

2022 Annual Program Review Report

April 2022



1. EXECUTIVE SUMMARY

Background

In response to rising project costs, the Board adopted a financial realignment plan on Aug. 5, 2021, after more than a year of deliberating and engaging stakeholders and the public.

The realignment resolution (2021-05) ensures that Sound Transit can implement voter-approved projects as quickly as possible within financial or other limitations. However, the primary tool for achieving an affordable realignment plan was extending project timelines beyond their voter-approved dates.

The realignment plan also included direction to staff to produce this Annual Program Review in order to apprise the Board and the public of major project changes, risks or other developments in a timely manner.

This flexible, accountable framework allows all project work to continue, prioritizes more frequent updates to cost and revenue projections, and positions the agency to react more quickly as new financial information becomes available.



Sound Transit Future Service Map

Since the adoption of the realignment plan, cost pressures have only increased, with a pandemic-driven recession giving way to an economic boom constrained by supply chain disruption, low availability of materials and skilled labor, regional real estate costs, and historic inflation beyond prior projections.

This report provides a status update on both systemwide revenues as well as systemwide and project-level costs, schedules, and known or anticipated risks. It represents a single snapshot in time for current overall program status as of April 2022, and the Board and the public should expect information to change dynamically on any given project as new realities emerge.

In addition to the “affordable” project schedules – those established in the realignment plan to stay within projected debt capacity – the Board also established earlier “target” dates for four key projects, namely the West Seattle-Ballard, Everett, South Kirkland-Issaquah and Tacoma Community College Link extensions. To meet the more aggressive Target Schedule, the agency must secure additional resources or cut project costs. Section 4.3.3 **Updated project-level affordability gaps** details how the “affordability gaps” between the Affordable and Target Schedules have changed. While the West Seattle/Ballard and Everett projects are in the planning phase, the South Kirkland-Issaquah and Tacoma Community College projects will not begin project development for several years.

1.1. Key takeaways

Sound Transit staff analyzed the complete system expansion program for financial capacity, project readiness, project costs, risks and external factors.

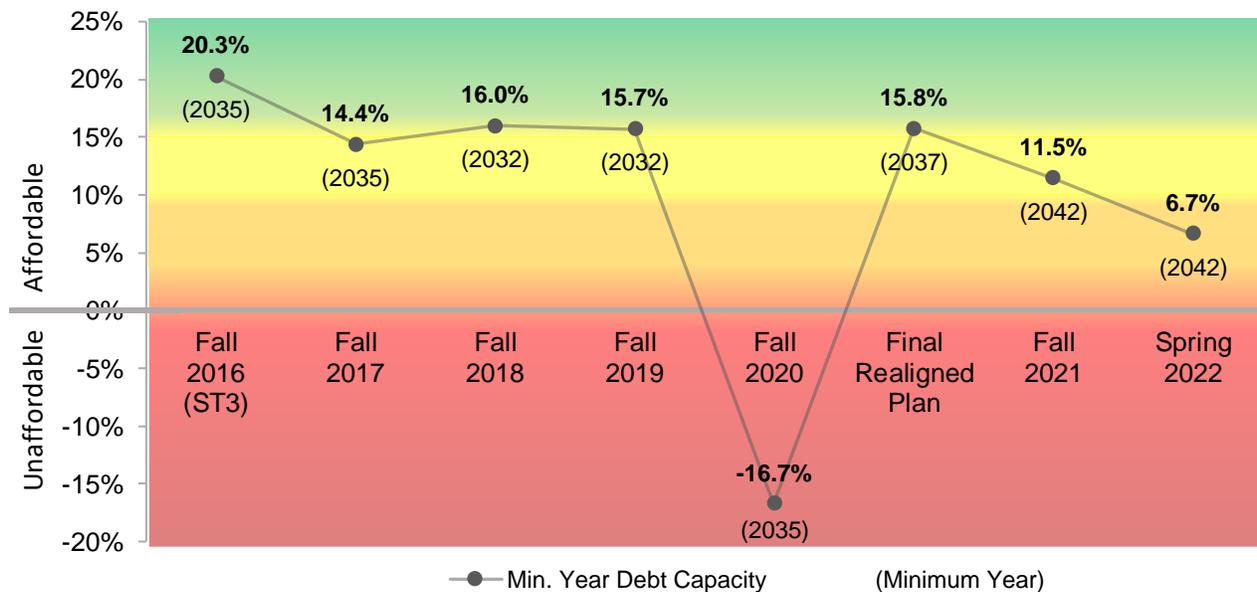
Based on this assessment, despite increasing risks to the program over time, the Affordable Schedules adopted in the 2021 realignment plan remain within the agency’s financial capacity to complete. However, there remains insufficient debt capacity to advance any of the four Target Schedules for the four aforementioned projects. Below are the key takeaways from this year’s evaluation.

1.1.1. Financial capacity



The projections discussed here are for completion of the program of projects and operational and maintenance costs through 2046. The Spring 2022 Financial Plan projects that the Affordable Schedules remain within agency debt capacity. However, projected debt capacity in the minimum year, or year of maximum constraint, continues to decline, from 15.8% in the realignment plan, to 11.5% in the fall 2021 update, to 6.7% today. In other words, in 2042 the agency will come closest to reaching its projected debt limit and will be utilizing 93.3% of its legally available debt capacity (Table 1). Projected minimum available debt capacity nearer to 0% conveys an increased financial risk to completing the plan according to the Board-approved scope and schedule due to inability to issue further debt beyond that point. From ST3 to Fall 2021, the minimum remaining headroom has ranged from 20.3% to 11.5%, with the exception of Fall 2020 through August 2021. During this period, the Financial Plan projections were deemed unaffordable (projected to be below 0% available debt capacity) until the Board passed the realignment resolution.

Table 1: Remaining Available Debt Capacity (Minimum Year)



Given that decline, the current plan does not indicate available debt capacity to accelerate all four projects to their Target Schedules. In addition, more risk and uncertainty exist in the current plan as compared to the previous two financial plan projections. The plan includes more aggressive assumptions of grant funding compared to the prior plan, but this increase is offset by decreases in fare revenues and increased costs due to inflation, higher operating costs, and lower fare compliance.

Below is a high-level summary of projected changes to the finance plan by source:

- **Grants:** \$2.8 billion increase in Full Funding Grant Agreement (FFGA) assumptions aligned with the Bipartisan Infrastructure Law.
- **Fare revenue:** \$1.3 billion decrease due to a combination of increased non-fare boarding assumptions (now 20%, compared to 14% previously) and lower projected ridership related to the pandemic and remote work trends. This is partially offset with an assumed fare increase of \$0.25 per adult projected in 2023.
- **Inflation:** \$1.3 billion increase due to updating projections based on macroeconomic inflation indices (CPI and CCI). Continued high inflation is anticipated with corresponding additional increases in future financial plan updates.
- **Operating costs:** \$1.5 billion increase due to a combination of inflationary impacts of costs for existing staff, increased staffing for the fare ambassador program, and non-system expansion project forecasts. Exclusive of inflation, operating costs are \$1.1 billion higher than the Fall 2021 plan.
- **Tax revenue:** \$200 million increase compared to Fall 2021 forecast.



1.1.2. Project readiness/cost

Projects in the planning phase continue to advance, though continuing challenges with costs and external pressures may result in further project delays and/or increases to cost estimates and eventual baseline budgets.

- Since realignment in August 2021, active projects in planning and design have not had updated project cost estimates, as these estimates are performed at set intervals. This includes the four projects that have an affordability gap (Everett, Tacoma Community College, South Kirkland-Issaquah and West Seattle-Ballard Link extensions). This stasis does not reflect a lack of cost increases but is rather largely due to the timing of this report, where projects are in their development, and when the next cost estimates are scheduled to be developed.
- Increasing cost pressures are anticipated to push cost estimates upward for several projects. Cost of materials and labor, an extremely busy market for the civil construction industry, and high escalation in property costs are conditions likely to increase costs. The immediate impacts are already being seen with projects in construction and will be further captured for projects in planning as design advances. Cost estimates will likely increase as project designs advance and unanticipated issues arise.
- The agency continues to experience indirect and direct delays on projects as a result of the COVID-19 pandemic. For projects in planning, state, federal and Tribal review capacity for environmental documents remains constrained due to high work volume. Construction projects continue to be

burdened by supply chain disruptions and constrained contractor labor availability. Staffing challenges include a combination of factors—some pandemic-related and others related to ongoing construction job market competitiveness.

- Obtaining agreements and navigating differing permit requirements from jurisdictions is negatively impacting some project schedules. Extending the system into cities where the agency has not previously completed capital projects can prove a challenge for permitting. Local requirements and site-specific needs vary, and robust collaboration will be employed to identify and work through the process.



1.1.3. External pressures/risks

Since the Realignment Plan in 2021, significant and numerous external pressures have and continue to impact the agency's ability to perform consistent with the prior financial plan and deliver projects consistent with the Board-approved schedules plan. These external pressures include:

- Increasing cost pressures, including materials and labor costs inflation, busy construction industry, rising property costs and increasing operating costs reflect increased financial risk.
- The continuing strength of the real property market adds increasing costs for acquisition for projects in design and within future right-of-way cost estimates for projects in planning.
- The recent four-month concrete delivery strike increased costs and placed considerable schedule pressure on projects in construction.

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Acronyms defined

Acronym	Terminology
AHJ	Authority Having Jurisdiction
BIL	Bipartisan Infrastructure Law
BRT	Bus Rapid Transit
CCI	Consumer Cost Index
CPI	Consumer Price Index
DNS	Determination of Non-Significance
DSRF	Debt Service Reserve Fund
EIS	Environmental Impact Statement
EFC	Estimated Final Cost
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
LRFP	Long-Range Financial Plan
MOU	Memorandum of Understanding
MVET	Motor Vehicle Excise Tax
NEPA	National Environmental Policy Act
O&M	Operations & Maintenance
PA	Preferred Alternative
PFC	Project Financial Cost
ROW	Right of Way
ROWI	Right of Way Index
RRIF	Railroad Rehabilitation & Improvement Financing
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
WSBLE	West Seattle and Ballard Link Extensions
WSDOT	Washington State Department of Transportation
YOE	Year of Expenditure

2. INTRODUCTION TO THE ANNUAL PROGRAM REVIEW

Consistent with the requirements of Board Resolution 2021-05, Section 4, the new 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, and the agency's Long-Range Financial Plan.

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; Communications; Government and Community Relations; Operations and Legal. This approach helps provide a complete snapshot into the agency's financial health, and project readiness for all capital projects in planning (those that have not received Board approval on their cost and schedule) and construction (Board-baselined projects).

In evaluating shifts in program financial capacity, the Annual Program Review bases assessments on the project cost, schedule and financial data in the Realignment Resolution (R2021-05). It will evaluate variations in:



Project readiness: Provides status of project environmental review, preferred alternatives, third-party agreements, permits and right-of-way acquisitions.

Project cost: Evaluates changes to project cost and risks that have or are trending to impact cost.



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

2.1. Report organization

The next section, "Overall program assessment summary," provides key assessment details for all planning and construction projects in the capital portfolio focusing on project readiness and performance and financial capacity. The following section, "Program assessment," gives an overview of decision points that correspond to the assessment milestones established in the realignment resolution. Lastly, the final two sections provide in-depth analysis of individual projects based on whether they are in planning or construction. You can find anchored hyperlinks for quick navigation in the [Table of Contents](#).

3. OVERALL PROGRAM ASSESSMENT SUMMARY

The program assessment includes a detailed review of all planning and construction projects in the capital portfolio for project readiness and in-depth review of the agency's financial capacity. Section 4 presents project readiness for planning projects, cost and schedule shifts for planning and construction projects, and a detailed evaluation of the agency's financial capacity.



3.1. Project readiness

For planning and design projects whose final budget and schedule have not yet been established by a Board action, the assessment focused on overall status, risks and opportunities concerning each project's environmental review process, preferred alternative, third-party agreements, permitting, right-of-way acquisitions and delayed parking.

3.2. Project cost and schedule shifts

Staff evaluated projects to identify changes to the approved budget and schedule, including trends that may impact cost and delivery.



3.3. Financial capacity

The program assessment includes a detailed analysis of shifts in agency financial capacity due to changes in revenues, expenditures, and financing. Shifts are compared to the August 2021 Final Realigned Financial Plan projections and the Fall 2021 update. Revenue sources detailed are taxes, grants, fares and interest earnings. Updated expenditures include inflation, capital, operating and maintenance, state of good repair and contributions to reserves. The assessment also describes the impact of revenues and expenditures on bond issuance and debt service, as well as updates in debt optimization and Transportation Infrastructure Finance and Innovation Act (TIFIA) loans. Finally, it reports the resulting change in available debt capacity and project-level affordability gaps.

4. PROGRAM ASSESSMENT



4.1. Project readiness

Project readiness looks to take projects through the project development process, from initiation through to a Board baselining action to set 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 established in the realignment resolution. In addition to securing adequate agency financial capacity and subarea affordability, projects need to be ready to advance through each of these milestones to stay on their appropriate schedules.

4.1.1 Environmental review

Between the pandemic onset in March 2020 and the Board's realignment action in August 2021, many project advancements were placed on hold. While the environmental review process is now moving forward, pandemic-related delays remain and are still affecting project schedules. The delays are a combination of pandemic-related reduction in review capacity at state and federal authorities and the simultaneous large volume of work generated by Sound Transit. For example, the agency published the West Seattle and Ballard Link Extensions Draft Environmental Impact Statement in January 2022, one quarter later than anticipated during realignment.

4.1.2 Preferred alternatives/project to be built

Since the Board's August 2021 realignment resolution, the agency reached the following milestones:

- The West Seattle and Ballard Link Extensions Draft Environmental Impact Statement was issued in January 2022.
- The Board selected the project to be built for the Stride bus rapid transit program. This includes Bus Base North and the I-405 Stride BRT and SR 522 Stride BRT lines.
- The Board entered into a lease agreement for the North Maintenance of Way Facility, with a purchase option to make this the permanent location.
- Sumner Access Improvements was advertised for design-build construction in March 2022.
- The Board identified the preferred alternative for the Operation and Maintenance Facility South.
- Other projects completed other environmental steps. The Everett Link Extension completed early scoping and the Tacoma Dome Link Extension completed third party review on the Administrative Draft Environmental Impact Statement.

4.1.3 Third-party agreements

- The Board has approved over 12 third-party agreements since realignment. As shown in the individual project descriptions, establishing third-party agreements and permitting expectations remains a central focus and could negatively impact project schedules when there is difficulty in reaching consensus.
- With the pause on work until the realignment resolution was completed, there is a lengthy list of required agreements requiring detailed negotiations, particularly for the Stride bus rapid transit program. This has made an already aggressive schedule more challenging.
- A Development Agreement with the City of Kent has been under negotiation for more than two years. The project team and city staff are exploring a standard permitting path in lieu of a project Development Agreement. The project schedule could be delayed if this is not resolved.

4.1.4 Permitting

- Most planning projects are in the process of establishing permitting frameworks to be enacted as projects advance. The West Seattle and Ballard project, in coordination with the City of Seattle, is engaged in a robust effort to establish a streamlined permitting process. Scalable elements of this approach are being examined for use on other projects.
- Delays establishing a successful permitting approach remain a risk, and there is a direct overlap with the ability to successfully reach third-party agreements. For example, a recently enacted Federal Way Code amendment requires 500 minimum parking stalls in a structure upon opening of a light rail transit facility. This conflicts with the Board's realignment action to defer Tacoma Dome Link Extension station parking. Sound Transit staff negotiated changes to the originally proposed code language resulting in a flexible and more predictable possible path to seek a deviation through the Community Development Director.
- Model Code Partnership (a Federal Transit Administration transit-oriented development grant through 2024) is underway and will focus on customizing potential policies and regulations for local consideration and adoption. These efforts could positively impact Everett Link Extension cost and schedule by developing consistent standards and processes across jurisdictions and streamlined permitting.
- Projects in design and construction also advancing permitting items. Efforts are progressing in Bothell regarding establishing a transfer of development rights so that the Bus Base North can be compatible with area land uses. For NE 130th Infill Station, the City of Seattle has indicated that several right-of-way improvements will be included as permit conditions, which will result in additional costs.

4.1.5 Right-of-way acquisitions

- For projects that have not completed environmental review, property acquisition has not begun. Because increasing property and right-of-way costs are a substantial risk, work to explore opportunities for potential early acquisition of critical parcels is underway. While light rail projects in planning, where ROW increases have larger impacts to system affordability, have not yet updated cost estimates since the realignment resolution, continually rising real estate costs are likely to impact these projects. For

projects in design or early construction where property acquisition is not yet complete, such as SR 522 BRT, increases to current cost estimates from increased property acquisition costs are possible. At times, negotiations regarding acquisitions are not successful and move toward condemnation. This is the current state for the property to be used for the future parking garage at Auburn Sounder Station.

4.1.6 Delayed parking

- Sound Transit's Office of Planning & 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 will start to engage the Board on the approach for identifying opportunities and making recommendations in April 2022. This engagement will help clarify Board direction, identify key process steps, and establish criteria by which Sound Transit will assess opportunities in advance of making recommendations in particular locations.

4.2. Project cost and schedule shifts

4.2.1. Projects in planning and design

Since realignment, cost estimates for active projects in planning and design have been updated to reflect them in current year dollars. This includes the four projects that have an affordability gap. This is due to the timing of this report relative to where projects are in their development. For projects currently in environmental review, estimate updates are not scheduled until they reach the next phase. Note that the Series 3 Light Rail Vehicles project is being presented to the Board this spring for initial budget approval and is not yet included as an active project in this report.

All of these projects will be subject to increased cost risks, including increased real property costs, market conditions and inflation causing materials cost increases, and additional costs resulting from schedule delay. Cost fluctuation should be anticipated as projects advance and more design is completed.

