



Summary Minutes

System Expansion Committee Meeting June 8, 2023

Call to order

The meeting was called to order at 1:35 p.m. by Committee Chair Balducci.

The meeting was recorded and can be found at <https://www.soundtransit.org/get-to-know-us/board-directors/livestream-video>.

Roll call of members

Chair	Vice Chair
(P) Claudia Balducci, King County Councilmember	(P) Kim Roscoe, Fife Mayor

Board Members	
(A) Nancy Backus, Auburn Mayor	(P) Kent Keel, University Place Councilmember
(P) David Baker, Kenmore Councilmember	(P) Joe McDermott, King County Councilmember
(P) Cassie Franklin, Everett Mayor	(A) Dave Somers, Snohomish County Executive
(P) Bruce Harrell, Seattle Mayor	

Alejandro Monzon, Board Relations Specialist, announced that a quorum of the System Expansion Committee was present at roll call.

Report of the Chair

Monthly Contract Report and Agency Progress Report

The meeting packet included the monthly contract report and the April agency progress report, as well as a link to the Project Performance Tracker.

CEO Report

Deputy CEO Brooke Belman provided the report.

Staff Memo responding to May REO and SEC Questions

Ms. Belman reported that the Committee received a memo in the materials packet for the meeting providing answers to questions received from the May Rider Experience & Operations and System Expansion Committee meetings regarding the East Link Starter Line. She added that staff will continue to track questions and communicate answers in memos included in meeting packets.

Public comment

Chair Balducci announced that public comment would be accepted via email to meetingcomments@soundtransit.org and would also be accepted verbally.

Written public comments:

Dr. Christopher Morrison



Stephen Fesler
Joe Kunzler
Bill Hirt
Uptown Alliance and the South Lake Union Chamber of Commerce
Alvaro Guillen on behalf of Connect Casino Road
Irving Avila and Nora McGovern

In-person Verbal Public Comments:

Alex Tsimmerman
Joe Kunzler
Kathleen Johnson
Matthew Curry
Betty Lau
Brien Chow

Virtual Verbal Public Comments:

John Kiehnau
Alvaro Guillen

Business items

For Committee Final Action

Minutes: May 11, 2023 System Expansion Committee meeting

It was moved by Boardmember McDermott, seconded by Boardmember Roscoe, and carried by unanimous voice vote that the minutes of the May 11, 2023 System Expansion Committee meeting be approved as presented.

Motion No. M2023-45: Authorizing the chief executive officer to execute a contract modification with HNTB Corporation to exercise a contract option for design-build project management services during construction for the Auburn Station Parking and Access Improvement portion of the Auburn, Kent, Puyallup and Sumner Stations Parking and Access Improvements Project Management contract in the amount of \$8,438,000 for a new total authorized contract amount not to exceed \$24,653,552.

Victoria Morris, Project Director, began the staff presentation. She was joined by Sarah Perrino, Senior Project Manager, and Waleed Shawkat, Principal Construction Manager.

Vice Chair Roscoe inquired about the new shelter at five existing bus stops near the Station, asking where those are located. Staff responded that they would need to look back at the information and can provide a follow-up after the meeting, but stated it was within a usual walkshed.

It was moved by Boardmember Baker and seconded by Boardmember Roscoe that Motion No. M2023-45 be approved as presented.

Chair Balducci noted that these are garages, and are projects that have been delayed since the Great Recession when the program underwent delivery schedule changes. She indicated her intent to vote for the action and encouraged other Boardmembers to do so.

Chair Balducci called for a roll call vote.

Ayes

David Baker
Bruce Harrell
Kent Keel
Joe McDermott
Kim Roscoe
Claudia Balducci

Nays

It was carried by a vote six members that Motion No. M2023-45 be approved as presented.

For Recommendation to the Board

Motion No. M2023-46: Authorizing the chief executive officer to execute a design-build contract with Absher Construction Co. for the Auburn Station Parking and Access Improvement Project in the amount of \$60,000,000, with a 15 percent contingency of \$9,000,000 and authorizes an alternative concept allowance not to exceed \$2,000,000 to fund maximum cost of added value improvements for the Auburn Station Parking and Access Improvements Project for a total authorized contract amount not to exceed \$71,000,000.

Chair Balducci noted that information for this action was incorporated into the previous presentation. She opened the floor to additional questions from Boardmembers.

Motion No. M2023-46 was moved by Boardmember Baker and seconded by Boardmember Roscoe with a do-pass recommendation.

Deputy CEO Belman answered Vice Chair Roscoe's earlier question on the bus shelters stating that these are being evaluated with King County Metro to select 5 high-ridership stops to include in the project.

It was carried by a vote of six members that Motion No. M2023-46 be forwarded to the Board with a do-pass recommendation.

Motion No. M2023-47: Identifying the preferred alternative(s) and other alternatives for study in the Draft Environmental Impact Statement for the Everett Link Extension project.

Eric Widstrand, North Corridor Development Director, began the presentation and introduced Chelsea Levy, Acting Deputy Executive Director of Capital Project Development.

Boardmember Franklin expressed her excitement to be moving forward on the Everett Link Extension. She reiterated the importance of navigating several key challenges, including avoiding displacement of industrial businesses and historically underserved communities.

Chair Balducci asked which segment the public comment related to Casino Road is referring to. Mr. Widstrand stated it is the segment titled SR 526/Evergreen and clarified that Casino Road runs just south of SR 526. Chair Balducci delivered comments from Boardmember Somers, who could not attend the meeting, related to not identifying an alternative in the area. She also requested additional information on the Community Advisory Group and Elected Leadership Group recommendations and what public outreach was performed. Boardmember Franklin provided insight into the area around the Casino Road community that will be impacted but stressed the commitment from the City of Everett and Sound Transit to continue working with the community.

