

Progress Report

Link Light Rail Program



Applying smoothing layer to the tunnel invert at the Downtown Bellevue Tunnel.

September | 2018



Prepared by Project Control & VE | Design, Engineering & Construction Management

September 2018

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Link Light Rail Program Overview



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Link Light Rail Program Overview



University Link Extension (U-Link): This project is a 3.15-mile light rail segment which is located entirely underground with tunnels traveling from Pine Street, under the I-5 freeway to an underground station at Capitol Hill, continuing north beneath SR 520 and the Montlake Cut to an underground station on the University of Washington campus, near Husky Stadium. The Sound Transit Board adopted the baseline capital budget of \$1.76B in July 2008. Revenue Service began on March 19, 2016.

Northgate Link Extension: The University of Washington Station (UWS) to Northgate project is a 4.3-mile extension of light rail from the UWS north under campus via twin-bored tunnels to an underground station at NE 45th Street continuing to an underground station at NE 65th Street and via tunnel, retained cut and elevated sections to Northgate. Revenue Service date is September 2021. The Sound Transit Board adopted the baseline capital budget of \$2.13B originally in 2012 and revised the baseline budget to \$1.89B in October 2015.

Lynnwood Link Extension: Lynnwood Link Extension extends light rail 8.5 miles to Snohomish County along I-5 from Northgate Mall in Seattle to the Lynnwood Transit Center, with four new light rail stations. The configuration includes at-grade, elevated, and retained cut/fill alignment. The Sound Transit Board adopted the baseline capital budget of \$2.77B on May 24, 2018.

East Link Extension: East Link Extension expands light rail to East King County via I-90 from Downtown Seattle to the Overlake Transit Center area of Redmond, with stations serving Rainier Avenue/I-90, Mercer Island, South Bellevue, Downtown Bellevue, Overlake Hospital, the Bel-Red corridor, Overlake Village and the Redmond Technology Center (formerly Overlake Transit Center). Revenue service to the Redmond Technology Station is forecast for June 2023 with a tunnel route in Downtown Bellevue. The Sound Transit Board adopted the baseline capital budget of \$3.67B in April 2015.

Downtown Redmond Link Extension: This project builds a new light rail from the Redmond Technology Station to downtown Redmond by 2024. Light rail will travel along SR-520 with two new stations in southeast Redmond, at Marymoor Park, and downtown Redmond. Preliminary Engineering for the Redmond light rail extension has a budget of \$178M.

West Seattle and Ballard Link Extensions: The West Seattle & Ballard Link Extensions are voter-approved projects under the ST3 Plan. West Seattle segment includes 4.7 miles of light rail from downtown Seattle to West Seattle's Junction neighborhood. It includes five light rail stations. The route will run primarily on elevated guideway with a new rail-only bridge over Duwamish River. The Ballard segment includes 7.1 miles of light rail from downtown Seattle to Ballard's Market Street area. It includes nine light rail stations. The route will run through a new downtown Seattle rail-only tunnel, elevated guideway, and a rail-only bridge over Salmon Bay. The current budget for these projects through completion of Preliminary

Engineering is \$286M.

South 200th Link Extension: S. 200th Link Extension consists of a 1.6-mile extension of the light rail from the SeaTac/Airport Station to an elevated station at South 200th Street. The Project was developed through a design-build delivery strategy. The Sound Transit Board adopted the baseline capital budget of \$383.2M in 2011. Revenue Service began on September 24, 2016.

Federal Way Link Extension: The Federal Way Link Extension adds approximately 7.8 miles of light rail from the Angle Lake Station in the City of SeaTac to the Federal Way City Center. The extension generally parallels SR 99 and I-5 freeway with stations at Kent/Des Moines, South 272nd Star Lake park-and-ride and the Federal Way Transit Center. The Sound Transit Board adopted the baseline capital budget of \$2.45B on September 27, 2018.

Hilltop Tacoma Link Extension: The Hilltop Tacoma Link Extension is a 2.4 mile extension of the existing Tacoma Link system from the Theater District in downtown Tacoma to the Hilltop neighborhood. The extension will travel at-grade along Stadium Way, North 1st. Street, Division Avenue, and Martin Luther King Jr. Way. The Sound Transit Board adopted the baseline capital budget of \$217.3M in September 2017.

Tacoma Dome Link Extension: This project will extend light rail from the Federal Way Transit Center in the City of Federal Way to the Tacoma Dome area in the City of Tacoma a total distance of approximately 9.7 miles, generally along or near I-5 with three elevated stations at South Federal Way, Fife, and East Tacoma, and one at-grade/retained station at the Tacoma Dome. The budget for this project through completion of Preliminary Engineering in June 2019 is \$125.7M.

Link Operations and Maintenance Facility East: This project located in the City of Bellevue, includes a 160,000 square foot operations and maintenance facility that will maintain, store and deploy and expand light rail fleet, including seven LRV service bays, a LRV wash facility and storage for up to 96 light rail vehicles. The ST Board adopted the baseline capital budget of \$449.2M in July 2016.

Light Rail Vehicle (LRV) Fleet Expansion: This project includes the design, manufacturing, inspection, testing and delivery of 152 low floor LRVs for service requirements of Northgate, East Link and Lynnwood Link Extensions. The Sound Transit Board adopted the baseline capital budget of \$733M originally in 2015 and revised the baseline budget to \$740.7M in April 2017 to allow for the procurement of 30 additional vehicles.

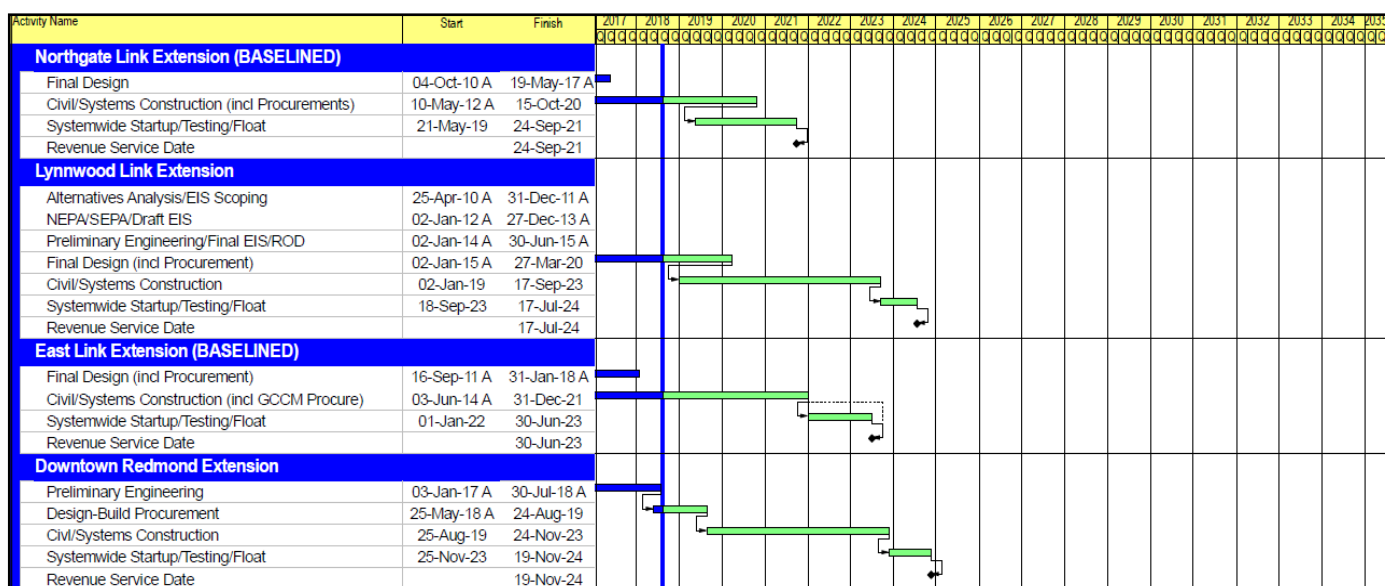
Program Budget

Project figures for active projects are represented in millions below.

Project	Authorized Project Allocation	Commitment to Date	Incurred to Date	Forecast to Complete	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
University Link Extension	\$1,756.0	\$1,516.5	\$1,507.7	\$37.5	\$1,554.0	\$202.0
Northgate Link Extension	\$1,899.8	\$1,631.1	\$1,259.7	\$215.8	\$1,846.9	\$52.9
Lynnwood Link Extension	\$2,771.6	\$331.3	\$271.5	\$2,440.3	\$2,771.6	\$0
East Link Extension	\$3,677.2	\$3,026.3	\$1,522.7	\$650.9	\$3,677.2	\$0
Downtown Redmond Link Ext.	\$178.0	\$31.8	\$22.6	\$146.2	\$178.0	\$0
West Seattle and Ballard Link Ext.	\$285.9	\$30.0	\$18.0	\$255.9	\$285.9	\$0
South 200th Link Extension	\$383.2	\$331.3	\$328.3	\$1.3	\$332.6	\$50.6
Federal Way Link Extension	\$2,451.5	\$103.6	\$80.4	\$2,348.0	\$2,451.5	\$0
Hilltop Tacoma Link Extension	\$217.3	\$181.1	\$26.7	\$36.3	\$217.3	\$0
Tacoma Dome Link Extension	\$125.7	\$12.8	\$5.3	\$112.8	\$125.7	\$0
Link O & M Facility: East	\$449.2	\$356.4	\$168.8	\$92.8	\$449.2	\$0
LRV Fleet Expansion	\$740.7	\$654.2	\$86.7	\$86.5	\$740.7	\$0
Total Link	\$14,936.2	\$8,206.4	\$5,298.4	\$6,424.3	\$14,630.7	\$305.5

Program Schedule

Schedules for active projects are summarized below.