Upward cost pressures are especially noted for projects in design such as the NE 130th St. Infill Station and Sounder South Parking and Access Improvements. As highlighted in the individual project descriptions, these projects are experiencing cost pressures similar to projects in construction as they approach establishing their baselining action.

Schedule delay is a risk for projects in planning. Specific projects with identified delay risk since realignment include:

- West Seattle and Ballard Link Extensions: The Draft EIS was issued one quarter later than anticipated at realignment.
- Tacoma Dome Link Extension: As more fully described in the project descriptions, substantial delay to the environmental process is expected, and efforts are underway to understand the totality of schedule impacts.

- Bus Rapid Transit: As described to the Board in February 2022, the BRT program currently shows completion dates after the Target and Affordable Schedules for all three program segments.
- Kent and Auburn Sounder Parking and Access Improvements: These projects are showing completion dates in 2026, rather than the Target and Affordable dates of 2025.
- The NE 130th St. Infill station project is finalizing the baseline cost and schedule. Additional time may be needed to redesign or competitively procure a contractor (see Section 5.10 for details) for full station construction to contain cost increases. This would prevent the station from opening in 2025.

Table 2: Active Planning Projects Table Summary

Project in Planning*	Realignment Plan Cost Estimate (in millions, 2022\$)	Current Cost Estimate (in millions, 2022\$)
West Seattle and Ballard Link Extensions	\$14,131	No Change
Everett Link Extension	\$5,694	
Tacoma Dome Link Extension	\$3,825	
Operations and Maintenance Facility North	\$1,427	
Operations and Maintenance Facility South	\$1,357	
Sounder South Capacity Expansion	\$1,241	
I-405 Stride BRT	\$1,198	
SR 522/NE 145th Stride BRT	\$626	
Bus Base North	\$338	
NE 130th St. Infill Station	\$226	
Kent Station Parking and Access Improvements	\$121	
Auburn Station Parking and Access Improvements	\$123	
Sumner Station Parking and Access Improvements	\$88	
South Tacoma Access Improvements	\$52	
Lakewood Station Access Improvements	\$50	
Tacoma Dome Station Parking and Access Improvements	\$17	
North Corridor Maintenance of Way	\$54	
S Kirkland-Issaquah Link Extension	\$3,572	
Tacoma Community College Extension	\$891	\$891
Boeing Access Road Infill Station	\$245	\$245
Graham Street Infill Station	\$112	\$112

Note: Table 2 includes only active planning projects and Tier 1 & 2 projects that are not yet active. The Series 3 Light Rail Vehicles project is being presented to the Board this spring for initial budget approval and is not yet included as an active project in this report.

4.2.1.1. Cost savings

As called for in the Board's realignment plan, staff have completed a Capital Cost Savings Work Plan. This work plan focuses on projects in the planning phase to maximize opportunity for cost savings to the current project estimates. Staff anticipate that the ideas and options they are exploring will vary in scope and scale, with decision points at project, agency and Board levels. Staff will tie the schedule for this work to specific project development timeframes. The largest opportunity for cost savings will be potential project definition changes for the Board to consider. This could include alignment changes or scope consolidation. Choices that significantly reduce costs will be challenging and will require consideration of trade-offs. The agency will also explore programmatic cost savings opportunities that could improve the affordability of the entire ST3 program.

4.2.2. Projects in construction

For projects in construction, one project budget increase was approved since realignment, and one increase is pending:

- **Hilltop Tacoma Link Extension:** The Board approved a \$30 million increase in February 2022 to provide funding required to complete the extension to meet the forecast revenue service date of the first quarter of 2023. The impact on agencywide affordability was mitigated in part by receipt of a \$20 million federal grant earmarked for the Hilltop project. The original baseline schedule included completion in the second quarter of 2022.
- **Puyallup Station Parking and Access Improvements:** In April 2022 the agency will ask the Board to consider an approximately \$3 million increase to the project to provide funding required to complete the improvements to meet the forecast completion date of the fourth quarter of 2022. This project was largely constructed during the pandemic, and delays are resulting from supply chain issues and delays in third party collaboration. The original baseline schedule included completion in the first quarter of 2022.

Together, these changes increase overall program costs by \$33.2 million, representing an increase of 0.2% of the total program cost of active projects in construction.

The Estimated Final Cost for all remaining projects in construction is unchanged from the prior year. The Northgate Link Extension project continues to anticipate \$52.5 million in savings from the approved budget.

Schedule delay is a risk for projects in construction. Specific risks identified since realignment include:

- The recent four-month concrete strike will have residual impacts on schedules and costs for a variety of projects, but the precise scale of these impacts remains unclear.
- Remaining COVID-19 impacts, including supply-chain delays, could impact completion of construction.
- Difficulty coordinating resources for systems integration testing and pre-revenue service testing to open several major extensions in the next two years. There is a risk that the agency cannot complete all projects on the anticipated timelines.
- **The East Link Extension schedule currently forecasts the project will finish behind the target revenue service date of June 30, 2023.** Delays resulting from the recent concrete strike complicated

efforts to complete plinth repairs in the I-90 corridor (contract E130) which in kind, is delaying completion of track system and integration testing. Second, the need for additional repair work has been discovered, which has added several weeks to the schedule. Third, a correction to the logical sequence from the end of the E750 contract to the beginning of pre-revenue operations has also added time. Sound Transit is working closely with both the E130 and E750 contractors to mitigate this impact wherever possible.

- Current projections show that the agency will be short on having all the number of light rail vehicles planned at the start of pre-revenue service for every line extension except Lynnwood Link, which is on-schedule. Though a sufficient number of vehicles may not be available for pre-revenue testing, staff project that the agency will meet fleet requirements by opening day for each project. The agency may need to identify and implement measures for managing simulated service during the pre-revenue phase.

Table 3: Active Construction Projects Table Summary

(data as of Feb 2022)

Project in Construction	Approved Baseline Budget (in millions, YOES)	Estimated Final Cost (EFC) (in millions, YOES)	Approved Baseline vs EFC (in millions, YOES)
East Link Extension	\$3,677	\$3,677	-
Lynnwood Link Extension	\$2,772	\$2,772	-
Federal Way Link Extension	\$2,452	\$2,452	-
Northgate Link Extension	\$1,900	\$1,847	\$53
Downtown Redmond Link Extension	\$1,530	\$1,530	-
Light Rail Vehicle Fleet Expansion	\$741	\$741	-
Link Operations and Maintenance Facility East	\$449	\$449	-
Hilltop Tacoma Link Extension	\$283*	\$283	-
Puyallup Station Parking and Access Improvements	\$79*	\$83	\$(3)

Note: * the Hilltop Tacoma Link increase has been approved, and the Puyallup Station Parking and Access Improvements increase is pending approval.



4.3. Financial capacity

This section details the shifts in projected financial capacity since the Fall Financial Plan projections update presented to the Board in Fall 2021, as well as the Final Realigned Financial Plan projections approved by the Board in Resolution R2021-05. Shifts include changes in project costs described above, as well as all other agency revenues and expenditures.

The Spring 2022 Financial Plan projections indicate continued affordability of the Affordable Schedule; however, it also projects a decrease in available debt capacity as shown in **Table 1** of the Executive Summary.

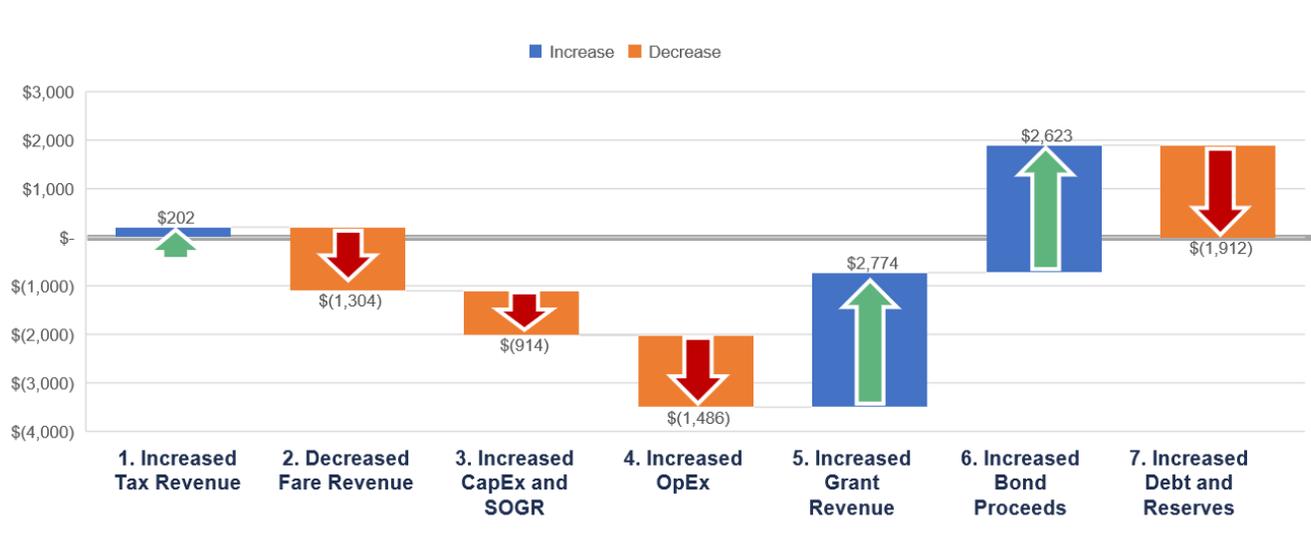
Given that decline, the current projections do not indicate available debt capacity needed to accelerate the four projects with project specific affordability gaps to their Target Schedules. Additionally, more risk and uncertainty exist in the current plan as compared to the previous two financial plans. Below are the key takeaways from this year's evaluation and they are also summarized in [Table 4](#).

Key takeaways

As mentioned in the Executive Summary and re-presented here, the agency will come closest to reaching its projected debt limit in 2042 with 6.7% available debt capacity. In 2037, which was the minimum year in the Final Realigned Plan, the agency is now projected to have 13.1% available debt capacity. This means additional risk as compared to Fall 2021 and the final realigned plan, which saw available debt capacity of 14.8% and 15.8% respectively.

- **Grants:** \$2.8 billion increase in Full Funding Grant Agreement (FFGA) assumptions aligned with the Bipartisan Infrastructure Law.
- **Fare revenue:** \$1.3 billion decrease due to a combination of increased non-fare boarding assumptions (now 20%, compared to 14% previously) and lower projected ridership related to the pandemic and remote work trends. This is partially offset with an assumed fare increase of \$0.25 per adult projected in 2023.
- **Inflation:** \$1.3 billion increase due to updating projections based on macroeconomic inflation indices (CPI and CCI). Continued high inflation is anticipated with corresponding additional increases in future financial plan updates.
- **Operating costs:** \$1.5 billion increase due to a combination of inflationary impacts of costs for existing staff, increased staffing for the fare ambassador program, and non-system expansion project forecasts. Exclusive of inflation, operating costs are \$1.1 billion higher than the Fall 2021 plan.
- **Tax revenue:** \$200 million increase compared to Fall 2021 forecast.
- **Bond proceeds:** \$2.6 billion increase in bond proceeds compared to Fall 2021 forecast to fund increased costs not covered by revenue growth and cash.
- **Debt service and reserves:** \$1.8 billion increase in debt service and reserves to fund additional principal and interest payments, increase the operations and maintenance reserve due to increased operating costs, and increase the debt service reserve fund due to increased bond proceeds.

Table 4: Major Changes to the Financial Plan, 2017-2046 in YOES



Introduction to the Long-Range Financial Plan Projections (LRFP)

The LRFP reflects the agency’s long-term financial projections for the high-capacity transit system approved by voters in the Sound Move (1996), ST2 (2008) and ST3 (2016) ballot measures. The LRFP states and projects all agency sources and uses of funds for the period 1997-2060, with special focus on 2017-2046. It incorporates the agency’s most current proposed or Board-adopted Budget and long-term projections of revenues and other financing sources, transit operating expenses and project expenditures. Using this information, the LRFP produces the agency’s Schedule of Sources and Uses of Funds by Subarea, debt proceeds and amortization schedules, and resulting coverage and capacity metrics. As a result of realignment, the financial plan projections are now updated twice a year, once in the fall, as done previously, and now in the spring as part of this Annual Program Review.

The LRFP reflects the Affordable Schedules established in August 2021 as part of the Board-adopted Resolution No. R2021-05 and is updated on a regular basis to reflect economic conditions. At the heart of the LRFP is the financial projections model. This model incorporates all financial policies, assumptions, forecasts of sources, and program cost estimates needed to calculate cash flows, debt financing and key performance indicators (e.g., cash balances and debt service coverage ratios) over the long-range planning horizon.

Table 5: Summary Sources and Uses, 2017-2046



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

2017
2046

	Snohomish	North King	South King	East King	Pierce	System-wide	Total
Sources of Funds							
Tax Revenues							
Sales and Use	9,512	22,306	10,095	17,796	12,888	-	72,597
MVET	1,566	2,097	1,298	2,692	2,399	-	10,052
Property Tax	674	2,223	685	1,870	825	-	6,276
Rental Car Tax	9	20	91	14	12	-	145
Total Tax Revenues	11,760	26,645	12,170	22,373	16,124	-	89,071
Other Revenue							
Grant Revenue	2,652	4,209	2,613	2,354	1,963	1,349	15,139
Fare Revenue	496	3,969	929	989	639	-	7,021
Other Revenue	13	133	85	82	37	237	587
Interest Earnings	-	-	-	-	-	809	809
Total Other Revenue	3,160	8,311	3,627	3,425	2,638	2,395	23,557
Bond Proceeds (with DSRF)	6,041	14,513	3,684	728	72	-	25,037
TIFIA Proceeds	479	1,180	941	1,398	-	-	3,998
Changes in Cash (addtl funding to offset deficits)	609	678	451	285	(1,359)	(0)	664
Total Sources	22,050	51,327	20,872	28,208	17,474	2,395	142,327
Uses of Funds							
Capital Expenditures							
Light Rail Transit	11,551	19,328	5,782	12,722	3,421	6,533	59,337
Tacoma Link	-	-	-	-	1,791	-	1,791
Commuter Rail	182	3	1,498	0	2,940	30	4,654
Regional Express Bus	200	67	62	365	391	-	1,085
Bus Rapid Transit	87	412	334	1,472	130	-	2,435
System-wide	43	145	45	52	41	1,159	1,486
Service Delivery	15	12	41	18	33	1	119
Total Capital Expenditures	12,079	19,968	7,762	14,629	8,747	7,722	70,907
O&M Expenditures							
Light Rail Transit	1,871	10,533	3,305	2,946	666	-	19,320
Tacoma Link	-	-	-	-	931	-	931
Commuter Rail	454	-	1,401	-	1,622	-	3,477
Regional Express Bus	741	-	513	2,273	1,494	-	5,021
Bus Rapid Transit	232	430	304	1,206	-	-	2,172
System-wide*	149	264	129	229	115	5,220	6,106
Total O&M Expenditures	3,446	11,227	5,652	6,654	4,828	5,220	37,026
SOGR	573	2,831	1,733	1,899	1,313	1,368	9,716
System-Wide Activities	1,550	3,579	1,634	2,991	2,162	(11,915)	-
Reserve Contributions (O&M, SOGR, DSRF)	476	1,128	314	126	67	1	2,112
Debt Service (Excludes TIFIA)	3,501	11,036	2,822	849	283	-	18,492
TIFIA Debt Service	348	878	687	1,017	-	-	2,930
Debt Restructuring Costs	77	680	269	44	74	-	1,144
Changes in Cash (cumulative surplus)	-	-	-	-	-	-	-
Total Uses	22,050	51,327	20,872	28,208	17,474	2,395	142,327

*Includes Other O&M and Emergency Reserve

4.3.1. Shifts in revenue

Sources of funds for 2017-2046 of \$142.3 billion include tax revenue, grant revenue, fare revenue, interest earnings, and other revenue, 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 projected gaps between available sources and uses. Spring 2022 compared to the Fall 2021 update and Financial Realigned Plan are shown in the table below.

Table 6: Changes in Revenues and Financing Sources

Revenues and Financing Sources, 2017-2046, YOY\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
Category	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Tax Revenues	\$ 86,223	\$ 88,869	\$ 89,071	\$ 202	0%	\$ 2,849	3%
Grant Revenue	\$ 12,273	\$ 12,365	\$ 15,139	\$ 2,774	22%	\$ 2,866	23%
Fare Revenue	\$ 8,973	\$ 8,326	\$ 7,021	\$ (1,304)	-16%	\$ (1,952)	-22%
Other Revenue	\$ 387	\$ 582	\$ 587	\$ 5	1%	\$ 200	52%
Interest Earnings	\$ 836	\$ 796	\$ 809	\$ 13	2%	\$ (27)	-3%
Bonds & TIFIA Proceeds, Cash	\$ 22,804	\$ 27,076	\$ 29,699	\$ 2,623	10%	\$ 6,895	30%
Total (2017 - 2046)	\$ 131,496	\$ 138,015	\$ 142,327	\$ 4,312	3%	\$ 10,831	8%

4.3.1.1. Tax revenue projections

Methodology

Sound Transit receives revenue from four different tax revenue sources, including retail sales and use tax, motor vehicle excise tax (MVET), 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.

Spring 2022 update

Tax revenues have increased \$0.2 billion or 0.2% through 2046 from the Fall 2021 update. (This is an increase of \$2.8 billion or 3% from the August 2021 Final Realigned Plan.)

The sales and MVET tax forecasts incorporate February 2022 Blue Chip economic data and the State Economic and Revenue Forecast Council 2022 February update. The forecast considers impacts from COVID-19, although the high concentration of technology companies in the region and consequently high wage-paying jobs and remote work adaptability has helped cushion the region.