Chair Balducci noted that she did not feel prepared to forward the action with a do-pass recommendation at this time, explaining that she would like to see more granular information before supporting the alternatives as identified in the Motion.

Boardmember McDermott noted that he also had some trouble understanding the alignment alternatives, until the additional context around Casino Road was provided.

Boardmember Keel added that he the opportunity to take a tour of the proposed alignment and stated that he would be fine with forwarding the item with or without a do-pass recommendation.

Chair Balducci advised that if the Committee wishes to forward the action to the Board with a do-pass recommendation, she would vote no, citing that the action would still pass and she does not have issue with anything presented, but does want more information. She stressed she does not want the Motion to not advance to the full Board.

Boardmember Franklin added that the Elected Leadership Group, which includes herself and other Snohomish County Boardmembers, received the recommendations from the Community Advisory Group and issued firmer recommendations before receiving public input and shifting to not identifying a preferred alternative in some segments of the alignment.

Vice Chair Roscoe inquired if Triunity had any comments after their review and asked for clarity on the staff recommendation to include three station option in the Alderwood area to preserve multiple options. Mr. Widstrand responded that Triunity did not have any additional comments and clarified that in the West Alderwood segment, staff are preserving two alignments with three station options to keep options open through the development of the Draft Environmental Impact Statement (DEIS). Mr. Widstrand also emphasizes that all the alternatives studied in the DEIS will be developed up to the 10 percent design level.

Vice Chair inquired why the SW Industrial Center only has one alignment with multiple station options. Mr. Widstrand noted that other alternatives would not have brought the alignment to that area. She also asked for clarity on the Preliminary Comparative Cost Estimate slide. Mr. Widstrand explained that the Estimate Range for each category is -2 percent to +20 percent of each estimate and is shown in comparison to the Realignment Target Financial Plan Estimate.

Vice Chair Roscoe expressed appreciation for the several potential OMF-North sites. Ms. Levy stated that all OMF site alternatives have unique challenges and that is why all three are being recommended for further study before making a decision on which presents the best outcome.

Motion No. M2023-47 was moved by Boardmember Franklin and seconded by Boardmember Roscoe with a do-pass recommendation.

Boardmember Keel stated that he will be supporting the do-pass recommendation.

Chair Balducci reiterated her intent to vote against the do-pass recommendation but noted that it is due to wanting additional information before casting a vote in support of the alignment alternatives.

It was carried by majority vote of the Committee members present that Motion No. M2023-47 be forwarded to the Board with a do-pass recommendation, with Chair Balducci voting in the negative.

Motion No. M2023-48: Authorizing the chief executive officer to execute a betterment task order under the Construction Services Agreement with the City of Seattle to reimburse Sound Transit for all betterment costs, and ratifies construction of additional electrical ductbanks, vaults, and appurtenances, as part of the Lynnwood Link Extension Project, in the amount of \$3,185,713.

Josh Pategas, Deputy Executive Director for the Lynnwood Link Extension, began the staff presentation and was joined by Randy Harlow, Executive Director for the Lynnwood Link Extension.

Motion No. M2023-48 was moved by Boardmember Franklin and seconded by Boardmember Roscoe with a do-pass recommendation.

It was carried by unanimous vote of the seven members present that Motion No. M2023-48 be forwarded to the Board with a do-pass recommendation.

Motion No. M2023-49: Authorizing the chief executive officer to increase the contract contingency for the Lynnwood Link Extension Northgate Station to NE 200th Street General Contractor/Construction Manager contract with Stacy and Witbeck-Kiewit-Hoffman, a Joint Venture, for betterment work requested by Seattle City Light in the amount of \$2,896,103, for a new total authorized contract amount not to exceed \$913,242,121.

Chair Balducci noted that information for this action was incorporated into the previous presentation. She opened the floor to additional questions from Boardmembers.

Chair Balducci asked if this action is simply applying the funds from the previous motion to the work performed. Mr. Pategas confirmed that is the case.

Motion No. M2023-49 was moved by Boardmember Roscoe and seconded by Boardmember Keel with a do-pass recommendation.

Chair Balducci inquired if the betterment work would add delay to construction for the rest of the project. Mr. Pategas responded that this work prevented schedule delay.

It was carried by unanimous vote of the seven members present that Motion No. M2023-49 be forwarded to the Board with a do-pass recommendation.

Motion No. M2023-51: Authorizing the chief executive officer to execute individual contracts with Contract Land Staff, LLC, HDR Engineering, Inc., and Universal Field Services to provide on-call right-of-way consulting services for a five-year initial term with two one-year options to extend, with individual contract amounts that may exceed \$50,000,000 each provided that the aggregate total of all three contracts does not exceed \$155,000,000.

Faith Roland, Real Property Director, delivered the staff presentation.

Vice Chair Roscoe asked how the contractors engage with property owners on behalf of Sound Transit. Ms. Roland stated that the contractors function as adjunct staff to the Agency, and it is her responsibility to vet each contracted employee and provide training on Sound Transit-specific procedure. She elaborated that each are given a Sound Transit badge and supplied a Sound Transit contractor email account. She also added that each Sound Transit project has an assigned staff member who oversees the work of the contractors.

Chair Balducci highlighted the Small and Disadvantaged Business Enterprise commitments made by the contractors.