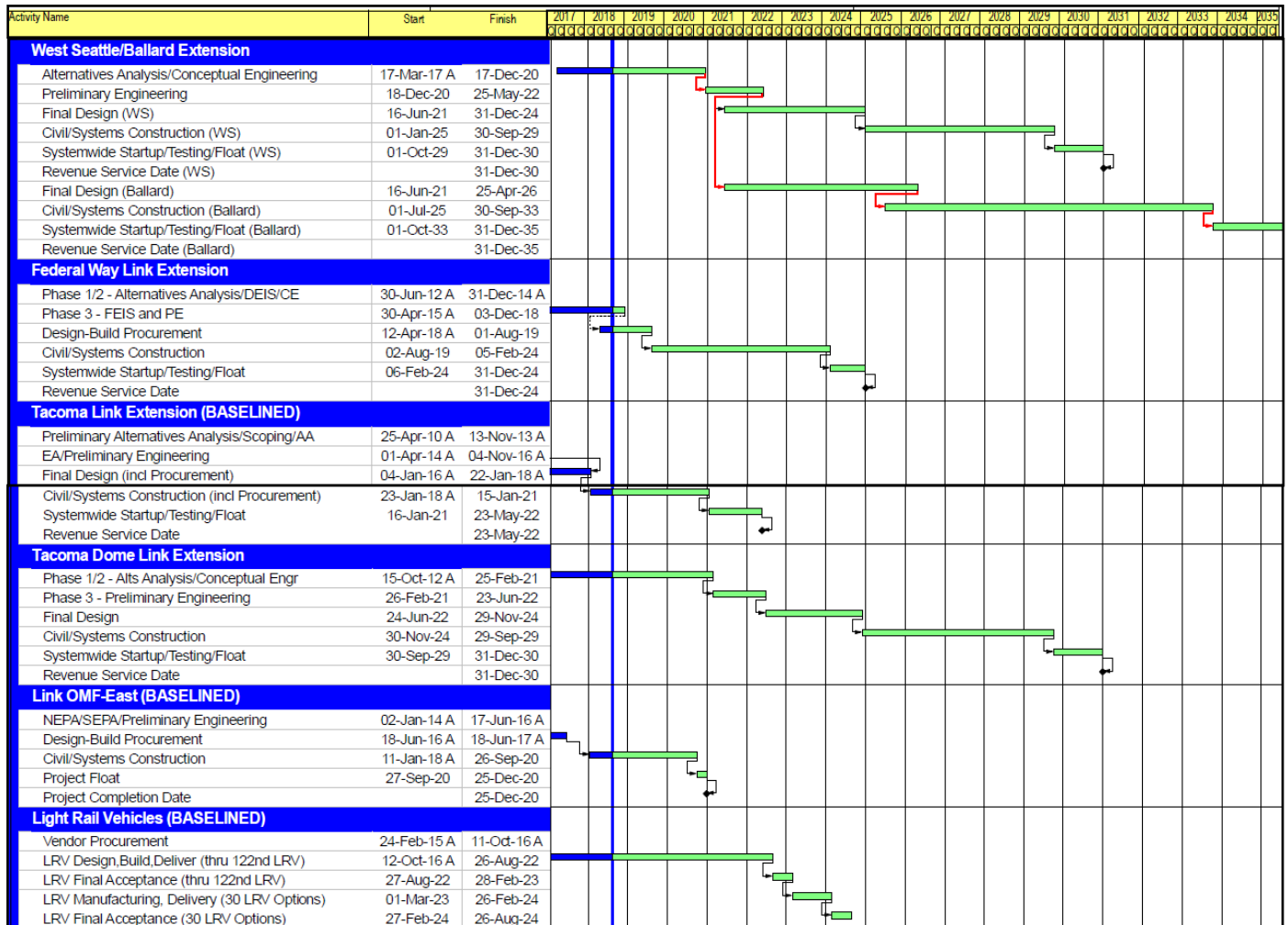


Link Light Rail Program Overview



Program Schedule

Schedules for active projects are summarized below.



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Link Light Rail University Link Extension

Project Summary

Scope

Limits 3.15-mile extension of the Initial Segment light rail transit (LRT) system from the Pine Street Stub Tunnel (PSST) in downtown Seattle to University of Washington (UW) campus near Husky Stadium.

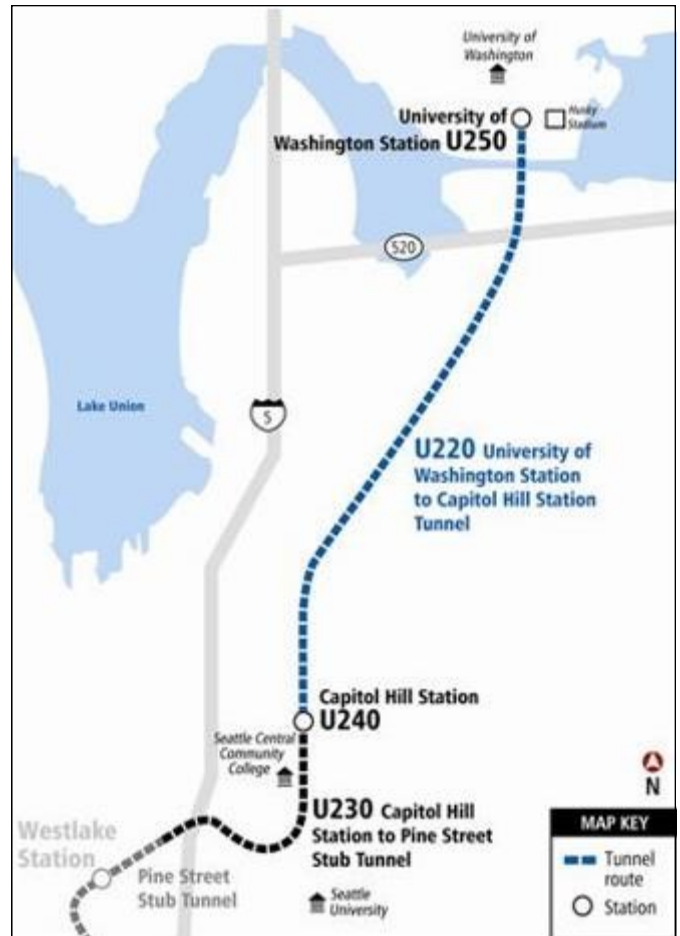
Tunnels Two twin bored tunnels. Two contract segments: U220 starts at Husky Stadium, continues beneath SR 520 and the Montlake Cut south to the Capitol Hill underground station. U230 commences at Capitol Hill Station and proceeds south under the I-5 freeway to the PSST.

Stations Two underground center platform stations – Capitol Hill (U240) and University of Washington (U250). U240 is approximately 65' underground with three station entrances. U250 is about 100' below ground, with three station entrances and connections to the UW campus by a pedestrian bridge.

Systems 27 LRV; direct fixation tracks, signals, traction electrification, and SCADA communications

Budget \$1.948 billion including finance cost (capital subtotal of \$1.756 billion)

Schedule Revenue Service began March 19, 2016



Map of Project Alignment

Key Project Activities

- Certificate of Occupancy (C of O): University Link continues to operate under a temporary certificate of occupancy until all permit requirements are fully met. C of O for stations has now been issued. Awaiting issuance of the system wide C of O for the University Link.
- Commercial issues with all prime civil contractors (with the exception of Capitol Hill Station Contractor) has been negotiated as the project proceeds through the close out process.
- Miscellaneous follow-on commitments and restoration work remains including but not limited to the following: Decommissioning of monitoring wells, restoration of the Systems staging area on Pine Street, power reliability and vibration monitoring and other follow up on various minor commitments from the Record of Decisions.
- Before and After Study continues to progress. FTA's recommendation on data collection to expand the survey data to reflect more accurately the total ridership was incorporated. Study to complete by summer 2019.

Project Cost Summary

The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

University Link's projected Estimated Final Cost (EFC) including Finance Cost remains at about \$1.75B. As the project inches closer to close out, the timing for expenditure becomes less predictable. This period, the project expenditure came in at about \$95K increasing the total direct expenditure to just under about \$1.51B (Finance Cost excluded). Current activities continues to pertain to close out and miscellaneous follow on work. The construction EFC continues to be approximately \$1B. This trend continues to hold as the project is substantially complete with only miscellaneous follow on scope and commercial issues remaining. Systems continues optimization process with miscellaneous operational equipment purchases trailing. The Total Incurred to Date for the Construction Phase is about \$991M and LRV is at about \$99.2M. Cost of LRV repairs were excluded from this project and tracked independently.

Cost Summary by Phase

Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$115.23	\$113.55	\$83.12	\$82.37	\$88.10	\$25.45
Preliminary Engineering	\$24.39	\$24.26	\$24.26	\$24.26	\$24.26	\$0.00
Final Design	\$77.94	\$90.31	\$87.96	\$86.64	\$89.17	\$1.13
Construction Services	\$68.53	\$94.81	\$86.88	\$86.58	\$88.71	\$6.11
3rd Party Agreements	\$18.65	\$18.65	\$11.65	\$11.31	\$13.23	\$5.42
Construction	\$1,180.00	\$1,158.18	\$997.00	\$990.93	\$1,021.84	\$136.34
Vehicles	\$103.91	\$103.91	\$99.20	\$99.19	\$101.91	\$2.00
ROW	\$167.33	\$152.33	\$126.43	\$126.43	\$126.78	\$25.55
Capital Total	\$1,755.97	\$1,756.01	\$1,516.51	\$1,507.71	\$1,554.00	\$202.01
Finance Cost	\$191.71	\$191.71	\$191.71	\$174.87	\$191.71	\$0.00
Project Total	\$1,947.68	\$1,947.72	\$1,708.21	\$1,682.59	\$1,745.71	\$202.01

Totals may not equal column sums due to rounding of line entries.

Construction EFC under the SCC format remains relatively unchanged at about \$998M. Construction SCC expenditures to date is just under \$984M this period mostly attributed to miscellaneous Systems' optimization work and other miscellaneous follow on work project level commitments prior to close out. Total capital cost incurred to date including non-construction cost (SCC 60 thru 90) now just under \$1.51B or about 86% of total project budget scoped (Finance Cost excluded). Total project cost incurred to date at the end of this period including Finance Cost is at \$1.68B. The financing cost incurred to date is about \$175M. University Link EFC continues to be projected to close out with at least \$200M under budget excluding financing cost.

Link Light Rail University Link Extension



Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$626.83	\$450.46	\$456.10	\$456.03	\$461.23	(\$10.77)
20 Stations	\$366.33	\$350.75	\$344.76	\$342.95	\$353.10	(\$2.34)
30 Support Facilities: Yards, Shops	\$7.01	\$24.83	\$23.54	\$23.46	\$24.80	\$0.03
40 Sitework & Special Conditions	\$59.03	\$67.39	\$57.37	\$54.92	\$57.12	\$10.27
50 Systems	\$69.63	\$116.42	\$102.17	\$101.80	\$102.40	\$14.02
Construction Subtotal (10 - 50)	\$1,128.82	\$1,009.85	\$983.94	\$979.16	\$998.64	\$11.21
60 Row, Land, Existing Improvements	\$167.33	\$126.60	\$126.43	\$126.43	\$125.76	\$0.84
70 Vehicles	\$99.76	\$100.16	\$99.87	\$99.87	\$100.16	\$0.00
80 Professional Services	\$306.41	\$346.58	\$306.27	\$302.26	\$317.95	\$28.63
90 Unallocated Contingency	\$53.65	\$172.81	\$0.00	\$0.00	\$11.48	\$161.33
Capital Total (10 - 90)	\$1,755.97	\$1,756.01	\$1,516.51	\$1,507.71	\$1,554.00	\$202.01
100 Finance Cost	\$191.71	\$191.71	\$191.71	\$174.87	\$191.71	\$0.00
Project Total	\$1,947.68	\$1,947.72	\$1,708.21	\$1,682.59	\$1,745.71	\$202.01

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Link Light Rail Northgate Link Extension

Project Summary

Scope

Limits The Northgate Link Extension consists of 4.3 miles of light rail extending from the University of Washington to Northgate.

Alignment The extension begins at UW Station, continues under UW campus, then north to a portal at NE 94th Street, then transitioning to an aerial structure north to Northgate Mall.

