11,556	19,188	6,337	12,896	4,250	6,893	61,121
Tacoma Link	-	-	-	-	1,802	-	1,802
Commuter Rail	141	3	1,552	0	3,000	22	4,719
Regional Express Bus	198	65	62	372	373	31	1,101
Bus Rapid Transit	64	436	350	1,598	31	-	2,479
Systemwide	91	190	76	99	98	1,196	1,750
Service Delivery	-	-	-	-	-	-	-
Total Capital Expenditures	12,050	19,883	8,377	14,965	9,554	8,142	72,971
O&M Expenditures							
Light Rail Transit	2,102	11,656	3,700	3,364	739	0	21,562
Tacoma Link	-	-	-	-	1,221	-	1,221
Commuter Rail	435	-	1,430	-	1,679	-	3,543
Regional Express Bus	708	0	489	2,179	1,434	-	4,811
Bus Rapid Transit	181	336	238	943	-	-	1,697
Systemwide*	687	924	375	780	563	4,217	7,546
Total O&M Expenditures	4,112	12,917	6,232	7,266	5,636	4,217	40,380
State of Good Repair (SOGR)	540	3,006	1,645	1,953	1,282	1,282	9,708
Systemwide Activities	1,360	3,432	1,426	3,140	2,006	(11,364)	-
Reserve Contributions (O&M, SOGR, DSRF)	411	796	336	82	71	0	1,696
Debt Service (Excludes TIFIA)	3,681	9,078	3,180	551	325	-	16,814
TIFIA Debt Service	348	887	688	1,019	-	-	2,942
Debt Restructuring Activities	53	713	253	41	56	-	1,115
Changes in Cash (cumulative surplus)	-	-	-	-	-	-	-
Total Uses	22,554	50,710	22,136	29,017	18,930	2,277	145,625

*Includes Other O&M and Emergency Reserve

Acronyms used: Debt Service Reserve Fund (DSRF), Transportation Infrastructure Finance and Innovation Act (TIFIA), Operations & Maintenance (O&M),

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Revenue shifts

Compared to the Fall 2022 Financial Plan, there has been a decrease in total revenues over the life of the program. The decrease is mostly due to changes in MVET and fare revenue. Sources of funds for 2017–2046 of \$145.6 billion include tax revenue, grant revenue, fare revenue, interest earnings, and other income, such as advertising, real estate sales proceeds, rental income, and local contributions. Proceeds from debt issuances in the form of bonds and Transportation Infrastructure Financing and Innovation Act (TIFIA) loans are used to bridge projects gaps between available sources and uses. The table below shows a comparison between fall 2022 and spring 2023.

Table 5: Changes in revenues and financing sources

Revenues and financing sources, 2017–2046, YOES\$ in millions			Spring 2023 vs fall 2022	
Category	Fall 2022 update	Spring 2023 update	\$	%
Tax revenues	\$92,013	\$91,387	\$(626)	-0.7%
Grant revenue	\$15,142	\$15,145	\$2	0%
Fare revenue	\$6,549	\$6,436	\$(112)	-1.7%
Other revenues	\$691	\$716	\$25	4%
Interest earnings	\$760	\$801	\$41	5%
Bonds & TIFIA proceeds, cash	\$33,969	\$31,140	\$(2,829)	-8%
Total (2017-2046)	\$149,124	\$145,625	\$(3,499)	-2%

SOURCES: Spring 2023 Financial Plan, March 2023.

Tax revenues

Tax revenues through 2046 decreased \$626 million (0.7%) from the Fall 2022 Financial Plan. The main drivers of this include:

- \$683 million decrease to MVET due to a decrease in vehicle sales as real household income forecasts slow.
- \$107 million increase in sales tax due to 2022 performance and projected increased employment.
- \$50 million decrease due to property tax due to lower projected new construction.

Grant revenue

There are no changes to grant revenue assumptions since the Fall 2022 Financial Plan update, but small changes occurred due to 2022 actual performance compared to the 2022 budget.

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Fare revenue

Compared to the Fall 2022 Financial Plan, fare revenues decreased by \$112 million (-1.7%) through 2046 due to revenue service date changes, pushing fare collections out further. This is a preliminary update of some revenue service date changes, and a full update of the ridership forecast will be provided in the fall. These changes were offset slightly by a small increase of \$8 million due to better-than-expected 2022 fare revenue performance. However, 2022 fare revenue performance is still below pre-pandemic levels (\$45 million in 2022 vs \$91 million in 2019).

Other revenues

Other revenues increased \$25 million (4%) through 2046 compared to the Fall 2022 Financial Plan. This is primarily due to an increase in ORCA Regional Program Billing Reimbursement (which is an offset of the cost projection for this item).

Interest earnings

Interest earnings increased \$41 billion (5%) through 2046 from the Fall 2022 Financial Plan. The Financial Plan assumes that Sound Transit earns a 2% rate of return on cash and investment balances throughout the planning horizon of 2046.

Spending/expenditures shifts

The Financial Plan includes expenditures for capital, operations and maintenance, state of good repair, contribution to reserves, and debt service. Expenditure changes in spring 2023 as compared to the fall 2022 update is shown in Table

Table 6: Expenditure changes

Summary of expenditures, 2017–2046, YOES\$ in millions			Spring 2023 vs fall 2022	
Category	Fall 2022 update	Spring 2023 update	\$	%
Capital expenditures	\$72,388	\$72,971	\$583	0.8%
Operating and maintenance expenditures	\$39,864	\$40,380	\$516	1.3%
State of good repair	\$9,819	\$9,708	\$(111)	-1%
Reserve contributions	\$1,870	\$1,696	\$(174)	-9%
Debt Service ¹	\$25,184	\$20,871	\$(4,313)	-17%
Total (2017-2046)	\$149,124	\$145,625	\$(3,499)	-2%

SOURCES: Spring 2023 Financial Plan, March 2023.

NOTES: 1 Includes TIFIA debt service

FINANCIAL CAPACITY

Capital expenditures

Capital expenditures increased \$583 million (0.8%) through 2046 from the Fall 2022 Financial Plan. The main reasons for this include:

- \$820 million increase in Tacoma Dome Link Extension project costs due to adding a new alternative to address constructability issues that would pose substantial challenges along the prior preferred alternative, adjacent to I-5 in South Federal Way. The new alternative will need to undergo conceptual engineering in order to refine the cost estimate and to be evaluated in the Draft EIS (\$597 million in 2023\$).
- \$382 million increase due to Tacoma Dome Link Extension revenue service date change from 2032 to 2035 and Downtown to Smith Cove (Ballard Link) revenue service date from 2037 to 2039. (The cost increase is due to the impact of inflation.)
- \$583 million decrease due to updated inflation indices as compared to fall 2022. The “Cost drivers” section includes a description of why and how the inflation indices have changed.
- \$36 million decrease due to other reasons, including minor cash flow adjustments, project closures, and Sumner, Kent, and Auburn project baselining.

Operations and maintenance expenditures

Operating and maintenance expenses increased \$516 million (1.3%) through 2046 from the Fall 2022 Financial Plan. The main drivers of this include:

- \$803 million increase due to higher staffing needs for upcoming service openings and improving existing service standards, especially for station cleanliness, safety and security, and asset maintenance, as well as higher salary and benefit assumptions required to attract and retain employees. Of this total amount, \$448M is due to providing 50 additional FTEs for these services. Additionally, there is \$355M attributed to higher salary and benefit assumptions than what was included in the financial plan for forecasting labor costs. More information on staffing costs can be found in the “Cost drivers, Operating and Maintenance costs” section.
- \$233 million decrease in expenditures due to the forecasted in-service date delays for the Tacoma Dome and Ballard Link extensions.
- \$50 million net decrease in expenditures due to ST2 project delays. The \$93 million decrease from project delays was partially offset by an increase in expenditures for extending ST Express service to preserve service levels before alignments open (\$43 million).
- \$4 million decrease in expenditures due to updated inflation forecast, updated 2022 actuals, adopted 2023 budget, and updated insurance forecast.

State of good repair expenditures

The cost to repair and replace key operating assets, known as state of good repair expenditures, has decreased \$111 million or 1% through 2046 from the fall 2022 update. This is due to a decrease in assumed Consumer Price Index (CPI) and Consumer Confidence Index (CCI) inflation. Four downtown Seattle stations, formerly known as the Downtown Seattle Transit Tunnel, were transferred from King County Metro to Sound Transit in April 2023 and condition assessments are ongoing for the stations,

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tunnel and systems. The long-term state of good repair will be updated when more information becomes available, likely in time for the fall 2023 Financial Plan update. This will likely represent a cost increase to the State of Good Repair forecast.

Reserve contributions

The agency maintains reserves to meet agencywide revenue shortfalls or cost increases, including an operations and maintenance reserve, bond reserve, emergency loss reserve, and a capital replacement reserve. Contribution to reserves decreased \$174 million (9%) through 2046 from the fall 2022 update, mainly due to the bond reserve fund. The bond reserve fund decreased because of the reduction in projected bond issuances.

Debt and affordability constraints

Bond issuance and debt service projections

Projected bond issuance decreased \$2.8 billion (8%) through 2046 compared to fall 2022. Because we need to issue less debt, debt service also decreased by \$4.3 billion (17%) through 2046. The decrease is due to savings in interest from bonds that don't need to be issued. (Bond issuance to fund the capital program is projected to end in 2045. The Financial Plan assumes 30-year bonds, so payback is completed in 2075, which is outside of the Financial Plan reporting period.)

Updated forecasts indicate a decrease in the agency's need to issue debt, based upon when projected expenditures occur versus when projected revenues come in. The major reasons include a higher short-term sales tax revenue forecast and delayed expenditures due to revenue service date delays for multiple projects. As a result, projected debt (bond) issuance is lower and debt service (the payback of debt) is lower.

In terms of affordability and financing metrics, debt capacity is higher, but the ability to repay debt remains a challenge as described in the section below.

Shifts in agency debt constraints

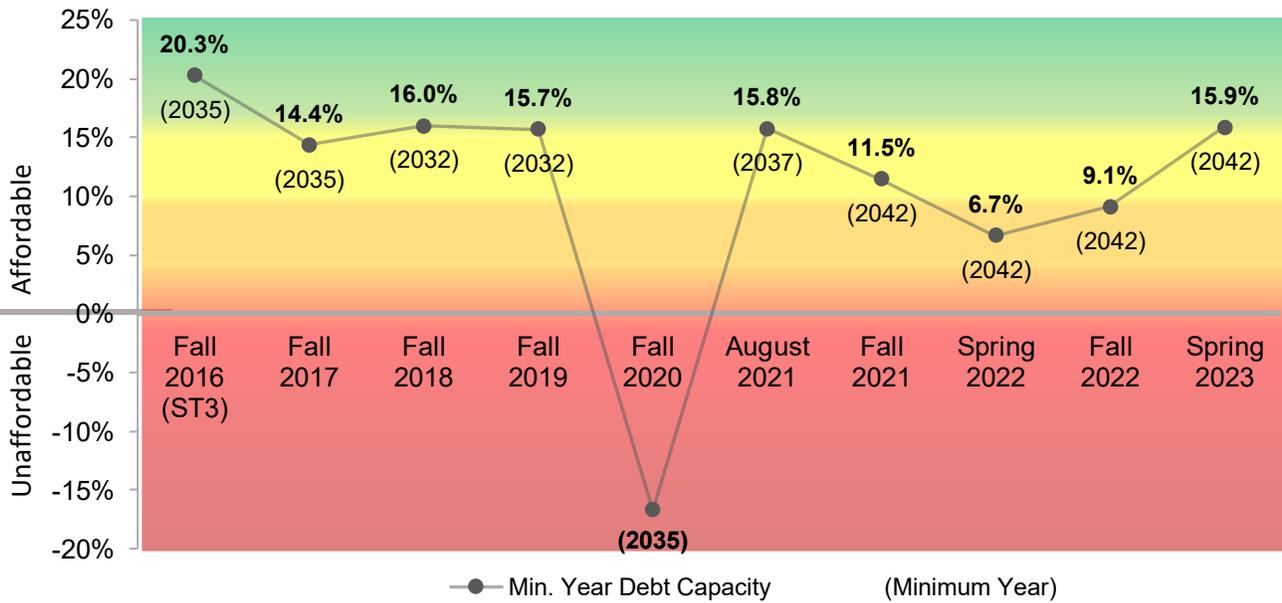
Sound Transit's financial performance to date, and in the future, is evaluated by the agency's credit rating and financial policies including net debt service coverage ratio, bond covenants required by bondholders, and debt capacity required by state law. Since realignment, the agency's ability to repay debt, measured by our net debt service coverage ratio, has become the primary constraint to the financial health of the program.

The agency's projected net debt service coverage ratio reaches a minimum of 1.67x in 2046, which has not improved since fall 2022. The policy minimum for this ratio is 1.50x.

With this update of the financial plan, the agency will come closest to reaching its projected debt limit in 2042 with \$4.9 billion remaining, or 15.9% headroom when on the affordable schedule. 7 graphs projected debt capacity and utilization,

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Table 7: Projected debt capacity over time



Project-level affordability gaps

Realignment identified project-level affordability gaps for four projects: the West Seattle and Ballard, Everett, Tacoma Community College, and South Kirkland to Issaquah extensions. Project-level affordability gaps are the difference in cost estimates between the affordable and target schedules while accounting for financial capacity, subarea affordability, and required system facilities. Using these criteria, each individual project affordability gap is an apportionment of a single agencywide affordability gap assigned to the specific project. The affordability gaps calculated in the Realignment resolution assume that, if possible, all gaps would be simultaneously offset and that all projects would advance to the target schedule together.

Affordability gaps

As of spring 2023, the target and affordable schedules for the West Seattle and Ballard Link Extensions are the same, because the Downtown to Smith Cove portion of Ballard Link now has a forecasted service date of 2039, as opposed to 2037.

Because of this updated project timeline, staff need to revisit the project-level affordability gaps to account for the Ballard Link Extension delay and evaluate the methodology. This is because the gaps calculated in the realignment resolution assumed all four projects would be accelerated to the target schedule at the same time. Staff will provide an update at the 2024 Board Annual Program Review.

COST DRIVERS



COST DRIVERS

This section outlines current and anticipated cost drivers that affect Sound Transit’s capital program and operating cost forecast. In this report, cost driver information will replace the external pressures section from the 2022 BAPR.

This shift was in response to a recommendation by the Board’s independent consultant to incorporate cost drivers into the program review which were previously prepared in standalone reports for the Board. Staff prepared two editions of that work in Q2 and Q4 2022 to meet the Board’s direction to report out on this information twice a year per R2021-05 and are available on the agency’s [Realignment webpage](#). They include information on the current and anticipated cost drivers, positive or negative factors that may affect the financial health of the program through their cumulative effects on project cost estimates and schedules. Going forward, cost drivers will be presented in the BAPR (published in spring) and the Proposed Budget and Financial Plan (published each fall).

Current cost drivers are economic factors that the Pacific Northwest transportation industry and Sound Transit are experiencing. In contrast, anticipated drivers evaluate trends that are monitored and reported in the industry, as well as from direct experiences, which are not yet included in the current cost estimates supporting the Financial Plan. Should the anticipated cost drivers we are tracking persist, they may become current cost drivers reflected in project estimates.

Categories of cost drivers include inflation, which affects capital and operating costs, property acquisition costs, project bid prices, and operating costs.

Current cost drivers

Current cost drivers are economic factors that the Pacific Northwest transportation industry and Sound Transit are experiencing now (as defined by 2022 and early 2023).

Inflation

- **Seattle-area Consumer Price Index (CPI):** CPI was historically high in 2022 (9.0%). Inflation is projected to ease in 2023 (4.7%) but remains above historic levels (20-year average of 2.4%). The Federal Reserve’s ability to curb inflation has been slower than economists predicted. Despite the Federal Reserve increasing interest rates, both employment and consumer spending have remained high. Ultimately, economists are mixed on whether the Federal Reserve will be able to curb inflation without a recession. Recent months have shown signs that a recession may occur later this year with rising tech industry layoffs, rising credit card balances, and the federal government intervening to prevent bank collapses.
- **Construction Cost Index (CCI):** This is a composite index applied to construction spending. In 2021 and 2022, the CCI saw the highest growth rates (7.1–7.3%) since the 1990s, resulting in large projected increases to the capital program. In 2023, this rate is expected to drop to 3.6% due to a stabilizing global economy. The following are components of the CCI:

COST DRIVERS

- **Structural steel.** 2022 prices increased 12%, a smaller increase than the historic price growth seen in 2021 (89.4%). Prices in 2023 are beginning to decrease and are expected to drop an average of 4.3% per year over the next three years.
- **Concrete.** Concrete prices increased 13.5% in 2022, a much higher increase than the historic average of 4.4% for the preceding 10 years. Prices in 2023 are increasing at a slower rate than in 2022 (3.5%). In addition to cost, limited concrete availability will be one of the biggest concerns for the next several years.
- **Labor.** Labor prices rose 4.3% in 2022 and are expected to increase similarly in 2023. Currently concrete, sitework/excavation/foundation, utility, paving, and mechanical workers are the toughest types of skilled workers to find. This is compounded by the higher costs for skilled workers in general.
- **Construction equipment.** Construction equipment prices rose historically high in 2022 (13.7%). Prices are expected to increase in 2023, but at a much less drastic rate (3.1%).
- **Other materials and services** prices grew similarly with historically high increases in 2022 (7.1%) and are expected to continue growing in 2023 at a lower rate (5.0%).
- **Fuel (diesel) price,** which informs many of the components, dropped 23.2% in February 2023 from a peak in June 2022 and is expected to drop another 15% by end of 2024.