Boardmember Keel inquired about the definition of on-call as applied to these contractors. Ms. Roland explained that work is contracted on a task order basis that requires review by the respective project director and finance staff. Boardmember Keel asked about how the workload and dollars would be fairly distributed across the three firms. Ms. Roland stated that it is an ongoing task that involves measuring the individual skill sets supplied by the firms, as well as which firm has additional capacity and when.

Motion No. M2023-51 was moved by Boardmember Roscoe and seconded by Boardmember Baker with a do-pass recommendation.

It was carried by unanimous vote of the seven members present that Motion No. M2023-51 be forwarded to the Board with a do-pass recommendation.

Resolution No. R2023-16: Authorizing the chief executive officer to acquire certain real property interests, and to reimburse eligible relocation and reestablishment expenses incurred by affected owners and tenants to the extent authorized by law, as necessary for the temporary North Maintenance of Way facility.

Faith Roland, Real Property Director, began the staff presentation and introduced Nick Datz, Senior Project Manager, to assist with project questions.

Chair Balducci summarized the terms of the lease agreement, including the option to purchase. Ms. Roland confirmed the summary, adding the Agency has gone through about 16 months of the 5-year lease. Chair Balducci noted that Boardmember Keel's usual concerns about the use of eminent domain should be satisfied given the Lease Agreement includes processes to purchase the property.

Vice Chair Roscoe asked if the acquisition would displace a business at the site. Ms. Roland answered that the site is vacant at this time, so no displacement is necessary.

Boardmember Keel noted that his usual concerns do not apply to this acquisition.

Resolution No. R2023-16 was moved by Boardmember Roscoe and seconded by Boardmember Keel with a do-pass recommendation.

It was carried by unanimous vote of the seven members present that Resolution No. R2023-16 be forwarded to the Board with a do-pass recommendation.

Reports to the Committee

Project Performance Tracker Update

Moises Gutierrez, Chief System Quality Officer, began the presentation by stating that this agenda item will be a standing report to the System Expansion Committee going forward. While he hopes to be brief at each meeting, Mr. Gutierrez noted that today's presentation would be a bit longer than subsequent iterations.

Mr. Gutierrez stated that Sound Transit had launched the public-facing Project Performance Tracker in September 2022 to build upon recommendations from Triunity and implement aspects of the Realignment Resolution (Resolution No. R2021-05). He added that there is a delay in the information being presented, as it takes time to receive and vet the information from contractors.

The information set highlighted projects in planning, or those projects that have not yet been baselined by the Board. Mr. Gutierrez noted that the images on the slides are from the publicly available Project Performance Tracker on the Sound Transit website. Before highlighting recent changes, Mr. Gutierrez provided some context on the definitions of the columns – Budget Risk, Schedule Risk (to next milestone), and Schedule Risk (to delivery date) – and explained the meaning of the pictographs for each of the columns, which are available when viewing the tracker through the website.

Mr. Gutierrez noted that the changes from the previous month are being displayed through both asterisks and pink cell shading. Turning to specific updates, he began by stating that the BRT Bus Base North project's Budget risk had changed from Yellow to Red, while the I-405 BRT project shifted from Green to Yellow on Budget Risk. He highlighted construction costs, the decision to utilize a Battery-Electric Fleet, permitting costs, and property acquisition costs as key drivers for both projects.

Mr. Gutierrez also reminded the Committee that, as presented in the Board Annual Program Review, the Ballard Link Extension is now aligned to the affordable schedule with a delivery date of 2039, and the SODO-Smith Cove segment has also been pushed to 2039, beyond the original 2037 affordable delivery date for that segment, which is noted with the Red Triangle pictograph. Additionally, both the Ballard and West Seattle Link Extensions are expected to exceed the Finance Plan assumptions due to recent modifications to the preferred alternatives. Mr. Gutierrez also highlighted the Operations and Maintenance Facility South project, which the Committee was briefed about earlier this year. While the schedule risk was known, Mr. Gutierrez also noted that it is expected that the Budget Risk for the project will also need to be updated soon.

Boardmember McDermott asked for clarification on the difference between the pink shading and asterisks used to notate changes in the Project Performance Tracker. Mr. Gutierrez noted that they both signify changes and indicated that future iterations would select one or the other or provide greater context when both are needed.

Boardmember Baker and Chair Balducci also gave feedback on how to better capture the representation of changes to the data.

In wrapping up Projects in Planning, Mr. Gutierrez highlighted the SR522/NE14th Street BRT project had its budget risk shifted from Yellow to Red. He also reiterated the potential Budget Risk to the West Seattle Link Extension he noted on the previous slide with the Ballard Link Extension.

Shifting to Projects in Construction, Mr. Gutierrez explained that there are a few differences in methodology when tracking the information. For these projects, the Budget Risk is a comparison between current cost estimates and the baseline budget set by the Board. The Contingency Cost Risk column compares actual remaining contingency to the assumed drawdown and use of the project contingency. The Contingency Cost Index measures the same metric but only for construction-related contingencies. The Schedule Risk for the Projects in Construction measures the project float in comparison to the Service Date baselined by the Board. While no changes were tracked for Projects in Construction, Mr. Gutierrez highlighted the ongoing plinth work on the East Link Extension as a potential schedule risk. Looking ahead, he added that all the projects would be undergoing a Quantitative Risk Assessment in August, and further updates would be provided based on those findings.

Mr. Gutierrez noted that visuals for trend lines would be added to the Project Performance Tracker as early as next week. Additional work to include forecasting trend lines is underway and the team hopes to see those included over the next couple of months.