Stations U District Station (UDS)
Roosevelt Station (RVS)
Northgate Station and Parking Garage

Systems Signals, track electrification, and SCADA communications

Phase Construction

Budget \$1.899 Billion

Schedule Revenue Service: September 2021



Map of Project Alignment

Key Project Activities

- **Tunnel, Cross Passages, and Maple Leaf Portal (N125):** The Construction Management Team continues to work with JCM to resolve the few outstanding claims, RFCs and other final documentation needed for contract closeout.
- **U District Station/UW Campus (N140):** Hoffman crews completed formwork and rebar in the north area, placed shotcrete for an interior wall and poured 117 CY of concrete for a north headwall. Crews continued falsework and lid decking formwork installation and commenced MEP installations under escalators. Hoffman commenced removing beam and pipe strut cross lot bracing and waterproofing of lid slab.
- **Roosevelt Station (N150):** At the north entry, Hoffman crews continued steel erection of brace frames and clerestory columns. Crews continued overhead Mechanical, Electrical and Plumbing work at basement level 1; continued framing side walls for the metal panel system and escalator control room. Hoffman continued installing metal deck sleeves and hangers at head house and continued framing roof protective walls on all levels of the south head house.
- **Northgate Station (N160): Guideway Substructure/Superstructure:** Hoffman crews placed foundations at spans and continued forming girder stops while continuing to point/patch columns and substructure. **Station:** Crews continued installing columns and beams for Elevator 3 frame and continued erection of Stair 2 steel. **Garage:** Crews placed sidewalk along south side to complete access to/from elevator, installed handrail in Stair 3.
- **Trackwork (N180):** Notice of Substantial Completion Milestone 1 was issued this period after completion of floating slabs. Direct fixation track work continues in both tunnels north of UWS.
- **Environmental:** Began developing new permit applications and a mitigation plan for the South Watercourse due to impacts from King County's bus layover project. Worked with agencies to update culvert design for the South Watercourse.

Closely Monitored Issues

- Sound Transit is now working towards a mid-November date for opening the Northgate Parking garage to the public.
- N150—Emergency Tunnel Ventilation Fan Status: The 450 HP fans are being reworked with new hubs, blades, and blade angles to correct issues with factory testing.

Project Cost Summary

The project cost is summarized in two cost categories. The first table summarizes cost in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes the project in accordance with the FTA's Standard Cost Category (SCC) format. The figures in both tables are shown in millions.

The Estimated Final Cost (EFC) for the project as of this reporting period is \$1,846.9M, which is \$52.9M below the current project budget, which is unchanged since the last period. This period approximately \$9.2M was incurred, bringing the total project expenditures from \$1.25B to \$1.26B. Project commitments are at \$1.63B with all major construction projects well underway.

Cost Summary by Phase

Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$144.9	\$144.9	\$63.0	\$64.3	\$135.5	\$9.4
Preliminary Engineering	\$15.1	\$15.1	\$15.1	\$15.1	\$15.1	\$0.0
Final Design	\$132.2	\$132.2	\$117.0	\$112.7	\$134.7	\$(2.6)
Construction Services	\$118.3	\$118.3	\$103.1	\$73.0	\$110.4	\$7.9
3rd Party Agreements	\$11.8	\$11.8	\$9.8	\$6.7	\$12.4	\$(0.6)
Construction	\$1,343.0	\$1,343.0	\$1,222.6	\$887.6	\$1,332.9	\$10.2
ROW	\$112.3	\$112.3	\$100.4	\$100.4	\$106.0	\$6.3
Project Contingency	\$22.2	\$22.2	\$0.0	\$0.0	\$0.0	\$22.2
Total	\$1,899.8	\$1,899.8	\$1,631.1	\$1,259.7	\$1,846.9	\$52.9

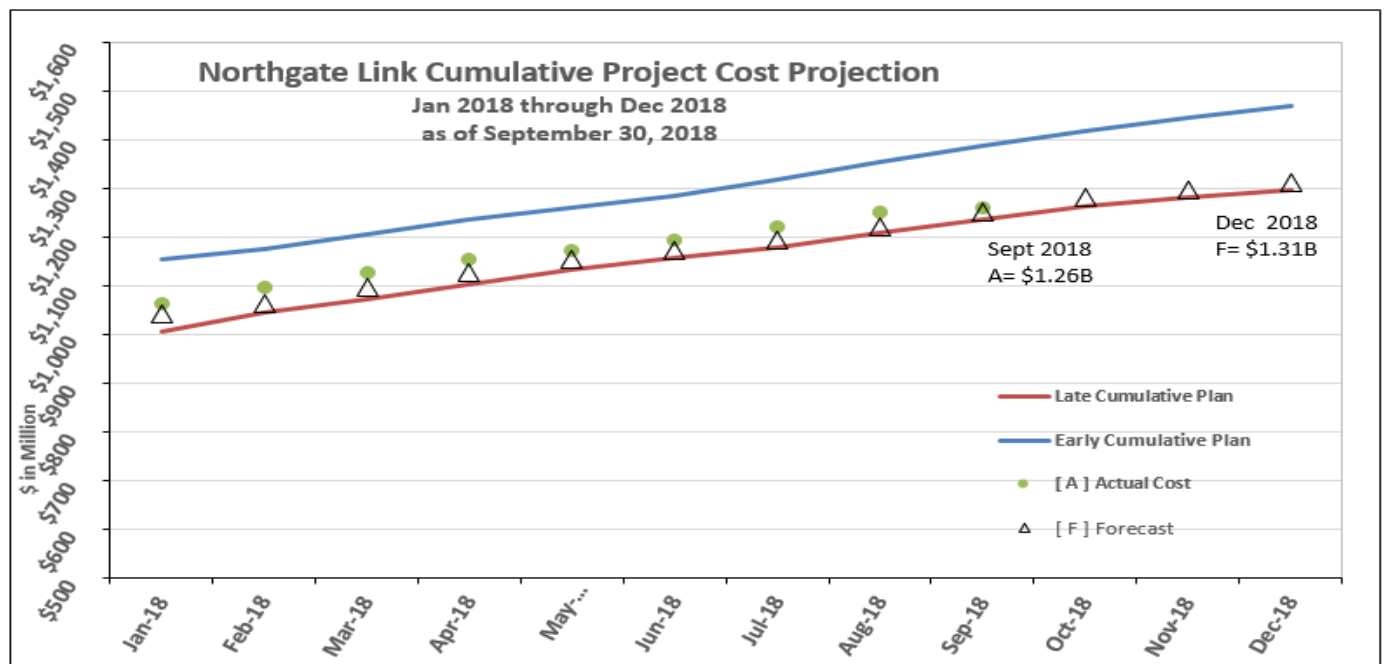
Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$595.6	\$549.8	\$512.3	\$473.1	\$532.6	\$17.2
20 Stations	\$376.1	\$424.1	\$419.8	\$242.3	\$447.3	\$(23.2)
30 Support Facilities: Yard, Shop	\$5.3	\$5.3	\$6.4	\$6.0	\$6.4	\$(1.2)
40 Sitework & Special Conditions	\$140.8	\$224.2	\$166.4	\$135.9	\$201.7	\$22.5
50 Systems	\$110.9	\$96.7	\$107.3	\$21.7	\$119.5	\$(22.8)
Construction Subtotal (10 - 50)	\$1,228.7	\$1,300.1	\$1,212.2	\$879.0	\$1,307.5	\$(7.5)
60 Row, Land, Existing Improvements	\$119.9	\$110.9	\$100.4	\$100.4	\$105.5	\$5.4
80 Professional Services	\$420.7	\$431.6	\$318.4	\$280.3	\$428.4	\$3.2
90 Contingency	\$130.4	\$57.2	\$0.0	\$0.0	\$5.4	\$51.8
Total (10 - 90)	\$1,899.8	\$1,899.8	\$1,631.1	\$1,259.7	\$1,846.9	\$52.9

Project Cash Flow Projection

The Northgate Link cost projection continues to progress within the planned expenditures as construction activities continue. This period's expenditure of \$9.2M included \$5.4M for the ongoing major construction contracts including the N140, N150, and N160 Station Finishes contracts, the N180 Trackwork contract and N830 Systems contract, and other miscellaneous construction; \$0.5M was incurred for civil and systems final design and design support during construction; and \$1.4M was for construction management. The remaining expenditures were for third party coordination, permits, staff, legal, right-of-way and other direct charges.

Total project cost incurred to date reached \$1.26B of which about \$888M (70%) is attributed to the Construction Phase. The project cost is currently predicted to increase to approximately \$1.3B by December 2018, reflecting continued active construction activities through spring and summer.



Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility to continuously monitor project status and associated risks.

The risk register is updated quarterly. The following remain the top project wide risks:

- Multiple contract interfaces.
- Potential shortage of skilled labor and O&M support during startup and integration testing.
- Duration uncertainties for system installation, integration, and testing.
- Coordination with third parties (City of Seattle, WSDOT, UW etc.).
- Obsolescence of interfacing systems.

Contingency Management

The Northgate Link project budget was baselined in 2012 with a total contingency of \$396.2M.

Design Allowance (DA) was established to account for unquantified scope at the time of the cost estimate. DA has been fully depleted and all major contracts have been awarded.

Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement.

Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties.

The current contingency drawdown is trending below the project drawdown at the end of 3rd QTR 2018. This period, AC decreased by \$2M due to the execution of change orders on the N140, N150 and N160 Station contracts, the N180 Trackwork contract, and the N830 Systems contract. The UAC was decreased by \$0.5M following transfer to the N835 budget for additional vibration monitoring scope. The balance remains well above both the minimum contingency and the buffered (minimum plus 20%) contingency levels.

Contingency Status (Monthly)

Type	Baseline		Current Status	
	Amount	% of Total Budget	Remaining Amount	% of Work Remaining
Design Allowance	\$113.9	6.0%	\$0.0	0.0%
Allocated Contingency	\$184.0	9.7%	\$140.7	24.0%
Unallocated Contingency	\$98.3	5.2%	\$35.0	6.0%
Total:	\$396.2	20.9%	\$175.7	29.9%