Sales tax is expected to increase slightly due to inflation lingering longer than previously forecasted. However, due to lower-than-expected performance in 2021 and a forecasted decline in the number of motor vehicle registrations in the Puget Sound Region for 2021, MVET revenue is forecasted to decline.

Table 7: Tax Revenue Changes

Tax Revenue, 2017 – 2046, YOY\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
Category	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Sales and Use	\$ 69,261	\$ 71,724	\$ 72,597	\$ 873	1%	\$ 3,337	5%
MVET	\$ 10,728	\$ 10,742	\$ 10,052	\$ (690)	-6%	\$ (676)	-6%
Property	\$ 6,165	\$ 6,276	\$ 6,276	\$ 0	0%	\$ 111	2%
Rental Car	\$ 69	\$ 127	\$ 145	\$ 19	15%	\$ 77	112%
Total (2017 – 2046)	\$ 86,223	\$ 88,869	\$ 89,071	\$ 202	0.2%	\$ 2,849	3%

4.3.1.2. Grant revenue projections

Methodology

Sound Transit generally secures federal funding through 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 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.

Spring 2022 update

Total grant funding assumed in the financial plan projections is 19.5% of the capital program, up from 17.5% due to additional funding available in the Bipartisan Infrastructure Law. This funding increased total grant revenue projections by \$2.8 billion or 22% as compared to the Fall 2021 update. This is an increase of \$2.9 billion or 23% from the August 2021 Final Realigned Financial Plan.

Following this update, the financial plan projections assume \$15.1 billion in grant funding from 2017-2046. Of the \$15.1 billion, approximately \$3.4 billion (22.5%) has already been secured in executed grant agreements including FFGAs.

Table 8: Grant Revenue Changes

Grant Revenue, 2017 – 2046, YOY\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
Category	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 12,273	\$ 12,365	\$ 15,139	\$ 2,774	22%	\$ 2,866	23%

4.3.1.3. 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 impacts 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 impacts.

Fare revenue: The LRFPA assumes the agency continues to collect fare revenues from Sound Transit operations for ST Express bus, Link light rail and Sounder commuter rail. Fare collection for Tacoma Link 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.

Spring 2022 update

Compared to the fall 2021 update, the agency projects fare revenues to decrease by \$1.3 billion or 16% through 2046. Compared to the Final Realigned Plan, this is a decrease of \$1.9 billion or 22%.

The main drivers of this are:

- Lower long-term fare compliance as compared to 2019 levels. The Spring 2022 plan was adjusted to assume 20% non-fare boardings over the long term (compared to earlier assumption of 14%).

- Lower short-term and long-term ridership forecast provided by consultants, accounting for shifts in commute behavior.
- A Link fare increase planned for 2020 was skipped due to COVID-19. The Spring 2022 plan assumes a minimal fare increase of \$0.25 per adult to be implemented in 2023.

Table 9: Fare Revenue Changes

Fare Revenue, 2017 – 2046, YOES\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 8,973	\$ 8,326	\$ 7,021	\$ (1,304)	-16%	\$ (1,952)	-22%

4.3.1.4. 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 activities by other jurisdictions or organizations.

Spring 2022 update

Other revenues increased by \$5 million (1%) from the Fall 2021 update driven by 2021 actuals outperforming the annual forecast. There is an increase of \$0.2 billion (52%) from the August 2021 Final Realigned Plan.

Table 10: Other Revenue Changes

Other Revenue, 2017 – 2046, YOES\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 387	\$ 582	\$ 587	\$ 5	1%	\$ 200	52%

4.3.1.5. Interest earnings revenue projections

Methodology

In accordance with Sound Transit financial policies, interest earnings are credited, at the agency level, to offset expenditures for system-wide 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.

Spring 2022 update

Interest earnings revenues have increased \$0.2 billion (4%) through 2046 from the Fall 2021 update. (This is an increase of \$0.7 billion [20%] from the August 2021 Final Realigned Plan.)

Table 11: Interest Earnings Revenue Changes

Interest Earnings, 2017 – 2046, YOY\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 3,320	\$ 3,841	\$ 3,998	\$ 157	4%	\$ 678	20%

4.3.2. Shifts in expenditures

Uses of funds in the LRFP include expenditures for capital, operations and maintenance, state of good repair, contribution to reserves and debt service. Spring 2022 compared to the Fall 2021 update and Financial Realigned Plan are shown in **Table 12**.

Table 12: Expenditure Changes

Summary of Expenditures, 2017-2046, YOY\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
Category	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Capital Expenditures	\$ 68,791	\$ 70,291	\$ 70,907	\$ 616	1%	\$ 2,117	3%
O&M Expenditures	\$ 32,587	\$ 35,541	\$ 37,026	\$ 1,486	4%	\$ 4,440	14%
SOGR	\$ 8,950	\$ 9,417	\$ 9,716	\$ 299	3%	\$ 766	9%
Reserves	\$ 1,694	\$ 1,996	\$ 2,112	\$ 116	6%	\$ 418	25%
Debt Service*	\$ 19,475	\$ 20,769	\$ 22,566	\$ 1,796	9%	\$ 3,090	16%
Total (2017 - 2046)	\$ 131,496	\$ 138,015	\$ 142,327	\$ 4,312	3%	\$ 10,831	8%

*Includes TIFIA debt service and debt restructuring costs

4.3.2.1. Inflation

Methodology

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

- **Consumer Price Index (CPI)** (for All Urban Consumers, Seattle-Tacoma-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 (CCI)** 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 (ROWI)** forecast is applied to property acquisition costs using an assessed valuation forecast for the Sound Transit District produced by an independent third party.

Spring 2022 update

All three inflation indices were updated to accommodate actual inflation seen in 2021. Additionally, the full long-range CPI index was updated. Inflation is forecasted to be higher than projected in Fall 2021. In general, prices have been driven up by increased demand following the recovery from the pandemic and supply chain constraints. Recent experience in commodity prices, contractor bids, rising transportation costs, and general price inflation, exacerbated to some degree by ongoing supply chain challenges, led to higher-than-expected construction cost index inflation in 2021. Specific to right-of-way growth, residential properties in the Puget Sound region experienced the largest value gains in years throughout 2021, a trend that appears to be continuing into 2022. Property values of all sectors of commercial real estate also increased steadily throughout 2021, with especially strong gains seen in industrial properties.

As a result, projected capital, operating and state of good repair expenditures grew. Details of inflation’s impact on expenditures are shown in each subsection below. **Table 13** displays the change in the projected compound annual growth rate from 2017-2046 of each index.

Table 13: Inflation Changes

Inflation Compound Annual Growth Rate, 2017-2046			
Index	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update
CPI	2.44%	2.44%	2.55%
CCI	3.81%	3.92%	3.94%
ROWI	4.21%	4.24%	4.28%

4.3.1.1. 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 commuter rail, ST Express bus service and Stride bus rapid transit. Additionally, there are two other categories of capital projects: “system-wide” 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 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.

System-wide 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.

Spring 2022 update

Capital expenditures have increased \$0.6 billion (1%) through 2046 from the Fall 2021 update. (This is an increase of \$2.1 billion or 3% from the August 2021 Final Realigned Plan.) The main drivers of this are an increased inflation forecast compared to Fall 2021 with an increase of \$0.3 billion from CPI, \$0.2 billion from CCI and \$0.1 billion from ROWI updates and an increase of \$33 million from two projects in construction: Hilltop Tacoma Link Extension, which added \$30 million in costs, and Puyallup Station Parking and Access Improvements, which requires approximately \$3 million of additional funding.

Table 14: Capital Expenditure Changes

Capital Expenditures, 2017 – 2046, YOES\$ in Millions	Spring 2022 vs Fall 2021			Spring 2022 vs Final Realigned Plan			
	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 68,791	\$ 70,291	\$ 70,907	\$ 616	1%	\$ 2,117	3%

4.3.1.1. Operating and maintenance (O&M) expenditure projections

Methodology

Sound Transit services currently consist of four transit modes: Link light rail, Sounder commuter rail, ST Express bus, and Tacoma Link light rail. 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 system-wide operating expenditures.

Transit modes

O&M 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 TIP. O&M expenditures for each mode are inclusive of the direct cost to operate a mode, 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 a number

of 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.

System-wide 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 paid time off (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 motor vehicle excise tax.
- **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 \$0.5 billion is paid.

Spring 2022 update

Operating expenditures have gone up \$1.5 billion (4%) through 2046 from the Fall 2021 update. This is an increase of \$4.4 billion (14%) from the August 2021 Final Realigned Plan. The main drivers of this are:

- Increased CPI, accounting for \$0.4 billion of the increase.
- Adjusting long-term staffing to accommodate the anticipated approval of the Fare Ambassador program and reassessment of staffing to accommodate the long-term operating plan and non-system expansion projects. These staffing costs account for \$1.5 billion of the increase.
- Removal of lease expense, a net reduction of \$0.3 billion. The agency is consolidating its office space as some agency staff work remotely or in a hybrid model.
- Removal of Department of Licensing fees: Reduction of \$0.1 billion. Fees were decreased in the state budget.

Table 15: Operating Expenditure Changes

Operating Expenditures, 2017 – 2046, YOES\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 32,587	\$ 35,541	\$ 37,026	\$ 1,486	4%	\$ 4,440	14%

4.3.1.2. 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 (SOGR) 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. \$0.3 billion 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 Replacement Capital Financing Needs,” by Robert L. Peskin, published in the Transportation Research Record 1165. State of good repair (SOGR) prior to 2023 is included in the capital section of the LRFP model.

Spring 2022 update

State of good repair expenditures, the cost to repair and replace key operating assets, have increased \$0.3 billion or 3% through 2046 from the Fall 2021 update. (This is an increase of \$0.8 billion or 9% from the August 2021 Final Realigned Plan.) The main drivers of this are an increase in assumed CPI and CCI inflation resulting in an increase of \$0.3 billion.

Table 16: State of Good Repair Expenditure Changes

SOGR Expenditures, 2017 – 2046, YOES\$ in Millions				Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 8,950	\$ 9,417	\$ 9,716	\$ 299	3%	\$ 766	9%

4.3.1.3. Contribution to reserves projections

Methodology

The agency maintains reserves to meet agency-wide 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 \$5 million is available for operating expenditures at all times.

Spring 2022 update

Contribution to reserves increased \$116 million (6%) through 2046 from the Fall 2021 update. This is an increase of \$0.4 billion (25%) from the August 2021 Final Realigned Plan.

Table 17: Contribution to Reserves Changes

	Reserves, 2017 – 2046, YOES\$ in Millions			Spring 2022 vs Fall 2021		Spring 2022 vs Final Realigned Plan	
	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update	\$	%	\$	%
Total (2017 – 2046)	\$ 1,694	\$ 1,996	\$ 2,112	\$ 116	6%	\$ 418	25%

4.3.2. Shifts in financing and agency debt capacity

Key takeaways

- The Affordable Schedule remains within available agency debt capacity. The Target Schedule remains unaffordable.

4.3.2.1. Debt optimization and TIFIA

Sound Transit actively looks for new tools and methods to optimize borrowing, lowering the total finance costs for the agency and increasing the capacity to issue additional debt. This includes tools such as low-interest federal loans with flexible terms (Transportation Infrastructure Finance and Innovation Act, or TIFIA, and Railroad Rehabilitation & Improvement Financing, or RRIF) and refinancing existing debt to take advantage of historically low borrowing rates.

Spring 2022 update

In 2021, Sound Transit refinanced existing debt and five existing TIFIA loans to take advantage of low borrowing rates. Sound Transit also closed on an additional \$520 million TIFIA loan to help finance the Downtown Redmond Link Extension. These activities resulted in \$970 million in projected debt service savings through 2046. The agency is actively working to secure additional TIFIA and RRIF loans for projects that will go into service between 2022 and 2025.

4.3.2.2. 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.

Spring 2022 update

Additional bond issuance is required when cost growth has outpaced revenue growth. In the Spring 2022 update, there is an increase of \$2.6 billion (10%) in bond proceeds through 2046 since Fall 2021. This is needed to fund increased costs not covered by revenue growth and cash.

Debt service increased by \$1.8 billion (9%) through 2046. This increase is due to pay off the additional \$2.6 billion in bonds issued.

4.3.2.3. 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 2.0x 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.

Spring 2022 update

The agency’s current bond ratings are as follows:

- Moody’s, Aaa and Aa1 for Senior/Prior and Parity bonds, respectively.
- Standard & Poor’s, AAA for all bonds.
- The executed TIFIA loans and the MCA have been rated AA+ by both Fitch and Standard & Poor’s.

The agency net debt service coverage ratio reaches a minimum of 1.93x. This is a lower coverage ratio from Fall 2021 and the Final Realigned Plan. Adherence to other minimum debt service coverage ratios are detailed in the table below.

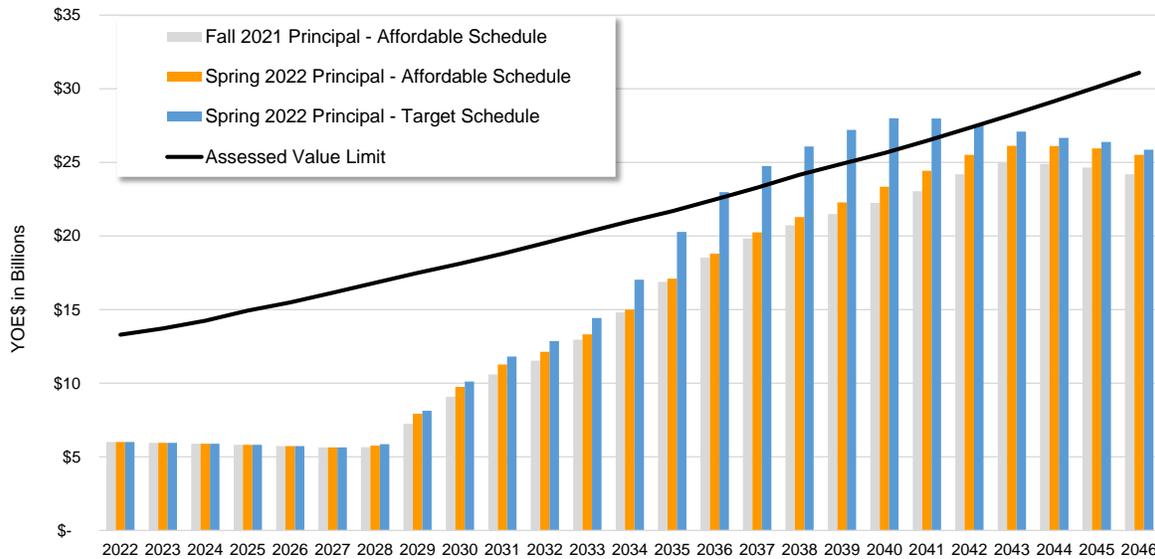
Table 18: Debt Service Coverage Ratios

Coverage Ratios at the Minimum Year				
Index	Policy Minimum	Final Realigned Plan	Fall 2021 Update	Spring 2022 Update
Net DSCR - Minimum Year	1.50x	2.17x	1.98x	1.93x
Senior/ Prior ABT	3.00x	25.08x	25.08x	43.11x
1st Junior ABT	1.50x	2.48x	2.32x	2.23x
2nd Junior ABT	1.10x	2.48x	2.32x	2.23x

See Table 19 for a graph projecting maximum debt balance and debt capacity utilization.

The agency will come closest to reaching its projected debt limit in 2042 with \$1.8 billion remaining, or 6.7% headroom. In 2037, which was the minimum year in the Final Realigned Plan, the agency has \$3.0 billion in capacity, in comparison to \$3.4 billion in the Final Realigned Plan and Fall 2021. As shown on the chart in Table 19, the Target Schedule is not affordable, and would require more debt than is legally permitted.

Table 19: Projected Debt Capacity – Fall 2021 vs Spring 2022



4.3.3. Updated project-level affordability gaps

Resolution R2021-05 requires staff to present “affordable budget estimates” for both the Affordable Schedule and Target Schedule. The difference between these budget estimates is each project’s affordability gap. The project-level affordability gaps are the **reduction in cost estimate** required to deliver the Target Schedule, while accounting for financial capacity, subarea affordability, and required system facilities. 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 advance to the Target Schedule. 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 impact 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 2022\$ using the Spring 2022 Inflation Indices. Then they are compared to the updated gaps generated from the Spring 2022 Financial Plan update.

Spring 2022 update

In the Spring 2022 update, the West Seattle and Ballard Link Extensions project-level affordability gap increased while the other projects decreased. The cost estimates did not change since the Final Realigned Plan projections, but each subarea’s projected cash balances fluctuated based on changes in the Financial Plan projections. North King’s subarea balances are lower due to the fare revenue decrease. Due to North King’s high Link ridership, this subarea receives the highest amount of fare revenue so decreases to this category heavily impact North King.

Table 20: Project Affordability Gaps

Project	Final Realigned Plan (2019\$)	Convert to 2022\$	Final Realigned Plan (2022\$)
West Seattle and Ballard Link Extensions	\$ 1,800		\$ 2,100
Everett Link Extension	\$ 600		\$ 700
Tacoma Community College Link Extension	\$ 20		\$ 30
Issaquah Link Extension	\$ 90		\$ 110

Project	Final Realigned Plan (2022\$)	Spring 2022 Update (2022\$)	Variance (2022\$)
West Seattle and Ballard Link Extensions	\$ 2,100	\$ 2,200	\$ 100
Everett Link Extension	\$ 700	\$ 500	\$ (200)
Tacoma Community College Link Extension	\$ 30	\$ 20	\$ (10)
Issaquah Link Extension	\$ 110	\$ 100	\$ (10)

The Target Schedule affordable budget estimates are presented in the table below. As discussed, these estimates represent the current cost estimates less the project affordability gaps in 2022\$.