Chair Balducci offered feedback to improve the visual representation of the information, including the use of key on each slide to explain the pictographs.

Vice Chair Roscoe asked on whether the Project Performance Tracker is just Board-facing or also available to the public. Mr. Gutierrez answer that it is available to the Board and the Public.

Boardmember Keel agreed with Chair Balducci's recommendation for a key or legend on each slide. Additionally, Boardmember Keel noted that with the data two-months behind, he was pleased to hear that there are efforts to hopefully streamline the development and release of data in a timelier manner.

Boardmember Baker agreed with the feedback on adding visual clarity to the presentations going forward, noting that he is color-blind so would benefit from additional textual explanations.

Chair Balducci noted the benefit of having this presentation each month, as it will hopefully capture any news on projects without an action or report before the Committee on any given month.

Presentation on Pre-baselining Process

Andrea Forderer, Director of Project Control, Delivery, and Reporting, began the presentation and introduced Chelsea Levy, Acting Deputy Executive Director for Capital Project Development, who will be assisting in the presentation.

Ms. Forderer stated that the presentation would provide an overview of managing project costs for pre-baseline projects, also known as Projects in Planning. Additionally, staff will provide information on how estimates are updated, validated, and communicated at project milestones. Ms. Forderer noted that while today's report is focused on cost, similar practices are in place for schedule management.

Ms. Levy noted reminded the Committee that project cost estimates are updated at major milestones in the project development process leading up to the Baseline action brought to the Committee and Board. Ms. Levy added that the Board plays a major role in defining and refining a project's scope, which effects the cost estimate at each phase of the process.

To begin, an initial estimate is prepared during the development of a System Plan for voter approval, based on a minimal level of design, below 1 percent. Once approved by voters and formally established, Sound Transit begins the planning and development of the project. Within the planning phase, there are three levels, and each level results in updated comparative costs estimates for each alternative studied

and garners direction and feedback from the Board on refinements. First is Alternatives Development, at the end of which the Board is asked to identify a preferred alternative and other alternatives to study in the Draft Environmental Impact Statement (DEIS). The second level is conceptual engineering and development of the DEIS, after which the Board confirms or modifies the Preferred Alternative for study in the Final Environmental Impact Statement (FEIS). The final level is preliminary engineering and development of the FEIS, after which the Board selects a project to be built. Ms. Levy added that staff, as required in the Realignment Resolution, implemented a practice of advising the Board at each level of how project-specific cost and schedule changes may impact overall program affordability.

After the project to be built is selected, the preferred alternatives advance into final design. During final design, the route and station designs are finalized, necessary agreement and permits are obtained, property is acquired, and, at the 60 percent design threshold, the cost estimate is updated. This estimate is used as the benchmark for all work going forward, and it includes cost contingencies for further uncertainty and risk. As design work is completed, engineers' estimates for construction work are prepared and compared to contractor bids and negotiated contract amounts. Unavoidable variances may be covered with contingency drawdown. In accordance with the Realignment Resolution, Staff conduct a readiness check when preparing for baselining to ensure program affordability.

Vice Chair Roscoe asked for an example of a project in the Design phase. Ms. Levy stated that the BRT program, which is the next report, is in the design phase and preparing for a Baselining action.

Mr. Forderer explained the process by which a project cost estimate is validated. Included in this review is a Sound Transit cost engineer and an independent estimator. Additionally, value engineering and quantitative risk workshops are done before estimates are finalized at major milestones.

Initial estimates, such as the Screening and Feasibility type estimates for ST3, are "top down", or unit cost based. As an example, Ms. Forderer described planning for a summer picnic and basing the budget on the number of people attending. While a useful starting point, she added that these estimates are relatively easy to construct but are not very precise.

At the opposite end are "bottom up" estimates, which she compared to completing a kitchen remodel and the contractor's line-item listing for appliances, flooring, etc. While these are more time intensive, they are also more accurate and are used when Sound Transit designs are near completion in the final design phase. This concept of increasing level of detail with design progression follows industry best practice for estimating.

On any project at any given time, a combination of estimating approaches may be in use. During the project planning phase when there are multiple alternatives under consideration, a preferred alternative may have a more detailed design and a higher class of estimate. All cost estimates have detailed methodologies to support reporting and comparison. In 2021, the agency's independent cost estimate assessment team noted that Sound Transit's practices around estimate methodologies is mature and complete, but Ms. Forderer added that staff continuously seek to improve the process. She added that cost estimates for pre-baseline projects are in current year dollars, while the finance plan includes cost escalation to year of expenditure cost, based on projected inflation rates and the project's schedule.

Ms. Forderer noted that since estimates are summarized to align with the FTA's Standard Cost Categories and Sound Transit Budget Phases, staff can track changes between versions and report out where there are variances. A technical review and analysis of each major cost estimate is performed to help ensure the scope and quality summarization of the cost estimate is appropriate. Staff then perform a reconciliation of the cost estimate to ensure it represents fair and reasonable costs, followed by a cost estimate variance analysis, which includes differences from the prior estimates and the voter-approved plan.

The Finance Plan is updated twice a year, and new estimates are included if they have been completed and validated around major milestones.

The 2021 Program Realignment revised the Finance Plan to reflect affordable delivery dates, in accordance with revenue and cost projects at that time. Most ST3 projects were updated based on interim cost estimate trends and schedule changes to ensure the System Expansion Plan remained affordable. Following Board direction, project staff now provide a briefing before actions when costs are expected to exceed the estimate in the Finance Plan.