Contingency by Type

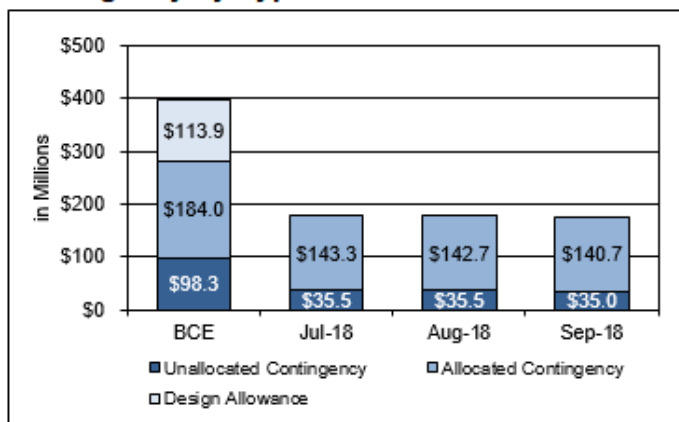
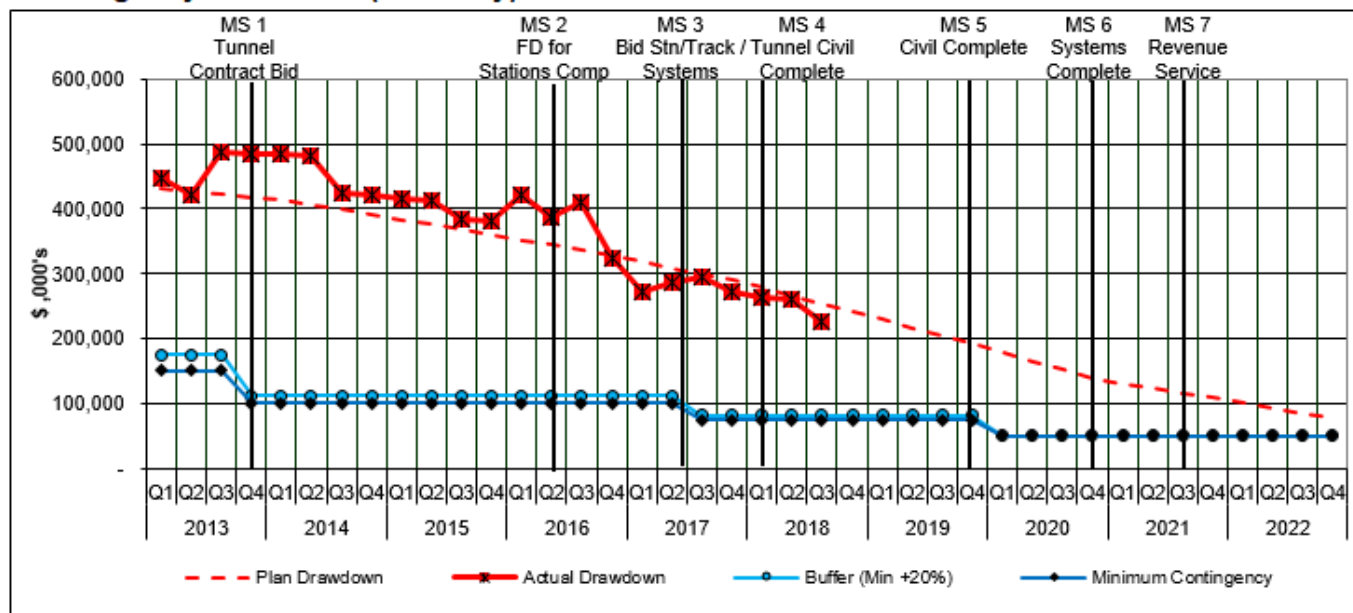


Table figures are shown in millions.

Contingency Drawdown (Quarterly)



Link Light Rail Northgate Link Extension

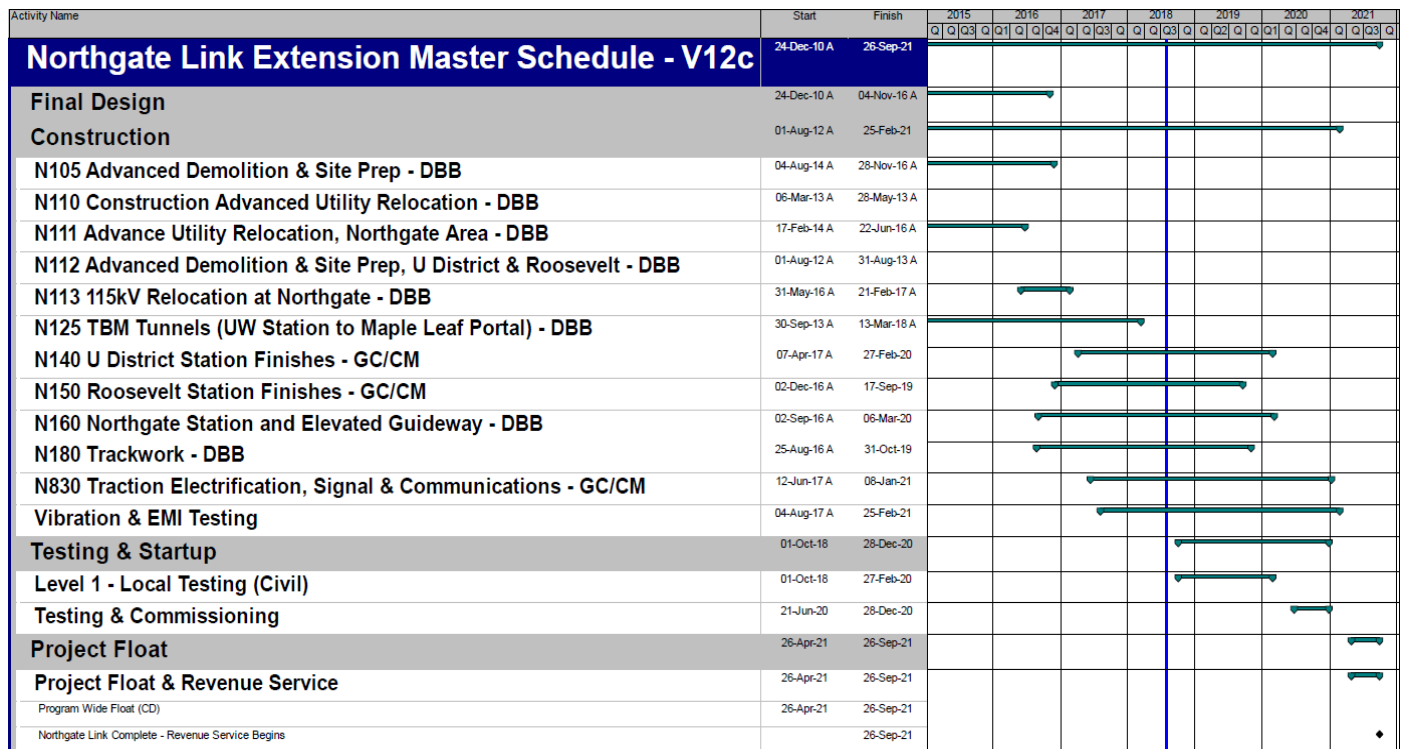


Project Schedule

As of September 2018, all Northgate Link civil contracts are under construction and the calculated physical percent complete for all major construction contracts is approximately 70%.

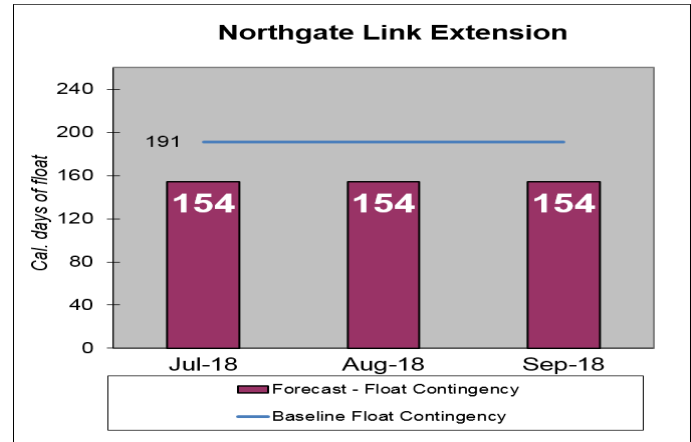
The Northgate Link Extension remains on schedule for the period. Civil construction is still forecast to complete in 3rd QTR 2020. Systems construction is forecast to complete in late 4th QTR 2020.

- The N125 Tunneling Contract is continuing with close-out.
- The N140 U District Station contractor, Hoffman Construction, is nearing completion of the Basic Structure Below Grad and is currently working on the station lid. CMU room construction and EMP rough-in are underway on the lower levels.
- At Roosevelt Station (RVS), N150, headhouse CMU wall construction is underway. Interior work consists of finishing the Systems Rooms, EMP installations, and preparing for finish work in the coming month.
- The N160 contractor, Absher Construction is working toward an October completion of the Parking Garage civil construction. Guideway Railing, piping and OCS foundations are ongoing. Platform canopy and station structural work is also ongoing.
- The N180 Trackwork contractor, Stacy & Witbeck, is completing track work installations from UWS to RVS. Rail installation is now focused in the tunnels between UDS and RVS. At MLP, the forming and pouring for the stair tower walls is ongoing.
- The N830/E750 Systems Contractor, Mass Electric (MEC), is continuing engineering and procurement work for signals and communications. EMI cable installation is nearing completion in the tunnel. MEC crews are continuing to work alongside the N160 crews in the Northgate Station Parking Garage.
- Revenue Service date for Northgate Link Extension is scheduled in September 2021.



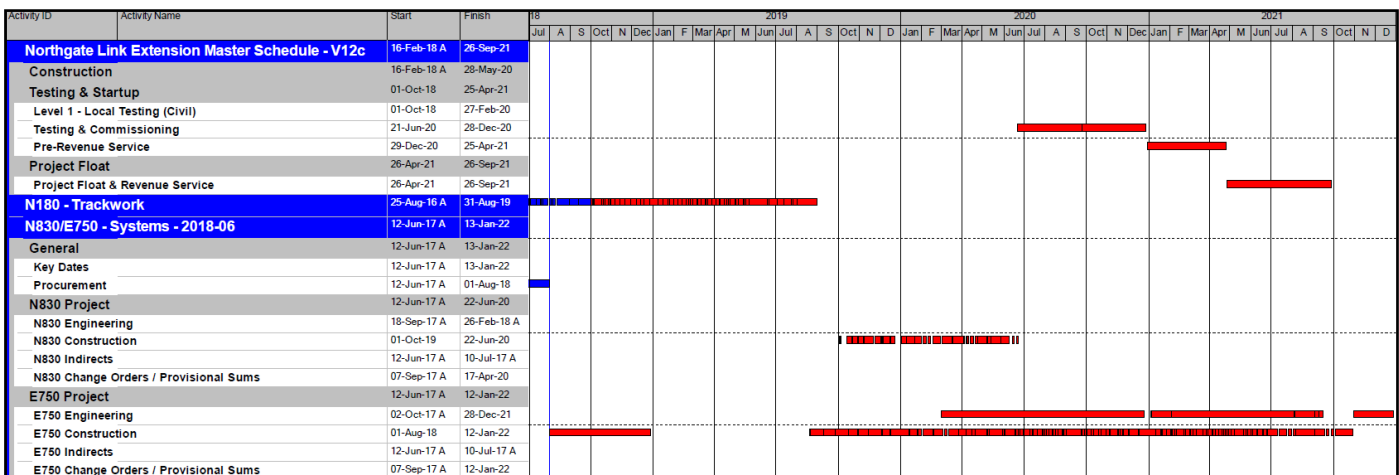
Project Float

The Northgate Link Project currently retains 154 days of unallocated project float. The station, trackwork, and systems contracts do not have Sound Transit Controlled Float. Interface float exists for interim milestones only and is Sound Transit managed, not contractual.