Table 21: Target Schedule Affordable Budget Estimates

Project	Current Estimate (2022\$)	Affordability Gap (2022\$)	Target Schedule Affordable Budget Estimate (2022\$)
West Seattle and Ballard Link Extensions	\$ 14,131	\$ 2,200	\$ 11,931
Everett Link Extension	\$ 5,694	\$ 500	\$ 5,194
Tacoma Community College Link Extension	\$ 891	\$ 20	\$ 871
Issaquah Link Extension	\$ 3,572	\$ 100	\$ 3,472

5. PROJECTS IN PLANNING (PRE-BASELINE PROJECTS)

5.1. West Seattle and Ballard Link Extensions overview

- West Seattle
 - 4.7 miles of light rail from downtown Seattle to West Seattle’s Alaska Junction neighborhood and includes a bridge across the Duwamish Waterway
- Ballard
 - 7.1 miles of light rail from downtown Seattle to Ballard’s Market Street area.
- Planning phase
- \$14,131 million realignment plan cost estimate (2022\$)
- Target and Affordable Schedule:
 - Alaska Junction to SODO: 2032/2032
 - SODO to Smith Cove: 2037/2037
 - Smith Cove to Ballard: 2037/2039



West Seattle and Ballard Link alignment map



5.1.1. Status of project readiness

5.1.1.1. Environmental review

- The Draft Environmental Impact Statement (EIS) for the West Seattle and Ballard Link Extensions was published on January 28, 2022, with a 90-day public comment period ending April 28, 2022. This is approximately one quarter later than was anticipated at the time of the Realignment Resolution. The Final EIS is currently expected to be published in Q3 2023.

5.1.1.2. Preferred alternatives

- In May and October 2019, the Board identified preferred alternatives, preferred alternatives with third-party funding, and other alternatives to study in the Draft EIS (illustrated in map above). The Board will consider confirming or modifying preferred alternatives in Q2 2022. This is approximately one quarter later than was anticipated at the time of the realignment resolution.

5.1.1.3. Third-party agreements

- Sound Transit entered into a partnering agreement for the project with the City of Seattle in January 2018 and a subsequent project administration agreement. Similarly, Sound Transit entered into a partnering agreement with the Port of Seattle/Northwest Seaport Alliance in August 2020 and is currently negotiating a project administration agreement. Sound Transit also has agreements/task orders for design review and coordination activities with other parties including Washington State Department of Transportation, King County and BNSF Railway.

5.1.1.4. Permitting

- Sound Transit and the City of Seattle continue exploring opportunities to streamline the permitting process. A Preliminary Permitting Plan was completed in February 2022, and the agency expects to complete a final Permitting Plan before permitting begins. The plan will document the policy framework, processes, tools and design concurrences that will ensure a streamlined permitting process for the WSBLE project.
- Potential permitting challenges include necessary coordination/approvals associated with water crossings, and potential risk in processing reviews/approvals with permitting authorities in a timely manner.

5.1.1.5. Right-of-way acquisitions

- The project is still in the planning phase of project development and has not started property acquisition. Work to explore opportunities for potential early acquisition of critical parcels is underway.

5.1.1.6. Delayed parking

- Not applicable.

5.1.2. Project cost status/shift

- The latest project cost estimates are reflected in the realignment plan.

Table 22: West Seattle & Ballard Link Extension Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$14,131	\$14,131	\$0

5.1.2.1. Schedule status

- Since the adoption of the realignment plan, the project has experienced several months of additional delay due to third party administrative review of the Draft EIS prior to publication and extension of the formal Draft EIS public comment period.
- Board confirmation or modification of the preferred alternative is currently anticipated in June 2022 and will be informed by public feedback on the Draft EIS. Delay in Board action would impact the schedule for completion of environmental documentation and subsequent design, permitting, right of way acquisition and construction activities.
- Future schedule risks could include:
 - Agreement on mitigation requirements with relevant local/state/federal permitting authorities.
 - City design reviews and associated land use and street use permitting activities.
 - Timely processing of necessary approvals associated with water crossings.
 - Acquisition of critical parcels and related relocation activities.
 - Restrictions on construction activities due to environmentally critical areas, fish windows, potential limitations on roadway closures and noise, coordination with existing light rail, freight railroad and port operations, limited staging areas, and deep mined station construction.

5.1.2.2. Project risks and opportunities

WSBLE project risk assessment is being conducted together with the project development process. Potential project issues and risks identified at this stage include:

- Reaching stakeholder consensus on a preferred alternative, including third-party funding.
- Additional costs and delays associated with third-party mitigation and permitting requirements.
- Delays in acquisition of critical parcels and higher than expected increases in real estate and construction costs.
- Delays in constructing in a mature urban environment with limited staging areas, challenging topography and waterway crossings.
- Delays associated with coordinating construction in proximity to light rail, freight railroads and port facilities.

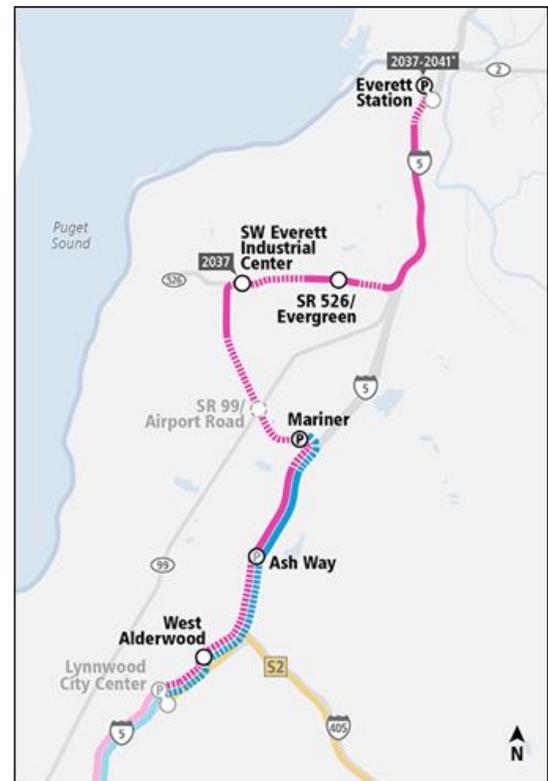


5.1.3. Financial capacity

- The updated West Seattle and Ballard Link Extensions project affordable budget estimate is \$11,931 million (2022\$). (This is the current cost estimate of \$14,131 million less the project's affordability gap of \$2,220 million, both in in 2022\$.)

5.2. Everett Link Extension overview

- 16 miles of light rail from Lynnwood Transit Center to Everett Station
- Six stations plus one provisional (unfunded) station
- Two new parking facilities
- Planning phase
- \$5,694 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule:
 - SW Everett Industrial Station: 2037/2037
 - Everett Station: 2037/2041
 - Parking at Mariner & Everett: 2046/2046



Everett Link alignment map



5.2.1. Status of project readiness

5.2.1.1. Environmental review

- This project is currently in the early planning phase. Early scoping was conducted Nov. 1-Dec. 10, 2021, to publicly kick off the alternatives development process for EVLE and the Operations and Maintenance Facility North. The Board is scheduled to identify a preferred alternative and other alternatives to study in the Draft EIS in Q1 2023. The agency expects to publish the Draft EIS in Q3 2024 and the Final EIS in Q4 2025. There are no identified changes to project readiness, schedule and cost at this early stage of planning.

5.2.1.2. Preferred alternatives

- The Board is scheduled to identify a preferred alternative and other alternatives in Q1 2023.

5.2.1.3. Third-party agreements

- WSDOT Agreement GCA 2941 - Task Order V-2 covers professional services to support EVLE planning and alternatives development activities. Work to date with WSDOT has been focused on developing a compatibility report to describe and document initial assumptions on how an alignment can be integrated within the existing WSDOT-owned facilities including the existing freeway (SR 526 and I-5), adjacent facilities and any proposed roadway expansions.

- Snohomish County Public Utility District Engineering Analysis Agreement – Task orders issued to provide engineering, planning, feasibility studies and information to assist Sound Transit in developing the EVLE project route, profile and station locations. Work to date has been focused on identifying and understanding potential utility conflicts associated with the alternatives under evaluation. Progress is moving forward as scheduled.
- Everett Link Extension Project Multi-Jurisdictional Partnering Agreement GA 0176-20 (Sound Transit, Snohomish County, City of Everett, City of Lynnwood, Community Transit) - Agreement is currently in review with partner agencies; the agency anticipates bringing it to the Board for potential approval in Spring 2022.

5.2.1.4. Permitting

- Beginning work on preliminary permitting plan in Spring 2022; anticipating completion of Draft Preliminary Permitting Plan by Q1 2023.
- Model Code Partnership (Federal Transit Administration transit-oriented development grant through 2024) is underway and will focus on customizing potential policies and regulations for local consideration and potential adoption. These efforts could positively impact EVLE cost and schedule through development of consistent standards and processes across jurisdictions and streamlined permitting.

5.2.1.5. Right-of-way acquisitions

- The agency has yet to determine ROW needs, associated cost and acquisition timeframe/schedule. These factors are pending identification of preferred and other alternatives, completion of environmental review, record of decision and selection of project to be built.

5.2.1.6. Delayed parking

- Parking at Mariner Station and Everett Station is delayed until 2046.
- Sound Transit's Office of Planning & Integration is leading implementation of Board direction to “identify opportunities and make recommendations to deliver flexible, innovative, and affordable methods to get people to transit stations” where parking has been delayed.
- Staff will engage the Board on the approach for identifying opportunities and making recommendations in advance of the first Annual Program Review. In accordance with this direction, staff will start to engage the Board on the approach for identifying opportunities and making recommendations in April 2022. This engagement will help clarify Board direction, identify key process steps, and establish criteria by which Sound Transit will assess opportunities in advance of making recommendations in particular locations.

5.2.2. Project cost status/shift

- The agency will prepare new comparative cost estimates of alternatives under evaluation in Q3/Q4 2022.

Table 23: Everett Link Extension Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$5,694	\$5,694	\$0

5.2.2.1. Schedule status

- No changes to the project schedule as approved in realignment.

5.2.2.2. Project risks and opportunities

- Project is in early planning stages with minimal design.

Potential risks include the following:

- Realignment-related and continued COVID-related delays could affect overall alternatives development schedule.
- Engineering challenges are still somewhat unknown over lengthy and varied geography at early stage of planning and conceptual design.
- Risk of cost escalation due to potential new development activity along project corridor.

Potential opportunities include the following:

- Model Code Partnership (FTA TOD grant through 2024) provides opportunity to develop and implement best practices for transit-oriented development and other goals shared by jurisdictional authorities, Sound Transit and the FTA along a light rail corridor and could result in greater consistency in standards and processes across jurisdictions and streamlined permitting.



5.2.3. Financial capacity

- The updated Everett Link Extension affordable budget estimate is \$5,194 million (2022\$). (This is the current cost estimate of \$5,694 million less the project’s affordability gap of \$500 million, both in in 2022\$.)

5.3. Tacoma Dome Link Extension overview

- 9.7 miles of light rail from the Federal Way Transit Center to Tacoma
- 4 stations
- 2 parking garages
- Planning phase: alternatives development/project development
- \$3,825 million realignment plan cost estimate (2022\$)
- Target and Affordable Schedule:
 - South Federal Way to Tacoma Dome Station: 2032
 - Parking at South Federal Way & Fife: 2038



Tacoma Dome Link alignment map



5.3.1. Status of project readiness

5.3.1.1. Environmental review

The agency is currently preparing the TDLE Draft EIS. Due to elements described further below, the agency expects to substantially delay EIS publication, and will then determine the full impact to the project schedule.

5.3.1.2. Preferred alternatives

In 2019 the Board identified preferred alternatives and other alternatives to study in the Draft EIS. The alternatives are evaluated in three segments: South Federal Way, Fife and Tacoma.

- In the South Federal Way segment, there is one preferred alignment. The preferred station is SF Enchanted Parkway Station Alternative, which is an elevated station at Enchanted Parkway South and S 352nd Street. Two other station alternatives are being evaluated in the Draft EIS. These include the SF 352nd Span Station Design Option, which is an elevated station spanning S 352nd Street, and the SF I-5 Station Alternative, an elevated station at I-5 and S 356th Street.
- In the Fife segment, one station location is currently being evaluated in the Draft EIS. The preferred station is Fife Station Alternative, which is an elevated station at 59th Avenue E between 15th Street E and 12th Street E. There is one preferred alternative alignment east of Fife Station, and there are three other alignment alternatives West of Fife Station: the Fife Pacific Highway Alternative, the Fife Median Alternative and the Fife I-5 Alternative.
- In the Tacoma segment there are two station areas: Portland Avenue and Tacoma Dome Station. The Portland Avenue Station Alternative is preferred. This is an elevated station at E 26th Street and E

Portland Avenue. The agency is also evaluating a Portland Avenue Span Station Option. At Tacoma Dome Station, the preferred station is Tacoma 25th Street West Station Alternative, which is an elevated station above E 25th Street between East G Street and East D Street. Three other station alternatives are being evaluated in the Draft EIS. These include Tacoma 25th Street East Station, which is an elevated station above E 25th Street between McKinley Avenue E and East G Street; Tacoma 26th Street Station, which is an elevated station above E 26th Street at East D Street; and Close to Sounder Station, which is adjacent to the Sounder right-of-way at East G Street and E 25th Street.

5.3.1.3. Third-party agreements

- Partnering agreements are in place with the cities of Federal Way, Fife, Milton and Tacoma, and with the Puyallup Tribe of Indians.
- Project administration agreements are in place with the cities of Federal Way, Fife and Milton.
- Sound Transit and the Puyallup Tribe anticipate that negotiated property values of required parcels, and other commitments to the Tribe, will be memorialized in an Intergovernmental Agreement. TDLE will cross the Tribal reservation and could impact Tribal interests including properties, fishing activities, and natural and cultural resources. Sound Transit and the FTA have been consulting with the Tribe through early project planning phases with a goal of avoiding Tribally owned fee and trust properties wherever possible and minimizing impacts to other Tribal interests. However, all alignments, including the preferred alternative, would require long-term easements with automatic renewal from the Puyallup Tribe of Indians. All alignments also include crossing the Puyallup River and other aquatic resources in the area.

5.3.1.4. Permitting

- The project will require multiple local, Tribal, state and federal agency permits in the final design/construction phase.
- A recently enacted Federal Way Code amendment requires 500 minimum stalls in a structure upon opening of a light rail transit facility. This conflicts with the Board's realignment action to defer TDLE station parking. Sound Transit staff negotiated changes to the originally proposed code language resulting in a flexible and more predictable possible path to seek a deviation through the Community Development Director.
- If the in-river pier bridge design option (versus a long-span option) to cross the Puyallup River with a light rail-only bridge is selected, a permitting process will require approvals by the Puyallup Tribe of Indians, U.S. Fish and Wildlife Service, National Marine Fisheries Service and U.S. Army Corps of Engineers.
- The Puyallup Tribe of Indians, as a sovereign nation, and Sound Transit will need an intergovernmental agreement to advance construction on any Tribal properties.

5.3.1.5. Right-of-way acquisitions

- The project is still in the planning phase of project development and has not yet started property acquisition. Property acquisition will occur after the record of decision. Sound Transit would seek long-term easements from the Puyallup Tribe of Indians if properties in Tribal trust are affected by TDLE.

5.3.1.6. Delayed parking

- Parking at South Federal Way Station and Fife Station is delayed until 2038.
- Sound Transit’s Office of Planning & Integration is leading implementation of Board direction 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 is starting to engage the Board on the approach for identifying opportunities and making recommendations in April 2022. This engagement will help clarify Board direction, identify key process steps, and establish criteria by which Sound Transit will assess opportunities in advance of making recommendations in particular locations.

5.3.2. Project cost status/shift

Table 24: Tacoma Dome Link Extension Cost Estimates (Millions, 2022\$)

Realigned Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$3,825	\$3,825	\$0

5.3.2.1. Schedule status

- Since realignment, TDLE has experienced several months of additional delay due to third-party administrative review of the Administrative Draft EIS for review by cooperating agency technical staff.
- Recently, through the research and investigations required for the Draft EIS, staff have identified the need to add alternatives in two areas of the alignment which will delay both EIS publication and ultimately the revenue service date. Staff will work with agency partners, Tribes and the FTA to develop these alternatives for inclusion in the Draft EIS and confirm the extent of the schedule delay.
 - First, staff will add a station alternative in the Fife Station area to ensure a reasonable range of alternatives including one outside an existing floodplain, as required by federal regulations.
 - Second, additional environmental review work on alignments is needed in the South Federal Way area.

5.3.2.2. Project risks and opportunities

- Additional environmental work on alignments is needed in the South Federal Way area.
- South of the Fife Station Alternative, there is a heightened risk of cultural resource findings in and around the Puyallup River and from the river to Tacoma Dome Station. These areas are historic activity areas for the Puyallup Tribe and other Tribes. Cultural artifacts were found during the construction of the Tacoma Trestle in the Tacoma Dome Station area.
- The Board identified a single preferred alternative station within the Fife area, however that station is in a floodplain. Through the Draft EIS development and environmental investigations, Sound Transit identified that a station option located outside of the floodplain is needed for compliance with environmental regulations and guidance. An additional station will be developed and included in the Draft EIS.
- In their scoping comments, the Puyallup Tribe expressed a preference for the light rail bridge crossing the Puyallup River to span the entire river with no piers in the water, and they supported both an in-river and clear span bridge design to be evaluated in Draft EIS. The bridge span length without piers in water would be longer than any unsupported long-span Sound Transit has built to date. Feasibility studies are being conducted to evaluate.
- Costs associated with greater environmental mitigation requirements for wetlands, streams, floodplain and/or cultural resources are likely to increase.
- Unidentified utility conflicts, contaminated soil and/or groundwater may be discovered during construction, increasing cost. Earlier and additional geotechnical borings and potholing will be needed to mitigate requiring additional project development time and cost.
- COVID-19 schedule impacts could extend preliminary engineering phase, increasing consultant cost.
- Right-of-way cost may increase as property value increases, or with new commercial development.
- The City of Tacoma requested a pedestrian bridge crossing I-5 at Portland Avenue, which may increase cost.