To conclude, Ms. Levy spoke to the remaining project decisions in 2023 that relate to key decisions on Projects in Planning, including the Everett Link Extension, Stride BRT Program, Ballard Link Extension, and OMF-South.

Vice Chair Roscoe asked if there are other boxes that could be included as informational under the Design phase, similar to the three under the Planning phase. Ms. Levy answered that there could be more boxes, depending on the delivery method. She noted that there is a variation of the graphic that does summarize all the activities in the Design phase.

Stride Bus Rapid Transit Pre-Baseline Briefing and Next Steps

Bernard van de Kamp, Stride BRT Program Executive, began the presentation.

Mr. van de Kamp noted that the presentation would primarily focus on preparing the Committee for the Baseline actions for the Bus Rapid Transit program in July. He elaborated that Board policy requires a pre-baseline briefing to the Board or Committee when project costs are estimated to exceed the Financial Plan assumption, which is the case for the Stride BRT program. This was the first briefing of this category since the policy was implemented as part of the Capital Program Realignment. He noted that the cost and schedule information provided was still in draft as the risk analysis for the program continues. The presentation would also address recent developments with the Brickyard to SR 527 Construction Funding Agreement and a potential action planned for the June 2023 Board of Directors meeting.

Mr. van de Kamp first provided some history and context for the Stride BRT program. Approved by voters in the ST3 package, the Stride BRT program includes the S1 Line between Burien and Bellevue, the S2 Line between Bellevue and Lynnwood, the S3 Line between Bothell and Shoreline, and the Bus Base operations center. The Board selected the Projects to be Built in 2021, immediately following the conclusion of Realignment.

The program has evolved and improved through design refinements, partnerships, and innovation. During project development, the I-405 Lines' (S1 and S2) predicted travel times improved by over 30 percent by shifting to in-line stations, which are now becoming a reality through partnerships and construction agreements with Washington State Department of Transportation (WSDOT). The design of the S3 Line (along SR 522) was improved to better connect with S2, address community concerns, reduce property impacts, and manage costs. The Bus Base North project will serve as the operations center for Stride but is also sized to accommodate ST Express busses operated by Community Transit. This will help to address the recurring regional problem of inadequate bus base capacity. Additionally, the program fully embraced battery-electric buses. As discussed with the Board in January, all three lines will be fully electrified with charging infrastructure at the Bus Base and at all layovers. The program has also evolved with further design requirements and operational needs as it has progressed deeper into design. The Board's 2021 Realignment decision delayed the parking components to 2034 through 2044 but also called for innovation and partnership. The BRT staff will propose to build an interim surface facility at the South Renton Transit Center to provide greater public benefit from property that has already acquired by the Agency.

At this time, design is approaching 90 percent completion, which has informed permitting, acquisition of Right-of-Way, and other risks, and Numerous construction agreements have been executed with partners. As noted in earlier project updates, the program is also preparing to start-up and operations by procuring systems and other necessary components. Mr. van de Kamp highlighted that the program

benefited from early actions that helped to reduce risk and control costs. This included strategic early property acquisitions, early construction work, and agreements with WSDOT, cities, and others to deliver joint projects. These efforts resulted in the early completion of some components, which have an immediate benefit to transit service, such as new Business Access and Transit lanes between Bothell and Kenmore which had been used by Sound Transit and King County Metro for over a year. He added that the Stride projects in WSDOT right-of-way will result in Land Bank Credits that will provide approximately \$700 million of relief to other Sound Transit projects and ongoing lease costs.

The current draft program cost estimate exceeds the Financial Plan assumption by \$210 million, or about 10 percent. This is stated in year of expenditure dollars to reflect the cash-flow and value of money over the life of the capital program. This estimate reflected new information from more advanced design, existing and pending construction funding agreements, and up-to-date pricing from vendors and suppliers. This is a reduction from the \$250-300 million overage that was reported at the May Board meeting but is a change from earlier cost and risk assessments that estimated the program would be within the Financial Plan assumption. Mr. van de Kamp noted that the July action would formally separate the parking components from the Stride BRT program, preserving the Financial Plan budget allowance for parking at \$342 million.

Mr. van de Kamp continued by stating that staff continues to evaluate the many cost variables before bringing forward a final amount to the Committee and Board in July. He highlighted increases in the cost of labor, materials, and supplies as the primary cost drivers for the program, and this trend is in line with what regional partners had recently experienced. Additionally, the incremental cost of electrifying the S1 and S2 fleet was originally reported at \$25 million but has since grown to \$30 million, mostly due to conversion to Year of Expenditure dollars. There have also been unanticipated regulatory costs that are required to address fish barriers on State right-of-way where WSDOT does not have immediate projects or funding available. The delay and separation of the parking components does not contribute to the cost overage, but Mr. van de Kamp noted that the cost of the proposed interim parking at the South Renton Transit Center would be deducted from the amount available for the future permanent facility.

Separate from the draft baseline amount, staff was working towards final agreements for betterments to cover scope added by and for the benefit of third parties that will be paid for by third parties. Two betterments are currently under consideration. The first would add scope to the South Renton Transit Center for King County Metro's use. The second involves a private developer wishing to extend a planned pedestrian bridge to better connect a planned development to the Tukwila station.

Turning toward the financial analysis and impact on the Financial Plan, Mr. van de Kamp reiterated that the Stride BRT program's draft baseline budget is \$210 million higher than the cost estimate in the Spring 2023 Financial Plan. The Stride Program would reduce the Agency's Remaining Available Debt Capacity (the ability to issue debt) from 15.9% to 14.2% and the Minimum Debt Service Coverage Ratio from 1.67 to 1.63, bringing it closer to the policy minimum of 1.5.