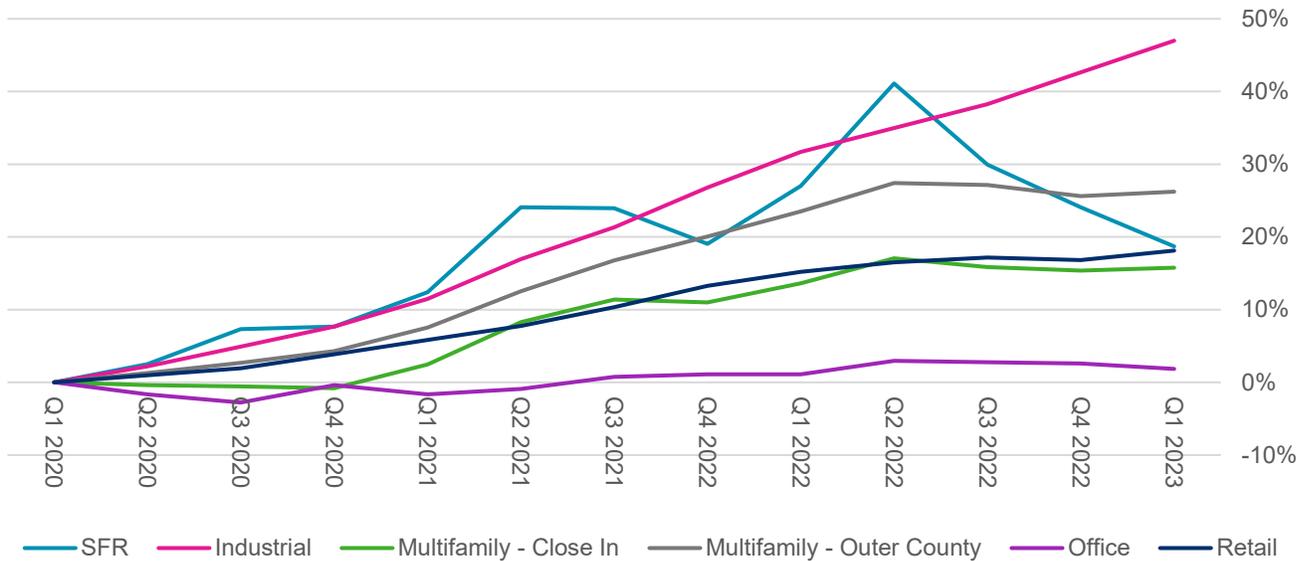
Real property

The figure below illustrates total cumulative growth in King County real estate values from Q1 2020, roughly the start of the COVID-19 pandemic, through Q1 2023. While real estate values across all sectors remain substantially higher than pre-pandemic levels, multiple sectors have seen recent value declines, a trend beginning early in the second half of 2022.

Multifamily, retail, and office properties experienced modest value declines the second half of 2022, with values plateauing in Q1 2023. Office properties have now declined in value for three straight quarters, a trend that is likely to continue. King County single-family homes have experienced the most severe declines of any real estate sector tracked: -19% since their mid-2022 peak. Industrial property values, meanwhile, continue to grow at robust levels.

COST DRIVERS

Figure 2: Real estate value growth since Q1 2020 – King County



SOURCES: SFR Data – Northwest Multiple Listing Service, InfoSparks; Commercial Property Data – CoStar Group Analytics

NOTE: King County “Close-In” region includes cities of Bellevue, Bothell, Lake Forest Park, Mercer Island, Kenmore, Kirkland, Redmond, Seattle, Shoreline. “Outer County” includes remainder of county.

Multiple factors indicate the potential for continued near-term decreases or stagnation in real estate values across most property types, including:

- Indications by the Federal Reserve of additional interest rate increases exceeding recent estimates.
- Continued prevalence of flexible work schedules and ability of employees to work from home, decreasing office space needs.
- Continued fears of a looming economic recession.

After multiple quarters of record-breaking real estate price increases that outpaced projections, continued decreases would relieve significant pressure on overall project costs. However, economists and real estate experts are divided on both the extent and duration of continued declines.

Comparison of bid prices and estimates since Q4 2022

In the previous report period for cost drivers (Q4 2022), the agency received two new updates of significant project cost estimates for its capital projects as part of the ST3 plan. As discussed in earlier reports, the intent of the comparison between estimates is to identify any significant cost trends that could impose pressures or provide relief on the Financial Plan.

For the Everett Link Extension, we received an early design (approximately 2% design) submittal with updated estimates for the various alternatives in Q4 2022. After several reviews, the consultant issued a final set of estimates in Q1 2023. The current estimates appear to be generally trending comparable to the estimates that were adjusted as part of the realignment. Further studies will need to be done in the next design phases to land on the final profile and alignment which could change the costs further.

COST DRIVERS

For the Operations and Maintenance Facility North, we also received an early design (approximately 2% design) submittal with updated estimates for the various alternates in Q4 2022, and a final set of estimates was issued by the consultant in Q1 2023. In this case, the current estimates appear to be generally trending around 10-40% higher, depending upon the alternate from the previous (0% design) submittal estimates that were adjusted as part of the realignment. **The increases in this estimate result from more information that came to light about topography, soil conditions, and configuration needs for the vehicles that will be stored and maintained during design development.**

The project team will be conducting further risk and value engineering studies to continue reviewing structure types, alignment, facilities, and other buildouts in the upcoming design submittals to see if further design development can reduce costs, particularly at the OMF North site. Unknowns include engineering challenges over lengthy and varied geography and limited design, which are yet to be investigated, as well as right-of-way needs in early design.

For this current period, ST also received cost information regarding the Sumner, Kent, and Auburn parking garage projects that gave insight into cost driver trends. ST used a different delivery methodology than in the past, though one that is still standard within the industry. ST utilized a fixed price/variable scope process where the contractors were asked to bid the scope of the work (i.e., the number of parking stalls that could be built) for the budget we identified. The cost was derived from an average cost per stall from previous ST projects. So far, we have received scope bids back from contractors on the Sumner parking garage which indicated that we would be able to achieve the maximum number of stalls as noted in the EIS. This signals that the project can be built within the current Financial Plan. Scope bids are currently being received for the Kent and Auburn projects and will be reported in the 2024 BAPR.

Operating and maintenance costs

The agency's operating costs fund core service delivery as well as critical support functions, Sound Transit staff, and other expenses like insurance, utilities, and taxes. Core service delivery, by far the largest portion of operating expenses, consists of operating and maintaining Sound Transit fleets, facilities, and infrastructure. A critical support function is public safety, which requires a significant investment. Service delivery and public safety are primarily executed through Intergovernmental Agreements and contracts.

Current operating cost drivers described below are accounted for in the Financial Plan, but emerging trends may impose costs above current projections.

- **Service delivery (purchased transportation):**
 - **Link staffing levels:** Details of maintenance and operating requirements evolve as more information on each expansion project becomes available and as projects proceed into the activation period, often requiring additional resources. This has led to staffing increases with our partners that are higher than our original projections. This increases the long-term cost to pay those who maintain and operate Link light rail. During pre-revenue testing and revenue service, more hands-on knowledge is gained which helps us learn what additional resources are needed to meet run times, work through operational challenges and maintain the assets on the new extension.

COST DRIVERS

- **Partner staffing shortages and increased costs:** Across partners, significant staffing shortages in critical operational and technical positions like trainers, bus and light rail operators, Light Rail Vehicle Electro Mechanics, Facility custodians and electricians, and system /signal technicians, for example, indicate that current labor rates are not adequate to attract and retain these essential workers
- **Service standards:** The ST2 and ST3 plan assumed certain levels of service. As we gain more information about the amount of fleet, facilities, and partner staff resources needed to provide that service, we will need to update our service assumptions and operating costs to align. Assessments of service levels for all modes will likely occur by the end of 2023.
- **Asset maintenance:** Many assets we maintain require specialty products and components only available through select suppliers, such as the parts and components that support 1500 Vdc traction electrification power system vs. the 750 Vdc system that is commonly used in the U.S. In addition, ST's unique and specialized station design for each of its stations results in special or small quantities procurement that suppliers leverage their market position to pass on cost increases for these components. (We are implementing the Station Experience Design Guidelines to standardize station designs for future projects to help address the amount of specialized or unique assets in the agency's inventory).
 - Rising costs have also spread to revenue service vehicles and right-of-way spare parts, onboard IT systems, and vertical transportation maintenance. Significant cost increases on vehicle technology updates are required to provide proper customer services, such as upgrading analog radio to digital radio.
 - As our assets age, maintenance costs on materials and staffing for both agency and the vendors are also increasing at higher rates than projected increasing cost pressure. Additionally, taking over significantly aging assets (such as our downtown Seattle stations) comes with increasing costs. Condition assessments of the downtown Seattle stations, tunnels and systems in progress and expected to be completed in 2023 to inform long range plan. We expect that costs will likely increase above and beyond what is currently in the long-range financial plan.
- **Public safety:** Like other transit agencies nationwide, we are seeing a need for additional public safety personnel to maintain a safe experience for our riders at our facilities and onboard our transit network. Due to gaps in performance, Public Safety has moved from a single security contract and procured multiple contracts, which comes with increased cost. Vendors and contracts providing public safety and security personnel are also subject to staff cost increases to attract and retain personnel, further increasing cost risk to Sound Transit.

Anticipated cost drivers

Anticipated drivers evaluate trends that are monitored and reported in the industry, as well as from direct experiences, that are not yet included in the Financial Plan.

Since Q4 2022:

COST DRIVERS

- Labor availability remains challenging due to worker shortages and strong hiring activity. This continues to affect different levels of the construction labor workforce and supply chain, from collecting and processing raw materials to production, manufacturing, and transportation.
- Prices for materials based on the commodity market continued to level off or decrease in Q4.

Inflation

- Consumer Price Index (CPI): Economists are mixed on whether and when inflation will ease. Our inflation index is expected to return to historic averages in 2024 (2.2% growth).
- The Construction Cost Index (CCI) is expected to stabilize and average 3.2% growth in the next five years.
- The Right-of-Way Index (ROWI) is showing signs of slowing and decreasing. Property values in the Puget Sound region are beginning to level off or decline and expected to average 3.7% over the next five years, slightly lower than average historic levels (6.7% growth over the last 20 years).

Operating and maintenance costs

We are preparing several initiatives to enhance the passenger experience and support pending openings of expansion projects nearing construction completion, which will require more resources and increased operating and maintenance costs.

- **Passenger service expectations.** Either through Board policy or evolving passenger needs, we are exploring new and/or expanded facilities and programs for the benefit of our passengers' experience, including adding bathrooms and attendants, Link station agents, introducing a new cleaning program for our vehicles and facilities, better reliability for elevators and escalators, enhanced wayfinding, passenger technology, and ADA enhancements.
- **Sound Transit staffing and resources.** As the system expands with ST2 and ST3 project openings, staffing and resource demands increase beyond original projections. Sound Transit will augment full-time staffing needs with consulting support to limit long-term staffing costs. This will affect the Financial Plan during peak demands to execute and operate these projects. Additionally, staffing resources to operate the system long-term are still not fully known and projected resource needs will continue to be updated as service standards are established and more information is gathered.

Major infrastructure development and renewals

The agency's long-range plan also forecasts funding needs for projects that expand, enhance, replace, or maintain our existing operational assets. Though we forecast and fund state of good repair as we currently understand our asset conditions and needs, enhanced asset condition analysis and identification of additional operational needs and initiatives to support or improve the passenger experience may require additional state of good repair program funding.

- **Major systems/applications update.** With the rapid expansion of the Link network, some essential systems, such as our asset management system, fire and life safety, and Link core control and operational system, need significant updates for us to provide safe and reliable services.

COST DRIVERS

- **Additional fleet and operations support facilities.** In addition to the planned light rail vehicles and storage capacity, additional fleet and storage capacity is needed to support future network expansion and provide reliable services under approved ST2 and ST3 plans. A unified control center, not currently part of ST plans, is under consideration to support a reliable and safe multi-line/multi-OMF operation. We anticipate additional details being available by the 2024 Annual Program Review next spring.
- **Bus electrification.** Initiatives for the region to move toward bus electrification will increase infrastructure and vehicle investments.
- **Improving passenger experience during service disruptions.** Work must be completed as a part of upcoming construction and planned maintenance during revenue service such as system expansion tie-ins and maintenance to ensure asset reliability. We are deploying initiatives like bus bridging, single tracking, and increased communications, security, and ambassador presence to improve passenger experience during service disruptions. These strategies will increase costs to maintain desired levels of service.
- **Major maintenance and repair and replacement of assets.** As we take ownership of new assets like the downtown Seattle stations or new cost sharing responsibilities such as the I-90 floating bridge and build out new track and numerous new stations, major regular maintenance and period overhauls will be needed to maintain, repair, and replace assets. The exact costs to maintain, repair, and replace these assets are unknown and subject to the same cost pressures facing other capital construction and maintenance contracts.



PORTFOLIO PERFORMANCE

Portfolio performance is evaluated as projects progress through the project development process, from initiation through to a Board baselining action that sets the construction schedule and budget. Through the environmental review process, the Board analyzes alternatives, identifies the preferred alternative, and selects the project to be built. These decision points correspond to the assessment milestones set forth in R2021-05.

In addition to securing adequate agency financial capacity and subarea affordability, projects need to be ready to advance through each of these major milestones to stay on their respective schedules. As projects progress into construction and through to revenue service dates, two of the major elements monitored for risks and mitigations are cost and schedule.

This section reflects on project advancements, challenges, risks, and opportunities since the last Annual Program Review, from spring 2022 through spring 2023, for all 27 of our active system expansion projects.

Assessment of projects in planning (pre-baselined projects)

We currently have 18 projects in active planning. They range in development status from initiation, such as the Series 3 Light Rail Vehicle project, to awaiting upcoming baselining actions, such as our Stride BRT projects.

The planning phase can span four or more years depending on the size, complexity, type, and method of project delivery. Through this period, alternatives development, environmental review, and preliminary design comprise most of the complex planning work.

Of the 18 projects in planning:

- One is completing the Final EIS and headed toward selecting the project to be built (West Seattle Link Extension).
- Seven are advancing environmental review: Ballard Link Extension, Tacoma Dome Link Extension, Operations and Maintenance Facility South, North Corridor Maintenance of Way, Sounder South Capacity Expansion (King Street Station Platform Area Improvements), South Tacoma Station Access Improvements, and Lakewood Station Access Improvements.
- Six are beginning planning or environmental review within the next year: Everett Link Extension, Operations and Maintenance Facility North, Boeing Access Road Infill Station, Graham Street Infill Station, DuPont Sounder Extension, and Tacoma Dome Access Improvements.
- Three are approaching baselining in the coming months (Q3 2023 for Stride BRT Bus Base North, I-405, and SR-522).
- One is establishing the program for the next model of Link vehicles (Series 3 Light Rail Vehicles).

All of these projects are steadily advancing, yet are subject to the challenges mentioned in our cost drivers section. This past year has seen major milestones for some of our largest ST3 projects,

PORTFOLIO PERFORMANCE

including the Ballard Link Extension preferred alternative identification in March 2023, and the Everett Link Extension SEPA scoping and public comment period in preparation for the Board's identification of alternatives (and possibly a preferred alternative) to study in the upcoming Draft EIS.

One major shift amongst projects in planning since the last annual review has been the uncoupling of the West Seattle and Ballard Link Extensions. Following the March 2023 Board action to identify the Ballard Link Extension preferred alternative, we are now managing the project toward a 2039 delivery date. The previous target schedule of 2037 is no longer achievable due to delays in reaching this milestone and additional environmental process requirements. The previous target schedule of 2037 is no longer achievable. The West Seattle Extension is working toward a 2032 opening date, with environmental work advancing per the Board's direction on the preferred alternative.

Additionally, The Tacoma Dome Link Extension team identified the need to consider an additional alignment alternative and station options in the Draft EIS, which the Board approved in March 2023. Given this additional scope and associated costs, we are now managing the project toward a 2035 delivery (delayed from 2032).

Environmental review

As required by state and federal law, Sound Transit evaluates potential environmental effects of the preferred alternatives identified by the Board, which results in the publishing of an EIS. Environmental review refers to this process to develop, review, and evaluate project alternatives. Alternatives are refined until the Board selects a preferred alternative and later identifies the project to be built.

Several projects are in the environmental review phase, including the West Seattle, Ballard, Everett, and Tacoma Dome Link extensions, along with the South Tacoma and Lakewood Station Access Improvements projects.

Major highlights from this past year include:

- In July 2022, the Board identified the preferred alternative for the West Seattle Link Extension. As directed by the Board, staff have conducted additional studies to support project refinements and environmental review is underway with a Final EIS expected in 2024, after which the Board will select the project to be built.
- From January 23 through March 10, 2023, SEPA scoping was held to solicit input on project alternatives, the Draft Purpose and Need, and topics for study in an EIS or issues of concern for Everett Link Extension. The Board is expected to identify alternatives and possibly a preferred alternative to study in the Draft EIS in mid-2023.
- In March 2023, after weighing community priorities, regional needs, input from agencies and the City of Seattle, analysis of alternatives included in the Draft EIS, and results of the further studies and engagement, the Board identified a preferred alternative for the Ballard Link Extension.
- In March 2023, the Board identified additional alternatives for study in the Tacoma Dome Link Extension Draft EIS, including an additional alignment in South Federal Way along SR 99/Pacific Highway and station options in Fife which resulted in delaying the project schedule to 2035. The action also removed the preferred alternative designation in the South Federal Way segment from the station area south.