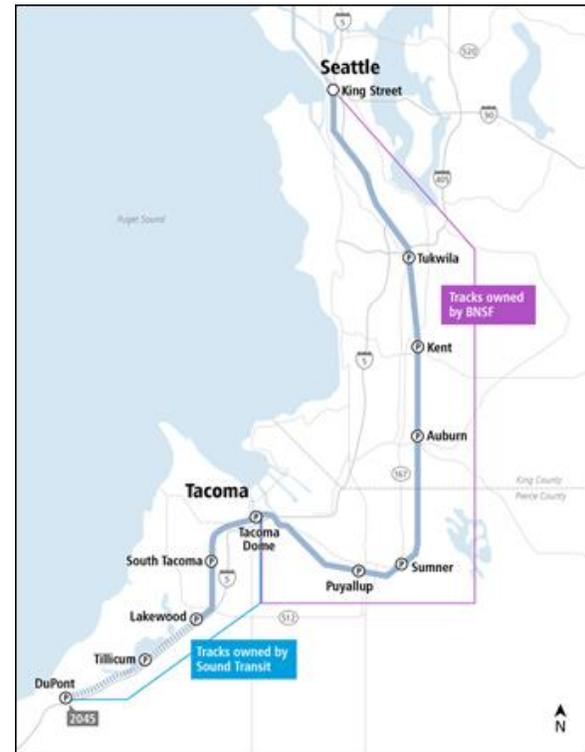


5.3.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.4. Souder South Capacity Expansion overview

- The Souder South Capacity Expansion Program includes capital elements that will enhance Souder capacity, services and access in response to increased Souder South demand.
- Elements include platform extensions, track and signal upgrades and other related infrastructure to facilitate additional capacity for additional trips, and access elements such as improvements for pedestrians, bicyclists, buses and private vehicles, prioritized per Sound Transit's System Access Policy.
- Planning phase
- \$1,241 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule:
 - Souder platforms & Pierce County access improvements (2036)
 - South King access improvements (2041)
 - Souder added trips (2046)



Souder South Capacity Expansion map



5.4.1. Status of project readiness

5.4.1.1. Environmental review

- The agency expects to begin environmental review for Platform Extension Projects in Q3/Q4 2022 for two platform extensions needed due to coordination with other projects. Please see the next section for further description.
- Staff are assessing long-term ridership demand and scoping and timing of ST3 Souder Improvements. Specific activity has not been initiated for the Souder Access Projects and the Added Trips Project.

5.4.1.2. Preferred alternatives

- Auburn Station Platform Extension Project has completed the evaluation identifying west and east platform extension alternatives. This has been completed to prevent any conflicts with the Auburn Parking and Access Project that is in final design. The agency has also identified additional potential vertical circulation elements to the existing pedestrian bridge for additional capacity, redundancy and improved transfer connections to buses.

- King Street Station Platform Area Improvement Project is currently underway in coordination with the West Seattle and Ballard Link Extensions to make sure any changes completed are in support of both projects. Improvements under evaluation include additional stairs and elevators, an extended platform, the addition of a mezzanine level and a pedestrian crossing at 4th Avenue South either at-grade or grade-separated.

5.4.1.3. Third-party agreements

- The agency will identify third-party agreements for the Platform Extension Projects during environmental review and conceptual engineering,

5.4.1.4. Permitting

- The agency will identify permitting needs for the Platform Extension Projects during environmental review and conceptual engineering.

5.4.1.5. Right-of-way acquisitions

- The agency will identify right-of-way acquisition needs for the Platform Extension during environmental review and conceptual engineering.

5.4.1.6. Delayed parking

- Not applicable.

5.4.2. Project cost status/shift

Table 25: Souder South Capacity Expansion Cost Estimates (Millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$1,241	\$1,241	\$0

5.4.2.1. Schedule status

- The Board’s realignment action deferred South Souder Capacity Expansion projects to be completed between 2036 and 2046.
- Platform Extension Projects
 - Auburn Station Platform Extension Project has completed Alternative Analysis.

- King Street Station Platform Area Improvement Project Alternative Analysis is currently underway and expected to conclude in Q3 2022.
- BNSF Platform Extension Projects and Sound Transit Platform Extension Projects will initiate conceptual engineering and environmental review in Q3/Q4 2022.
- Activity has not been initiated for the Souder Access Projects and the Added Trips Project.

5.4.2.2. Project risks and opportunities

- Platform Extension Projects
 - Realignment identified project completion schedules and allocated estimates for each type of Souder South Capacity Expansion project: platform extensions, access improvements and new trips. This could reduce the flexibility of budgeting for capacity improvements as planning advances.
 - It is unclear how ridership may rebound as compared to pre-pandemic levels.
 - King Street Station Platform Area Improvement Project
 - Risk: Alternative Analysis options cost estimates are higher than evaluated in the Souder South Strategic Development & Implementation Plan.
 - Opportunity: Third parties or grant funding opportunities could mitigate higher cost estimates trends.
 - Risk: This project is located in the following preservation/historical districts: Pioneer Square District, Chinatown/International District and historic King Street Station. Consequently, there are potential schedule and cost risks to meet the historical district requirements (e.g., aesthetics).
 - Auburn Station Platform Extension Project
 - Risk: City does not concur on Sound Transit and BNSF's preferred alternative to enter conceptual engineering and environmental review which may cause cost and schedule impacts.
- This activity has not been initiated for the Souder Access Projects and the Additional Trips Project.



5.4.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.5. I-405 BRT overview

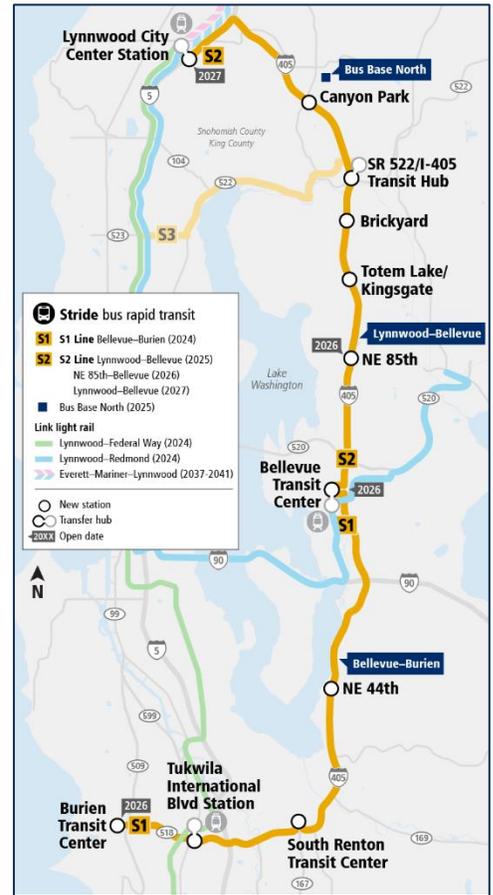
- Stride bus rapid transit system along the I-405 corridor
- Approximately 37 miles between Lynnwood and Burien with 11 stations
- Design phase
- \$1,198 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule:
 - S1 Line (Burien - Bellevue): 2026
 - S2 Line (Lynnwood - Bellevue): 2027 (see below for delayed parking)



5.5.1. Status of project readiness

5.5.1.1. Environmental review

- Environmental review for this project was completed in September 2020 under the State Environmental Policy Act. Project elements at South Renton Transit Center, Kingsgate and Lynnwood Transit Center are currently under review under the National Environmental Policy Act. The agency expects NEPA review to conclude mid-2022. As final design for the project elements progresses, staff will evaluate if additional environmental review is required.



S1 and S2 lines project map

5.5.1.2. Project to be built

- On Sept. 23, 2021, the Board selected the project to be built.

5.5.1.3. Third-party agreements

- The project has the following construction agreements in place:
 - Motion No. M2019-22: Construction agreement with WSDOT for the design-build delivery of the I-405/NE 44th Street Interchange and In-line Freeway Station
 - Motion No. M2022-05: Construction Agreement with WSDOT for the design-build delivery of the I-405/NE 85th Street Interchange and In-line Freeway Station
- Agreements in development:

- Construction agreements with WSDOT for the design build-delivery of the I-405 BRT projects at Tukwila International Boulevard, Brickyard, the SR 522/I-405 Transit Hub and Canyon Park. The timely completion of these agreements is critical to maintain the project schedule.
- Agreements with King County Metro Transit are anticipated for the development and operation of new and modified transit centers.
- An agreement with the City of Kirkland is planned for NE 85th Street arterial access improvements.

5.5.1.4. 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 may present schedule risks. 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.

5.5.1.5. Right-of-way acquisitions

- In March 2020, Sound Transit completed early acquisition of the former Sound Ford site in Renton which will become the South Renton Transit Center.
- In March 2019, the Board authorized acquisition of the Pan Abode property (R2019-08) in Renton to advance work on the surface park-and-ride included in the ST3 representative project. Sound Transit later suspended acquisition of this property while working toward a possible joint development with the property owner, at the City of Renton's request. Sound Transit and the property owner could not identify a joint development project that is financially feasible for either party while meeting the City's vision for redevelopment of the site. The City has expressed interest in a new park-and-ride location, and staff are exploring the idea within the framework of the Board's realignment plan.
- The project team plans to seek approval from the Board later this year to begin the acquisition process for several additional packages of properties where temporary access is needed to construct and operate the project.

5.5.1.6. Delayed parking

- Parking at South Renton Transit Center and NE 44th is delayed until 2034. Parking at Totem Lake/Kingsgate is delayed until 2035.
- Sound Transit's Office of Planning & Integration is leading implementation of Board direction 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 is starting to engage the Board on the approach for identifying opportunities and making recommendations in April 2022. This engagement will help clarify Board

direction, identify key process steps, and establish criteria by which Sound Transit will assess opportunities in advance of making recommendations in particular locations.

5.5.2. Project cost status/shift

Table 26: I-405 Stride BRT Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Cost Estimate	Cost Estimate Changes
\$1,198	\$1,198	\$0

5.5.2.1. Schedule status

- The Target and Affordable Schedule for I-405 South (S1 Line) is 2026. However, the current schedule shows completion in 2027.
- The Target and Affordable Schedule for I-405 North (S2 Line) is to begin service in 2027. However, there are risks and schedule pressures that could push this target date out.
- Schedule risks include:
 - On S1, Tukwila International Boulevard Station: Continued delay in executing a project development task order with WSDOT that was approved in September 2021 at the System Expansion Committee.
 - On S1, NE 44th Park-and-Ride: Reconciling realignment (deferring parking to 2034) and City expectations.
 - On S2, I-405 Brickyard to Canyon Park: Work is part of WSDOT’s North Express Toll Lane project.

5.5.2.2. Project risks and opportunities

In addition to the schedule risks above:

- On S1, South Renton Transit Center: Need funding commitment from KCM betterments (layovers, active bays, and other county-only facilities such as battery electric bus charging infrastructure).



5.5.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.6. Operations and Maintenance Facility South overview

- Light rail maintenance facility to add storage, maintenance and operating capacity to support the expansion of light rail.
- Planning phase
- \$1,357 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2029



5.6.1. Status of project readiness

5.6.1.1. Environmental review

- The agency is preparing a Final EIS that will analyze the preferred alternative (South 336th Street Alternative) along with two other alternatives evaluated in the Draft EIS. Staff expect to publish the Final EIS in late 2022.
- The project requires work within the I-5 right-of-way, which requires Federal Highway Administration approval. Due to this federal nexus, the agency will prepare NEPA (National Environmental Policy Act) documentation concurrently with the SEPA (State Environmental Policy Act) Final EIS. FHWA will determine the type of documentation.

5.6.1.2. Preferred alternatives

- In Dec. 2022, the Board identified the South 336th Street Alternative in the City of Federal Way as the preferred alternative.
- This site requires approximately 1.4 miles of the TDLE mainline guideway to be built in advance to reach the preferred alternative site. This mainline track would be constructed for TDLE regardless of which OMF South site is selected.

5.6.1.3. Permitting

- South 336th Street Alternative is in the City of Federal Way and will require a street vacation and exemption from a maximum block code requirement, which the City has indicated will not be easy to achieve.



OMF South alternatives map

- Additional federal, Tribal and other permits/approvals will be needed, including U.S. Army Corps of Engineers, Bonneville Power Administration, FHWA, King County, Puget Sound Clear Air Agency, U.S. Fish and Wildlife Service, the Washington Public Utility Commission, and the state departments of Ecology, Fish and Wildlife, Transportation, and Archaeology and Historic Preservation.

5.6.1.4. Right-of-way acquisitions

- Property acquisition will occur after the Board selection of the project to be built.

5.6.1.5. Delayed parking

- Not applicable

5.6.2. Project cost status/shift

Table 27: OMF South Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate (in Millions)	Current Estimates	Cost Estimate Changes
\$1,357	\$1,357	\$0

5.6.2.1. Schedule status

- Consistent with the realignment plan, the project is currently on schedule to open in Q4 2029.

5.6.2.2. Project risks and opportunities

- Delays to develop and finalize the Development Agreement with the City of Federal Way. The preferred alternative requires a street vacation and a deviation from the maximum block size code. Sound Transit staff anticipate a lengthy process to negotiate a deviation from the code and gain street vacation approval from the Council.
- Agreement on mitigation requirements with relevant local/state/federal permitting authorities.
- Ongoing COVID-19 impacts could affect the project schedule.
- The preferred alternative is not a final decision. Should the Board select a different site alternative as the project to build, that would likely result in cost and schedule delay. These impacts would be most significant if the Midway Landfill Alternative was selected.
- Right-of-way costs may increase more than projected escalation rates because of property value increases in the region.

- Unidentified utility conflicts, contaminated soil and/or groundwater may be discovered during construction, increasing cost. Earlier and additional geotechnical borings and potholing will be needed to mitigate requiring additional project development time and cost.
- Stormwater management was a major driver of earlier cost estimate increases. Sound Transit staff is working to refine stormwater designs and seek design efficiencies as project development advances, but this risk is not resolved at this time.
- Ecosystem mitigation has not yet been identified for impacts to Hylebos Creek and its associated wetlands, located on both the eastern and western sides of the S. 336th site.



5.6.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.7. SR 522/NE 145th Street BRT overview

- Stride bus rapid transit between the Shoreline South/148th light rail station and Bothell. The S3 Line will run along portions of NE 145th Street, SR 522 and local arterial streets in Bothell, serving the UW Bothell/Cascadia College. At the eastern end, this service will connect to the S2 BRT line at the new SR 522/I-405 Transit Hub, as well as planned ST Express service to Woodinville.



S3 Line project map

- 9 miles between Shoreline and Bothell
- 12 stations, with additional parking included in Lake Forest Park, Kenmore, and Bothell.
- Final design phase
- \$626 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2026, not including parking elements. Schedule is trending for 2027.



5.7.1. Status of project readiness

5.7.1.1. Environmental review

- Sound Transit issued a SEPA Determination of Nonsignificance for the SR 522/NE 145th BRT project on March 25, 2021. As final design for the project elements progresses, staff will evaluate if additional SEPA environmental review and determination may be required if the design impacts were not previously considered in the issued SEPA DNS. A General Engineering Contract task order scope and budget has been developed to support Sound Transit with these activities during the final design phase.

5.7.1.2. Project to be built

- On Sept. 23, 2021, the Board identified the project to be built (R2021-07).

5.7.1.3. Third-party agreements

- The project has partnering agreements in place with the Cities of Bothell, Kenmore, Lake Forest Park and Shoreline. The project also has the following funding agreements in place:
 - Motion No. M2021-69: Funding Agreement for Early Construction of University of Washington Bothell Bus Rapid Transit Station
 - Motion No. M2021-68: Funding Agreement with the City of Shoreline for the NE 145th Street/I-5 Interchange Project
 - Motion No. M2019-20: Funding Agreement with the City of Bothell for the Construction of Bothell BAT Lanes
 - Motion No 2019-71: Amendment No. 2 to the WSDOT Design Coordination and Review Umbrella Agreement (Task Order 47)
 - Currently there are no concerns related to these agreements that could potentially impact cost and schedule.
- Agreements in development:
 - Project Administration Agreement with the City of Bothell
 - A master agreement with Seattle City Light for Design Support expired, but an amendment to extend it to enable utility coordination and review up to 60% is in development
 - The risk of not having an agreement with Seattle City Light in place is that it could potentially delay the agency's advance utility relocation efforts. This will be mitigated going forward by meeting with Seattle City Light to identify the timing of relocation needs and developing a schedule accordingly.

5.7.1.4. Permitting

- The project will require permits from five cities, WSDOT, and King County, as well as coordination and agreements with several utilities. For the smaller cities on SR 522 the agency may be bringing forward the largest capital project the City has encountered to date, and the permitting volume and complexity may present schedule risks. On NE 145th Street, the jurisdictional authority is split among several AHJs, resulting in a higher level of complexity and coordination than would typically be encountered. The project team is working to address this schedule risk by developing expedited permitting agreements (where the AHJs are open to them), conducting regular coordination with AHJs, and requesting timely reviews.

5.7.1.5. Right-of-way acquisitions

- On Sept. 23, 2021, the Board authorized the acquisition of the first set of properties (44) along the corridor (R2021-09). The project team plans to seek approval from the Board later this year to begin

the acquisition process for several additional packages of properties in 2022. Delays in completing acquisition of any of the properties could impact the project schedule.

5.7.1.6. Delayed parking

- Parking in Kenmore and Bothell is delayed until 2034. Parking in Lake Forest Park is delayed until 2044.
- Sound Transit’s Office of Planning & Integration is leading implementation of Board direction 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 is starting to engage the Board on the approach for identifying opportunities and making recommendations in April 2022. This engagement will help clarify Board direction, identify key process steps, and establish criteria by which Sound Transit will assess opportunities in advance of making recommendations in particular locations.