Looking at the draft baseline schedule, Mr. van de Kamp walked through a table which included the initial 2021 Realignment target and affordable schedule, the Master Schedule with six months of float (which reflects what has been reported to the Board since January 2022), and the draft baseline schedule. The draft baseline schedule reflects the results of the Quantitative Risk Assessment, which indicated a later completion date for each project within the Stride BRT program. He listed several key risk factors affecting each project.

Given the schedule risks and the independent utility of each project that comprises the Stride BRT program, staff began evaluating some schedule mitigation options. Mr. van de Kamp noted that several key components of the system are expected to be ready for public use incrementally, and that these facilities could be used by existing ST Express or King County Metro services before Stride services begin.

Prior to completing the presentation, Mr. van de Kamp turned his attention to the potential action pertaining to the Brickyard to SR 527 Construction agreement with WSDOT scheduled for the June Board meeting. In April 2022, the Board approved an agreement to fund Sound Transit's share of the joint project, which would build four Stride stations and a transit hub where the S2 and S3 Lines meet. It was also a key driver behind the S2 travel time savings and operational reliability. The proposals were being evaluated and the cost proposal would be opened the morning of the following Board of Directors meeting. There was a high risk of the cost exceeding the not-to-exceed amount authorized by the Board, and staff was preparing for an amendment to the agreement in the amount of \$25-\$50 million, which is within the draft baseline cost. The actual amount would not be known until June 22.

Chair Balducci noted that this was difficult news to deliver and asked for greater clarity on the specifics of the cost-drivers, recommending that a written report or memo be drafted for easier communication.

Boardmember Baker expressed frustration with the cost and schedule overruns given that the program was initially thought of as an early deliverable. He also commented on the strained relationship with some partners along the alignment.

Chair Balducci noted that while there are several cost drivers beyond the Agency's control, there are tools that can be utilized, and that the agency has been recommended to explore, to help with the timely and cost-efficient delivery of the capital program.

Vice Chair Roscoe noted that perhaps the political relationships may be an area where the Board and/or Boardmembers could play a more active role in dealing with project friction.

Chair Balducci added that may be a place where following the TAG recommendations on a stronger Betterment Policy might be useful, but also highlighted that it has always been an evolving process and discussion.

Boardmember Keel agreed with Chair Balducci comment on applying the recommendations from the TAG and highlighted the recommendation to push down decision making as far as possible to hopefully become an owner of choicer when dealing with partners and contractors.

Long-term Light Rail Fleet and Storage Challenges

Matt Shelden, Deputy Executive Director of Planning and Integration, began the presentation and noted that several staff members from the Operations Department are available to assist with questions if needed.

Mr. Shelden explained that the presentation would share information about how current challenges with operating Light Rail service will impact the Agency's fleet and future expansion of service. He added that this is still early work and noted that staff did not yet have all the answers. He highlighted that the same information was shared with the Rider Experience and Operations Committee the previous week. The presentation observed how the challenges will affect the system as it is built out and provided updated forecasts for the light rail vehicle fleet and Operations & Maintenance Facilities (OMFs) the Agency will need.

Mr. Shelden began by summarizing key assumptions. First speaking to assumption that did not change significantly since ST3 was approved, he stated that future service levels continue to be planned to provide 6-minute rush hour service on all of the Link lines by the time all of the planned extensions are in operation. He added that the two existing OMFs in Seattle and Bellevue provide capacity for 200 vehicles, while the planned two additional OMFs in the North and South corridors will bring the total capacity to 496 vehicles. Additionally, 16 temporary storage spaces are being constructed in Federal Way to help in the interim. Shifting to the fleet vehicles themselves, Mr. Shelden stated that once all of the Series 2 Siemens vehicles are in service, the Agency will have 214 cars available to support service until more vehicles are procured and delivered starting in the late 2030s. In the long term, the Financial

Plan includes funding for a total fleet of 460 vehicles to support the build out of the ST3 system, including replacement of the oldest Series 1 cars in the late 2030s.

Shifting to assumptions that have changed based on evolving operation conditions, Mr. Shelden referenced a presentation earlier in the year that spoke to effects on 2024 Extension openings and stated this would apply that information with a long-term viewpoint. The Agency found that more running time was added into the Link system to account for slower-than-planned operations in some areas of the alignment, such as at-grade crossing in the Rainier Valley and SoDO, and in some tunnel areas with tight curves. Additionally, more daily maintenance was needed on the vehicles, which takes cars out of service more often. This is known as the spare ratio, which Mr. Shelden stated needs to increase as the system expands. He summarized by saying a new fleet contingency is intended provide some cushion for maintenance needs that can't always be predicted, both due to maintenance needs and operational changes.

Looking at the current system and vehicles, Mr. Shelden stated that 74 vehicles were estimated to be needed to run the 1 Line from Northgate to Angle Lake. He noted that once the current 1 Line was operating, the agency needed to add more run time, add a gap train, and increase the spare ratio to ensure reliable operations. He explained that gap trains are added when service falls off schedule or after big events when crowd surges are expected. He elaborated that these adjustments have made it possible to provide regular eight-minute rush hour service, generally with four-car trains, though sometimes a three-car train may be used when more cars are out for maintenance.