PORTFOLIO PERFORMANCE

Permitting

Sound Transit acquires permits from local jurisdictions, including land use approvals, noise variances, storm water discharge, effects on wetlands, and many others. A light rail project requires separate permits from each jurisdiction it travels through. Many of our projects therefore require coordination with, and permits/approvals from, Tribes and federal, state, and local agencies in the final design/construction phase. Thus, projects in planning have established (or are in the process of establishing) permitting frameworks to help projects advance as efficiently as possible.

A few notable examples from this past year of the complex permitting Sound Transit navigates are:

- West Seattle and Ballard Link Extensions. Staff continue exploring opportunities with the City of Seattle to streamline the permitting process for the West Seattle and Ballard Link extensions, and a Preliminary Permitting Plan Update is anticipated in Q2 2023. The final permitting plan will be completed in time to support the Board's selections of the projects to build. The plan documents the policy framework, processes, tools, and design concurrences that will ensure a streamlined permitting process. It will also provide improved tools to forecast city and ST staffing needs to ensure adequate bandwidth to support future permitting work.
- The Tacoma Dome Link Extension will affect floodplains, shorelines, wetlands, and streams, including crossings of the Puyallup River and Hylebos Creek. The effects on wetlands and streams will require permits and approvals from the Tribes, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Coast Guard, several state permit agencies, and five local municipalities.
- The Everett Link Extension has already completed early Tribal and regulatory agency coordination regarding effects on project wetlands and streams. Later this year, we will be preparing preliminary permitting plans and conducting fieldwork to verify wetland and stream locations. The team is managing the emerging risk for schedule delay related to confirming environmental review process with third parties and extensive coordination with the Federal Transit Administration underway.

Property acquisition

Major transportation projects often require purchasing properties and easements to ensure projects have the necessary space for the facilities and infrastructure that are scoped. As we reported in last year's BAPR, for projects that have not completed environmental review, property acquisition has not begun. However, because increasing property and right-of-way costs are a substantial risk, and as discussed with the Board, work is underway to explore opportunities for potential early acquisition of critical parcels.

Sound Transit's ability to perform early acquisitions is subject to environmental limitations for federally funded projects and requires Federal Transit Administration concurrence.

As noted in the cost drivers section, real property costs have started to cool, but are still high. As a result, increased real estate costs are likely to continue affecting projects.

Advancements in property acquisition since the last annual report include:

PORTFOLIO PERFORMANCE

- The Ballard and West Seattle Link Extensions have not started property acquisition yet, but identification of critical properties is underway. This work will kick off after the Board selects the project to be built.
- Early acquisition for one Everett Link Extension parcel started to due to a pending development along the alignment.
- For the North Corridor Maintenance of Way, appraisal is underway on a leased site in consideration for purchase.
- The OMF South is in early planning for parcel needs.
- The Stride BRT projects have made significant progress on needed property acquisitions. For Bus Base North, the Board approved temporary construction easements in March. The Board approved necessary property acquisition along the alignment in May 2022 and April 2023 for I-405. And for SR 522, the Board approved five acquisition packages in January 2023.

Agreements

Third-party agreements are written contracts detailing the understanding between the agency and other jurisdictions. Most agreements require approval by the Board and require lengthy, detailed negotiations to reach consensus between Sound Transit and the other respective entity. In the past year, the Board has approved 10 third-party agreements for projects in planning. Establishing third-party agreements remains a central focus and could prove a detriment to project schedules where it's difficult to reach a consensus.

A few notable agreements reached over the last year include:

- In February 2023, the Board approved execution of a multi-jurisdictional partnering agreement with the cities of Everett and Lynnwood, Snohomish County, and Community Transit for the Everett Link Extension.
- For the West Seattle and Ballard Link extensions, an important Port of Seattle Project Administration Agreement was reached last spring so our organizations could work cooperatively and reimburse the Port for the costs of certain services and products related to the project. The Port operates facilities in the project area and therefore will be affected by, and is critical to, the successful and timely delivery of the project. Also, for West Seattle specifically, two other agreements of note are the Northwest Seaport Alliance Project Administration Agreement and the Union Pacific Preliminary Engineering Services Reimbursement Agreement.

Additionally, many agreements are still underway, including:

- For the Lakewood and South Tacoma Access Improvements projects, staff from Sound Transit, the City of Tacoma, and the City of Lakewood are considering Letters of Concurrence for their respective station access projects, which would establish a framework to implement final design and construction. The intent is to reach an early staff-level agreement on initial terms to streamline completion of a future agreement to be approved by the Board.
- The Everett Link Extension team anticipates Project Administration Agreements with each jurisdiction in 2023. The team coordinated with partner agencies including the City of Lynnwood, City of Everett, Snohomish County, Community Transit, Puget Sound Regional Council, and

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WSDOT regarding alternatives development process. This is necessary, labor-intensive coordination to establish the requirements that do not otherwise exist within these jurisdictions.

- For the Tacoma Dome Link Extension, Sound Transit will need an intergovernmental agreement with the sovereign Puyallup Tribe of Indians in order to advance construction on any Tribal properties. The Puyallup Tribal Council has stated a strong preference for a clear-span bridge design option (versus the in-river pier bridge design) across the Puyallup River.
- The Operations and Maintenance Facility North team has been extensively coordinating with Tribes and partner agencies including the City of Lynnwood, City of Everett, Snohomish County, Community Transit, Puget Sound Regional Council, and WSDOT regarding alternatives development process.

Delayed parking

Delayed parking refers to the practice of postponing construction of station parking facilities until after the project opens for passenger service. The agency started using this approach as a part of realignment to spread out project costs over time and make projects more affordable. By moving the project costs out, we can issue less debt during the period when the Financial Plan is most constrained.

- Sound Transit's Office of Planning and Integration is leading Board-directed work to "identify opportunities and make recommendations to deliver flexible, innovative, and affordable methods to get people to transit stations where parking has been delayed."
- In accordance with this direction, staff engaged the Board on the approach for identifying opportunities and making recommendations in April 2022. This engagement clarified Board direction, identified key process steps, and established criteria by which Sound Transit will assess opportunities in advance of making recommendations in particular locations.
- The following projects have a delayed parking component:
 - **Everett Link Extension** – Parking at Mariner Station and Everett Station is delayed until 2046.
 - **Stride BRT I-405** – Parking at South Renton Transit Center and NE 44th is delayed until 2034 and at Totem Lake/Kingsgate is delayed until 2035.
 - **Stride BRT SR-522** – Parking in Kenmore and Bothell is delayed until 2034. Parking in Lake Forest Park is delayed until 2044.
 - **Tacoma Dome Link Extension** – Parking at Fife Station and South Federal Way Station is delayed until 2038.

Assessment of projects in construction (baselined projects)

We generally refer to post-baselined projects as being in construction, but they can also include those that are still working through their design phase after the project to be built has been selected, along with projects that are not like traditional civil work like the light rail vehicle program that is focused on the rolling manufacture, delivery, and acceptance of vehicles that will be used in our transit system.

In all, we have nine projects that are through the Board baselining action. Of these:

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- One is going through the design process (Sumner, Kent, Auburn Stations Parking & Access Improvements).
- Six are in active construction (NE 130th Infill Station, and the Downtown Redmond, Federal Way, Hilltop Tacoma, Lynnwood and East Link extensions).
- One opened in March (Puyallup Station Parking & Access Improvements).
- One will be an ongoing effort until all vehicles are received, accepted, and closed out (Light Rail Vehicle Fleet Expansion). More information can be found in the “Systemwide issues” section below.

All of these projects are steadily advancing, but they are subject to the challenges mentioned in our cost drivers section.

Projects in construction are experiencing schedule delays and cost increases from construction challenges, quality issues, and unexpected environmental conditions. The Board has received information on delays for Hilltop Tacoma, Downtown Redmond, Federal Way, Lynnwood, and East extensions in recent months, and we will continue to inform the Board as more information develops.

These projects are concurrently managing risks around increasing inflation, limited construction labor, resource challenges, change order negotiations, poor soil conditions and other site-specific/environmental discoveries or events that trigger additional design work, managing multiple contractors and segments, rail activation, and finalizing outstanding property acquisitions and third-party agreements.

Notable events from the past year include:

- The East Link Extension faced quality issues in concrete plinths along the I-90 segment on the east and west sides of Lake Washington, as well as cracking and spalling in pre-cast blocks and problems with nylon rail fastener bolt inserts on the floating bridge segment. Both issues are requiring extensive repairs, which will have significant cost and schedule effects yet to be determined with the contractor.
- The Federal Way Link Extension team discovered unstable soil conditions along a portion of the alignment adjacent to a wetland area in Kent. This led to a slope failure and subsequent delay to allow for a new long-span bridge design solution. We expect to complete schedule and cost impact negotiations by summer 2023, with a new project opening timeframe of 2025-2026.
- NE 130th St. Infill Station continues in construction, managing permitting requirements with the City of Seattle and costs for station finishes contracts, as well as added requirements for federal funding provisions which may affect costs. Construction, however, is progressing on schedule.
- Construction quality issues on Hilltop Tacoma Link Extension led to delayed systems integration testing. We are managing risks by bringing on additional commissioning resources and optimizing the testing schedule for a Q3 2023 opening (trending toward late August as of the publication of this report).

All the projects are evaluating options for timely and cost-effective decision-making to advance remaining work as fast as possible.

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The agency opened one project since the last annual preview. The Puyallup Station Garage opened in March 2023 after setbacks due to supply chain challenges and other issues that delayed mandatory upgrades to nearby intersections required before the garage could open. It provides 673 parking spaces for transit users. Traffic improvements at three intersections nearby also improve traffic circulation and flow. Remaining pedestrian improvements will be completed by the City of Puyallup by end of 2024.

Additionally, one element of the Lynnwood Link Extension project, a new parking garage at the Lynnwood Transit Center, opened in April 2023, with 1,670 parking stalls in a five-story structure.

Systemwide issues

We consistently monitor a range of potential challenges and risks that could affect our work to more than double the region's transit system within the next few years. This section outlines the top two issues staff are working to monitor, minimize, and mitigate to ensure safety and readiness of the entire system.

(1) Light rail vehicles

We are tracking and managing two separate but interrelated issues related to LRVs: a) availability of Series 1 and Series 2 cars for daily and expanding service and b) adequate storage to clean and maintain enough vehicles to serve the growing system, from both the OMF Central and OMF East.

(a) Availability of Series 1 and Series 2 vehicles

As a part of the Light Rail Vehicle Fleet Expansion project, the agency reached the halfway mark in commissioning our 152-car order of Series 2 LRVs last month, and we are sustaining a rate of three vehicles per month. This is an improvement in pace since the 2022 BAPR and a positive trend after experiencing significant schedule impacts during the qualification test phase.

Approximately one year into Series 2 LRV use for passenger service, we identified performance reliability issues in several subsystems, requiring warranty repair and corrective actions. This work continues to be impacted by material supply chain issues and sparse availability of personnel with specific expertise to resolve complex issues in a timely fashion. The potential for new and currently unknown fleet defects that could require specialty resources to solve is an ongoing schedule risk, and implementing repairs or upgrades could impact the percentage of the Series 2 fleet available for service.

The project also includes retrofitting an on-board Automatic Train Protection system on Series 1 LRVs. We have also experienced delays in this ATP work, largely because of technical challenges integrating new equipment with legacy systems and software communication. These were resolved by end of Q1 2023, and the project is moving into the next phase of routine testing and acceptance.

At the current rate of Series 2 LRV commissioning and planned ATP retrofit work over the next 12 months, we are developing a service plan that will go before the Board later this year detailing what service levels can be maintained given the number of vehicles (combined Series 1

PORTFOLIO PERFORMANCE

and Series 2) projected to be revenue service ready for potential East Link Starter Line and Lynnwood Link openings. (Service levels are likely to be less than the voter-approved plan). Performance of the accepted vehicles is a risk that we will closely monitor for impacts on the agency's ability to respond to incidents and provide a consistent level of service to our passengers.

As deliveries of our new light rail cars continue, we also need the storage and maintenance space, as well as the people power, to test them and prepare them for service at a consistent pace.

(a) Adequate storage to serve the system

A direct rail connection across Lake Washington between the OMF East and the rest of existing system is critical to providing promised service levels when new extensions open. This is one of our biggest systemwide challenges for near-term service expansion.

- Construction delays on the East Link Extension segment between the International District and South Bellevue will likely result in changes to opening sequences, prioritizing projects (or potentially portions of projects) based on when they complete construction. Lynnwood Link is currently on track to be the first full extension finished, but a large portion of the East Link alignment (including eight of its 10 new stations) could be ready to open as soon as next spring. This fall the Board will determine whether to open this portion of the 2 Line first.
- The East Link I-90 segment delay will create vehicle access delays as well, preventing a connection between the OMF East and 1-Line extensions. Opening this segment (thereby creating OMF East access) will improve headways in 1 Line and 2 Line shared segments from downtown Seattle to Northgate/Lynnwood. However, until that happens, service between downtown Seattle and Lynnwood will be 1-Line only, and as a result we anticipate trains will be more crowded in peak hours. No connection to the OMF East will also mean more pressure on OMF Central and its fleet performance.
- We are continuing to explore creative solutions for train storage and OMF East access in order to run trains as frequently as we can on Lynnwood Link when it opens next year.

(2) Activation activities: Preparing for safe and reliable service from day one

We continue to focus on bringing service online as efficiently as possible. However, the schedule delays from construction challenges and quality issues have stressed the agency's ability to safely open multiple extensions in a short period. Growing the regional light rail system from 26 miles to 62 miles through multiple activations within the next few years will require similar staff resources from the agency and operating partners, testing equipment, emergency responses, etc.

As staff reported to the Board in fall 2022, we determined through the 2022 Programmatic Quantitative Risk Assessment that we would ideally have a window separating project openings. Staff are continuing to study these needs to define the minimum time needed between project openings without jeopardizing safety, quality, and passenger experience. As we progress with extension openings, we will continue to compile lessons learned and improve efficiency with critical activation activities.

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Project-specific details are found in the project status sheets in the following section of this report.

PROJECT STATUS SHEETS

Project status sheets for system expansion projects in planning (pre-baselined) and construction (baselined) are included in the following section.

Each status sheet is a high-level overview of project updates, challenges, and advancements since April 2022, when the previous annual review came out. They provide a summary of scope elements, key highlights, and risks and opportunities experienced by each project. For planning projects, additional information on environmental, permitting, property acquisition, agreements, and delayed parking issues are included, as applicable. Projects in planning are presented first, followed by projects in construction.

The project status sheets in this year's annual review also include a high-level timeline to inform the Board where each project is in its lifecycle. Large agency projects (such as the East Link Extension) have many contracts and use multiple delivery methods by segment or by design component (such as systems). Since ST has multiple delivery methods and programs in the system expansion program, we have four timelines presented in the status sheets:

- **Early planning work with undecided delivery method:** Many projects in early planning need to evaluate several variables around scope, schedule, and budget, along with permitting, property acquisitions, and other needs as described in this report before deciding on the delivery method, with the Board's approval. All planning status sheets (outside of the Series 3 Light Rail Vehicles) follow one of these timelines until baselining.



- **Design-bid-build:** this method is the traditional delivery approach for many public agencies (including ST) where the project's **design** is advanced to 100% and includes a package of plans, specifications, and estimates; the package is **bid** out (advertised) to contractors where the lowest qualified bidder is selected; and followed by construction to **build** the work in the design package. NE 130th St. Infill Station is a project in construction that follows this approach.



- **Design-build:** this method allows the agency to advance the design to a point when a contractor is selected to complete the **design** and **build** the work in the same contract. This approach can be more time and cost-effective than the traditional design-bid-build, and the agency evaluates such efficiencies before selecting it. Federal Way Link Extension is using this delivery method.



PROJECT STATUS SHEETS

- **Light rail vehicle manufacturing, delivery, and acceptance:** this program is different than the others because it is focused on the agency receiving the cars needed for our transit system, not civil work. Vehicles arrive monthly and are inspected for defects. Those with minor defects can be accepted and fixed. Otherwise, accepted cars are outfitted with additional systems unique to ST before entering service. The agency's two light rail vehicle projects, Series 3 (see planning status sheets) and Light Rail Vehicle Fleet Expansion (see construction project sheets) have this timeline.



For supplementary project details beyond what is included in the status sheets, the agency's monthly [Agency Progress Reports](#) are available for review. These monthly reports provide a snapshot of the latest trends and issues a project is navigating, including detailed cost and schedule performance information. Another source for more detailed project information can be found on the public [Project Performance Tracker](#), which is a dashboard presenting monthly cost and schedule information using the Agency Progress Reports as its source. Additionally, when reviewing this section electronically, hyperlinks to project webpages are included.

BALLARD LINK EXTENSION



Realignment Tier 2

Next Board action: Board approval of the project to be built.