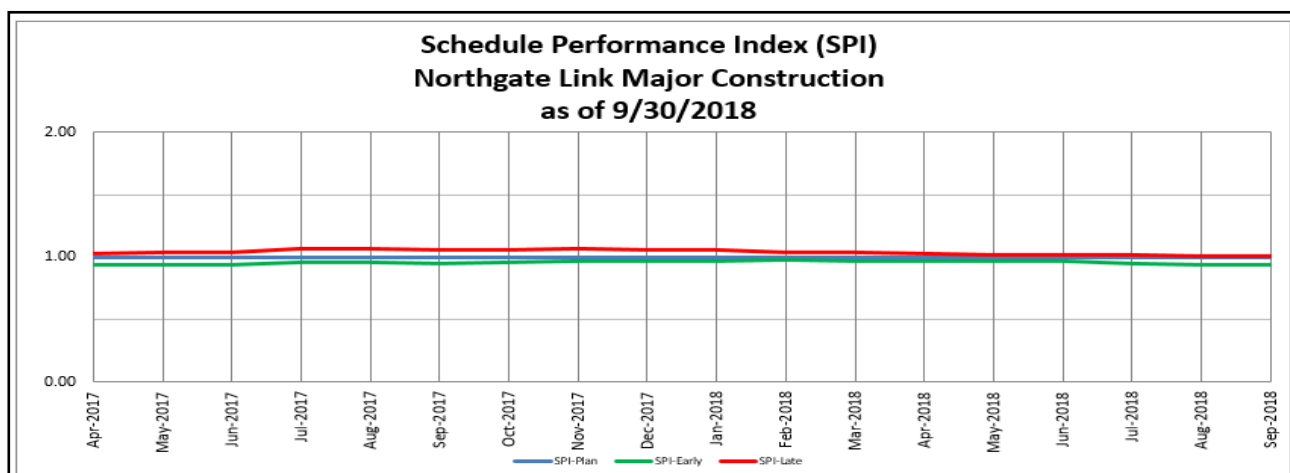
Critical Path Analysis

The critical path for the Northgate Link Extension runs through the N180 Trackwork construction to the handover to the N830 contract for installation of the OCS system, then into the Testing & Commissioning proceeding the Pre-Revenue Service period.



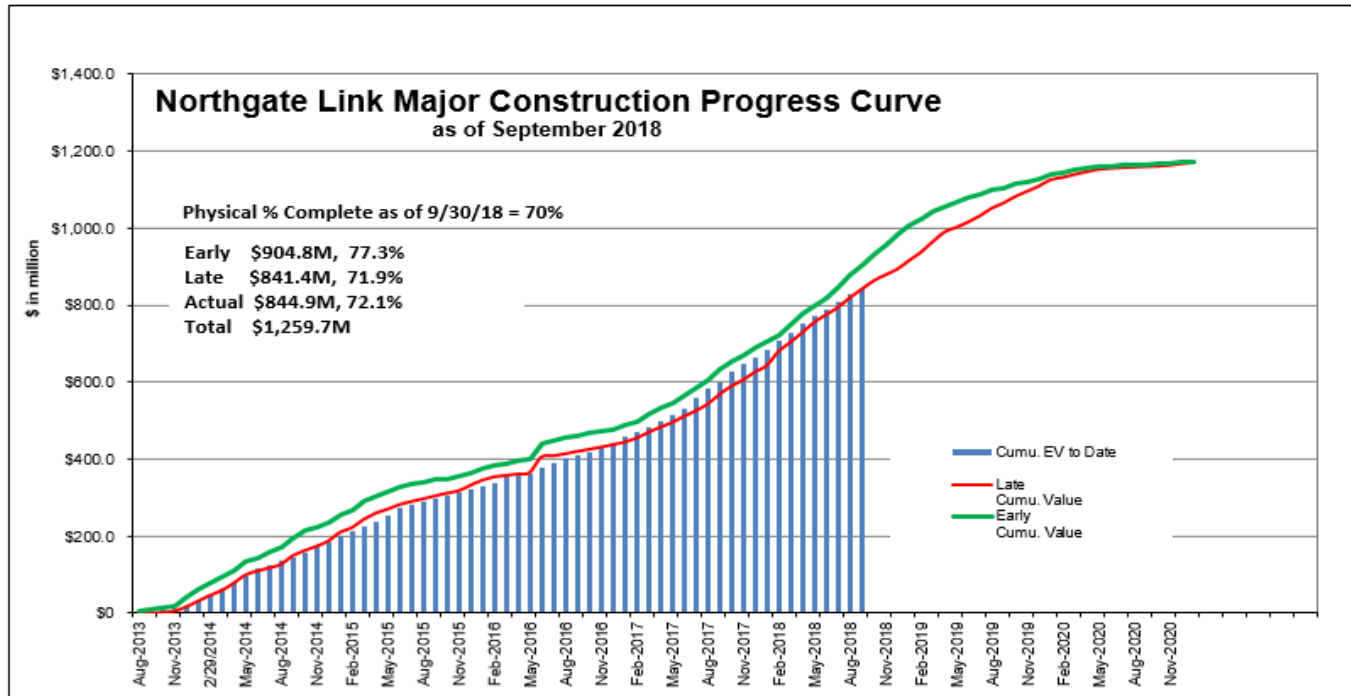
Schedule Performance Index

The early Schedule Performance Index (SPI) for the project is at 0.93 for this period. The late SPI is at 1.00 showing that in general, performance is satisfactory. The early and late numbers have been trending within a range of 0.04 above or below the current period numbers for several months.



Cost Progress Analysis

All civil work in the tunnels is complete and all three station finishes contracts and trackwork are well underway. Systems procurement continues for signals and communications, installation for the garage is complete and punchlist inspection held, and EMI cable in the tunnels is nearly complete. Overall Northgate Link Major Construction percent complete analysis is based on a weighted measurement among the six major construction contracts' schedules, durations and costs. The graph below shows the aggregate cost progression for these construction contracts is trending appropriately between the early/late projections as drawn from the master schedule. The overall physical percent complete for Northgate Link construction is approximately 70% as compared to approximately 64% of contractual duration expended.



Community Outreach

University District Station (N140)

- Distributed A-board adhesive signage to four businesses.
- Followed up with businesses about garbage issues in alleyway over holiday weekend.
- Responded to early morning noise complaint from U Manor.
- Staffed an information table at the annual "Up Your Ave" event in the U District. 200 students stopped by to get their passports stamped and get information about the project.

Roosevelt Station (N150)

- Worked with contractor to respond to Dwell resident who made complaint about welding near windows.
- Coordinated Earth Cam move to Toronado building and liaised between business and contractor.

Community Outreach

Northgate Station (N160)

- Distributed construction alert regarding an early morning concrete pour through Northgate Station GovDelivery email list, emailed to key community stakeholders, and door-to-door delivery.
- Coordinated 1st Ave NE closure wayfinding detour for Hampton Inn guests.
- Distributed NGS 1st Ave NE and NE 100th Stt night-time closure alert through Northgate Station GovDelivery email list, emailed to key community stakeholders, and door-to-door delivery and Northgate link project page.
- Addressed utility leak issue with Puget Sound Energy and contractor. Made final determinations that the leak was pre-existing. Communicated final documentation with Northgate Condos.
- Updated and distributed Permit and Outreach Communications plan for Northgate garage opening.
- Drafted signage plan for lot closure / garage opening at Northgate. Communicated with KCM and with PEPD.

Sound Transit Board Actions

Board Action	Description	Date
	None to report.	

Construction Safety

Data/ Measure	September 2018	Year to Date	Project to Date
Recordable Injury/Illness Cases	3	19	98
Days Away From Work Cases	0	0	6
Total Days Away From Work	0	0	397
First Aid Cases	4	45	142
Reported Near Mishaps	0	30	114
Average Number of Employees on Worksite	491	-	-
Total # of Hours (GC & Subs)	92,216	872,257	3,780,390
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	6.51	4.36	5.18
Lost Time Injury (LTI) Rate	0.00	0.00	0.32
Recordable National Average	3.20	3.20	3.20
LTI National Average	1.30	1.30	1.30
Recordable WA State Average	6.40	6.40	6.40
LTI WA State Average	2.10	2.10	2.10

Note: Due to the timing of contractor's reporting periods, the current month's numbers above are a combination of actuals and estimates. All previous months' numbers are reconciled and replaced with actuals.

Major Construction Contract Packages

Below are the major construction contract packages for the project with a brief scope description of each.

N105 Advance Demolition and Site Prep - Demolition of Key Bank Building, removal of underground storage tanks and remediation of contaminated soil at UDS. Demolition site and site prep at strip mall near the NG Station. (Complete)

N111 Advanced Utility Relocation at Northgate Area - Relocation of 26kV and communication lines at the Northgate Station vicinity. (Complete)

N113 115kV Relocation at Northgate Station Area - Relocation of overhead electrical facilities at the Northgate Station area. (Complete)

N125 TBM Tunnels UW Station to Maple Leaf Portal - Tunneling work and support of excavation of station boxes for the U District and Roosevelt stations. (Complete)

N140 U District Station Finishes - Civil and architectural finishes work for the U District Station.

N150 Roosevelt Station Finishes— Civil and architectural finishes work for the Roosevelt Station.

N160 Northgate Station & Elevated Guideway & Parking Garage- Civil and architectural finishes work for the Maple Leaf Portal, the aerial guideway, and the Northgate Station and Tail Track. Construction of a 450 stall parking garage to be located at the south corner of the existing Northgate Mall surface parking lot at NE 103rd St. near 1st Avenue NE.

N180 Trackwork - Installation of all trackwork through two tunnels and three stations between UW Station and Northgate Station, including tail track.

N830 Track Electrification, Signals, Communication System - Installation of the major system elements – Traction Electrification, 26kV Distribution, Signals, and Communications.



N180 — Placing Southbound Track Slab at Maple Leaf Portal.

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Contract N125 – TBM Tunnels

Close-out Progress

The N125 Contractor, JCM, was issued Substantial Completion on March 13, 2018. JCM is working to complete the final punchlist in the tunnels:

- One item of curb and ramp restoration, requiring Seattle Department of Transportation (SDOT) agreement. This work may be completed by the City and a credit pursued from the contractor.
- JCM is working to complete project documentation.
- Continued negotiations on several open contractor cost issues/claims.

Next Period's Activities

- Complete remaining Nonconformance Reports (NCRs) and punch list items—one item remains outstanding.
- Continue safety critical certification—one item remains outstanding.
- Continue finalizing remaining change orders.

Closely Monitored Issues

- There are numerous open claims on the contract that are being reviewed and/or negotiated at various levels of partnering. Close-out of these remaining items will be necessary to achieve Final Acceptance.

Cost Summary

Present Financial Status	Amount
N125 Contractor - JCM Northlink	
Original Contract Value	\$ 440,321,000
Change Order Value	\$ 60,697,734
Current Contract Value	\$ 501,018,734
Total Actual Cost (Incurred to Date)	\$ 497,721,033
% Authorized Billed-to-Date	99.3%
Physical Percent Complete	100.0%
Authorized Contingency	\$ 66,048,150
Contingency Drawdown	\$ 60,697,734
Contingency Index	1.1

Contract N140—U District Station Finishes

Current Progress

The N140 Contractor, Hoffman Construction, continues to prosecute the structural work in Basement Level (BL) 1 in the north and south Areas.

- Form, Rebar, and embeds under way for North Lid at BL1.
- Continued preliminary fit up of EVS dampers on BL3.
- Commenced formwork and rebar installations for south headhouse walls, equipment shaft GL1.5 /GLF and upturned beams.
- Continued falsework and lid decking formwork installation east side, GL3 to GL7.
- Completed installation of TOD Girder section at south lid level GL3 / GLF.