5.7.2. Project cost status/shift

- Further cost information will be available once the project reaches 60% design. With rising property costs around the region, there is a risk of increased right-of-way costs.

Table 28: SR 522/NE 145th Stride BRT Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Cost Estimate	Cost Estimate Changes
\$626	\$626	0

5.7.2.1. Schedule status

The Target and Affordable Schedule for the SR 522 BRT (S3 service line) is to begin service in 2026. However, the current schedule is trending toward 2027.

Schedule risks include:

- Timely completion of property acquisition. The project team is working to address this schedule risk by begin property acquisition for some parcels based on the 30% design, and the remaining as soon as feasible as the 60% design is being developed or upon completion of the 60% design.
- Obtaining timely design review and permits from multiple jurisdictions along the corridor. The project team is working to address this schedule risk by developing expedited permitting agreements (where jurisdictions are open to them), conducting regular coordination with jurisdictions, and requesting timely reviews.

5.7.2.2. Project risks and opportunities

Project risks include:

- Variability and inflation in the real estate market could result in increased costs for property acquisition.
- Potential delays completing property acquisition on aggressive schedule (see schedule risks above).
- Potential delays obtaining permits and design reviews from multiple AHJs along the corridor (see schedule risks above).



5.7.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.8. Operations and Maintenance Facility North overview

- The light rail OMF North provides storage and maintenance capacity to accommodate the increased fleet needed to support future light rail extensions to Everett and throughout the region.
- Planning phase
- \$1,427 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2034



5.8.1. Status of project readiness

5.8.1.1. Environmental review

- The agency conducted early scoping Nov. 1-Dec. 10, 2021, to publicly kick off the alternatives development process for OMF North and Everett Link Extension.
- The agency will complete OMF North environmental review along with EVLE. In Q1 2023, the agency expects the Board to identify a preferred alternative and other alternatives to study in the Draft EIS. The Draft EIS is scheduled for completion in Q3 2024, and the Final EIS in Q4 2025.

5.8.1.2. Preferred alternatives

- The agency expects the Board to identify a preferred alternative and other alternatives to study in the Draft EIS in Q1 2023.
- No identified changes to project readiness, schedule and cost at this time.

5.8.1.3. Third-party agreements

- There are no agreements specific to OMF North at this stage of planning.

5.8.1.4. Permitting

- Beginning work on preliminary permitting plan in Spring 2022; anticipating completion of Draft Preliminary Permitting Plan by Q1 2023.

5.8.1.5. Right-of-way acquisitions

- ROW needs, associated cost and acquisition timeframe/schedule are yet to be determined, pending identification of preferred and other EIS alternatives, completion of environmental review, record of decision and selection of project to be built.

- The OMF requires a 60-70+ acre site near the light rail alignment. Sound Transit is studying and evaluating potential sites using a wide range of criteria. Given the unique characteristics of the corridor, identifying a site that minimizes impacts to the community and avoids site conditions that are costly to mitigate while meeting the operational requirements will be challenging.

5.8.1.6. Delayed parking

- Not applicable.

5.8.2. Project cost status/shift

- New comparative cost estimates of alternatives under evaluation to be prepared in Q3/Q4 2022.

Table 29: OMF North Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$1,427	\$1,427	\$0

5.8.2.1. Schedule status

- No changes to the project schedule as approved in realignment at this early stage of planning.

5.8.2.2. Project risks and opportunities

- Project is in early planning stages with minimal design. Potential risks include the following:
 - Realignment-related and continued COVID-related delays could affect overall alternatives development schedule.
 - Engineering and site development challenges are still somewhat unknown at early stage of planning and conceptual design.
 - Risk of cost escalation due to potential new development activity along project corridor.
 - Site selection for OMF North and consensus with partner agencies and jurisdictions will be challenging.
 - Depending on site/location chosen for the OMF North facility, there may a need to advance design/construction on portions of the EVLE alignment in order to meet the OMF North schedule for opening in 2034.



5.8.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.9. Bus Base North overview

- Will accommodate up to 120 buses to serve I-405 and SR 522/145th BRT and have capacity for some ST Express routes
- Design phase
- \$338 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2025



Bus Base North location map



5.9.1. Status of project readiness

5.9.1.1. Environmental review

Environmental review for this project concluded in August 2020. As final design for the project elements progresses, staff will assess whether additional environmental review is required. A consultant task order scope and budget has been developed to support Sound Transit with these activities during the final design phase.

5.9.1.2. Project to be built

- On Aug. 26th, 2021, the Board identified the project to be built.

5.9.1.3. Third-party agreements

- There are currently no third-party agreements anticipated.

5.9.1.4. Permitting

- The project will require permits from the City of Bothell. Permits will consist of a Critical Areas Alteration Permit, a Conditional Use Permit and a Building Permit. The project team is conducting regular coordination with AHJs and receiving timely reviews.

5.9.1.5. Right-of-way acquisitions

- The property required for the project has been acquired. There are currently no additional ROW acquisitions identified.

5.9.1.6. Delayed parking

- Not applicable.

5.9.2. Project cost status/shift

- The current cost estimate of \$338 million in 2022\$ is consistent with the information presented in the selection of the project to be built.

Table 30: Bus Base North Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$338	\$338	\$0

5.9.2.1. Schedule status

- The Target and Affordable Schedule for the project is 2025, which is an aggressive schedule. Current schedule shows completion in 2026.
- Schedule delays could delay I-405 BRT and SR 522 BRT revenue service, depending on future phasing options.

5.9.2.2. Project risks and opportunities

Project risks include:

- Timely negotiation of a modified access easement over the Business Parks Private Road Network where the Bus Base North property is located to ensure unimpeded permanent access to the site.
- Soil and hydrogeologic conditions potentially impacting construction costs and complexity.
- Permitting risks associated with new City land use requirements. Addressing these risks through design refinements and a transfer of development rights study and associated code changes.
- Current project schedule shows completion in 2026, rather than Affordable and Target Schedule of 2025.

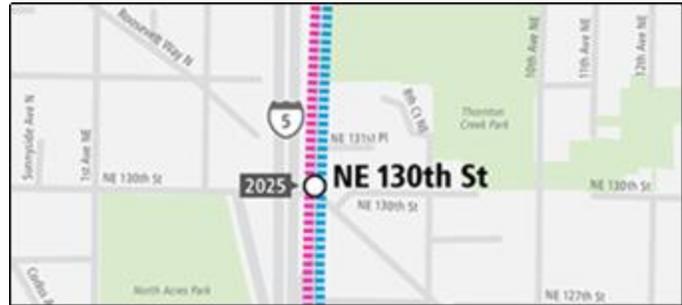


5.9.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.10. NE 130th Street Infill Station overview

- Construction of an elevated, side-platform infill light rail station at NE 130th Street and 5th Ave in Seattle.
- Design phase/early construction phase
- \$226 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2025



NE 130th Street Infill Station map



5.10.1. Status of project readiness

5.10.1.1. Environmental review

- The project was evaluated as an optional station in the environmental review for the Lynnwood Link Extension. New information from the 2019 NE 130th Station Conceptual Design Report was included in the Lynnwood Link Extension Additional Project Refinements / NEPA Re-evaluation approved by FTA in January 2020.

5.10.1.2. Project to be Built

- The Board selected the project to be built which included low-cost infrastructure improvements to facilitate construction of an elevated station near NE 130th Street. Funding for the NE 130th station was approved by voters as part of the ST3 plan as an elevated side-platform infill station.

5.10.1.3. Third-party agreements

- No new third-party agreements are anticipated, only amendments to existing agreements.
- An amendment to the existing agreement with Seattle was made to include design review and permitting for the NE 130th station. As the station advances to construction, an amendment to the construction services agreement with Seattle will be needed. As the station is completed, the Transit Way Agreement will need to be amended to include the portions of the station that fall outside the current TWA boundaries.
- A task order with WSDOT was executed to pay for permitting services, review designs and drafting and authorization of appropriate documentation for use of ROW, and an amendment to the WSDOT construction services agreement will need to be completed. As the station is completed, the Air Space Lease with WSDOT may need to be amended to include the NE 130th station.

5.10.1.4. Permitting

- As part of the project progress prior to realignment, the building permit for the project superstructure and canopy support steel (described as “C2”) has been issued by the City of Seattle. The remainder of the station finishes (described as “C3”) are currently under Seattle Department of Construction & Inspections review. The Street Improvement Permit is currently under active review by the Seattle Department of Transportation. SDOT has indicated that several right-of-way improvements, including revising the profile of 5th Avenue NE, incorporation of a grade-separated bike path, and curb revisions at all four corners of the NE 130th Street/5th Ave NE intersection (among others) will be included as permit conditions, which will result in additional costs. Discussions with the City continue on these issues.

5.10.1.5. Right-of-way acquisitions

- Anticipated project ROW acquisitions of private property are likely to be limited to temporary construction easements and drainage structure easements adjacent to 5th Ave NE.
- Anticipated ROW costs will be incorporated as part of the proposed project baseline.

5.10.1.6. Delayed parking

- Not applicable.

5.10.2. Project cost status/shift

- The project is facing upward cost pressures which may result in a final project cost higher than the current estimate. The current estimate assumes opening in 2025 and favorable pricing using an existing Lynnwood Link Extension contractor, which is dependent on moderation of market pressures, successful contract negotiations, and limiting scope change. Specific risks are discussed in the following section.

Table 31: NE 130th Street Infill Station Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimate	Cost Estimate Changes
\$226	\$226	\$0

5.10.2.1. Schedule status

- Target Schedule of 2025 is increasingly unlikely due to market conditions, material supply chain issues, and the recent labor dispute that impacted delivery of ready-mix concrete within King County throughout Q1 of 2022.
- The project is currently expected to be baselined in Q2 of 2022, with a forecast opening date in mid-2026.

- Delay to 2026 or beyond may result from a variety of risks, including:
 - Cost mitigation measures, such as consolidating station entrances and simplified plaza designs, may be necessary to offset cost pressure, requiring redesign efforts and schedule impacts to the authorized 2025 delivery. Potential mitigation may include alternative delivery strategies.
 - Synchronizing specific construction milestones with Lynnwood Link may impact delivery. Potential mitigation strategies include alternative delivery strategies and/or packaging to expedite elements of the station design.

5.10.2.2. Project risks and opportunities

- Project cost pressures include:
 - Limited price flexibility trying to advance construction of the NE 130th station with a contractor already fully engaged in Lynnwood Link Extension construction.
 - Price increases due to market forces and inflation pressures.
 - The City of Seattle Department of Transportation may require additional right-of-way improvements. Potential mitigation alternatives include use of the ST3 Access Enhancement to fund improvements and/or completion by the City via separate contract.



5.10.3. Financial capacity

- Assuming successful cost mitigation related to the pressures above, this project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.11. Kent Station Parking and Access Improvements overview

- Provides increased access to the existing Kent Station by adding new structured parking and additional non-motorized improvements.
- Design phase
- \$121 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2025



Improving access to Kent Station



5.11.1. Status of project readiness

5.11.1.1. Environmental review

- Environmental review under SEPA was completed in October 2019.

5.11.1.2. Project to be built

- The Board adopted the project to be built Resolution R2020-02 in February 2020.

5.11.1.3. Third-party agreements

- A Development Agreement with the City of Kent has been under negotiation for over two years. The team, with the City, is re-evaluating the use of a Development Agreement to advance this project. The project schedule could be delayed if this is not resolved.
- A Betterment Agreement with King County Metro is under negotiation for the provision of bus layover space.

5.11.1.4. Permitting

- The DA with the City of Kent would provide land use approvals for the project. A Development Agreement with the City of Kent has been under negotiation for over two years. The project team and city staff are exploring a standard permitting path in lieu of a project Development Agreement. The project schedule could be delayed if this is not resolved.
- Should the project proceed without a DA, the selected design builder would pursue a Conditional Use Permit.

5.11.1.5. Right-of-way acquisitions

- Sound Transit has acquired primary required parcels.
- The representative environmental-reviewed design required a street vacation and relocation. The street vacation is a City Council action.
- Acquisition of Temporary Construction Easements halted during realignment. The process has been restarted. Updated appraisals will add cost to the ROW budget.

5.11.1.6. Delayed parking

- Not applicable.

5.11.2. Project cost status/shift

- The agency intends to combine the Kent, Auburn and Sumner Parking and Access Improvement Projects into a single program budget when all three projects have established their final project budget and schedule prior to starting construction.
- There are additional cost pressures on the project due to the pause in property acquisition process during realignment, changes in building code and increased construction escalation.
- These upward cost pressures could potentially result in the final project cost being higher than the current estimate.

Table 32: Kent Parking and Access Improvements Cost Estimates (in millions, 2022\$)

Realigned Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$121	\$121	\$0

5.11.2.1. Schedule status

- The current schedule shows that the project will be complete in 2026 rather than the Target Schedule of 2025.
- This change is driven by the sequence of construction work with a street relocation, the combined design and construction schedules of Auburn and Kent, and the inclusion of additional project float within the project schedule.
- Design-build proposers may propose an earlier completion date, though the results of the procurement will not be known until late 2022.

5.11.2.2. Project risks and opportunities

- Contract project packaging options are being considered for potential cost efficiency opportunities. The design-build procurement will not start until progress is made on the Development Agreement by the City and Sound Transit.
- Changes in agency or third-party requirements may impact project cost or schedule as the project advances. The City may require upgrades to area utilities or street surfaces not accounted for in the development budget.
- Definition of off-site ROW improvements and signalized pedestrian crossing may be significantly more complex due to proximity of the BNSF Railway crossing and signals.
- There is an opportunity for a design-build proposer to develop an alternative design approach to achieving the project's requirements for less cost and in less time.



5.11.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.12. Auburn Station Parking and Access Improvements overview

- Provides increased access to the existing Auburn Station by adding new structured parking and additional non-motorized improvements.
- Design phase
- \$123 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2025



Improving access to Auburn Station



5.12.1. Status of project readiness

5.12.1.1. Environmental review

- Environmental review under SEPA was completed in January 2020 and under NEPA in February 2020.

5.12.1.2. Preferred alternatives

- The Board selected the project to be built in March 2020.

5.12.1.3. Third-party agreements

- The Board adopted Funding Agreement M2021-52 with the City of Auburn to implement off-site mitigations in September 2021.
- The agency will negotiate a funding agreement with King County Metro to install five new bus shelters.

5.12.1.4. Permitting

- The project will utilize the City of Auburn land use and building permit processes. The selected design-build team will be responsible for acquiring the Conditional Use Permit (land use) and Building Permits.

5.12.1.5. Right-of-way acquisitions

- The primary site was identified as an early acquisition, and the Board approved site acquisition in February 2019. Acquisition processes were placed on hold during realignment. A purchase agreement has not been reached with the property owner, and the condemnation process has begun.

- Complex and overlaid ownership interests have made the acquisition of the primary parcel more expensive than initially budgeted.

5.12.1.6. Delayed parking

- Not applicable

5.12.2. Project cost status/shift

- The agency intends to combine the Kent, Auburn and Sumner Parking and Access Improvement Projects into a single program budget when all three projects have established their final project budget and schedule prior to starting construction.
- There are additional cost pressures on the project due to the pause in property acquisition process during realignment, changes in building code and increased construction escalation.
- These upward cost pressures could potentially result in the final project cost being higher than the current estimate.

Table 33: Auburn Station Parking and Access Improvements Cost Estimates (in millions, 2022\$)

Realigned Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$123	\$123	\$0

5.12.2.1. Schedule status

- The current schedule shows that the project will be complete in 2026 rather than the Target Schedule of 2025.
- This change is driven by the sequence of construction work with a street relocation, the combined design and construction schedules of Auburn and Kent, and the inclusion of additional project float within the project schedule.
- Design-build proposers may propose an earlier completion date, though the results of the procurement will not be known until late 2022.

5.12.2.2. Project risks and opportunities

- Contract project packaging options are being considered for potential cost efficiency opportunities.
- Property acquisition timelines and costs pose potential risks. The primary parcel required for the construction has yet to be acquired. Additional property interests on the primary parcel have been identified that will require additional costs to acquire.

- Project cost or schedule may be impacted by changes in agency or third-party requirements during the course of the project contract.
- A proposed pedestrian crossing signal proximate to a BNSF Railway road crossing may require more complex integration with BNSF signals. This expanded scope would increase the cost of the work and timelines for implementation of the off-site work.
- Adjacent roadways to the project site are in very poor condition and may become a project liability.
- The initial value engineering work has identified approaches to simplifying the garage layout and therefore construction. A design-build team may be able to realize these time and complexity savings.
- There is an opportunity for a design-build proposer to develop an alternative design approach to achieving the project's requirements for less cost and in less time.



5.12.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.13. Sumner Station Parking and Access Improvement overview

- Provides increased access to the existing Sumner Station parking by adding up to 505 new structured parking spaces and additional non-motorized improvements.
- Design phase
- \$88 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2025



Improving access to Sumner Station



5.13.1. Status of project readiness

5.13.1.1. Environmental review

- The agency completed environmental review under SEPA and NEPA in May 2016. Since that time, additional configuration changes and pedestrian safety measures have been identified. Additional consultation with FTA Region 10, the Washington Department of Archaeology and Historic Preservation, and Tribal governments is required to update the project limits and develop an archaeological monitoring and inadvertent discovery plan. Project mitigation commitments require updating traffic analysis to confirm or modify the need for traffic-related mitigation measures. The scope for supplemental environmental analysis and support is currently being negotiated with the design-build project management consultant in a timeline to best support the procurement. The updated evaluation will result in additional cost to the project and potential time to the schedule.

5.13.1.2. Preferred alternatives

- The Board selected the project to be built in May 2016.