Projecting forward, Mr. Shelden stated that the agency was forecasting needing approximately 90 more vehicles than was initially planned to provide the planned six-minute rush hour service on all lines by the completion of the ST3 capital program. He reiterated that the key drivers of that increase are added running time in the system, an increasing proportion of vehicle that are out of service for maintenance (spare ratio), and the need to add vehicle contingency in planning for current unknowns. This would increase the total fleet from an assumed 460 vehicles to 550 vehicles.

Mr. Shelden provided a look at the fleet needed to provide the assumed levels of service as more of the system is built out and brought into operation. He noted that the current capacity for vehicles through the ST2 expansion program was capped at 214, split between the Seattle and Bellevue operations and maintenance facilities, but that 258 were believed to be needed to provide the planned level of service. Additional vehicle capacity would be available when the North and South Operations and Maintenance Facilities are constructed in the 2030s, meaning the agency would have to look at modifying service levels to better match the current fleet capacity. Mr. Shelden noted that the agency would be developing options for consideration by the Board.

Focusing on OMF vehicle storage capacity, Mr. Shelden began by reminding the committee that the OMF-East in Bellevue would be able to fully support operations once the 2 Line is fully complete across Lake Washington. He added that the two current OMFs and the temporary storage in Federal Way should be adequate to support the fleet of 214 vehicles until the planned OMFs are constructed. He noted that both the North and South OMFs were in planning and would bring the total system vehicle storage capacity to 496 vehicles, which is still short of the new 550 vehicle-estimate. He added that staff were also looking into options to fill this capacity gap and would bring options to the Board for consideration.

Mr. Shelden summarized the key challenges for the Agency. Between 2023 and 2030, the light rail vehicle fleet was capped at 214 vehicles, which will not be enough to run the planned service levels across the ST2 Extensions. When the additional OMFs are built, they would add enough capacity to support the ST2 fleet, but that would occur in the 2030s. He added that staff continue to look for other options, including potential operational tradeoffs, in the interim. Looking beyond 2030, he noted that 90 more vehicles were needed than what was previous assumed and that the future OMFs may need to be larger to accommodate the larger fleet.

Mr. Shelden shared some preliminary options which would be further developed over the summer. In the near-term, the options for increasing storage capacity were limited so the agency planned to review service levels and adjust the spare ratio if operating conditions improved. In the long term, the agency could procure additional vehicles and build larger OMFs, adjust the planned levels of service, or some combination of the two. He added that finding operational efficiencies to address is still occurring, but these would be unlikely to fully solve the issue.

He reminded the committee that while these assumptions have been updated to reflect current trends, conditions continued to change, and uncertainties remained. He added that staff would return if any new changes prompted new assumptions that may factor into the options to consider.

As next steps, Mr. Shelden stated that staff would refine their analysis, develop options, and assess affordability over the summer. He hoped to return in August to both the Rider Experience & Operations Committee and the System Expansion Committee to look at short-term options, with a second round in September to focus on long-term solutions. After that, staff would look for direction from the Board on how to proceed.

Vice Chair Roscoe asked about the running times and the use of gap trains. Mr. Shelden responded that the true running time of a train through the system has turned out longer than initially planned so more trains have been needed to provide the eight-minute rush hour headways. He explained that gap trains are utilized in instances when service falls off schedule or when an additional train is needed to handle increased ridership, usually in connection with a large event.

Chair Balducci asked what is contributing to the longer than expected running time. Mr. Shelden responded that there are several factors, including variation from operator to operator, signal timings in the at-grade portions in the Rainier Valley, and differences between what was expected from the design and what is required for safe operation in grade-separated segments. Chair Balducci requested for a more in-depth analysis when staff returns with potential options to see what issues can be solved with what solutions.

Boardmember Baker inquired if there are concerns with operator shortages being factored into this analysis. Mr. Shelden noted that the question of personnel hiring was not a part of the presentation and admitted operator shortages were a risk that was actively monitored. He added that personnel shortages and vehicle capacity are two parts of the long-term operability issue.

Chair Balducci briefly brought up the issues of vehicle reliability pertaining to the newly accepted Series 2 cars.

Boardmember McDermott inquired as to how Sound Transit's vehicle and spare ratio assumptions compare to other transit agencies. Mr. Shelden answered that Sound Transit sits at the lower end of the ratio with 15 percent, while some other agencies are at 20 percent which is what Sound Transit is closer to at this time. Boardmember McDermott asked if spare ratio only applies to vehicles out of service for regular maintenance. Mr. Shelden confirmed that was true, and the number of gap trains necessary is calculated separately.

Chair Balducci remarked that while there could be concern about getting too far ahead on addressing the total number of vehicles, providing reliable service is crucial to operability. She asked for a more detailed report on the issues contributing to the issues when staff return. Mr. Shelden responded that staff would work on that report as they further analyze and develop options.

Vehicle Readiness for 2024 Link Openings

Eric Beckman, Executive Director of the Portfolio Service Office, began the presentation and stated that it would focus on vehicles readiness for the Lynnwood Link Extension and potential East Link Starter Line openings in 2024. He added that information is continuously changing, so staff were actively monitoring and responding to risk and challenges.

Pending Board approval, Sound Transit would be serving four additional stations from the Lynnwood Link Extension and eight additional stations on the East Link Starter Line. He noted a key factor in providing these extensions with service is the availability to store and maintain vehicles at the two OMFs currently available for operations. Echoing the previous presentation, Mr. Beckman noted that constraints on vehicle availability would likely reduce service levels. At that time, staff were assuming that the Lynnwood Link Extension would operation at eight-minute headways, 20 hours per day, and with a mix of three-car and four-car trains. On the East Link Starter Line, staff were assuming 10-minute headways, 14 hours per day, with two-car trains. He added that Rider Experience and Operations Committee Chair Kristina Walker inquired into running a 16 hour per day service.