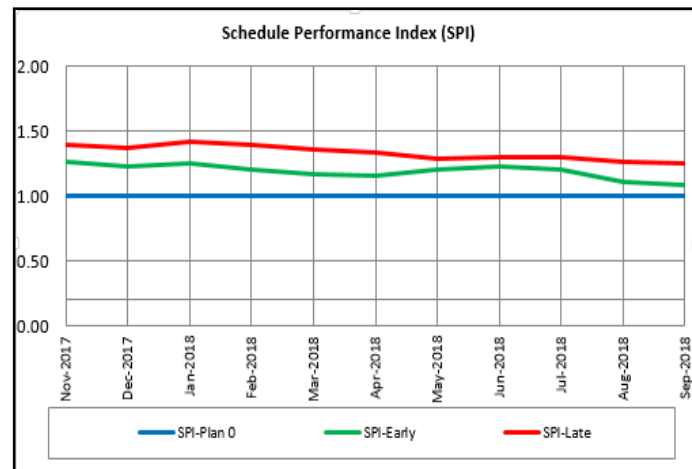
Schedule Summary

The schedule update for September 2018 indicates the project showed slippage in the Substantial Completion, but still ahead of the contract end date. The critical path for the project is unchanged in the North Headhouse then Commissioning.

Activity Name	OD	RD	Start	Finish	2017					2018				2019				2020
					Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
N140 - U-District Station Finishes	764	358	10-Feb-17 A	27-Feb-20														
MILESTONES	0	0	27-Feb-20	27-Feb-20														
Milestone 4 - Substantial Completion	0	0		27-Feb-20*														
PRECONSTRUCTION	0	0	17-Jul-17 A	17-Jul-17 A														
Precon - Site Access Granted (Construction NTP)	0	0	17-Jul-17 A															
CONSTRUCTION	764	358	10-Feb-17 A	27-Feb-20														
Structure	685	279	10-Feb-17 A	04-Nov-19														
EXTERIOR SHELL / SKIN	141	141	03-Dec-18	20-Jun-19														
INTERIORS	317	268	23-Jul-18 A	18-Oct-19														
ELEVATORS	155	155	11-Feb-19	19-Sep-19														
ESCALATORS	298	216	18-Jun-18 A	19-Aug-19														
STAIRS	312	213	10-May-18 A	01-Aug-19														
SITWORK	342	220	18-Jun-18 A	21-Oct-19														
START-UP & COMMISSIONING	208	208	03-May-19	27-Feb-20														

Schedule Performance Index

This period, the SPI early is at 1.08 and the SPI late is 1.25. The early index indicates that the contractor continues to perform slightly ahead of plan when compared to the base-line schedule and cash flow and is expected to trend the same way next period.



Link Light Rail Northgate Link Extension

Next Period's Activities

- Complete falsework and lid decking formwork installation east side, GL8 to GL10.
- Continue Mechanical, Electrical, Plumbing (MEP) lay out and installations for lid slab in the north and central areas.
- Commence EVS damper frame installations in basement level 3, south area.
- Commence rebar bottom mat installation in the central area.
- Commence rebar and formwork for installations for TOD girder, escalator and elevator walls.
- Complete formwork and rebar installations of south head house walls, equipment shaft, and upturned beams, place concrete.
- Complete CMU wall installations at the platform level to north basement level 3.

Closely Monitored Issues

- Sound Transit is studying options for providing permanent public stairs from street level to the platform level. The purpose of the stairs is so they could be used by the public if multiple lower level escalators were ever out of commission at the same time during future railway operations. It is anticipated that the initial design concept will be completed by next month.

Cost Summary

Present Financial Status	Amount
N140 Contractor—Hoffman Construction	
Original Contract Value	\$ 159,836,688
Change Order Value	\$ 848,340
Current Contract Value	\$ 160,685,028
Total Actual Cost (Incurred to Date)	\$ 65,301,677
Financial Percent Complete	40.6%
Physical Percent Complete	36.4%
Authorized Contingency	\$ 7,991,834
Contingency Drawdown	\$ 848,340
Contingency Index	3.4



UDS – TOD Girder South Lid

Contract N150—Roosevelt Station Finishes

Current Progress

Hoffman Construction (HCC) is continuing structural work at the North and South Headhouses. Concrete Masonry Unit (CMU) block installation at the Headhouses is underway. Mechanical, Electrical, and Plumbing (MEP) rough-in moves up to BL1.

Major accomplishments this period include:

- Completed installation of drywall, taping and painting drywall at north basement level 1.
- Completed painting exposed structural steel at south entry.
- Continued south basement level 3 finishes including overhead MEP, sprinkler work and commencing drywall installation.
- Continued installation of SCL duct bank along 67th Street and 12th Ave.

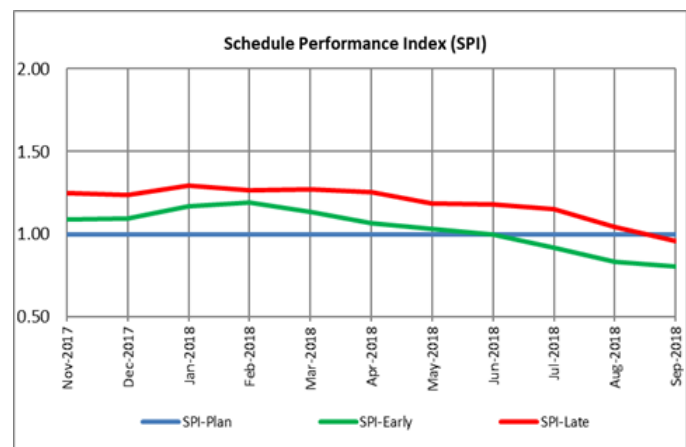
Schedule Summary

The N150 September schedule shows a 1 day slip in the Substantial Completion date. The critical path is still driven by South Headhouse structure. Sound Transit has reached agreement with Hoffman on the impacts of the grade wall removal to Milestone 1a and on CMU changes related to Milestone 2. The impacts affect interim milestones and do not impact the follow-on Systems contract.

Activity Name	OD	RD	Start	Finish	2017					2018				2019				
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
N150 - Roosevelt Station Finishes	708	245	02-Dec-16 A	17-Sep-19														
MILESTONES	0	0	17-Sep-19	17-Sep-19														
MILESTONE 3 - SUBSTANTIAL COMPLETION OF ALL WOR	0	0		17-Sep-19*														
PRECONSTRUCTION	0	0	02-Dec-16 A	02-Dec-16 A														
ISSUE CONSTRUCTION NTP	0	0		02-Dec-16 A														
CONSTRUCTION	660	245	13-Feb-17 A	17-Sep-19														
MOBILIZATION	588	134	13-Feb-17 A	05-Jun-19														
STRUCTURE	608	186	13-Feb-17 A	03-Jul-19														
INTERIORS	325	192	23-Mar-18 A	02-Jul-19														
HEADHOUSE	343	208	21-Mar-18 A	25-Jul-19														
BUS SHELTER	30	30	07-Jan-19	15-Feb-19														
BIKE CAGE	13	13	01-Feb-19	19-Feb-19														
ELEVATORS	132	132	27-Nov-18	04-Jun-19														
ESCALATORS	130	130	07-Nov-18	13-May-19														
STAIRS	118	96	04-Sep-18 A	15-Feb-19														
CP-31	212	55	19-Feb-18 A	18-Dec-18														
CONSTRUCTION ACCESS INFILL	68	68	06-Jun-19	11-Sep-19														
START-UP & COMMISSIONING	233	233	17-Oct-18	17-Sep-19														
SITE RESTORATION	295	215	07-Jun-18 A	05-Aug-19														
ARTWORK	192	96	15-Aug-18 A	16-May-19														
CLOSEOUT	89	89	28-Mar-19	01-Aug-19														
N830 TRACTION ELECTRIFICATION, SIGNALS, C	71	71	15-Oct-18	25-Jan-19														

Schedule Performance Index

This period, the SPI early is at 0.80 and the SPI late is at 1.0. The early index suggests that the contractor is performing slightly behind plan when compared to the baseline schedule. The SPI was expected to rise in August, but two of the five tunnel ventilation fans delivery dates were pushed out until September and the escalators were pushed to October. It is anticipated that the curves will be back on track towards the end of the year.



Link Light Rail Northgate Link Extension

Next Period's Activities

- Continue steel erection of brace frames and clerestory columns at north head house.
- Continue north basement level 3 finishes including overhead Mechanical, Electrical, and Plumbing (MEP) work and installation of drywall.
- Continue north platform finishes including ceiling insulation, overhead MEP and sprinkler work.
- Complete south platform finishes work including overhead MEP, fire sprinkler rough-in and installation of drywall.
- Continue installation of mechanical chase ductwork at north basement level 2 and south basement level 2.
- Continue installation of SCL duct bank along 67th Street and 12th Ave.
- Commence installation of electrical panels in north platform rooms.
- Continue framing roof parapets all levels at south entry.
- Continue painting of GWB and installation doors at north and south platform rooms, south basement systems, rooms, and exposed structural steel at south entry.

Closely Monitored Issues

- Design continues to focus on responding to overdue Requests for Information (RFIs) and urgent submittals. Design lead is aware and is working with to remedy this situation.
- Design has caught up with the final drawings and specifications for pending change orders and will continue to track these items for on-time processing of future change orders.

Cost Summary

Present Financial Status	Amount
N150 Contractor - Hoffman Construction	
Original Contract Value	\$ 152,291,184
Change Order Value	\$ 3,307,825
Current Contract Value	\$ 155,599,009
Total Actual Cost (Incurred to Date)	\$ 89,945,089
Financial Percent Complete	57.8%
Physical Percent Complete	52.9%
Authorized Contingency	\$ 7,614,559
Contingency Drawdown	\$3,307,825
Contingency Index	1.2



Roosevelt Station —Placing Structural Steel—North Head House

Contract N160 – Northgate Station, Elevated Guideway, and Parking Garage

Current Progress

The N160 Contractor, Absher Construction, continues to progress toward completion of the parking garage in mid-October. Major construction of the Guideway is complete, and work on the station is progressing. Accomplishments to date:

- Placed OCS foundations Spans A5, A8, A9, A10 and B5.
- Placing rebar and keyways for Stair/Escalator 1 over 103rd. Continuing to weld on Station Stair 2.
- Placed 100CY for Stair 2 foundation.
- Installing new pedestrian crosswalk buttons at handicap ramp at northeast corner of Bus Entrance.
- Conducted and passed the L&I inspection of the Parking Garage Elevators.
- Joint Punch-list Inspection of Garage levels B2 and B1 was held on the 25th. Level L1 and the garage exterior was inspected on the 28th.

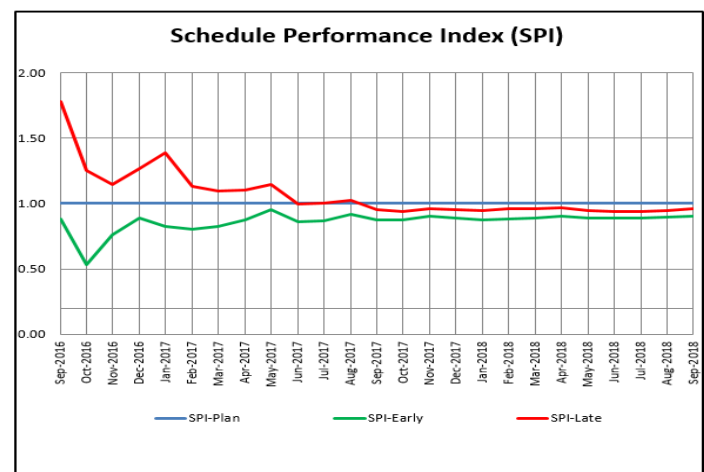
Schedule Summary

The project schedule for September carries an Oct. 24th achievement of Milestone (MS)-03a. The primary driver in the garage remains the electrical installations. Milestones 1, 5, and 8 showed negative variances for the period, but are not impacting other contracts. The critical path for the project is unchanged and remains the station structure & station finishes, in particular the installation of vertical transportation (escalators and stairs).