5.13.1.3. Third-party agreements

- A funding agreement with the City of Sumner to implement improvements to the SR410 interchange as part of the mitigations required for the project was executed in 2019. Additional agreements with the City may be needed to support non-motorized improvements access project elements. There may be utility relocation agreements required during the course of the work.

5.13.1.4. Permitting

- The future selected design-builder will pursue all required permits from the City of Sumner for the work.

Right-of-way acquisitions

- All full acquisitions and street vacations have been completed and are owned by Sound Transit.
- Realignment paused the acquisition of temporary construction easements to support the project. Given the time elapsed with realignment this process is being restarted with re-appraisals and new offers. This has added additional cost to the project and is a schedule risk.

5.13.1.5. Delayed parking

- Not applicable

5.13.2. Project cost status/shift

- The agency intends to combine the Kent, Auburn and Sumner Parking and Access Improvement Projects into a single program budget when all three projects have established their final project budget and schedule prior to starting construction.
- There are additional cost pressures on the project due to the pause in property acquisition process during realignment, changes in building code and increased construction escalation.
- These upward cost pressures could potentially result in the final project cost being higher than the current estimate.

Table 34: Sumner Station Parking and Access Improvement Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$88	\$88	\$0

5.13.2.1. Schedule status

- Environmental review re-evaluation (a six- to nine-month process) is required prior to the start of construction. While this is a risk to the project schedule, the 2025 target date remains achievable. The design-build procurement has started for this project, with the Request for Qualifications being issued on March 4, 2022.

5.13.2.2. Project risks and opportunities

- Arranging temporary parking for displaced station parking during construction could be difficult to identify in a timely manner and could impact project schedule.
- Environmental review re-evaluation (a six- to nine-month process) is required prior to construction. If these are delayed, it could impact the start of construction.

- Upward cost pressures could result in the final project cost being higher than the current estimate.
- There is an opportunity for a design-build proposer to develop an alternative design approach to achieving the project's requirements for less cost and in less time.



5.13.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.14. South Tacoma Access Improvements overview

- The project includes access improvements to the existing South Tacoma Station, such as investments in safer walking, rolling and bicycling connections between the station and surrounding neighborhoods; improved pick-up and drop-off areas; additional station lighting and weather shelters; and potential parking options.
- Planning phase
- \$52 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2030



South Tacoma Station in Pierce County



5.14.1. Status of project readiness

5.14.1.1. Environmental review

- The project is in the process of considering alternatives. Environmental review and conceptual engineering are scheduled to begin in Q2 2022.

5.14.1.2. Preferred alternatives

- Investments were identified and evaluated resulting in a list of potential improvements (scored high on all three key evaluation criteria) and a list of possible alternates (scored high on at least one key evaluation criteria).
- Potential improvements include station-area investments (e.g., a shelter over the mini-high, additional tactile pavers, and a public address system) and approximately eight miles of bicycle facilities and sidewalks. A surface parking lot is included on the possible alternate list, among other non-motorized improvements.

5.14.1.3. Third-party agreements

- During the next phase of design and environmental review, staff will identify any potential third-party agreements that may be required for the project. This may include third-party agreements with City of Tacoma, Pierce Transit, WSDOT and private utilities.

5.14.1.4. Permitting

- During the next phase of design and environmental review, staff will determine if there are any city permits or environmental jurisdictional permits that may be required for the project.

5.14.1.5. Right-of-way acquisitions

- During the next phase of design and environmental review, staff will determine if there are any private or public ROW acquisitions or temporary construction easements that may be acquired for the project.

5.14.1.6. Delayed parking

- Not applicable

5.14.2. Project cost status/shift

Table 35: South Tacoma Access Improvements Cost Estimates (in millions, 2022\$)

Realigned Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$52	\$52	\$0

5.14.2.1. Schedule status

- The project is in the process of considering alternatives. Environmental review and conceptual engineering are scheduled to begin in Q2 2022. The project is meeting its Target Schedule.

5.14.2.2. Project risks and opportunities

- Project risks
 - A structured parking facility is not financially feasible to design and construct within the ST2 financial estimate.
 - Delivering all the potential improvements and possible alternate projects would likely exceed the realigned financial estimate. Staff will evaluate the feasibility and affordability of identified improvements before the Board selects the project to be built.
- Project opportunities
 - The City of Tacoma has indicated an early interest in completing the final design and construction of improvements located in the City's right-of-way which could result in cost savings.



5.14.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.15. Lakewood Station Access Improvements overview

- The project includes access improvements to the existing Lakewood Station, such as investments in safer walking, rolling and bicycling connections between the station and surrounding neighborhoods; improved pick-up and drop-off areas; additional station lighting and weather shelters; and potential parking options.
- Planning phase
- \$50 million realigned plan cost estimate (2022\$)
- Target and Affordable Schedule: 2030



Lakewood Station in Pierce County



5.15.1. Status of project readiness

5.15.1.1. Environmental review

- The project is in the process of considering alternatives. Environmental review and conceptual engineering are scheduled to begin in Q2 2022.

5.15.1.2. Preferred alternatives

- Investments were identified and evaluated resulting in a list of potential improvements (scored high on all three key evaluation criteria) and a list of possible alternates (scored high on at least one key evaluation criteria).
- Potential improvements include station area investments (e.g., a shelter over the mini-high, additional tactile pavers, and a public address system) and approximately five miles of bicycle facilities and sidewalks. A surface parking lot is included on the possible alternates list, among other non-motorized improvements.

5.15.1.3. Third-party agreements

- During the next phase of design and environmental review the project team will identify any potential third-party agreements that may be required for the project. This may include third-party agreements with City of Lakewood, Pierce Transit, WSDOT and private utilities.

5.15.1.4. Permitting

- During the next phase of design and environmental review the project team will determine if there are any city permits or environmental jurisdictional permits that may be required for the project.

5.15.1.5. Right-of-way acquisitions

- During the next phase of design and environmental review, the project team will determine if there are any private or public ROW acquisitions or temporary construction easements that may be acquired.

5.15.1.6. Delayed parking

- Not applicable.

5.15.2. Project cost status/shift

Table 36: Lakewood Station Access Improvements Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$50	\$50	\$0

5.15.2.1. Schedule status

- The project is in the process of considering alternatives. Environmental review and conceptual engineering are scheduled to begin in Q2 2022. The project is meeting its Target Schedule.

5.15.2.2. Project risks and opportunities

- Project risks
 - A structured parking facility is not financially feasible within the realigned plan to design and construct within the financial plan estimate.
 - Delivering all the potential improvements and possible alternate projects would likely exceed the realigned financial estimate. Sound Transit staff will evaluate the feasibility and affordability of identified improvements before the Board selects the project to be built.
- Project opportunities
 - The City of Lakewood has indicated an early interest in completing the final design and construction of improvements located in the City's right-of-way which could result in cost savings.



5.15.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.16. Tacoma Dome Station Access and Parking Improvements overview

- Improves parking and/or access to the existing Tacoma Dome Station. Project includes alternatives identification, screening, environmental documentation, design and construction of station parking and/or access improvements. This project is being developed in parallel with the Tacoma Dome Link Extension.
- Planning: alternatives development/project development
- \$17 million realigned planned estimate (2022\$)
- Target and Affordable Schedule: 2032



Tacoma Dome Station in Pierce County



5.16.1. Status of project readiness

5.16.1.1. Environmental review

- Environmental review is planned for 2023, following the TDLE Draft EIS publication and comment period.

5.16.1.2. Preferred alternatives

- Parking and non-motorized project alternatives are currently being evaluated, with a list of potential improvements anticipated to be presented to the Board in 2023.

5.16.1.3. Third-party agreements

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

5.16.1.4. Permitting

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

5.16.1.5. Right-of-way acquisitions

- During the future design and environmental review phase, staff will identify any potential right-of-way acquisitions that may be required for the project.

5.16.1.6. Delayed parking

- This activity is not applicable to this project.

5.16.2. Project cost status/shift

- No changes are anticipated to the budget at this time. A set of potential improvements would conform to the approved budget when presented to the Board.

Table 37: Tacoma Dome Station Access and Parking Improvements Cost Estimates (in millions, 2022\$)

Realigned Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$17	\$17	\$0

5.16.2.1. Schedule status

- This project timeline parallels the TDLE project timeline to final completion but may advance certain phases faster than the TDLE project due to a smaller project and budget.
- Project completion scheduled for 2032, which is the same schedule for the Target and Affordable Schedules.

5.16.2.2. Project risks and opportunities

- Determination on the prioritization of parking and/or non-motorized projects at the Board level remains uncertain at this time.
- The City of Tacoma has restrictions on standalone surface parking in the Tacoma Dome area, limiting opportunities to add parking.
- The timing of implementing potential improvements under this project requires close coordination with TDLE construction timelines to minimize the risk of impacts to investments made.
- Delays to Tacoma Dome Link Extension could impact the project schedule, as the projects are developed in parallel to minimize any conflicts during construction.



5.16.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

5.17. North Corridor Maintenance of Way overview

- A fully operational North Maintenance of Way facility is required by October 2023 to support Lynnwood Link Extension operation. In late 2021, Sound Transit secured a lease for a property located at 920 N 137th Street, in north Seattle. The site contains warehouse buildings and office space that, with improvements, can serve to meet programming needs.
- The five-year lease includes an exclusive option for Sound Transit to purchase the property by November 2023. Purchase authorization would be subject to a future Board decision.
- Planning phase
- \$54 million cost estimate (2022\$)
- Target Schedule: 2023 for temporary facility and 2027 for permanent facility.



North Maintenance of Way map



5.17.1. Status of project readiness

5.17.1.1. Environmental review

- The temporary facility is undergoing a Title VI Facility Equity Analysis. Once the design for the temporary building improvements is complete, the agency will conduct an environmental review. Environmental review is not expected to impact project schedule due to the limited nature of impacts to the environment from re-purposing the building for a similar use to the previous/existing uses (i.e., warehouse and office space).

5.17.1.2. Preferred alternatives

- A site has been identified that will serve as both the temporary and potentially the final site.

5.17.1.3. Third-party agreements

- Temporary Facility: No third-party agreements are currently needed. Permanent Facility: A land use permit will likely be required by the City of Seattle. To facilitate permit review, Sound Transit will pursue an agreement with Seattle to pay for staff time to coordinate review of permit documents. No other third-party agreement is anticipated.

5.17.1.4. Permitting

- Focus on issues: Highlight status and issues by permitting authorities and jurisdictions that could impact cost and schedule since realignment.
- Temporary Facility: Permit review will likely be limited to technical permits for construction activities. Permit documents will be submitted, and fees paid for review.
- Permanent Facility: A land use permit will likely be required by the City of Seattle.

5.17.1.5. Right-of-way acquisitions

- No further ROW acquisitions have been identified for the temporary or permanent facilities unless the current leased site is determined to be infeasible for the permanent facility.

5.17.1.6. Delayed parking

- Not applicable.

5.17.2. Project Cost status/shift

- There are currently no shifts in project cost estimates.

Table 38: North Corridor Maintenance of Way Cost Estimates (in millions, 2022\$)

Realignment Plan Cost Estimate	Current Estimates	Cost Estimate Changes
\$54	\$54	\$0

5.17.2.1. Schedule status

- There are no anticipated schedule changes at this time.

5.17.2.2. Project risks and opportunities

- Escalating right of way, increased Sound Transit programming needs, higher construction costs, ROW improvements, and permitting conditions could increase the project cost.
- Potential for schedule delay and cost increase if current leased site is determined infeasible for permanent facility.



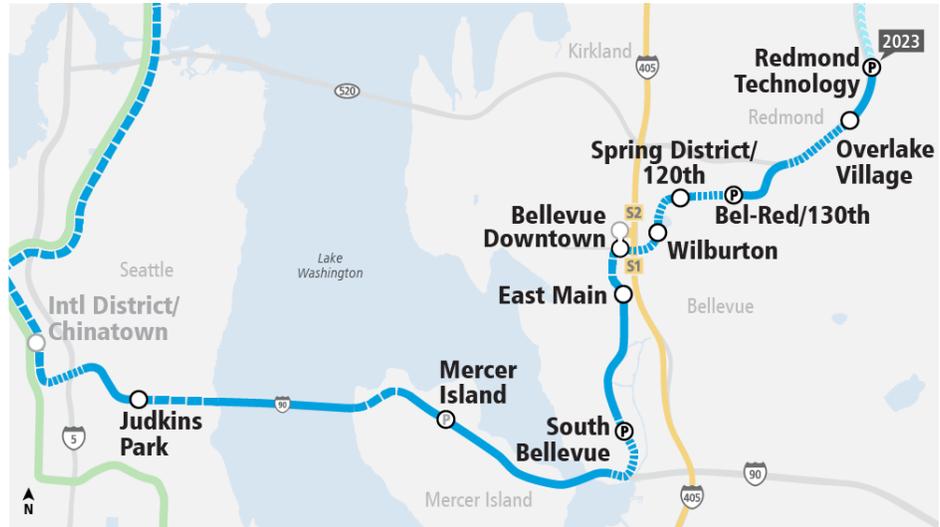
5.17.3. Financial capacity

- This project is affordable within the Target and Affordable Schedule and does not have an affordability gap.

6. PROJECTS IN CONSTRUCTION (BASELINED PROJECTS)

6.1. East Link Extension overview

- 14-mile extension from Downtown Seattle to Mercer Island, Bellevue and the Overlake area of Redmond
- 10 stations and two garages
- Construction phase
- \$3.67 billion budget, YOES
- Baseline Revenue Service Date: June 2023



East Link alignment map

6.1.1. Project cost status

- There has not been any change in project cost since realignment.

6.1.1.1. Schedule status

The East Link Extension project schedule was baselined in 2015 with 9 months of project float. Since that time, several events have occurred, including the recent concrete delivery strike, which have eroded project float, yielding a revenue service date beyond the baselined date of June 2023.

Additional schedule risk includes:

- Remedial work associated with concrete plinths in the I-90 corridor (Contract E130) has delayed track completion, systems construction, and integrated testing.
- The concrete delivery strike impacted completion of work in the I-90 corridor and the completion of the parking garage at the Redmond Technology Station. The concrete delivery strike also had impacts on the Mercer Island Interchange project (Contract E135).
- The baselined schedule included three months for pre-revenue activities. The duration is being reconsidered, to incorporate lessons learned and ensure adequate time for operations startup and readiness.

6.1.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- Externalities: COVID-19, unhoused encampments, and the challenges arising from the concrete strike that recently ended.
- Civil to systems: Impacts to timely systems construction completion and Systems Integration Testing, particularly on the I-90 floating bridge, from latent defects, etc.
- Cost pressure: General contractors' claims coupling with extended durations of ancillary scope such as project administration and management.
- Revenue service readiness: Transition from construction to operation – Pre-revenue needs vs. operational needs – labor and light rail vehicle availability, lessons from Northgate opening, etc.
- Post-construction follow-on work: Implementation of fare paid zones and the timing of a growing list of work to address scope gaps between major construction and operational expectations.
- Attrition of knowledge: Loss of project staff from contractors, Sound Transit staff and its consultants at this late stage of the project represent loss of project knowledge and continuity.

6.2. Lynnwood Link Extension overview

- 8.5 miles to Snohomish County along I-5 from Northgate Mall in Seattle to the Lynnwood Transit Center; configuration includes at-grade, elevated and retained cut/fill guideway
- 4 stations
- Construction phase
- \$2.771 billion budget, YOES
- Revenue service: July 2024

6.2.1. Project cost status

- There has not been any change in project cost since realignment.

6.2.1.1. Schedule status

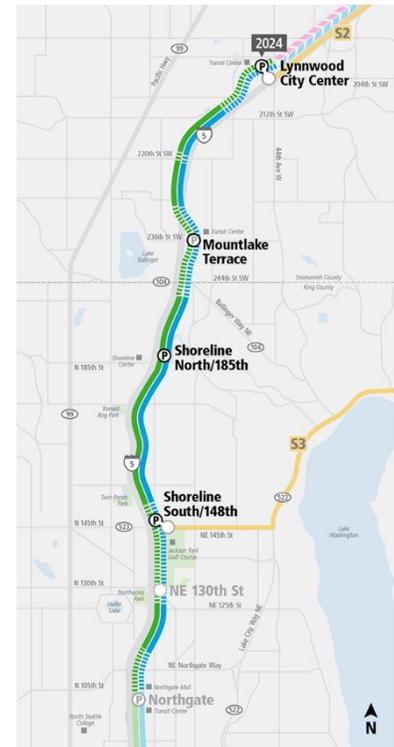
Project completion by July 2024 is being impacted by effects of the recent four-month concrete delivery strike. The draw down on float is significant, leaving little to no float for the remaining 40% of construction. The agency is closely monitoring these impacts. Below are challenges and risks that are associated with the project schedule:

- The recent labor dispute affecting concrete deliveries within King County resulted in delays in handover of civil elements to the systems follow-on contractors.

6.2.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- The recent labor dispute affecting concrete deliveries within King County resulted in delays in handover of civil elements to the systems follow-on contractors.
- Availability of adequate electrical power from Seattle City Light for the Shoreline South/148th Station, garage, and nearby traction power substation in time to support testing in Q2 2022.
- Additional scope requests from third parties as part of permit inspections/approvals.
- Delays in long-lead procurement of traction power equipment and other key material/equipment/resources.
- Coordination of civil/systems interface and potential for civil construction delays to systems construction and vice versa.



Lynnwood Link alignment map

6.3. Federal Way Link Extension overview

- 7.8 miles of light rail from Angle Lake Station in the City of SeaTac to Federal Way City Center
- 3 stations
- 3 garages
- Final design/construction phase
- \$2.45 billion budget, YOES
- Revenue service: December 2024

6.3.1. Project cost status

- There has not been any change in project cost since realignment.