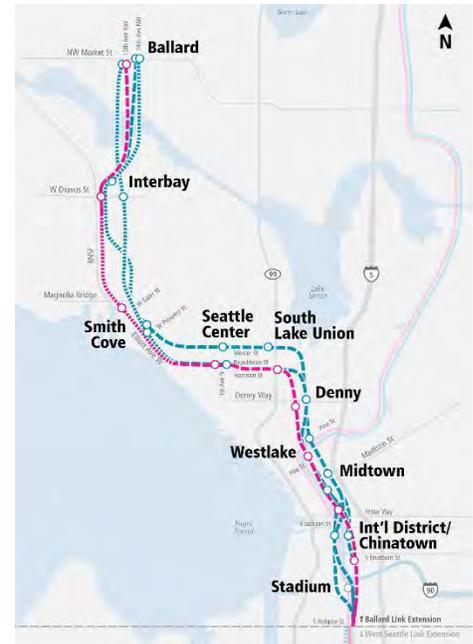
Scope

This project will extend light rail from downtown Seattle to Ballard’s Market Street area. The Draft EIS included alignment alternatives in Downtown, Interbay, and Ballard; different station locations and depths in Chinatown-International District and Downtown; and bridge and tunnel alternatives across Salmon Bay.

Forecasted service date

The project is now trending toward a **2039** delivery, due to delay in identifying a preferred alternative and additional environmental process requirements. Therefore, the project has transitioned from the “target schedule” to the “affordable schedule” and no longer has an affordability gap. This means that project delivery in this timeframe is affordable within the Board’s realigned capital plan.

Project details
Length: 7.1 miles
Stations: 9



Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$11,134M	\$11,120M	(\$14M)*

*Cost estimate decreased due to removal of sustainability allowance as per resolution R2022-21.

Key highlights

In July 2022, after reviewing the Draft EIS and comments from Tribal nations, the public, and agency partners, the Board requested further study and public engagement for the Ballard Link Extension to inform a future action to confirm or modify the preferred alternative. Staff provided a full report of the results of the further studies to the Board

Risks and opportunities

The delay in reaching a stakeholder consensus on a preferred alternative will delay environmental documentation and design. This also affects third-party funding.

Key highlights, cont.

by February 2023. Findings from the further studies and community feedback informed an action in March 2023 to identify a new preferred alternative for the Ballard Link Extension.

The modified preferred alternative includes South of CID and North of CID stations and shifts the Midtown Station to the location North of CID. The Board also directed that the CID 4th Avenue Shallower option move forward for additional environmental review. The Board did not modify the previously identified preferred alternative for the Denny Station located on Westlake in the Draft EIS alternative but directed staff to also carry forward the Denny Station on Terry alternative (i.e., South Lake Union Mix and Match) as part of ongoing environmental review. The preferred alternative also includes the previously identified Westlake and South Lake Union Stations, a refined Republican West Station, a modified Galer Street Station/Central Interbay alignment, and the Tunnel 15th Avenue Station.

South downtown would benefit from Union Station activation and Jackson Hub improvements regardless of the location of the CID station. The Board therefore directed staff to work with the City of Seattle, King County, and other potential partners to clarify the potential scope and schedule of such improvements, seek out funding and partnership opportunities, and conduct further community engagement. The Board specified that the scope of the improvements should extend beyond the CID to the abutting stations and transfer points to improve accessibility.

Engagement with partner and regulatory agencies, stakeholder groups, and property owners continues regarding the environmental process and Phase 3 project development steps to prepare the Final EIS and Preliminary Engineering. See Environmental section for more details.

Risks and opportunities, cont.

Complexity of alignments in a constrained environment with challenging topography and waterway crossing.

Complexity associated with tunneling through a mature urban environment.

Potential that design and/or construction challenges could emerge as work progresses and may affect cost and schedule.

Potential schedule risks associated with real estate acquisition process.

Budget risk due to higher current real estate costs and construction costs.

Potential permitting challenges and other necessary coordination and approvals could delay the project and increase cost.

Permitting

Sound Transit and the City of Seattle continue exploring opportunities to streamline the permitting process for the West Seattle and Ballard Link Extensions, and we anticipate a Preliminary Permitting Plan Update in Q2 2023. The final plan will be completed in time to support the Board's selection of the project to build. It will document policy framework, processes, tools, and design concurrences to ensure a streamlined permitting process. It will also provide improved tools to forecast City and ST staffing needs to ensure adequate bandwidth to support future permitting work.

Key progress/deliverables to date include:

- Agreement on key topics/schedule/approaches for proposed City of Seattle code amendments.
- Streamlined land use permitting, street use permitting, and Seattle Design Commission design review processes.
- Updated proposed City of Seattle light rail developments standards that incorporate ST comments.
- Documentation of shared understanding of ST's design direction and planning priorities for all Draft EIS alternative station locations.
- Agreement on key topics and schedule for advancing shared understanding on engineering design.

Agreements

- Port of Seattle Project Administration Agreement

Property acquisition

The project is still in the planning phase and has not started property acquisition. We are exploring the potential for early acquisition of critical properties.

Environmental

We published the West Seattle and Ballard Link Extensions Draft EIS on Jan. 28, 2022, with a 90-day public comment period ending April 28, 2022. This is approximately one quarter later than staff anticipated at the time of the realignment resolution. In July 2022, the Board directed staff to conduct further studies to support its identification of a preferred alternative for the Ballard Link Extension. In March 2023, after weighing community priorities; regional needs; input from agencies and the City of Seattle; alternatives analysis included in the Draft EIS; and results of the further studies and engagement, the Board identified a preferred alternative for the Ballard Link Extension. The project will advance any necessary environmental review, including publication of a Final EIS, after which the Board will select the project to be built.

BOEING ACCESS ROAD INFILL STATION



Realignment Tier 1

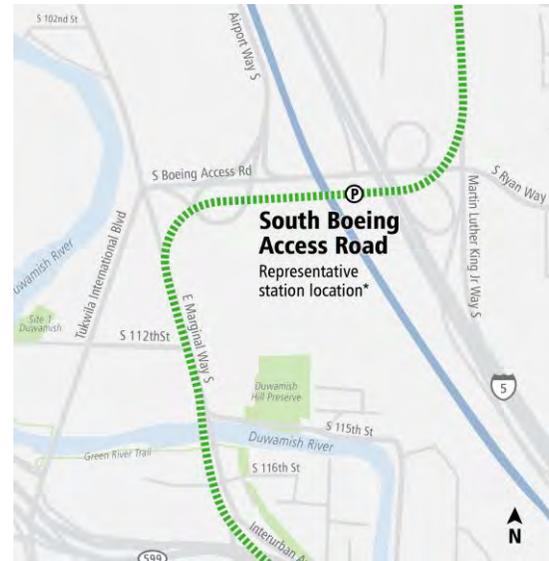
Next Board action: Authorize consultant contract in Q4 2023.

Scope

This project will add a new elevated station, a 300-stall surface parking lot, and a bus transfer and layover facility along the existing 1 Line in the vicinity of South Boeing Access Road, East Marginal Way, and I-5 in Tukwila. The project adds light rail access in the current 5.5-mile section between Rainier Beach and Tukwila International Boulevard stations.

Project details

Stations: 1
Parking spaces: 300



Forecasted service date

2031

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$261M	\$257M	(\$4M)*

*Cost estimate decreased due to removal of sustainability allowance as per resolution R2022-2.

Key highlights

Preparing consultant procurement solicitation for alternatives analysis, conceptual engineering/environmental assessment, and an option for preliminary engineering services. Solicitation target is Q2 2023.

Risks and opportunities

Third-party, stakeholder, and/or internal ST scope changes could lead to increased costs and potential delays in the schedule.

Schedule may not adequately account for challenges of constructing a new station on active light rail line.

 **Permitting**

We expect to begin permit planning for infill stations in 2023.

 **Property acquisition**

Real property team will be included in early property analysis.

 **Environmental**

This station was included in the 1999 Central Link Final Environmental Impact Statement. It was deferred by the Sound Transit Board in Resolution R2001-16 when the preferred Initial Segment for Central Link was identified (2001). Additional environmental review will be completed as part of project development.

BUS BASE NORTH



Realignment Tier 1

Next Board action: Baseline program in Q3 2023.

Scope

Bus Base North will accommodate up to 120 buses to serve I-405 and SR 522/145th Stride BRT and some ST Express routes.

Project details
Bus spaces: 120



Forecasted service date

2026

Project estimate

Financial Plan estimates do not reflect changes from new cost estimates recently received by the project team. We expect to see more changes in the coming months.

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$361M	\$361M	\$0

Key highlights

Bus Base North design is progressing toward the 60% milestone. The BRT Station Shelters, Furnishings, & Systems project design is also progressing toward 60%. We’re currently procuring a general contractor/construction management firm to assist with the stations.

The project team is in talks with legal staff to advance the resolution of codes, covenants, and restrictions with the Canyon Park Business Center.

The team held a preliminary Quantitative Risk Assessment Workshop in early December 2022.

Risks and opportunities

Inflation and higher construction costs could affect budget.

Soil conditions could require additional special foundations or ground improvements.

Schedule delays could affect I-405 BRT and SR 522 BRT revenue service, depending on future phasing options.



Permitting

Federal permits have been issued for the effects the project will have on adjacent wetlands.

City of Bothell permitting will continue in 2023.



Property acquisition

Additional temporary construction rights required by the project were brought before the Board for authorization in March 2023. Acquisition for these additional rights has begun following Board authorization.



Environmental

We completed environmental review for this project in 2020. As final design continues, staff will assess whether additional environmental review is required.

DUPONT SOUNDER EXTENSION



Next Board action: Consultant contract modification for conceptual engineering and environmental review in Q2 2023.

Realignment Tier 3

Scope

The Sounder S Line will extend south from Lakewood, adding new stations at

Project details
New stations: 2
Track and signal improvements

Tillicum and DuPont, both with parking and track and signal improvements. The new stations will provide service to Joint Base Lewis-McChord as well as to residents and businesses in south Pierce County. Staff are currently planning a portion of the project (double-track and signal improvements only).



Forecasted service date

2045

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$467M	\$458M	(\$9M) *

*Cost estimate decreased due to removal of sustainability allowance as per resolution R2022-21.

Key highlights

The Federal Railroad Administration awarded Sound Transit a \$10M Consolidated Rail Infrastructure & Safety Investments Grant for preliminary engineering and environmental review of potential track and signal improvements only. Station area planning would begin in 2034.

The 2023 ST Annual Budget provides the 50% local matching funds for early track and signal planning activities.

ST and FRA coordination meetings are being held monthly to support grant obligation, which is expected in Q2 2023.

Community engagement will begin when the next phase of the project is initiated.

 Environmental

Initiated coordination with the Federal Railroad Administration to determine environmental review under the National Environmental Policy Act to comply with the CRISI grant (see Key highlights) awarded in 2022.

EVERETT LINK EXTENSION



Next Board action: Identification of preferred and other alternatives to study in Draft EIS.

Realignment Tier 1

Scope

This project will extend light rail north from Lynnwood City Center with six new stations at West Alderwood, Ash Way, Mariner, Southwest Everett Industrial Center, SR 526/Evergreen, and Everett. It also includes one provisional station at SR 99/Airport Road.

Project details

Length: 16 miles
Stations: 6 (plus one provisional station)
New parking facilities: 2



Forecasted service date

Everett Link Extension has a target and affordable schedule. The affordable dates are shown here.

To SW Everett Industrial Center: 2037
 To Everett Station: 2041

Parking at Mariner and Everett: 2046

Project estimate

The Financial Plan estimates do not reflect changes from recently updated conceptual cost estimates. We expect to see more changes in the coming months.

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$6,076M	\$6,045M	(\$31M)*

*Cost estimate decreased due to removal of sustainability allowance as per resolution R2022-21.

Key highlights

The project is currently in the alternatives development phase.

Risks and opportunities

Emerging schedule delay risk due to confirming environmental review process with third parties.

Key highlights, cont.

In April 2022, the Community Advisory Group and the Elected Leadership Group recommended alternatives to study in the Level 2 evaluation, and in May 2022, the Board reviewed these alternatives. Results of this evaluation were available during the State Environmental Policy Act (SEPA) scoping period, Jan. 23–March 10, 2023. During this period, the public also had the opportunity to comment on the Draft Purpose and Need and topics to be studied in the Environmental Impact Statement or issues of concern. The Board is expected to identify alternatives and possibly a preferred alternative to study in the Draft EIS in mid-2023. See Environmental section for more details.

Coordination continues with Tribes and partner agencies including City of Lynnwood, City of Everett, Snohomish County, Community Transit, Puget Sound Regional Council, and WSDOT regarding alternatives development process.

Permitting

Early Tribal and regulatory agency coordination on the project's effects on wetlands and streams is complete. We'll begin preparing preliminary permitting plans and conducting fieldwork to verify affected wetlands and streams later this year.

Agreements

The Board approved execution of a multi-jurisdictional partnering agreement with the cities of Everett and Lynnwood, Snohomish County, and Community Transit for the project in February 2023. We anticipate Project Administration Agreements with each jurisdiction in 2023.

Delayed parking

Parking at Mariner Station and Everett Station is delayed until 2046. When light rail service begins, riders will be able to access Link via other improved modes of access as well as via existing parking facilities at Everett, Ash Way, and Mariner stations.

Risks and opportunities, cont.

Potential risks associated with engineering challenges over lengthy and varied geography and limited design have yet to be investigated.

Potential risks associated with real estate acquisition process and unknown right-of-way needs in early design.

Comparative cost estimates are trending similar to the current Financial Plan Estimate. However, a quantitative risk assessment and value engineering effort are being conducted over Q1/Q2 2023, which could result in revisions to the existing estimate range.

Property acquisition

One property was authorized for early acquisition to preserve the future corridor. Appraisal of that property is underway. The final alignment has not yet been determined for remaining alternatives. Acquisition will commence following the Board's selection of the project to be built and FTA's Record of Decision.

Environmental

SEPA scoping was held from Jan. 23 through March 10, 2023, to solicit input on project alternatives, the Draft Purpose and Need, and topics for study in an Environmental Impact Statement or issues of concern. The Board is expected to identify alternatives and possibly a preferred alternative to study in the Draft EIS in mid-2023.

GRAHAM STREET INFILL STATION



Realignment Tier 1

Next Board action: Authorize consultant contract in Q4 2023.

Scope

This project will add a new street-level light rail station near MLK and South Graham Street, between Columbia City and Othello stations along the existing 1 Line. The station will extend light rail access in Rainier Valley and serve the growing Hillman City neighborhood.

Forecasted service date

2031

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$121M	\$118M	(\$3M)*

*Cost estimate decreased due to removal of sustainability allowance as per resolution R2022-21.



Key highlights

We're preparing consultant procurement solicitation for alternatives analysis, conceptual engineering/environmental assessment, and an option for preliminary engineering services. Our solicitation target is Q2 2023.

Risks and opportunities

Third-party, stakeholders, and/or internal Sound Transit scope changes could lead to increased costs and potential delays.

The project schedule may not adequately account for challenges of constructing new station on active light rail line.

 **Permitting**

We expect to begin permit planning for infill stations in 2023.

 **Property acquisition**

A real property team will be included in early property analysis.

 **Environmental**

This station was included in the 1999 Central Link Final Environmental Impact Statement and deferred in the 2000 Central Link Record of Decision. We will undertake additional environmental as part of this project’s development.

I-405 STRIDE BUS RAPID TRANSIT



Realignment Tier 1

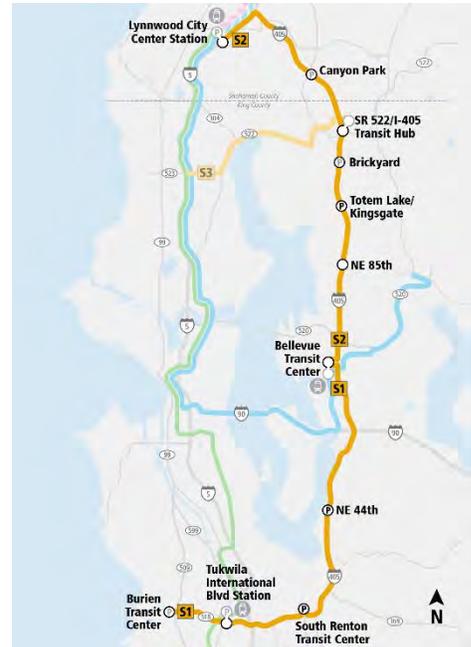
Next Board action: Baseline program in Q3 2023.

Scope

This project will launch a bus rapid transit system along the I-405 corridor, spanning approximately 37 miles between Lynnwood and Burien. I-405 BRT will extend along the I-5, I-405, and SR 518 corridors. Stride will serve Lynnwood, Bothell, Kirkland, Bellevue, Renton, SeaTac, Tukwila, and Burien. Buses will operate in high-occupancy vehicle lanes, express toll lanes, bus only lanes, and general purpose lanes.

Project details

Length: 37 miles
Stations: 11 (incl. transit hub)
New parking spaces: 1,300



Stride will use an all-electric fleet for its S1 and S2 lines. Buses will primarily charge at Bus Base North, but coaches will be topped off during layovers at the end of each route.