Activity Name	OD	RD	Start	Finish	2017				2018				2019				2020			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
N160 - Northgate Station Finishes	892	362	01-Sep-16 A	06-Mar-20																
1.00 - General Requirements	887	0	01-Sep-16 A	06-Mar-20																
1.10 - Project Start-up	0	0	01-Sep-16 A	01-Sep-16 A																
Contract Award/NTP (See Site Access Dates)	0	0	01-Sep-16 A																	
1.20 - Contractual Milestones	0	0	06-Mar-20	06-Mar-20																
Absher Contract Milestones	0	0	06-Mar-20	06-Mar-20																
MS08 - Substantial Completion [Site Access+1201c	0	0		06-Mar-20*																
2.00 - Procurement	778	254	02-Sep-16 A	01-Oct-19																
3.00 - Preparatory Work	861	362	17-Oct-16 A	06-Mar-20																
4.00 - Earthwork & Utilities	802	362	04-Jan-17 A	06-Mar-20																
5.00 - Guideway (inc. Station Unit)	508	58	03-Jan-17 A	21-Dec-18																
6.00 - Station Finishes	434	303	27-Mar-18 A	11-Dec-19																
7.00 - Garage	341	22	27-Jun-17 A	30-Oct-18																
8.00 - At-Grade Restoration	579	321	22-Sep-17 A	08-Jan-20																
9.00 - Transition to Operations	5	5	28-Dec-18	04-Jan-19																
10.00 - Project Close-out	76	76	15-Nov-19	06-Mar-20																

Schedule Performance Index

This period, the SPI early is at 0.91 (up from 0.90 last month), and the SPI late is at 0.96 (up from 0.95). The early index indicates that the contractor continues performing slightly behind plan when compared to the baseline schedule. The SPI is increased slightly over the last period, and overall work progress has remained within 0.03 of its current trend over the last year.



Link Light Rail Northgate Link Extension

Next Period's Activities

- **General Project Progress:** Continue processing and reviewing of submittals and RFIs. Continue CIP meetings with N830. Hold regular Transition to Ops meetings for Garage handover.
- **Guideway Substructure/Superstructure:** Continue permanent guardrail installations and layout and installation of emergency walkway frames. Continue welding braces and installation of fire suppression piping. Begin punchlist repairs for concrete.
- **Station:** Continue steel erection over 103rd St and at Stair 2. Continue station framing and elevator shaft steel erection.
- **Parking Garage:** Continue SPG stairway and place remaining driveway entrance. Continue finishes for electrical, mechanical and fire suppression installations at all levels. Complete handrail and stair nosing at stairwells. Continue final commissioning and TCO inspections. Conduct testing on sump pumps and overhead coiling doors.
- **Utility & Drainage Work:** Continue North Signal Bungalow gabion MSE wall.

Closely Monitored Issues

- Schedule slippage continues on elevated structure and garage. Extension of Garage milestone would require extended parking lease at mall property.
- Elevator installation at parking garage is critical to opening on schedule. L&I passed the elevators on the first inspection.
- Guideway deck grades and plinth bar locations have been surveyed by N180 – awaiting results to ensure grades accepted.

Cost Summary

Present Financial Status	Amount
N160 Contractor - Absher Construction	
Original Contract Value	\$ 174,000,000
Change Order Value	\$ 5,919,149
Current Contract Value	\$ 179,919,149
Total Actual Cost (Incurred to Date)	\$ 123,855,482
Financial Percent Complete	68.8%
Physical Percent Complete	68.3%
Authorized Contingency	\$ 17,400,000
Contingency Drawdown	\$ 5,919,149
Contingency Index	2.0



Welding Emergency Stair over Roadway.

Contract N180 – Trackwork UWS to Northgate Station

Current Progress

The N180 Contractor, Stacy and Witbeck, Inc. (SWI) continues to prosecute the work as follows:

- CPP continues production of 16Hz floating slabs casting 12 slabs each week.
- Work Area 1: Crews finished DF plinth work NB, and will continue to patch and clean into next week. Crews began pouring DF plinth SB this week and will complete work next week
- Work Area 5.1 Discharge Monitoring and Water Treatment.
- Maple Leaf Portal: Crew completed the first pour of the SB track slab and will pour two more areas next week.
- Maple Leaf Stair Tower: Level 1 wall forms have been stripped. Erection of level 2 wall will follow.

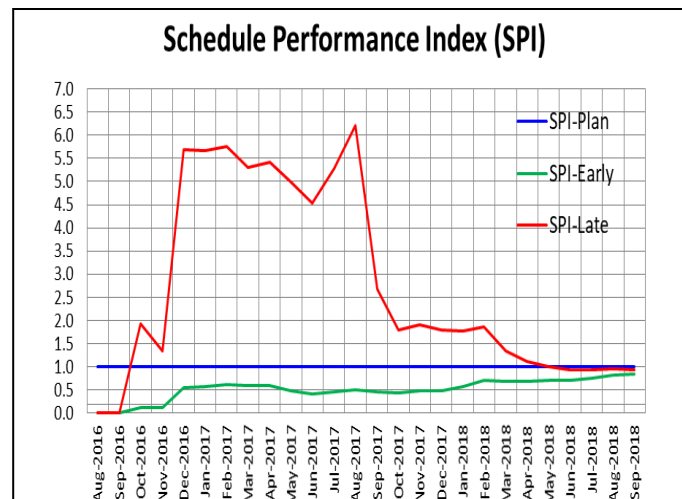
Schedule Summary

The N180 schedule for September continues to forecast an on-time completion of work. The critical path runs through the construction of the plinths within the tunnels and is crew driven.

Activity Name	OD	RD	Start	Finish	16	2017				2018				2019					
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
N140 - U-District Station Finishes	5	5	09-Oct-18	15-Oct-18															
CONSTRUCTION	5	5	09-Oct-18	15-Oct-18															
INTERIORS	5	5	09-Oct-18	15-Oct-18															
N180 - Trackwork	785	257	25-Aug-16 A	09-Oct-19															
Milestones	0	0	09-Oct-19	09-Oct-19															
Milestone 7d - Substantial Completion of Work Area 7, 7.1, 7.2 (10/31/19)	0	0		09-Oct-19*															
Construction	767	230	25-Aug-16 A	31-Aug-19															
Mobilization	658	230	25-Aug-16 A	31-Aug-19															
Submittals	1073	310	25-Aug-16 A	12-Aug-19															
Procurement	565	189	07-Oct-16 A	03-Jul-19															
Work Area 1 (N06 - UWS to UDS Tunnels)	230	7	13-Nov-17 A	09-Oct-18															
Work Area 2.1 and 2.2 (N07 - U-District Station)	306	81	15-Dec-17 A	30-Jan-19															
Work Area 3 (N08 - UDS to RVS Tunnels)	203	54	05-Feb-18 A	17-Dec-18															
Work Area 4 (N09 - Roosevelt Station)	179	62	19-Mar-18 A	02-Jan-19															
Work Area 5 (N10 - RVS to MLP Tunnels)	303	176	28-Feb-18 A	15-Jun-19															
Work Area 6 (MLP and At Grade Guideway)	323	196	19-Mar-18 A	15-Jul-19															
Work Area 7 (Elevated Guideway South of NGS)	150	150	03-Dec-18	10-Jul-19															
Work Area 7.1 (N11 - Northgate Station)	86	86	02-Jan-19	02-May-19															
Work Area 7.2 (Elevated Gideway North of NGS)	125	125	02-Jan-19	27-Jun-19															

Schedule Performance Index

The contractor's performance has fallen below the late schedule SPI 0.95 and behind the early schedule SPI 0.84. Performance in between the curves is normally what is expected. Due to late access to the tunnel, the contractor is behind the baselined schedule, but continues to meet their goals for early work such as material procurement and fabrications. Work performed in the field has to date met or exceeded forecasts.



Link Light Rail Northgate Link Extension

Next Period's Activities

- Production reports for 16Hz Floating Slab Fabrication and 16Hz Side & Separation Pads.
- Shop Drawings for Maintenance of Way (MOW) Special Trackwork.
- Production Test Reports for Standard and Hi-Resilience Direct Fixation (DF) Fasteners.
- Stair Tower Formwork finish mockup.
- Frequency Response Testing (FRT) Production Test Results.
- Completion of 16Hz Side & Separation Pad and shim production.
- FRT testing – Southbound.
- Access and Staging Only – Coordinated access for DF Trackwork with N140.
- Northbound and Southbound DF Track Construction.
- Discharge Monitoring and Water Treatment.
- Maple Leaf Portal (MLP) Stair Tower Level 1 Walls.
- Continued drainage, civil work, and begin track slab construction.

Closely Monitored Issues

- The most notable monitored issue going forward appears to be the Direct Fixation track construction in work areas 1, 3, and 5. There is a lot of work to be completed and due to the logistics of tunnel construction, it is solely dependent on the production rate of the crew as they make their way north toward Maple Leaf Portal. This will be tracked and adjustments will be made in the coming months in order to ensure continued schedule successes.
- Work Area 6 work is going to present difficulties due to the tightness of the work area and maintaining access to the tunnels during construction. Work Areas 7, 7.1 & 7.2 will present challenges of building track on a bridge deck with added complexity of staging concrete pours from below.

Cost Summary

Present Financial Status	Amount
N180 Contractor—Stacy & Witbeck	
Original Contract Value	\$ 71,455,950
Change Order Value	\$ 2,782,803
Current Contract Value	\$ 74,238,753
Total Actual Cost (Incurred to Date)	\$ 46,812,158
Financial Percent Complete	63.1%
Physical Percent Complete	73.1%
Authorized Contingency	\$ 10,718,393
Contingency Drawdown	\$ 2,782,803
Contingency Index	2.43



North rebar mat completion.

Contract N830 – Northgate Link Systems, Heavy Civil GC/CM

Current Progress

The N830 Contractor, Mass Electric Construction Co. (MEC), continues to prosecute the work as follows:

- Continue to issue bid packages as engineering and design complete.
- NGS Parking Garage: Punch-list inspection was held on September 24, 2018. The Contractor completed all testing on September 28 and Milestone #4 has been met.