6.3.1.1. Schedule status

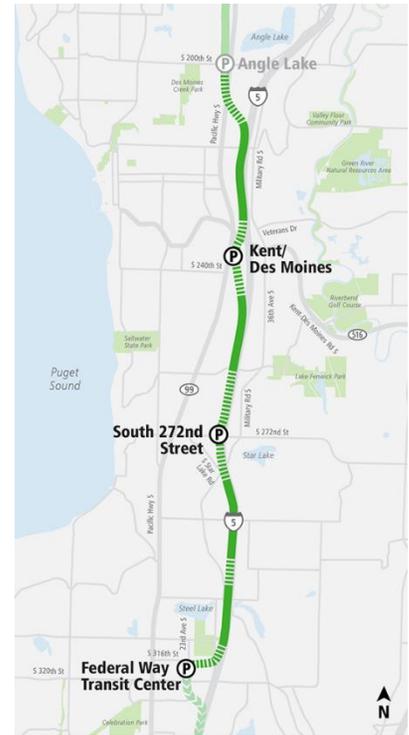
Project completion by December 2024 is being impacted by effects from the recent concrete delivery strike. The draw down on float is significant, leaving little to no float for the remaining 47% of construction. The agency is closely monitoring these impacts. Below are challenges and risks that are associated with the project schedule:

- Federal Way Link Extension was baselined with 427 days of project float. Currently the project is reporting 148 calendar days of float remaining between pre-revenue service and revenue service in December 2024.
- A recent concrete strike delayed scheduled pours and significantly impacted construction progress at Kent/Des Moines parking garage.
- Delays in long-lead procurement of traction power equipment and other key material/equipment/resources.

6.3.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- Resource challenges from multiple projects competing for testing, commissioning, safety certification, and operator training may impact final acceptance and/or revenue service.
- A liquefaction zone identified at Structure C and the identified design solution could potentially result in additional cost and schedule impacts.



Federal Way Link alignment map

- Design and construction change requests are not implemented in a timely manner due to staff and process delays, causing additional cost to the agency and possible end results lacking operation requirements, decreasing reliability and increasing total cost of ownership.
- Traffic mitigation design and construction scope may exceed the current budget and impact schedule.

6.4. Northgate Link Extension overview

- 4.3 miles of light rail extending from University of Washington to Northgate
- 3 stations
- Revenue service phase
- \$1.899 billion budget, YOES
- Revenue service: October 2021

6.4.1. Project cost status

- There has not been any change in project cost since realignment. The project anticipates at least \$52.5 million in savings.

6.4.1.1. Schedule status

The project opened for service in October 2021. The following risks remain for project closeout:

- Follow-on job order contractor work may take longer than anticipated.
- Additional requests from other Sound Transit departments may prevent timely project closeout.

6.4.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- Follow-on job order contractor work may cost more than anticipated.
- Environmental monitoring and remediation at Key Bank and Silver Platters sites may cost more than anticipated.
- Additional requests from other Sound Transit departments may increase project costs.
- Available funds exist within the project budget should the above risks be realized.



Northgate Link alignment map

6.5. Downtown Redmond Link Extension overview

- 3.4 miles extension from Redmond Technology Station and travels generally along SR-520 and SR-202 to Downtown Redmond
- 2 stations
- Construction phase
- \$1.53 billion budget, YOES\$
- Revenue service: December 2024

6.5.1. Project cost status

- There has not been any change in project cost since realignment.

6.5.1.1. Schedule status

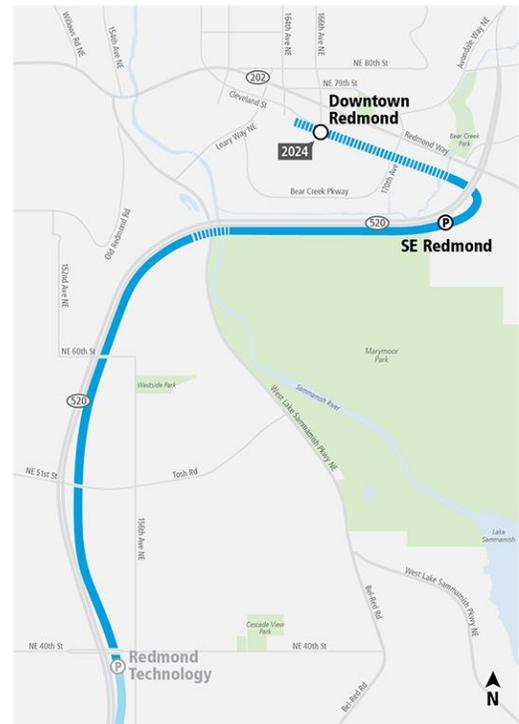
Project completion by December 2024 is being impacted by the recent concrete delivery strike. The draw down on float is significant, leaving little to no float for the remaining 50% of construction. The agency is closely monitoring these impacts. Below are challenges and risks that are associated with the project schedule:

- A recent concrete strike delayed scheduled project pours and impacted construction progress.
- Limited resource availability of Labor & Industries inspectors to achieve Gold Seal certification; certification may be delayed, impacting the revenue service date.
- Fabrication and delivery of traction power substation units is pushed out impacting the construction schedule.
- Permanent power supply – utility owner may be late in determining upgrades needed to provide power to traction power substation and result in delay.

6.5.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- Externalities: COVID-19 (supply chain interruptions, inefficiencies, labor availability); challenges arising from the Teamsters' concrete strike that recently ended.
- Resource challenges from multiple projects competing for testing, commissioning, safety certification, and operator training may impact final acceptance and/or revenue service.



Downtown Redmond Link alignment map



**Projects in construction (baselined projects) →
Downtown Redmond Link Extension overview**

- Late design changes during construction.
- Permitting and third-party requirements.
- Unanticipated and differing site conditions.

6.6. Light Rail Vehicle Fleet Expansion overview

- Design, manufacturing, assembly, inspection, testing and delivery of 152 low-floor light rail vehicles for service requirements of Northgate, East Link and Lynnwood Link, Federal Way and Downtown Redmond Extensions.
- Phase: Manufacturing
- \$740.7 million budget, YOES\$
- Project completion: Q3 2024



Siemens Series 2 Link light rail vehicle

6.6.1. Project cost status

- There has not been any change in project cost since realignment.

6.6.1.1. Schedule status

The project was baselined for final acceptance of all vehicles to occur in September 2024. The schedule as of January 2022 indicates that final acceptance for all vehicles will now occur in March 2025. The project anticipates that all 152 vehicles will have been delivered, commissioned, tested, and conditionally accepted (ready for passenger service) by September 2024, on time for the start of revenue service for each line extension. Currently projections show a shortfall on having all vehicles planned at the start of pre-revenue revenue service for every line extension, except Lynnwood Link, which is on schedule. The agency may need to identify and implement measures for managing simulated service during the pre-revenue phase.

Additional schedule risk includes:

- Progress toward conditional acceptance is being monitored; continued delay may impact readiness to serve line extension needs.
- Competing resource demands for line extension project Systems Integrated Testing and revenue service preparation reduces the availability of operational labor and vehicle maintenance personnel to support LRV commissioning.
- The series 1 LRV Automatic Train Protection retrofit schedule may have substantial impact on shipping LRVs #42-100.
- COVID-19 continues to impact this project; the project team is monitoring disruptions to the manufacturer's supply chain and assembly plant.

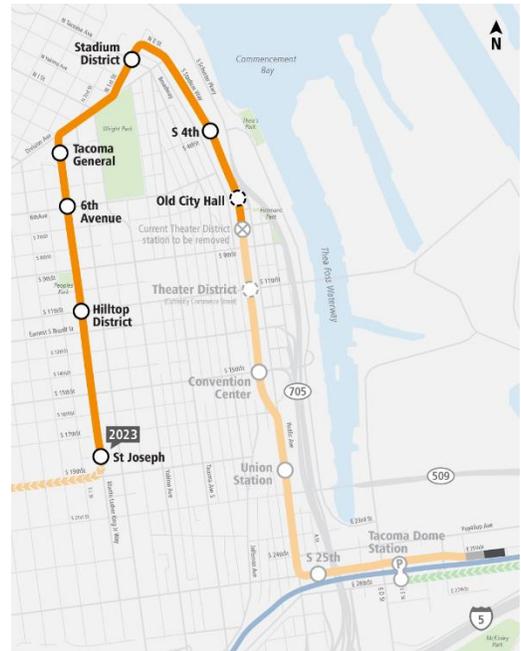
6.6.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- OMF Central yard LRV storage capacity continues to be an issue that may affect recovery schedule, preventive maintenance or spare vehicles available to support peak service. Siemens' LRV delivery and on-site Series 1 LRV transportation between OMF East and OMF Central is continuously managed and monitored.
- Receiving LRVs at both OMF Central and OMF East creates both cost inefficiency (requiring two teams in two locations to support commissioning activity) as well as increased risk of double-handling of LRV, as not all testing and commission activities can be performed at OMF East currently.

6.8. Hilltop Tacoma Link Extension overview

- The Hilltop Tacoma Link Extension is a 2.4-mile extension of the existing Tacoma Link system from the downtown Theater District to the Hilltop neighborhood. It will travel at-grade along Stadium Way, North 1st Street, Division Avenue, and Martin Luther King Jr. Way.
- 6 stations
- Phase: Construction
- \$282.7 million budget, YOY\$ (Revised budget: See Project cost status)
- Revenue service: March 2023



Hilltop Tacoma Link alignment map

6.8.1. Project cost status

- Since realignment, the project budget has increased by \$30 million. The Board approved the baseline budget increase from \$252.7 to \$282.7 million in February 2022.

6.8.1.1. Schedule status

In February 2022, the revenue service date was revised by the Board to no later than March 31, 2023.

Staff continue to assess time impacts related to change orders on the T100 construction contract. Mitigation to reduce the impact of further schedule delays has been implemented.

6.8.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- The T100 contractor (Walsh) will submit a claim in an amount which exceeds the available budget.
- Inadequate schedule detail in the T100 construction schedule impedes resource planning for rail activation, safety certification, Systems Integration Testing, and other testing and commissioning.
- Lack of experienced testing/commissioning personnel from Walsh could result in delays to substantial completion, particularly on the guideway.
- Delay to vehicle delivery, testing, and commissioning schedule due to extended design phase duration and supply chain interruptions could impact revenue service date.
- 9th & Commerce cutover occurs at the end of construction and any delays to the progress of this work could impact revenue service date.



**Projects in construction (baselined projects) →
Hilltop Tacoma Link Extension overview**

- Traction power substation supplier manufacturing and City of Tacoma (Tacoma Public Utilities) service connection delays, impacting testing and commissioning.

6.9. Puyallup Station Parking and Access Improvements overview

- The project is to improve access to the existing Puyallup Station for Sounder riders, bicyclists, bus riders and drivers. It includes a new garage, additional surface parking and a pedestrian bridge over 5th Street NW.
- Final design and construction phase
- \$79.1 million budget, YOES\$ (prior to pending Board action to increase)
- Revenue service: Q1 2022 (prior to pending Board action to extend)



Improving access to Puyallup Station

6.9.1. Project cost status

- The current project estimate exceeds the budget by approximately \$3 million. The project will request additional budget from the Board in April 2022.

6.9.1.1. Schedule status

The project did not meet the February 2022 open for service date due to delays to traffic mitigation design and is reporting a Q4 2022 completion. Sound Transit and the contractor are working diligently to reduce these project impacts. Garage and surface parking on-site construction has also been impacted by material delays and will be substantially complete and transitioned to Facilities in May 2022. The schedule update is currently under review.

6.9.1.2. Project risks and opportunities

Project issues and risks identified at this stage include:

- Construction schedule delays will cause additional staff and design-build project management costs.
- Tight budget and limited contingency.
- Traffic signal cabinet and synchronization integration schedule takes longer than expected due to required City review and testing and supply chain issues on needed products.
- Additional unknown schedule impacts after ordering of long-lead items required for the completion of off-site intersection work.
- Coordination with BNSF Railway, the design-build contractor and City of Puyallup to execute off-site improvements (intersection and signal upgrades) in a timely manner.
- Transition to Sound Transit Operations is impacted by terms being negotiated overuse of parking during off hours with the City.



**Projects in construction (baselined projects) →
Puyallup Station Parking and Access Improvements overview**

- Opportunity to potentially mitigate immediate traffic impacts prior to completion of the off-site improvements to open portions of the parking earlier than Q4 2022.

7. APPENDICES

7.1. Appendix A: R2021-05, Exhibits A & B



Resolution No. R2021-05 Exhibit A

Affordable Schedule

To ensure that funding remains available to complete all voter approved projects, the Board also establishes a program schedule that is affordable utilizing current financial projections and cost estimates. The project tiers and currently estimated affordable completion date for each project are depicted in Table 1.

Table 1: Currently estimated completion dates for projects by tier

	Tier 1 ≤ 2 years delay	Tier 2 ≤ 6 years delay	Tier 3 ≤ 9 years delay	Tier 4 10+ years delay
System	Bus Base North (2025) OMF South (2029) OMF North (2034)	2 nd Downtown Seattle Transit Tunnel (2037)	Souder Maintenance Base (2034)	ST2 Bus Base (2045) Bus-on-Shoulder (with South King portion eliminated) (2045)
North	Lynnwood – Southwest Everett Link NP (2037)	Southwest Everett - Everett NP (2041)		Edmonds & Mukilteo (2034) Everett Link Parking (2046)
East	I-405 Stride South NP (2026) SR-522/145 th Stride NP (2026) NE 85 th Street Interchange and Inline BRT Station portion of I-405 Stride North (2026)	I-405 Stride North NP (2027) S Kirkland-Issaquah (2044)		I-405 Stride Parking (2034) Kingsgate Parking (2035) SR-522/145 th Stride Parking (2034) Lake Forest Park Parking (2044) N Sammamish P&R (2045)
Central	Alaska Jct-SODO Link (2032) NE 130 th Infill (2025) Graham St. Infill (2031)	SODO-Smith Cove (2037) Smith Cove-Ballard (2039)		RapidRide C/D (2045)
South	Kent, Auburn & Sumner (2025) Tacoma Dome Link NP* (2032) Lakewood, S Tacoma (2032)		Souder platforms & access (2036) South King access improvements (2041) Souder added trips (2046)	SR-162 Bus Investments (2045)

	TCC Tacoma Link (2041)		DuPont Sounder (2045)	
	Boeing Access Rd. Infill (2031)		Tacoma Dome Link Parking (2038)	

*NP = no parking *includes Tacoma Dome Parking & Access project*



Resolution No. R2021-05
Exhibit B

Initial Target Schedule

The Initial Target Schedule programs Tier 1 and Tier 2 projects without funding delay and Tier 3 and 4 Projects per the delayed Affordable Schedule in Exhibit A. The project level funding gaps are the currently estimated offsets in cost savings and/or new financial resources needed to achieve these schedules. Project level funding gap amounts are rounded.

Table 1: Tier 1 & 2 Projects without funding delay and Tier 3 & 4 Projects with funding delay per the Affordable Schedule from Exhibit A.

	Projects in Tier 1 without funding delay <i>(current funding gap to achieve delivery year, \$2019M)</i>	Projects in Tier 2 without funding delay <i>(current funding gap to achieve delivery year, \$2019M)</i>	Project in Tier 3 with funding delay <i>(Delayed delivery year with no funding gap)</i>	Project in Tier 4 with funding delay <i>(Delayed delivery year with no funding gap)</i>
System	Bus Base North (2025) / (\$0) OMF South (2029) / (\$0) OMF North (2034) / (\$0)	2 nd Downtown Seattle Transit Tunnel (2037) (\$0)	Sounder Maintenance Base (2034)	ST2 Bus Base (2045) Bus-on-Shoulder (with South King portion eliminated) (2045)
North	Lynnwood – SW Everett Link NP (2037) / (\$0)	SW Everett - Everett NP (2037) / (\$600)		Edmonds & Mukilteo (2034) Everett Link Parking (2046)
East	I-405 Stride South NP (2026) / (\$0) SR-522/145 th Stride NP (2026) / (\$0) NE 85th Street Interchange and Inline BRT Station portion of I-405 Stride North (2026) / (\$0)	I-405 Stride North NP (2027) / (\$0) S Kirkland-Issaquah (2041) / (\$90)		I-405 Stride N Parking (2034) Kingsgate Parking (2035) I-405 Stride S Parking (2034) SR-522/145 th Stride Parking (2034) Lake Forest Park Parking (2044) N Sammamish P&R (2045)

	Projects in Tier 1 without funding delay <i>(current funding gap to achieve delivery year, \$2019M)</i>	Projects in Tier 2 without funding delay <i>(current funding gap to achieve delivery year, \$2019M)</i>	Project in Tier 3 with funding delay <i>(Delayed delivery year with no funding gap)</i>	Project in Tier 4 with funding delay <i>(Delayed delivery year with no funding gap)</i>
Central	Alaska Jct-SODO Link (2032) / (\$0) NE 130 th Infill (2025) / (\$0) Graham St. Infill (2031) / (\$0)	SODO-Smith Cove (2037) / (\$0) Smith Cove-Ballard (2037) / (\$1,800)		RapidRide C/D (2045)
South	Kent, Auburn & Sumner (2025) / (\$0) Tacoma Dome Link NP* (2032) / (\$0) Lakewood, S Tacoma (2030) / (\$0) TCC Tacoma Link (2039) / (\$20) Boeing Access Rd. Infill (2031) / (\$0)		Sounder platforms & access (2036) South King access improvements (2041) Sounder added trips (2046) DuPont Sounder (2045) Tacoma Dome Link Parking (2038)	SR-162 Bus Investments (2045)

NP = no parking *includes Tacoma Dome Parking & Access project

Notes: All projects will be reviewed for cost savings, regardless of funding gap. Agency capacity, subarea affordability, and system requirements need to be assessed in conjunction with the offsets for individual projects. This scenario assumes all projects are simultaneously offset.