He noted that construction continued on both extensions, and updates would continue to be provided as work progressed. Mr. Beckman explained that there are two categories of work related to vehicle preparedness: ensuring that there are enough vehicles to operate service and having enough space to maintain and store vehicles. For the latter, he added that until the connection across Lake Washington was complete, the two OMF sites would operate independently.

First looking at vehicle availability, Mr. Beckman stated that Sound Transit purchased 62 Series 1 vehicles for the initial Link system over 10 years ago. At this point in the vehicles' life cycle, the Agency was working to retrofit each vehicle with Automatic Train Protection to safely run on the 2 Line. This work was underway as the agency needed to receive enough Series 2 vehicles to support current service levels before working on the Series 1 vehicles. Additionally, the vehicle were being improved with "eSuite" which will allow the cars to communicate with the new Passenger Information Management System. Moreover, many of the Series 1 vehicles were nearing their mid-life milestone and were due for a preventative maintenance overhaul. He noted this work was being performed in a way that aims to have no impact on current service.

For Series 2 vehicles, Mr. Beckman noted that the batch of 152 vehicles continues to be received by the Agency with the first car being utilized since May 2021. He added that for the previous 8 months, Sound Transit accepted 8 cars per month. Mr. Beckman noted that the COVID-19 pandemic added delay to the delivery and acceptance of the vehicles, but the realignment and delay in projects made this less of an issue. He explained that after accepting the vehicles, there were instances where issues with vehicle components took longer to resolve than industry standards would suggest. In summary, Mr. Beckman noted that this means Sound Transit received and accepted fewer vehicles than expected, and that accepted vehicles had more issues that require warranty repairs that affect service planning. As of June 5th, he stated that 80 of the 152 Series 2 vehicles were in service. He mentioned that initial assumptions placed a certain number of vehicles as needed to the East Link and Lynnwood Link Extensions: 46 and 34, respectively. Construction delays, potential re-sequencing, and the idea of the East Link Starter Line all contribute to changes in those assumptions.

Turning to storage capacity at the current OMFs, Mr. Beckman stated that the OMF Central in Seattle is designed to hold 104 vehicles and the OMF East in Bellevue is designed to hold 96 vehicles. In addition to the vehicles, the OMFs have space for the operational and maintenance needs to ensure the vehicles and operators are ready for service. He added that there were additional facilities, such as the planned North Maintenance of Way facility to support the Lynnwood Link Extension, that better accommodates operators.

Looking at the OMF East and the East Link Starter Line, Mr. Beckman stated that staff predicted having enough vehicles and storage space to operate the East Link Starter Line at 10-minute headways for 14 hours per day. He added that the assumption in service levels may alter those numbers. He noted several questions raised by Boardmembers that staff are reviewing and analyzing.

Shifting to the 1 Line, Mr. Beckman noted that constraints began to appear as planning for the Lynnwood Link opening continued. Without the connection to the OMF East across Lake Washington, the 1 Line would only have access to vehicles at the OMF Central, which could necessitate adjusting

planned service levels upon the opening of Lynnwood Link. The Agency was looking at ways to store up to 20 vehicles on the 1 Line as the OMF Central would not provide enough capacity alone. Prior to the full East Link connection, service on the 1 Line would be limited to eight-minute headways or four-car trains. He added that there was discussion on using a combination of three- and four-car trains.

Staff continued to monitor and manage these challenges, and Mr. Beckman committed to keeping the Board informed of changes. In recapping next steps, Mr. Beckman stated that the Agency would continue to receive Series 2 and retrofit Series 1 vehicles. In August, staff expected to bring an action to the Board to approve the East Link Starter Line to not preclude the Agency's ability to start pre-revenue service in October. In October, the full 2024 Service Plan, including East Link Starter Line and Lynnwood Link Extension would come to the Board for approval.

Chair Balducci inquired into the vehicle availability and storage capacity for serving the 1 Line with the Lynnwood Link Extension. Mr. Beckman responded that there is interplay between the two factors that presents risk to both, namely the OMF Central does not have the capacity to hold the full fleet, including spare ratio vehicles, for operation of the extended 1 Line from Lynnwood to Angle Lake. The original assumption was to have some of the vehicles stored and maintained at the OMF East, but that was not yet possible until the connection across Lake Washington was complete. Chair Balducci asked if the connection was made, would the number of vehicles be sufficient to operate the 1 Line at the planned service levels. Mr. Beckman believed it would. Chair Balducci asked for a follow-up conversation on whether the distribution of the vehicles between the OMFs may be adjusted to better supply the 1 Line.

Chair Balducci noted that with the plan to come to the Board with an action on the East Link Starter Line in August, she hoped staff would be prepared for potential questions related to impacts between the two openings. Mr. Beckman stated that he intends to have a comprehensive document for the Board to review in advance.

Vice Chair Roscoe asked whether the 20 vehicles marked as being stored on the mainline are in addition to or included in the 99 needed to serve the 1 Line. Mr. Beckman noted that they are included in the 99.

Executive session - None.

Other business - None.

Next meeting


Thursday, July 13, 2023
1:30 p.m. to 5:00 p.m.
Ruth Fisher Board Room &
Virtually via WebEx

Adjourn

The meeting adjourned at 5:06 p.m.



Claudia Balducci
System Expansion Committee Chair

ATTEST:


Adam Montee, on behalf of
Kathryn Flores
Board Administrator

APPROVED on July 13, 2023, AJM.