Forecasted service dates

- S1 and S2 lines: 2028
- Parking at South Renton Transit Center and NE 44th: 2034
- Parking at Totem Lake/Kingsgate: 2035

Project estimate

The Financial Plan estimates do not reflect changes from new cost estimates recently received by the project team. We expect to see more changes in the coming months.

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$1,279M	\$1,279M	\$0

Key highlights

- Remediation work at South Renton Transit Center is complete.
- Ongoing coordination with City of Bellevue regarding design of Bellevue Transit Center and layover bays.

Risks and opportunities

Potential budget impact due to higher inflation and higher real estate and construction costs.

Key highlights, cont.

Final design and right-of-way acquisition continues across the corridor.

The team held a preliminary quantitative risk assessment workshop in early December 2022.

A Notice to Proceed was issued for the I-405/NE 85th Interchange and BRT Station Project that is being managed in partnership with WSDOT.

Construction of the NE 44th station continues through a design-build partnership with WSDOT.

Risks and opportunities, cont.

Close coordination will be required to integrate Stride milestones into WSDOT's schedule. Sound Transit staff and consultants will participate in design and constructability reviews and work to expedite reviews and decisions needed on WSDOT-delivered projects. Delays or cost overruns could affect service and start dates.

Permitting

The project will require permits from seven cities, WSDOT, and King County, as well as coordination and agreements with several utilities. The permitting volume and complexity presents a schedule risk. The project team is working to address this schedule risk by developing and regularly updating permitting frameworks in partnership with authorities having jurisdiction, conducting regular coordination with those jurisdictions and requesting timely reviews.

Delayed parking

The Board's 2021 realignment resolution delayed parking at South Renton Transit Center and NE 44th until 2034 and parking at Totem Lake/Kingsgate until 2035.

Property acquisition

In May 2022, the Board authorized acquisition to begin on a portion of the properties required for the project. The remaining acquisition package will be presented to the Board for consideration later in 2023. Following that authorization, acquisition steps will proceed on all properties.

Environmental

We completed environmental review for this project in 2020 under SEPA. We completed review of project elements at South Renton Transit Center and Kingsgate Park-and-Ride Lot under the National Environmental Policy Act in 2021. Review of the Stride integration elements at Lynnwood Transit Center was also completed under NEPA in January 2023. As final design continues, we will assess whether additional environmental review is required.

LAKWOOD STATION ACCESS IMPROVEMENTS



Realignment Tier 1

Next Board action: Select the Project to be Built in 2024.

Scope

This project will provide access improvements to the existing station. This could mean investments in safer walking (signage, ADA ramps, sidewalks), rolling, and bicycling connections between stations and surrounding neighborhoods; better pick-up and drop-off areas; additional station lighting and weather shelters; parking options and more. The project is in the conceptual design and SEPA environmental review phase of project development.



Lakewood Station

Project estimate

Forecasted service date

2030

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$53M	\$53M	\$0

Key highlights

We're coordinating with jurisdictional partners to finalize design assumptions.
 Conceptual engineering is progressing.
 We conducted an online public open house in December 2022 to provide a project status update to the community.

Risks and opportunities

Third parties, stakeholders, or internal ST scope changes could lead to increased costs and delays in the schedule while reaching concurrence.
 Too many desired improvements may exceed the Financial Plan budget.

 **Permitting**

During design and environmental review, we will determine whether city permits or environmental permits are required for the project.

 **Environmental**

We initiated conceptual engineering and environmental review in 2022 under SEPA and we expect it to be complete in 2023.

 **Agreements**

Sound Transit and City of Lakewood staff are developing a Letter of Concurrence which establishes a framework to implement final design and construction. The intent is to reach early staff-level agreement on initial terms to streamline completion of a future agreement to be approved by the Board.

NORTH CORRIDOR MAINTENANCE OF WAY



Next Board action: Property acquisition Q2 2023.

Scope

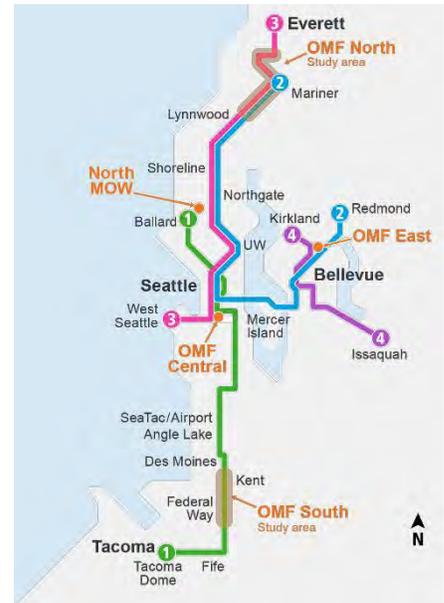
This project entails constructing a maintenance facility to serve and support Northgate, Lynnwood, and Ballard Link Extensions. Site contains a leased warehouse property that will undergo improvements to support a temporary facility serving near-term Lynnwood Link Extension operations. The leased site includes an option for Sound Transit to purchase the property to serve as the permanent facility.

Forecasted service date

Temporary facility: 2024
 Permanent facility: 2027

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$58M	\$58M	\$0



Key highlights

Sound Transit is currently leasing the temporary facility and has completed initial evaluation of it; this evaluation is currently under review. The temporary facility is scheduled to open in Feb. 2024, one month after Lynnwood Link opening. Options are being pursued to mitigate risks to the schedule.

The permanent facility is in Phase 1 development. It is currently slated to open in 2027 (subject to further evaluation). A revised schedule draft for the project is undergoing review.

Risk and opportunities

Land use permit for the permanent facility is taking longer than expected.

For the temporary facility, the property requires more extensive restoration than originally expected, requiring additional design and construction. Tenant improvement design is taking longer than expected.

Constrained staffing resources could affect project delivery.

Permitting

Sound Transit and City of Seattle staff expect that the temporary facility will not require master use permitting. Technical permitting from Seattle Department of Construction and Inspections will be required for tenant improvements for the temporary facility.

If/when Sound Transit pursues site/facility improvements for a permanent facility on the same site, we expect the project will require master use permitting and review/approval regarding compliance with applicable local development code.

Property acquisition

An appraisal is underway for the current leased site. A final determination to exercise the purchase option will occur in late Q2 2023.

Environmental

We'll determine whether a Title VI Facility Equity Analysis needs to be completed for the permanent facility prior to the Board authorizing the site purchase. Once the design for the permanent facility is further along, we'll conduct environmental review under SEPA.

OPERATIONS AND MAINTENANCE FACILITY NORTH



Next Board action: Identification of preferred alternative and other alternatives to study in Draft EIS.

Realignment Tier 1

Scope

The OMF North will support overall system operation and have the capacity to receive, store, and service a minimum 152 light rail vehicles. It will be strategically located along the Everett Link Extension.

Forecasted service date

2034

Project estimate

Comparative cost estimates are trending slightly higher than current Financial Plan Estimate; estimate ranges to be updated after Q2 2023.

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$1,530M	\$1,530M	\$0

EVLE OMF Site Alternatives

- OMF North Site Alternatives
- ST3 Representative Station
- Other Station Alternative
- ST3 Representative Route
- Other Route Alternative

This map reflects alternatives as of October 22, which are subject to change based on public input and design considerations.



Key highlights

This project is currently in the alternatives development phase.

In April 2022, the Community Advisory Group and the Elected Leadership Group recommended alternatives to study in the Level 2 evaluation, and the Board reviewed the Level 2 alternatives in May 2022. We made the results of this evaluation available during the SEPA scoping period, Jan. 23-March 10, 2023. During this period, the public also had the opportunity to comment on the Draft Purpose and

Risks and opportunities

Unknown engineering requirements, site development challenges, and limited design have yet to be investigated.

Emerging schedule delays due to environmental review process with third parties.

Key highlights, cont.

Need and topics to be studied in the Environmental Impact Statement or issues of concern. The Board is expected to identify alternatives and possibly a preferred alternative to study in the Draft EIS in mid-2023. See Environmental section for more details.

Coordination continues with Tribes and partner agencies including City of Lynnwood, City of Everett, Snohomish County, Community Transit, Puget Sound Regional Council, and WSDOT regarding alternatives development process.

Risks and opportunities, cont.

Site selection for OMF North and consensus with partners will be challenging. Deliberations could impact schedule.

Permitting

Early Tribal and regulatory agency coordination on the project's effects on wetlands and streams is complete. We'll prepare preliminary permitting plans and conducting fieldwork to verify wetland and stream locations later this year.

Agreements

The Board approved execution of a multi-jurisdictional partnering agreement with the cities of Everett and Lynnwood, Snohomish County, and Community Transit for the project in February 2023. We anticipate Project Administration Agreements with each jurisdiction in 2023.

Property acquisition

The project team is analyzing the various alternative sites. Acquisition will begin following the Board's selection of the project to be built and FTA's Record of Decision.

Environmental

We performed SEPA scoping Jan. 23–March 10, 2023, to solicit input on project alternatives, the Draft Purpose and Need, and topics for study in an Environmental Impact Statement or issues of concern. The Board is scheduled to identify alternatives and possibly a preferred alternative to study in the Draft EIS in mid-2023.

OPERATIONS AND MAINTENANCE FACILITY SOUTH



Next Board action: Approval of Design-Build Project Manager consultant contract in Q2 2023.

Realignment Tier 1

Scope

The OMF South will be strategically located in the south corridor and will be used to store, maintain, and deploy a minimum 144 light rail vehicles for daily service. The facility will receive, test, and commission new vehicles for the entire system. It will also include facilities to support the entire regional system including Maintenance of Way and Link Systemwide Storage buildings.

Forecasted service date

2029*

**The project is currently delayed at least six months, but further design refinements and changes to the federal environmental review process have delayed publication of the Final EIS and may have a corresponding effect on the project opening date up to three years.*

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$1,447M	\$1,447M	\$0



Key highlights

In 2021 the Board identified the S. 336th St Alternative as the preferred alternative site. Preparations for publishing the Final EIS are underway, along with continued supporting design. Sound Transit staff and federal partners determined that a NEPA EIS will be required and that FTA will be the lead federal agency. See Environmental section for more detail.

Risks and opportunities

Design refinements and change in federal environmental review process will delay publication of Final EIS and project completion. The preferred alternative in Federal Way requires a street vacation and code deviation from the city. Environmental permitting challenges: An ecosystem mitigation

Key highlights, cont.

Geotechnical borings in the proposed project area and related real property and engagement coordination with property owners is underway.

Design development in coordination with Tribal nations and agency partners continues.

We've initiated Design-Build Project Management procurement.

Since the Draft EIS publication, a test track to support systemwide light rail vehicle testing and a replacement roadway required for the street vacation by the City of Federal Way, among other design adjustments, have been added to the project scope.

Risks and opportunities, cont.

plan acceptable to all parties may take longer to negotiate and/or cost more than anticipated. Off-site wetland mitigation areas, when identified, will require property acquisition.

Approvals and timely concurrence on design will inform the schedule.

Right-of-way cost may increase more than projected escalation rates as a result of property value increases in the region.

Third-party coordination and/or unanticipated required mitigation may increase cost.

Unidentified utility conflicts, contaminated soil, and/or groundwater could be discovered during construction, increasing costs.

 **Permitting**

The Preferred Alternative South 336th Street Site is in Federal Way. Design revisions have been made to address city requirements for a street vacation and exemption from a maximum block code requirement. Approvals from Bonneville Power Administration are required to move BPA towers at the north end of mainline tracks.

The preferred alternative detracts local wetlands and streams significantly, and we will need to find a mitigation site or sites in the city of Federal Way large enough to compensate for these effects. We're developing mitigation opportunities early to minimize this risk. Permits and approvals will be required from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries, Washington Department of Fish and Wildlife, Washington State Department of Ecology, and the City of Federal Way, in coordination with Tribes.

 **Property acquisition**

Cost estimating and early right-of-way planning is occurring for the alternatives. The project team is reviewing opportunities for corridor preservation of key parcels needed by multiple alternatives.

 **Environmental**

We anticipated publishing the Final EIS under SEPA by the end of 2022, followed by an environmental assessment under the National Environmental Policy Act with the Federal Highway Administration as the lead federal agency. However, through ongoing coordination with federal partners, we determined that a NEPA EIS is needed. Therefore, we will pursue the EIS with the Federal Transit Administration as the lead federal agency.

We'll be better able to identify a projected schedule as we continue coordinating with FTA.

SERIES 3 LIGHT RAIL VEHICLES



Next Board action: Engineering and inspection contract approval expected Q2/Q3 2023.

Scope

This project includes all steps necessary to specify, procure, manufacture, commission, and accept approximately 106 new light rail vehicles, with delivery occurring over a nine-year period with an optional extension of the service to support the procurement of additional 216 vehicles. The LRV count in this report is based on assumed vehicle length of 95 feet. The project will support future operations of the existing system and extensions in planning (project development).

Project details
Up to 322 new light rail vehicles

Forecasted service date

2035 (updated from 2032 based on feedback regarding testing timelines).

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$2,023M	\$2,023M	\$0

Key highlights

We're engaging with the car building industry to understand market conditions for designing and manufacturing new vehicles that increase passenger capacity, enhance passenger experience, and improve maintainability.

We expect preliminary conceptual design of key vehicle elements by qualified car builders in the second half of 2023.

Evaluations are underway for selection of an engineering and inspection consultant team to support procurement and delivery of Series 3 LRVs.

We expect the first Series 3 vehicle to enter revenue service in Q1 2031, and the 57th and 106th vehicles to enter revenue service by end of Q4 2032 and Q1 2034, respectively. This rate of acceptance is currently anticipated to be sufficient to open new West Seattle, Tacoma Dome, and infill Link station service planned in the first phase. We anticipate the 106 LRVs to be completed in Q4 2035, which is later than assumed in the agency Financial Plan.

Risks and opportunities

One risk is a potential lack of car-builder bidding once advertised. We're engaging closely with the industry to enhance interest and wide procurement participation by car builders.

Vehicle costs could grow very high due to inflation, labor shortage, and supply chain challenges. We're exploring the use of indexed pricing model for this procurement and discussing with the car build industry and trade organizations such as APTA to minimize market trend effects on pricing.

 **Environmental**

Environmental review for light rail system expansion (including operations and maintenance base capacity expansion to serve Series 3 LRVs) is underway via the OMF South and OMF North projects.

SOUNDER SOUTH CAPACITY EXPANSION



Next Board action: System Expansion Committee in May 2023 for a consultant contract modification.

Realignment Tier 3

Scope

This project establishes a program of capital elements to enhance Sounder South capacity, service, and access. It could include platform extensions, track and signal upgrades, new trips (to be negotiated with BNSF), and other related infrastructure to facilitate additional capacity and access elements such as improvements for pedestrians, bicyclists, buses, and private vehicles, consistent with Sound Transit’s System Access Policy. The Sounder Strategic Development and Implementation Plan completed in March 2020 prioritized capacity expansion capital projects. We’ll update the plan this year to evaluate changing ridership demand patterns as a result of the COVID-19 pandemic.

Forecasted service date

- Platform extension projects: 2036
- Pierce County access projects: 2036
- South King County access projects: 2041
- Additional elements (potential easements, track and signal improvements, vehicle purchase): 2046



Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$1,339M	\$1,339M	\$0

Key highlights

- The King Street Station Platform Area Improvements Project:
- Completed Alternatives Analysis in Q2 2022.
 - Initiated conceptual engineering and environmental assessment phase in Q3 2022.
 - Is coordinating closely with Ballard Link Extension on potential access improvements in the Jackson Hub area.

Risks and opportunities

Accommodating additional accessibility or safety features not originally in project template could increase project scope.

Costs could increase, associated with right-of-way and potential mitigations resulting from

Key highlights, cont.

The Pierce County Double-Track and Signals Project:

- Won a Federal Railroad Administration \$10M Consolidated Rail Infrastructure & Safety Investments grant (for preliminary engineering and environmental review only). Sound Transit's 2023 Annual Budget provides the 50% local matching funds for this project. ST and FRA are meeting monthly to coordinate, and we'll begin community engagement in late Q2 2023.

Risks and opportunities, cont.

negotiations with local jurisdictions and/or BNSF.

Permitting

We're identifying permitting needs for the King Street Station Platform Area Improvements Project during environmental review and conceptual engineering.

Environmental

We initiated coordination with the Federal Railroad Administration to determine environmental review under the National Environmental Policy Act to comply with the CRISI grant awarded in 2022.

We coordinated with the Federal Transit Administration for proposed access improvements at King Street Station.

SOUTH TACOMA STATION ACCESS IMPROVEMENTS



★ WE ARE HERE

Next Board action: Select the Project to Be Built in 2024.

Realignment Tier 1

Scope

This project will provide access improvements to the existing station. This could mean investments in safer walking, rolling, and bicycling connections between stations and surrounding neighborhoods; better pick-up and drop-off areas; additional station lighting, weather shelters; parking options and more. During the current phase, we'll conceptually design the improvements and conduct an environmental review under SEPA.

Project details
Improving walking, bicycling, transit and driving access to station



South Tacoma Station

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$55M	\$55M	\$0

Forecasted service date

2030

Key highlights

We met with jurisdictional partners throughout 2022 to finalize design assumptions.

Conceptual engineering is progressing.

We completed community engagement activities in Q4 2022 to share project information with interested parties and the public through various mediums, including an online open house and other virtual and in-person community engagement activities.

Risks and opportunities

Third parties, stakeholders, or internal ST scope changes could lead to increased costs and schedule changes.

Too many desired improvements may exceed the Financial Plan budget.

 **Permitting**

During the design and environmental review phase, we'll identify any potential permits that may be required for the project.

 **Environmental**

We initiated conceptual engineering and environmental review in 2022 under SEPA, and we expect to finish this year.

 **Agreements**

Sound Transit and City of Tacoma staff are considering a Letter of Concurrence which would establish a framework to implement final design and construction. The intent is to reach early staff-level agreement on initial terms to streamline completion of a future agreement to be approved by the Board.

SR 522/NE 145TH STREET STRIDE BUS RAPID TRANSIT



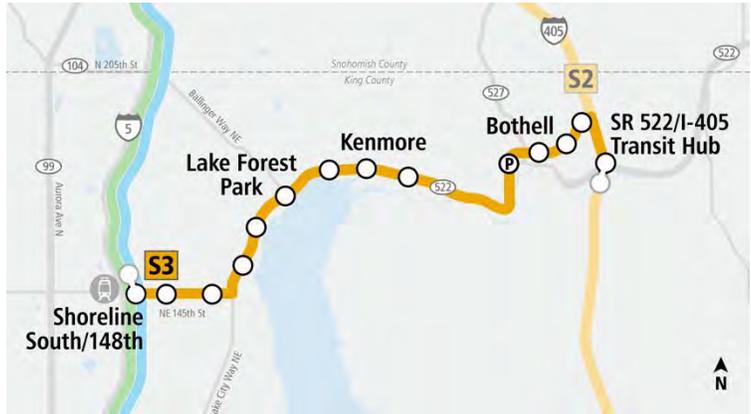
Realignment Tier 1

Next Board action: Baseline program in Q3 2023.

Scope

Project details
Length: 8 miles
Stations: 14

This project will launch bus rapid transit in the SR 522/NE 145th Street (SR 523) corridor between the Shoreline South/148th light rail station and the SR 522/I-405 transit hub near UW Bothell/Cascadia College campus.



Stride’s S3 Line will travel via NE 145th Street and SR 522 serving Seattle, Shoreline, Lake Forest Park, Kenmore, and Bothell, including UW Bothell/Cascadia College area. The route will have a connection to I-405 BRT (S2 Line) at the SR 522/I-405 interchange. Buses will operate primarily in Business Access and Transit lanes, transit queue bypass lanes, and in general purpose lanes.

The S3 Line will use an all-electric articulated 60-foot fleet. Buses will primarily charge at Bus Base North, but coaches will be topped off during layovers at the end of each route.

Project estimate

The Financial Plan estimates do not reflect changes from new cost estimates recently received by the project team. We expect to see more changes in the coming months.

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$672M	\$672M	\$0

Forecasted service date

S3 Line: 2027
 Parking at Kenmore and Bothell: 2034
 Parking at Lake Forest Park: 2044

Key highlights

Construction on Bothell to Kenmore Business Access and Transit lanes finished in mid-2022; now open to traffic.

Risks and opportunities

Inflation and higher real estate and construction costs could require budget changes.

Key highlights, cont.

Final design and right-of-way acquisition continues across the corridor.

We held a preliminary quantitative risk assessment workshop in early December 2022.

Projects delivered by third parties (I-5/NE 145th St. roundabouts by City of Shoreline and UW Bothell stations) are progressing through final design and toward construction.

We're moving forward with design for inductive charging for the battery electric buses at 148th/S. Shoreline Station, and I-405/SR 522 transit hub as part of the I-405 project.

Risks and opportunities, cont.

Improvements for the SR 522/NE 145th Street corridor are complex; we're closely coordinating with multiple partners on project development, design, property acquisitions, permitting process, and construction.

Continuing ongoing close coordination with the Project Interagency Coordination Group and City Managers Group to secure concurrence as final design advances.

Permitting

The project will require permits from five cities, WSDOT, and King County, as well as coordination and agreements with several utilities. Staff are focused on submitting critical areas documentation and project environmental permit applications this year to the Cities of Seattle, Lake Forest Park, Kenmore, and Bothell. We're currently collaborating with the Cities of Lake Forest Park and Kenmore on critical area buffer effects and associated mitigation.

Property acquisition

As of January 2023, all five acquisition packages have been approved by the Board. We are now finalizing design and proceeding toward appraisal and negotiations.

Environmental

We completed environmental review for this project in 2021. As final design continues, we'll assess whether additional environmental review is required.

Delayed parking

The Board's 2021 realignment resolution delayed parking at Kenmore and Bothell until 2034 and parking at Lake Forest Park until 2044.

TACOMA DOME LINK EXTENSION



Realignment Tier 1

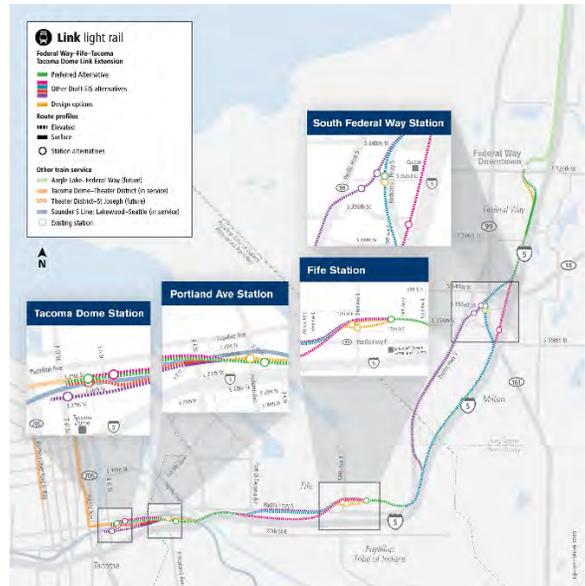
Next Board action: Confirm or modify preferred alternative.

Scope

This project will expand light rail south from the Federal Way Transit Center to Tacoma. The project includes four stations in South Federal Way, Fife, Portland Avenue, and at the Tacoma Dome.

Project details

Length: 9.7 miles
Stations: 4
New parking garages: 2



Forecasted service date

Tacoma Dome Link Extension: 2035
 Parking at South Federal Way and Fife: 2038

Project estimate

Sound Transit is now managing the Tacoma Dome Link Extension toward a **2035** delivery, following the March 2023 Board action adding additional alternatives for study in the Draft EIS.

We have adjusted the current cost estimate to reflect anticipated increased costs for the new Pacific Highway/SR 99 alternative added by the Board, as compared to the existing I-5 alternative. This new alternative is currently at <1% design.

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$4,077M	\$4,673M	\$597M

Therefore we have included a preliminary rough order of magnitude estimate as a placeholder, until a comparative cost estimate based on approximately 10% design is completed at the end of 2023. The spring 2023 Financial Plan update incorporates the rough order of magnitude estimate.

Key highlights

The project is currently in the environmental review phase. In 2019, the Board identified the preferred alternative and other alternatives to study in the Draft EIS. More recently, through the development of the Draft EIS, we identified the need to consider additional alternatives.

Risks and opportunities

Environmental review of new station options in Fife outside the FEMA mapped floodplain and an additional alignment on SR 99/Pacific Highway will substantially delay the Draft EIS

Key highlights, cont.

In March 2023, the Board identified additional alternatives for study in the Draft EIS, including an additional alignment in South Federal Way along SR 99/Pacific Highway, and station options in Fife. The action also modified the preferred alternative in the South Federal Way segment from the station area south. See the Environmental section for more details. No additional alternatives were identified in Tacoma. This action delays the publication of the Draft EIS to mid-2024 and changes the revenue service date to 2035.

Risks and opportunities, cont.

publication and has corresponding delays to revenue service date. See Environmental section for more details.

Heightened risk of design changes or unanticipated mitigation associated with cultural resources, natural resources and compensatory flood storage may increase project cost and/or extend schedule.

Potential design or construction challenges could emerge as work progresses, including crossing of the Puyallup River, and may increase time needed.

Environmental mitigation costs could increase.

Potential effects from higher real estate and construction costs.

Unknown requests/requirements from third parties could result in higher costs.

An ecosystem mitigation plan acceptable to all parties may take longer to negotiate and/or cost more than anticipated.

Potential permitting challenges and other necessary timely coordination/approvals with many permitting authorities.

Permitting

The project requires coordination with and permits/approvals from Tribes, and federal, state, and local agencies in the final design/construction phase.

The project will affect floodplains, shorelines, wetlands, and streams, including crossings of the Puyallup River and Hylebos Creek. The effects on wetlands and streams will require permits and approvals from the Tribes, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Coast Guard, and several state permit agencies and five local municipalities.

Sound Transit and the Puyallup Tribe of Indians, as a sovereign nation, will need an intergovernmental agreement to advance construction on any Tribal properties. The Puyallup Tribal Council has stated a strong preference for a clear-span bridge design option (versus the in-river pier bridge design) across the Puyallup River.

Mitigation is anticipated to offset potential effects of the project to ecosystem resources, federally listed species, cultural resources, Tribal properties, and Tribal fishing access.

Property acquisition

The project is still in the planning phase and has not started property acquisition. Acquisition will commence following the Board's selection of the project to be built and FTA's Record of Decision.

Environmental

Conceptual design and a Draft Environmental Impact Statement are underway to evaluate the potential effects of the project.

Following the Board action in March 2023, staff are working to bring the potential station options and the additional alignment alternative up to the same level of evaluation as the existing alternatives in the Draft EIS. We anticipate publishing the Draft EIS in mid-2024, after which we will seek public comment.

The delay in the Draft EIS publication will affect the start of service for the Tacoma Dome Link Extension, which we now anticipate opening in 2035.

Delayed parking

The Board's 2021 realignment action delayed parking at Fife Station and South Federal Way Station until 2038. When light rail service begins, riders will be able to access Link via improvements to other modes of access as well as existing parking facilities at Tacoma Dome Station.

TACOMA DOME STATION PARKING AND ACCESS IMPROVEMENTS



Realignment Tier 3

Scope

This project will provide a surface parking lot near the Tacoma Dome Station for up to 300 parking stalls and/or non-motorized improvements to help riders access the transit hub. The goal of this project is to accommodate future demand for ridership on transit services by improving access to Tacoma Dome Station.

This project is being developed in parallel with the Tacoma Dome Link Extension to ensure complementary and coordinated investments.



Tacoma Dome Station

Forecasted service date

2032

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$19M	\$19M	\$0

Project details

Will improve walking, bicycling, transit, driving and ADA access to station.

Key highlights

We have identified preliminary potential sites for up to 300 parking stalls in the vicinity of Tacoma Dome Station and TDLE.

In coordination with planning partners, TDLE staff also identified candidate non-motorized improvement projects to improve access to the future TDLE station at Tacoma Dome and support transfers between modes.

Risks and opportunities

Market forces and inflation could increase project cost.

Desired project scope could exceed the Financial Plan budget.

Scheduled to advance with the Tacoma Dome Link Extension.

Key highlights, cont.

The comment period associated with the TDLE Draft EIS publication in mid-2024 will seek comment on these potential parking and non-motorized improvements. We'll then evaluate parking and non-motorized improvements against criteria established for the Station Access Allowance.

Risks and opportunities, cont.

TDLE is facing substantial delays, which will in turn delay the schedule of this project. The forecasted service date for TDLE is now 2035.

Permitting

During the future design and environmental review phase, staff will identify any potential permits that may be required for the project.

Property acquisition

If relevant, acquisition would commence following completion of the environmental review and the Board's selection of the project to be built.

Environmental

We expect to begin environmental review in late 2024.

We welcome comments on the candidate non-motorized and parking improvements, which would be included as part of the comment period for TDLE Draft EIS in mid-2024.

WEST SEATTLE LINK EXTENSION

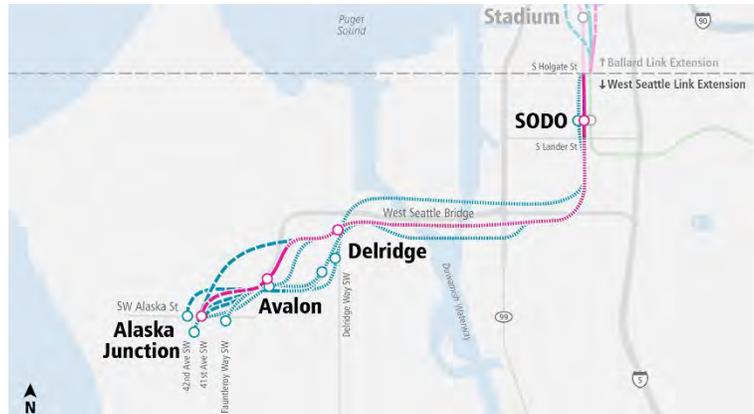


Realignment Tier 1

Next Board action: Approval of the project to be built.

Scope

This project will extend light rail from downtown Seattle to West Seattle’s Alaska Junction neighborhood, including a bridge across the Duwamish Waterway. The Draft EIS included alternatives on the south and north side of the West Seattle Bridge and elevated and tunnel guideway alternatives in West Seattle Junction.



Forecasted service date

2032

Project estimate

Spring 2022 FP estimate (2023\$)	Spring 2023 FP estimate (2023\$)	FP estimate change (2023\$)
\$3,989M	\$3,967M	(\$22M)

Project details
 Length: 4.7 miles
 Stations: 4

Key highlights

Phase 3 of project development continues, including Final EIS preparation and preliminary engineering.

In July 2022, after reviewing the Draft EIS and comments from Tribes, the public, and agency partners, the Board identified a preferred alternative: the Medium Tunnel 41st Avenue Station alternative in the West Seattle Junction segment, the Andover Street Station Lower Height alternative in the Delridge segment, the South Crossing alternative in the Duwamish Segment, and the At-Grade Alternative Staggered Station Configuration in the SODO segment.

Risks and opportunities

Delayed identification of preferred alternative and potential additional environmental process requirements could delay the completion of environmental documentation and design.

Alignments in a constrained environment with challenging topography and waterway crossing mean increased complexity and potential construction effects.

Key highlights, cont.

The Board also directed further studies including exploring a station entrance at 42nd at the Alaska Junction station, opportunities to provide access north and south of Andover Street at the Delridge station, enhancing access from the platform to South Lander Street at the SODO station and considering eliminating the Avalon station in the West Seattle Junction segment. Refinements based on the results of the further studies have been incorporated into the preferred alternative for evaluation in the Final EIS.

Engagement continues with partner and regulatory agencies, stakeholder groups and property owners regarding environmental process and Phase 3 project development activities to prepare the Final EIS and Preliminary Engineering. See Environmental section for more details.

Risks and opportunities, cont.

There are potential schedule risks associated with real estate acquisition process.

Higher current real estate costs and construction costs pose budget risks.

Potential permitting challenges and other necessary coordination/approvals could delay the project and add cost.

Permitting

Sound Transit and City of Seattle staff continue exploring opportunities to streamline the permitting process, and we anticipate a Preliminary Permitting Plan Update in Q2 2023. The final plan will be completed in time to support the Board's selection of the project to build. The plan documents the policy framework, processes, tools, and design concurrences that will ensure a streamlined permitting process. It will also provide improved tools to forecast City and Sound Transit staffing needs to ensure adequate bandwidth to support future permitting work.

Key progress/deliverables to date include:

- Agreement on key topics/schedule/approaches for proposed City of Seattle code amendments.
- Streamlined land use permitting, street use permitting, and Seattle Design Commission design review processes.
- Updated proposed City of Seattle light rail developments standards that incorporate ST comments.
- Documentation of shared understanding of ST's design direction and planning priorities for all Draft EIS alternative station locations.
- Agreement on key topics and schedule for advancing shared understanding on engineering design.

Agreements

- Port of Seattle Project Administration Agreement
- Northwest Seaport Alliance Project Administration Agreement
- Union Pacific Preliminary Engineering Services Reimbursement Agreement

Property acquisition

The project is still in the planning phase and has not started property acquisition. We are exploring the potential for early acquisition of critical properties.

Environmental

We published the Draft Environmental Impact Statement on Jan. 28, 2022, with a 90-day public comment period ending April 28, 2022. This was approximately one quarter later than was anticipated at the time of the Realignment Resolution. As directed by the July 2022 Board motion that identified the preferred alternative, staff have conducted additional studies to support project refinements. Environmental review is underway, and we anticipate publishing the Final EIS in 2024, after which the Board will select the project to be built.

DOWNTOWN REDMOND LINK EXTENSION



Scope

This project will extend light rail from Redmond Technology Station to downtown Redmond. The alignment runs along SR 520 and SR 202 with two stations at Marymoor Village and Downtown Redmond.

Revenue service date

Spring 2025

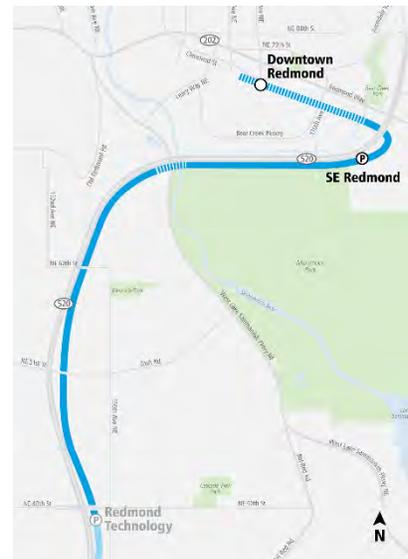
Project details

Length: 3.4 miles

Stations: 2

Project budget

Approved baseline budget (YOE\$)	Estimated final cost (YOE\$)	Cost estimate changes
\$1,530M	\$1,530M	\$0



Key highlights

While the project was originally scheduled to open in late 2024, construction challenges on other extensions and opening sequence adjustments brought up in the Programmatic Quantitative Risk Assessment may push the opening out by several months.

The project also includes about 1,400 parking stalls at Marymoor Village Station.

After extensive public feedback and partnership with local jurisdictions, in June 2022 the Board acted to name these stations Downtown Redmond and Marymoor Village Station/Garage.

The design-build contractor has completed design, and construction is well underway. Through 2022 and 2023, construction has been focused on completing the track, elevated structures, and garage, finishing the ramp work at SR 520 and SR 202, and completing systems and stations.

Risk and opportunities

Factors that could affect cost and schedule include:

- Inflation, labor availability, supply chain disruptions.
- Resource challenges from multiple competing projects.
- Geotechnical conditions.
- Late design changes during construction.

Despite delays, fabrication and delivery of systems buildings and traction power substation units have begun.

Labor & Industries support for systems building inspections is experiencing staffing shortages that may affect the schedule for manufacturer and field inspections as well as achieving Gold Seal certification.

EAST LINK EXTENSION

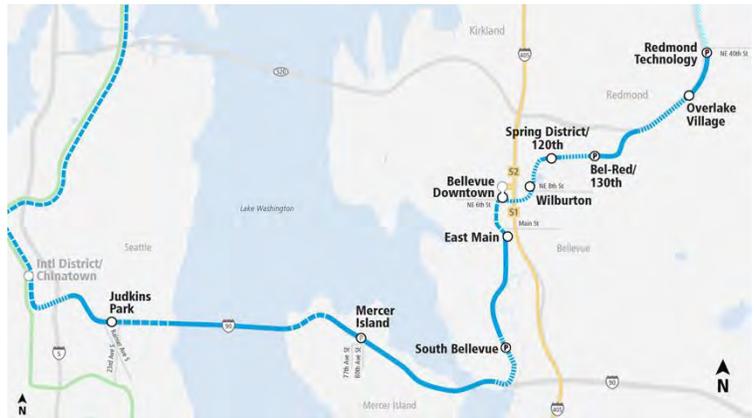


Next Board action: Increase budget authorization for post-acceptance maintenance.

Scope

This project will provide a light rail extension from Seattle to Mercer Island, Bellevue, and Redmond's Overlake neighborhood. It includes stations at Judkins Park, Mercer Island, South Bellevue, East Main, Bellevue Downtown, Wilburton, Spring District/120th, Bel-Red/130th, Overlake Village, and Redmond Technology. Systems include signals, traction electrification, and communications.

Project details
Length: 14 miles
Stations: 10



Project budget

Revenue service date

East Link Starter Line*: Spring 2024
 East Link Extension: Spring 2025

Approved baseline budget (YOE\$)	Estimated final cost (YOE\$)	Cost estimate changes
\$3,677M	\$3,677M	\$0

**General info about this work is provided below in its own section.*

Key highlights

While the East Link Extension was originally scheduled to open in mid-2023, construction challenges on the I-90 segment have delayed the full project forecasted opening to spring 2025.

Challenges include quality of direct-fixation concrete plinths east and west of Lake Washington and pre-cast blocks and nylon rail fastener bolt inserts on the I-90 floating bridge.

There are reasonable opportunities and benefits to opening an East Link Starter Line* ahead of the full opening, should the Board choose to do so. The South Bellevue-Redmond Technology segment will be completed in early 2024 and have direct access to the Operations Maintenance Facility East. This segment also has station locations and potential

Risks and opportunities

The primary schedule risk is work to correct direct-fixation track construction quality issues along approximately four miles of the I-90 segment (E130 contract), on the east and west sides of the floating bridge. Plinth reconstruction by contractor Kiewit-Hoffman JV is underway.

Loss of key personnel and consultants, including some to other projects, is also a risk.

Key highlights

to connect riders to essential jobs, education, health care, food, shopping, and recreation.

Risks and opportunities, cont.

Negotiations with contractor claims for alleged detriments are ongoing.

Costs for delayed access for the systems contractor continue to accumulate, as the civil work is extended due to COVID-19, concrete delivery driver strike, contractor quality issues, and design deficiencies.

Design corrections and changes continue to affect contract budgets and schedule, including nylon rail fastener insert replacement in the pre-cast blocks on the floating bridge, and completing the civil contracts non-conformance report.

ST Operations, safety, and security requested design changes could add time and/or cost.

Opening the South Bellevue-Redmond Technology segment in spring 2024 would provide public use a year before the remainder of East Link.

*East Link Starter Line

In January 2023, the Board approved \$6M for additional work needed to preserve the option of opening the East Link Starter Line.

South Bellevue Station is best suited as a temporary western endpoint for an East Link Starter Line because it has crossover track nearby and is outside of the ongoing construction on the I-90 segment. Redmond Technology Station is the original eastern terminus of the East Link Extension project and is well suited to this East Link Starter Line concept as well.

We currently estimate a March 2024 opening timeframe for this segment. However, Sound Transit staff, operating partners, and contractors have numerous challenges and risks to address before a final Board decision (estimated in fall 2023) on whether to open the starter line, including:

- Completing civil and systems work for pre-revenue service to start in November 2023.
- Hiring and training skilled labor, operators, and maintenance workers are critical to opening.

All real property has been acquired. Transfer of property to third parties, such as sidewalks and roadway improvements to the City of Bellevue, is now underway.

FEDERAL WAY LINK EXTENSION

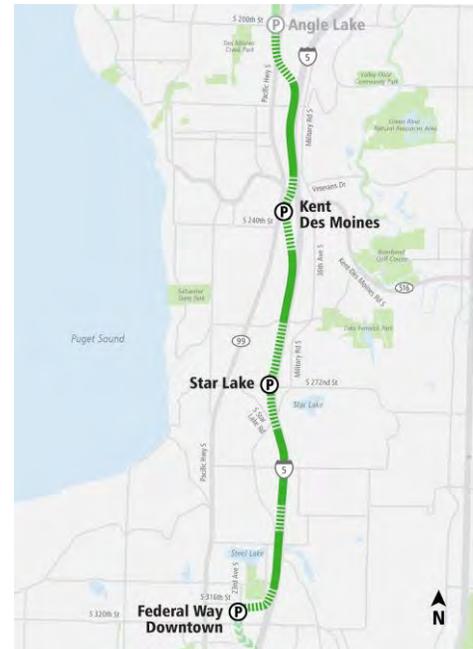


Next Board action: Consider contract contingency increase for FWLE F200 contract.

Scope

This project will extend light rail from Angle Lake Station in the city of SeaTac to Federal Way City Center. The extension generally parallels SR 99 and I-5, with stations and garages at Kent Des Moines, Star Lake, and Federal Way Downtown.

Project details
Length: 7.8 miles
Stations: 3



Revenue service date

2025/2026

Project budget

Approved baseline budget (YOE\$)	Estimated final cost (YOE\$)	Cost estimate changes
\$2,452M	\$2,452M	\$0

Key highlights

While the Federal Way Link Extension was originally scheduled to open in late 2024, construction challenges and project interdependencies highlighted through the Programmatic Quantitative Risk Assessment will delay completion until 2025 or 2026.

The project also adds parking at all three stations — Kent Des Moines near Highline College, Star Lake at South 272nd Street, and Federal Way Downtown — for a total of 3,200 spaces along the route.

We're also working to identify opportunities to bring affordable housing, jobs, services and community spaces to people with a range of incomes around Kent Des Moines and Federal Way Downtown stations through transit-oriented development.

Risks and opportunities

The F200 contractor's "Structure C" long-span bridge design solution will result in cost and schedule impacts to the contract.

The design/builder's coordination of Structure C interferes with SR 509 project construction and creates delay and inefficiency costs.

Integrating additional requirements for facilities and/or systems (by ST) could not only result in increased costs, but also affect construction completion.

HILLTOP TACOMA LINK EXTENSION

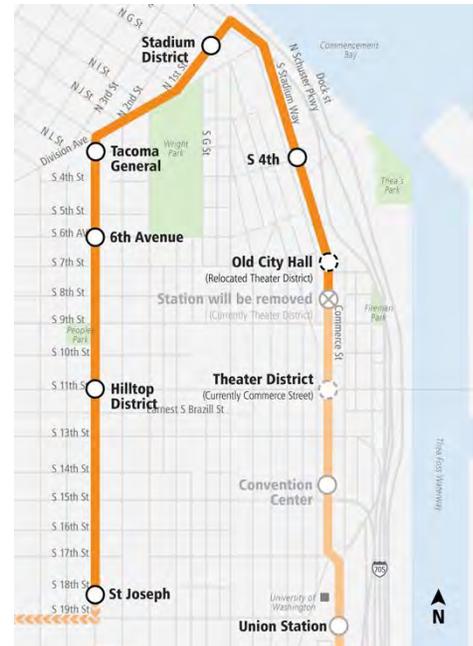


Next Board action: Possible budget amendment request in Q3 or Q4 2023.

Scope

This project will extend the existing T Line from downtown Tacoma to the Hilltop neighborhood. The extension will travel at grade along Stadium Way, North 1st Street, Division Avenue, and Martin Luther King Jr. Way and utilize the expanded Tacoma Link Operations and Maintenance Facility. It includes additional signals, overhead catenary systems, traction power, and communications infrastructure, plus procurement of five new light rail vehicles.

Project details
Length: 2.4 miles
Stations: 7 new, 1 relocated



Revenue service date

Q3 2023

Project budget

Approved baseline budget (YOE\$)	Estimated final cost (YOE\$)	Cost estimate changes
\$283M	\$283M	\$0

Key highlights

While the Hilltop Tacoma Link Extension was originally scheduled to open in 2022, construction challenges have delayed the project to Q3 2023.

This project more than doubles the length of the T Line, starting with a relocated Theater District Station and adding seven new stations. Now, the T Line will connect to popular destinations like the Stadium District, Wright Park, and major medical facilities before reaching its new terminus in the Hilltop neighborhood.

Risks and opportunities

We expect a cumulative impact claim (not yet quantified) from the T100 contractor, Walsh.

Vehicle testing complications delay conditional vehicle acceptance and may delay schedule.

Delays in commissioning could affect training capacity and schedule.

Key highlights, cont.

Tracks run in existing road lanes and are compatible with on-street parking and existing bicycle facilities. Platforms are located in the center roadway.

Construction is nearing substantial completion with a focus on punchlist work, systems integration testing, and vehicle commissioning. Rail activation work is underway including safety certification, transition to Operations checklists, and pre-revenue readiness assessments.

We're actively engaging the public ahead of the project's opening. This work includes specific emphasis on safety and vehicle awareness, as pedestrians, drivers and cyclists will encounter T Line trains in existing roadways.

Risks and opportunities, cont.

Inadequate detail in the T100 construction schedule impedes resource planning for rail activation, safety certification, systems integration testing, and commissioning.

The light rail vehicle manufacturer may not complete documentation on time, thereby delaying conditional acceptance.

LIGHT RAIL VEHICLE FLEET EXPANSION



Scope

This project includes design, manufacturing, assembly, inspection, testing, and delivery of 152 low-floor light rail vehicles for service requirements of Northgate, East Link, Lynnwood Link, Federal Way, and Downtown Redmond Link Extensions. New vehicles are referred to as Series 2 LRV.



Light rail vehicles at Operations and Maintenance Facility Central in Seattle.

Project completion date

2026*

**Expected completion (which is two years past the Q3 2024 baseline date).*

Project details

152 new light rail vehicles

Project budget

Approved baseline budget (YOES)	Estimated final cost (YOES)	Cost estimate changes
\$741M	\$741M	\$0

Key highlights

Half of the total number of LRVs ordered will have been put into service, operating under warranty, by the end of May.

Sound Transit conditionally accepts three LRVs per month. Conditional acceptance means vehicles are ready for service **except** for minor defects that will not materially affect operations. (Minor defects are tracked and must be fixed before each car can be fully accepted contractually.)

Siemens Mobility Inc. continues to progress final assembly and car shell fabrication in Sacramento, California. The car manufacturer delivers six to nine LRVs each quarter to Sound Transit operations and maintenance facilities. Also,

Risks and opportunities

Identification of defects in the safety-certified revenue fleet could divert commissioning team resources and facility maintenance pit space to prioritize corrective actions. This may slow acceptance of new vehicles and affect intermediate Link extension project baseline milestones.

OMF Central vehicle storage capacity continues to be an issue

Key highlights, cont.

there are approximately 30 LRVs in different stages of commissioning work at Sound Transit facilities. The average acceptance rate for revenue service is nine LRVs each quarter.

We continually manage and monitor Siemens LRV delivery and local transport of Series 1 LRV between OMF East and OMF Central.

Risks and opportunities, cont.

that may affect recovery schedule, preventive maintenance, or availability of gap trains to support peak service.

Coordination and scheduling of Automatic Train Protection retrofit on Series 1 LRVs is more challenging than anticipated. Opportunity for time savings exists once East Link tracks are available for acceptance testing.

The war in Ukraine and COVID-19 have disrupted the manufacturer's supply chain and assembly plant.

Capital spare parts with 100% complete field modification instruction updates may be later than target completion in September 2023.

LYNNWOOD LINK EXTENSION

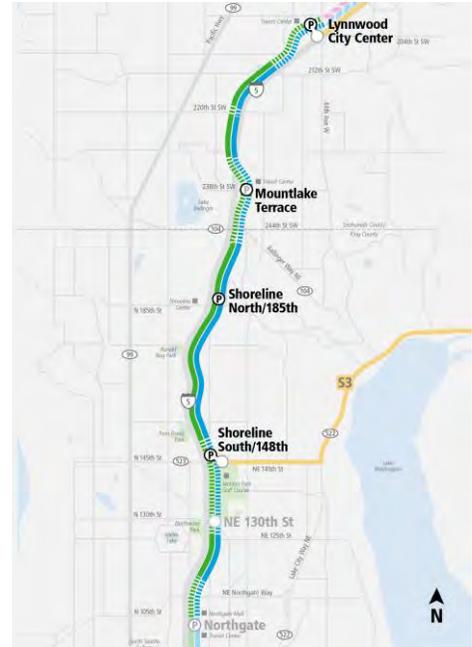


Next Board action: Betterment Task Order with City of Seattle for additional ductbank, Q2 2023.

Scope

This project extends light rail 8.5 miles to Snohomish County along I-5 from Northgate Mall in Seattle to the Lynnwood Transit Center with four new light rail stations. Configuration includes at-grade, elevated, and retained cut/fill guideway. Stations at Shoreline South/148th, Shoreline North/185th, Mountlake Terrace, and Lynnwood City Center.

Project details
Length: 8.5 miles
Stations: 4



Revenue service date

Summer/fall 2024

Project budget

Approved baseline budget (YOE\$)	Estimated final cost (YOE\$)	Cost estimate changes
\$2,772M	\$2,723M	(\$49M)

Key highlights

While the project is scheduled to open in 2024, construction challenges on other extensions and opening sequence adjustments brought up in the Programmatic Quantitative Risk Assessment may push the opening out by several months.

Of the four light rail extensions currently underway, Lynnwood Link is on track to be the first full project to finish construction. (However a significant portion of the East Link alignment may be ready to open ahead of Lynnwood, pending the Board’s decision later this year).

A new parking garage at the Lynnwood Transit Center (part of the Lynnwood Link Extension) opened in April 2023 with 1,670 parking stalls in a five-story structure.

Risks and opportunities

Rail activation resource challenges at King County Metro and Sound Transit may affect cost and schedule.

Potential for civil and systems installation conflicts and quality issues could lead to rework that has schedule and cost ramifications.

Feasibility analysis for an East Link Starter Line, along with delayed access to OMF East, will be significant challenges to vehicle availability, storage, and maintenance.

Risks and opportunities, cont.

With the exception of two property interests required for transit and traffic circulation improvements on 200th Street, all property acquisitions are complete. These are expected to close by Q3 2023.

NORTHEAST 130TH STREET INFILL STATION



Realignment Tier 1

Next Board action: Award contract for the next stage of construction, expected Q2 2023.

Scope

This project includes constructing an elevated infill station at NE 130th Street and 5th Avenue NE in Seattle.

Revenue service date

Summer 2026

Project budget

Approved baseline budget (YOE\$)	Estimated final cost (YOE\$)	Cost estimate changes
\$240M	\$240M	\$0



Key highlights

In summer 2022, the Board approved budget, contract, and schedule changes to advance opening the NE 130th Street Infill Station. Station opening is planned for mid-2026, revised from the original ST3-projected opening of 2031. This station will serve a growing residential neighborhood between the Northgate and Shoreline South/148th stations.

Construction on the first stage of the project has begun. We'll provide more detail to the public in early summer 2023.

Risks and opportunities

Lack of bids for the station finishes package may require repackaging and schedule changes.

Market forces and inflation factors may increase costs for the station finishes package.

Unresolved phasing of traffic control plans with City of Seattle and WSDOT may cause schedule issues with the station finishes package.

PUYALLUP STATION PARKING & ACCESS IMPROVEMENTS



Scope

This project improves access to Puyallup Station for Sounder riders, bicyclists, bus riders, and drivers. It includes a new 510-space parking garage, new surface parking with 163 spaces, and a pedestrian bridge over 5th Street NW.



Puyallup Station

Opening date

Garage opened March 27, 2023

Project budget

Approved baseline budget (YOE\$)	Estimated final cost (YOE\$)	Cost estimate changes
\$82M	\$82M	\$0

Project details

Pedestrian bridge, garage, and surface parking lot

Key highlights

This project opened for public use on March 27, 2023. It added 677 new parking stalls, for a total of 1,043 parking spaces in the station area, a pedestrian bridge over 5th Street NW, and sidewalk and bicycle enhancements.

Off-site traffic operation improvements included: new traffic signals at three intersections (7th Street NW and Stewart Avenue, 4th Street NW and Stewart Avenue, and 2nd Ave NW and 5th Street NW), and a right-turn pocket on eastbound approach to Meridian/Stewart Avenue intersection.

Pedestrian improvements (funded by Sound Transit and constructed by the City of Puyallup) will be complete by the end of 2024.

SUMNER, KENT, AUBURN STATIONS PARKING & ACCESS IMPROVEMENTS



Realignment Tier 1

Next Board action: Consider Auburn design-build contract; exercise HNTB DBPM Phase 2 Option for Auburn; consider Kent design-build contract; exercise HNTB DBPM Phase 2 Option for Kent; consider King County Metro Betterment Agreement for

Scope

This project provides additional parking at Sounder stations in Sumner, Kent, and Auburn. Each will have a new multistory garage and potentially new surface parking stalls, with the goal of building as much new capacity as possible (up to the stall count analyzed in NEPA/SEPA environmental review and within the project budget).

The project also includes vehicle and pedestrian access improvements, non-motorized improvements, and associated utility, roadway, traffic, stormwater, lighting, and landscape improvements. Kent Station also includes an option to consider a bus layover facility for King County Metro.



Forecasted service date

2027

Project budget

Approved baseline budget (YOES)	Estimated final cost (YOES)	Cost estimate changes
\$360M	\$360M	\$0

Key highlights

The Sumner, Kent, and Auburn Stations Parking and Access Improvements project will incorporate bicycle, pedestrian, lighting, and parking access improvements at three S Line stations.

In January 2023, the Board authorized combining the parking and access improvement project budgets for Sumner, Kent, and Auburn Stations into one project baseline budget with shared contingencies.

The combined project budget will provide agency administration, design, acquisition of right-of-way, construction, construction services, third-party activities including coordinating with partner agencies and an alternative concept allowance available to the three contracts to address innovation.

Risks and opportunities

Several factors may affect cost and schedule, including:

- Property acquisitions costs that may be significantly more than estimated.
- Risk of additional scope and project change requests from stakeholders.
- Constrained staffing resources.
- Differing soil and site conditions that could be identified after the design builder begins work.
- Third-party design review and permitting process.

REFERENCES

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Glossary

Term	Definition
Administrative costs	Costs from capital project staff that are not directly charged to the capital project. They include items such as paid time off that are not considered a direct project capital cost.
Anticipated drivers	Trends that are monitored and reported in the construction industry, as well as from direct experiences, that are not yet included in the current cost estimates supporting the Financial Plan.
Bond covenants	Legally binding term of an agreement between a bond issuer and a bondholder, designed to protect the interests of both parties. These include additional coverage ratios as required by the bondholders.
Construction Cost Index	Applied to construction-related elements of the capital program (including state of good repair). A Seattle-area forecast of the construction cost index is produced by an independent third party.
Consumer Price Index	A measure of change in prices for consumer goods and services in the Seattle area. Used to update operations and maintenance expenses and “soft” capital costs.
Current drivers	(1) Economic factors that the Pacific Northwest transportation industry and Sound Transit are experiencing now (as defined by 2022 and early 2023) and (2) the comparative differences between newly received project estimates compared to a previous estimate for the same project, if any.
Debt capacity	According to Washington state law, the amount of debt issued by Sound Transit cannot exceed 1.5% of the assessed valuation of real property located within the regional transit authority district. An important metric of the agency’s financial health is the remaining amount of debt that can be issued — available debt capacity.
Emergency Loss Fund	This fund includes reserves for uninsured capital and operating losses. The Board authorizes the use of the emergency/loss fund on a case-by-case basis.
Net Debt Service Coverage Ratio	A ratio intended to measure the ability of an agency to meet its financial obligations and pay back debt. The net DSCR is calculated as annual revenues minus operating costs, then divided by annual debt service. This allows us to ensure we can pay back our debt after paying for operating costs in a given year.
Revenue collection fees	The state of Washington charges Sound Transit revenue collection fees on sales and use tax, rental car tax, and motor vehicle excise tax.
Right of way Index	Forecast is applied to property acquisition costs using an assessed valuation forecast for the Sound Transit District produced by an independent third party.
Sales and Use Tax Offset Fee	As required by RCW 81.112, Sound Transit must remit to the Washington Department of Revenue a fee of 3.25% on Rule 171 eligible construction contract expenditures for ST3 projects, until a total of \$0.5 billion is paid.
Value engineering	Value engineering is a systematic, organized approach to providing necessary functions in a project at the lowest cost.
Year of Expenditure	Refers to a project’s cost in real dollars, inclusive of annual inflationary factors.

REFERENCES

Appendices

Appendix A: Financial Plan Methodology

Affordability gaps calculation

Project affordability gaps for the four identified projects with target schedules are based upon the overall agency affordability gap between the affordable and target schedules, apportioned to each of the four projects identified. This apportionment method means that the project-level affordability gaps will change for each project if any one of the projects cannot close the affordability gap apportioned to that specific project. The apportionment is based on the project cost estimate increase over original ST3 cost estimate and subarea balances. Additionally, the affordability gap calculations assume that all gaps are simultaneously offset and that all projects stick to their target schedules. As described in Resolution R2021-05, Tier 1 and 2 projects are prioritized together, and the target schedule assumes all project gaps are offset together.

Due to the nature of the affordability gaps being an apportionment of a single agency gap, assessment of a single project independently would yield a different result depending on the total value of the project cost estimate, the timing of the project in the overall program schedule, and the number of years delay between the target and affordable schedule for that specific project. These assessments will occur at the schedule milestones identified in the realignment resolution — prior to the start of preliminary engineering, project to be built, and project baselining.

Projects in the planning phase are reported in constant year dollars until a construction budget is estimated. The project-level affordability gaps reported in the final realigned plan are converted from 2019\$ to 2023\$ using the spring 2023 inflation indices. Then they are compared to the updated gaps generated from the Spring 2023 Financial Plan update.

Tax revenue projections methodology

Sound Transit receives revenue from four different tax revenue sources, including retail sales and use tax, motor vehicle excise tax, property tax, and rental car tax. The agency receives tax-base forecasts for sales tax and MVET from an independent third party. Sales tax and MVET tax-base forecasts are grounded on economic and population projections from the Puget Sound Economic Forecasting Model, a regional econometric model of King, Pierce, Snohomish, and Kitsap counties. The variables used to predict taxable retail sales include Puget Sound personal income, housing permits, and the unemployment rate, among other variables. The agency forecasts the MVET tax based on predictions of motor vehicles by type, driving-age population, and the unemployment rate, as well as the expected average value of motor vehicles. Staff forecast the rental car tax based on past performance. Lastly, the agency projects property taxes through an independent third party based on the growth of assessed value for both existing property and new construction within the Sound Transit district.

Grant revenue projections methodology

Sound Transit generally secures federal funding through the Federal Transit Administration (FTA), Federal Highway Administration, and Federal Railroad Administration programs currently authorized under the Bipartisan Infrastructure Law and future authorizations. The agency projects to secure grant funding through FTA's Capital Investment Grant program, FTA formula funding and other

REFERENCES

regional/national grant competitions. Additionally, the fall 2021 update included COVID-19 relief funding through the Coronavirus Relief & Economic Security Act, the American Rescue Plan, and the Coronavirus Response & Relief Supplemental Appropriations Act in 2021 and 2022.

Fare revenue projections methodology

Fare revenues are a product of transit ridership, fare compliance, fare structures, and fare rates. Ridership is the result of a complex combination of factors, including service type and frequency, speed, reliability, safety, surrounding land use, station access, and regional employment trends. In the near term, staff estimate ridership based on past trends and the amount of transit service to be provided in the Annual Service Plan.

Ridership: For long-range ridership forecasts, Sound Transit uses a travel demand forecasting model. In this model, staff base transit ridership forecasts on observed origins and destinations of transit riders, observed transit line volumes, and a realistic simulation of observed transit service characteristics. The agency does not currently know the long-term ridership effects of COVID-19 and their effect on fare revenue. The fare revenue forecast is developed in coordination with ridership estimates, which are updated regularly with assumptions affecting future ridership estimates, including COVID-19 effects.

Fare revenue: The long-range financial plan assumes the agency continues to collect fare revenues from Sound Transit operations for ST Express bus, Link light rail, and Sounder trains. Fare collection on the T Line is assumed to begin when the Hilltop Tacoma Link Extension opens. Stride bus rapid transit is projected to begin collecting fares to coincide with the two Stride project openings. Staff base fare revenue forecasts on ridership forecasts and assumptions regarding fare levels and price elasticity.

Assumptions

- Standard adult Sounder and Link fares are structured with a base fare plus a distance-based charge per mile traveled, rounded to the nearest \$0.25.
- ST Express fares are projected to be comparable to bus fares of other transit agencies serving the three counties. Fares paid with an ORCA card receive a two-hour transfer credit for the fare paid.
- Senior/disabled, youth and ORCA LIFT (low income) fares are set lower than the standard adult fare.
- Fare changes will occur as directed by the Board to comply with fare policy.
- Allocation of regional fare revenue to Sound Transit from collections through the ORCA card system are based on an inter-local agreement reached between Sound Transit, Community Transit, Everett Transit, King County Metro, Pierce Transit, Kitsap Transit, Seattle Monorail, and Washington State Ferries.

Other revenue projections methodology

Other revenue includes advertising, real estate sales proceeds, rental income, permit parking revenues, and local contributions. Local contributions include funds that are either granted directly to Sound Transit or are provided as a credit against taxes or fees that would otherwise be levied on construction by other jurisdictions or organizations.

REFERENCES

Interest earnings revenue projections methodology

In accordance with Sound Transit financial policies, interest earnings are credited, at the agency level, to offset expenditures for systemwide programs, except where restricted by Board actions or policies. The LRFP assumes that Sound Transit will earn a 2% rate of return on cash and investment balances throughout the planning horizon of 2046.

Capital expenditure projections methodology

The LRFP capital spending plan consists of seven categories. These include Sound Transit's five transit modes: Link light rail, Tacoma Link light rail, Sounder trains, ST Express bus service, and Stride bus rapid transit. Additionally, there are two other categories of capital projects: "systemwide," which includes projects that benefit the agency (such as the Transit-Oriented Development Planning Program), and "service delivery," which includes projects that support the delivery and operations of service (such as Signage Improvements).

The capital plan in the LRFP includes capital expenditures adopted in the Sound Move, ST2, and ST3 voter-approved programs and updated following the Board's realignment process in Resolution 2021-05. Capital expenditures include funding for projects detailed in the Transit Improvement Plan, as well as projected future expenditures. The Transit Improvement Plan (TIP) contains dollars allocated to Board-approved projects which have gone through the budget process. Beyond that, future capital expenditures comprise remaining projected spending on projects that do not have a construction budget established by the Board.

For system expansion projects that do not have a construction budget, future expenditures are forecasted by inflating the Board-approved cost in Resolution R2021-05 using Sound Transit inflation indices and an internal cash flow. This provides an estimate of the capital expenditures for each project until the Board establishes the construction budget.

Systemwide activities

Sound Transit's capital and operating programs include funding for projects that are regional in scope, including but not limited to: high-capacity transit studies; innovation and technology fund; Phase 4 planning; transit-oriented development studies; efficiency and sustainability fund; research and technology; fare integration and administration; and agency administration capital and operating projects.

Operating and Maintenance (O&M) expenditure projections methodology

Sound Transit services currently consist of four transit modes: Link light rail, Tacoma Link light rail, Sounder trains, and ST Express bus. The voter-approved ST3 plan includes a fifth mode: Stride bus rapid transit. These modes are managed by the Sound Transit Operations Department. Sound Transit's Service Planning Division prepares an Annual Service Plan to guide the delivery of these modes. Total operations and maintenance expenditures includes forecasts for each mode and systemwide operating expenditures.

REFERENCES

Transit modes

Operations & Maintenance expenditures are projected by each transit mode as part of the annual budget process, taking into account all scheduled service expansions as laid out in the Transit Improvement Plan. O&M expenditures for each mode include direct operating costs as well as allocated costs such as security, information technology, and agency overhead.

The O&M expenditure forecasts for each mode are based on a cost build-up model for each function (such as vehicle operations, vehicle maintenance, and facilities maintenance). The modal forecasts also include the cost of Sound Transit staff and other administrative expenditures allocated to transit modes. Staff include several metrics in the agency's forecasting, including platform hours, number of vehicles, number of stations, etc. The relevant metrics are based on historical data, Service Plan projections, current year budget data, and other available information.

Non-labor operating costs are inflated using the CPI-U Seattle. Labor costs are inflated according to Sound Transit's historical average normalized wage growth. Staff also inflate some purchased transportation costs at a higher rate based on historical experience or known contract increases. Purchased transportation refers to Sound Transit's contracts with partner operating agencies.

Systemwide O&M expenditures

Other operating expenditures in the LRFP which are not specific to a transit mode include:

- **Administrative costs:** these are costs from capital project staff that are not directly charged to the capital project. They include items such as PTO that are not considered a direct project capital cost.
- **Revenue collection fees:** the state of Washington charges Sound Transit revenue collection fees on sales and use tax, rental car tax, and MVET.
- **Emergency Loss Fund:** this fund includes reserves for uninsured capital and operating losses. The Board authorizes the use of the emergency/loss fund on a case-by-case basis.
- **Sales and Use Tax Offset Fee:** as required by RCW 81.112, Sound Transit must remit to the Washington Department of Revenue a fee of 3.25% on Rule 171 eligible construction contract expenditures for ST3 projects, until a total of \$500 million is paid.

State of good repair expenditure projections methodology

The LRFP projects expenditures for the repair and replacement of key operating assets through state of good repair funding. Annual costs of future asset replacement and midlife maintenance activity are calculated for each class of asset based on original cost, in-service date, estimated asset life, and other financial factors.

The annual payment calculation assumes that Sound Transit will fund 100% of replacement expenditures with agency revenues. \$300 million in capital reserve funds have been set aside in the LRFP projections with an annual 2% interest rate assumption on any earnings.

The replacement date for assets follows generally accepted principles for the useful life of transit facilities and equipment. For buses the industry standard is a 12-year replacement cycle, for Sounder and light rail vehicles, the cycles are from "Methodology for Projecting Rail Transit Rehabilitation and

REFERENCES

Replacement Capital Financing Needs,” by Robert L. Peskin, published in the Transportation Research Record 1165. State of good repair prior to 2023 is included in the capital section of the LRFP model.

Contribution to reserves projections methodology

The agency maintains reserves to meet agencywide revenue shortfalls or cost increases, including an operations and maintenance reserve, bond reserve, emergency loss reserve, and a capital replacement reserve.

Assumptions

- Operations and maintenance reserves equal to two months of O&M expenditures.
- Principal set-aside for bond reserves: 7.15%.
- Cash is managed so that a minimum of \$5 million is available for operating expenditures at all times.

Bond issuance and debt service projections methodology

The agency uses debt to bridge the gap between the timing of expenditures and the receipt of revenues. The LRFP also includes the proceeds and debt service for six executed federal loans under TIFIA.

Major assumptions related to debt in the LRFP are as follows:

- All-in issuance costs: 1.25% of par value.
- Bond interest rate: 4.0% from 2020-2025, 5.3% from 2026-2046.
- Bond term: 30 years.
- Interest-only payment period on bonds: First five years.
- Bonds may have a non-level principal amortization structure.

Shifts in agency debt capacity

Sound Transit’s financing performance to date, and in the future, is evaluated by the agency’s credit rating and adherence to debt service coverage ratios and other financial policies.

The debt service constraints that Sound Transit must adhere to are as follows:

- **Net debt service coverage ratio:** According to the voter-approved financial policies, Sound Transit agency debt service coverage ratio policy will be set at an average coverage ratio of 2x for net revenues over annual debt service costs, not to fall below 1.5x in any single year.
- **Bond covenants:** These include additional bonds tests as required by the bondholders.
- **Debt capacity:** According to Washington state law, the amount of debt issued by Sound Transit cannot exceed 1.5% of the assessed valuation of real property located within the regional transit authority district. An important metric of the agency’s financial health is the remaining amount of debt that can be issued, or available debt capacity.

REFERENCES

Inflation methodology

Sound Transit uses three inflation indices to escalate projected costs over time:

- **Consumer Price Index** for all urban consumers in Seattle, Tacoma, and Bellevue is applied to operations and maintenance expenses and “soft” capital costs, excluding construction-related elements and property acquisitions, and is produced by an independent third party.
- **Construction Cost Index** is applied to construction-related elements of the capital program (including state of good repair), and a Seattle-area forecast of the construction cost index is produced by an independent third party.
- **Right-of-way Index** forecast is applied to property acquisition costs using an assessed valuation forecast for the Sound Transit District produced by an independent third party.