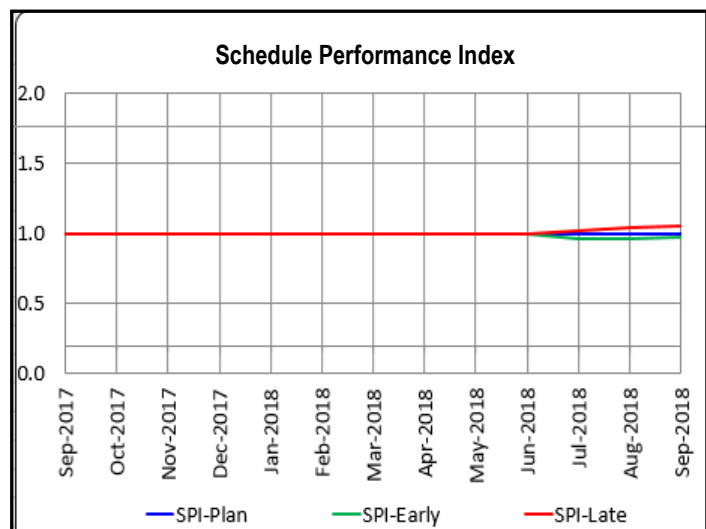
Schedule Summary

The N830 schedule for August was returned Code 3. A third resubmittal of the July schedule was received and is under review. An update for September has not yet been submitted. ST is working with MEC to identify the data issues with the CPM schedule and the corrections needed. No changes are anticipated in the critical path, based on the status of the civil contracts and handover interfaces.

Activity Name	OD	RD	Start	Finish	20172018201920202021																	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
N830/E750 - Systems	1024	798	12-Jun-17 A	25-Oct-21																		
General	0	0	12-Jun-17 A	12-Jun-17 A																		
Key Dates	0	0	12-Jun-17 A	12-Jun-17 A																		
NTP - Notice to Proceed (NTP) Northgate and East Link	0	0	12-Jun-17 A	NTP - Notice to Proceed (NTP) Northgate and East Link																		
N830 Project	1024	798	11-Jul-17 A	25-Oct-21																		
N830 Engineering	1024	798	11-Jul-17 A	25-Oct-21																		
N830 Major Milestones	855	371	01-Sep-17 A	28-Feb-20																		
N830 Submittals	1024	798	11-Jul-17 A	25-Oct-21																		
N830 Construction	744	597	20-Dec-17 A	08-Jan-21																		
N830 Constuction (General)	60	0	01-Mar-18 A	02-Mar-18 A																		
N830 Milestones	0	0	24-Dec-20	24-Dec-20																		
MS#05 Northgate: Substantial completion of Northgate Li	0	0		24-Dec-20*	MS#05 Northgate																	
N830 OCS	483	483	01-Aug-18	19-Jul-20																		
N830 Traction Power / Substations Procurement	602	455	20-Dec-17 A	08-Jun-20																		
N830 Signals	444	444	01-Aug-18	21-May-20																		
N830 Communications	562	443	10-Feb-18 A	21-May-20																		
N830 Radio	410	410	17-Jul-18 A	03-Apr-20																		
N830 Trunk Fiber	428	428	01-Aug-18	29-Apr-20																		
N830 Testing and Commissioning	582	582	22-Aug-18	08-Jan-21																		

Schedule Performance Index

The Contractor performed slightly ahead of the late schedule (SPI 1.06) and slightly behind the early schedule (SPI 0.98) in comparison to the baseline work plan.



Next Period's Activities

- Continue Procurement for Signal and Communication materials fabrication and installation.
- Continue development and reviews of engineering submittals covering all disciplines: Traction Power Substations (TPSS), Overhead Catenary Systems (OCS), Train Control Systems (TCS)/Signals and Communications.
- Continue meetings held between Systems and Civil Contractors to discuss and coordinate interface/access points for respective contracts.
- Complete EMI Cable installation between University of Washington and University District Stations.
- Complete installation, testing, and commissioning of the Systems Works in the Northgate Parking Garage.
- Begin working on the Northgate Parking Garage punch-list clearance, training, as-builts and Operations and Maintenance documentation.

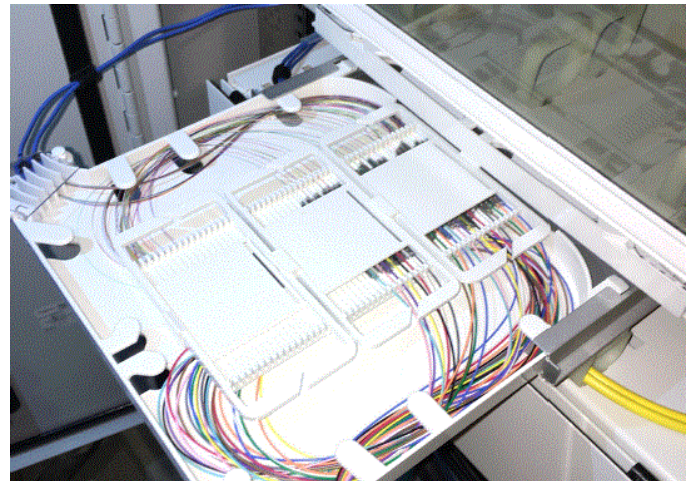
Closely Monitored Issues

- The Construction Management Consultant and Sound Transit continue to closely monitor the schedule of the procurement packages and to ensure it does not impact upcoming work activities.
- Ongoing coordination for the IDS cutover change from full shutdown to single tracking and the additional risk that is associated with this change associated with the contractor's revised means and methods approach to completing the work.

Cost Summary

Present Financial Status	Amount
N830 Contractor - Mass Electric Construction Co.	
Original Contract Value	\$ 104,660,444
Change Order Value	\$ 543,130
Current Contract Value	\$ 105,203,574
Total Actual Cost (Incurred to Date)	\$ 20,105,200
Financial Percent Complete	19.1%
Physical Percent Complete	18.5%
Authorized Contingency	\$ 5,233,022
Contingency Drawdown	\$ 543,130
Contingency Index	1.8

**The N830 and E750 Systems is a joint procurement. The Cost Summary table above represents N830 Systems only.*



NG Parking Garage—Inspection of Fiber Optic Cable Installation.

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Link Light Rail Lynnwood Link Extension

Project Summary

Scope

Limits North Seattle to Shoreline, Mountlake Terrace, and Lynnwood Transit Center

Alignment Lynnwood Link extends light rail 8.5 miles to Snohomish County along I-5 from Northgate Mall in Seattle to the Lynnwood Transit Center, with four new light rail stations. The configuration includes at-grade, elevated, and retained cut/fill alignment.

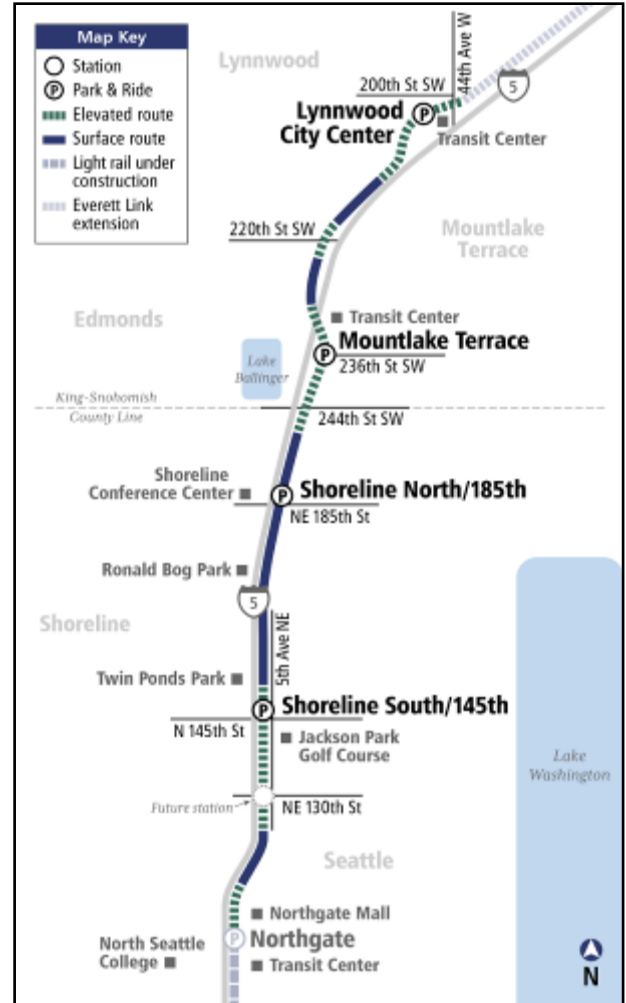
Stations Shoreline South/145th, Shoreline North/185th, Mountlake Terrace, Lynnwood City Center

Systems Signals, traction power, and communications (SCADA)

Phase Final Design

Budget \$2.772 Billion (Baseline May 2018)

Schedule Revenue Service: July 2024



Map of Lynnwood Link Extension Alignment.

Key Project Activities

- Provided project information and engaged with over 330 attendees at the Lynnwood Fair on 44th event on Sept. 8th.
- Received bids on the L200 Early Work subcontract bid package on Sept. 10th.
- City of Shoreline issued Letter of Completeness for the Special Use Permit on Sept. 10th.
- Submitted the Project Design Review (PDR) application to the City of Lynnwood on Sept. 12th.
- Submitted Conditional Use Permit (land use) application to Mountlake Terrace on Sept. 20th. The city deemed the application 'counter complete', beginning the 28-day completeness review period.
- Received Hydraulic Project Approval (HPA) permit from Dept. of Fish and Wildlife on Sept. 20th.
- Received bids on L300 Early Work subcontract bid packages for structures demolition and utilities on Sept. 27th.
- Completed demolition of 25 residential buildings in Shoreline.
- Shared a new project folio and tree replacement flyer with project partners including counterparts at Lynnwood, Mountlake Terrace, Shoreline, Seattle, WSDOT and the Nature Conservancy.

Project Cost Summary

The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

In September 2018, \$8.9M was incurred, of which \$2.8M was for advancing Civil & Systems Final Design, and \$3.3M was for property acquisition and relocation. The remaining expenditures were for third party coordination, permits, staff, legal, and other direct charges.

Commitments and incurred costs under the construction phase are related to permits, utility relocation, and early demolition activity.

Cost Summary by Phase

Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$98.2	\$98.2	\$25.7	\$25.6	\$98.2	\$0.0
Preliminary Engineering	\$39.1	\$39.1	\$39.1	\$39.1	\$39.1	\$0.0
Final Design	\$164.2	\$164.2	\$111.0	\$78.7	\$164.2	\$0.0
Construction Services	\$128.4	\$128.4	\$19.6	\$13.8	\$128.4	\$0.0
3rd Party Agreements	\$14.6	\$14.6	\$8.5	\$5.3	\$14.6	\$0.0
Construction	\$1,921.4	\$1,921.4	\$12.1	\$4.3	\$1,921.4	\$0.0
Light Rail Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$235.7	\$235.7	\$115.4	\$104.7	\$235.7	\$0.0
Project Contingency	\$170.2	\$170.2	\$0.0	\$0.0	\$170.2	\$0.0
Total	\$2,771.6	\$2,771.6	\$331.3	\$271.5	\$2,771.6	\$0.0

Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$791.8	\$791.8	\$0.0	\$0.0	\$791.8	\$0.0
20 Stations	\$357.9	\$357.9	\$0.0	\$0.0	\$357.9	\$0.0
30 Support Facilities	\$2.0	\$2.0	\$0.0	\$0.0	\$2.0	\$0.0
40 Sitework & Special Conditions	\$397.0	\$397.0	\$11.7	\$4.0	\$397.0	\$0.0
50 Systems	\$244.4	\$244.4	\$0.0	\$0.0	\$244.4	\$0.0
Construction Subtotal (10 - 50)	\$1,793.0	\$1,793.0	\$11.7	\$4.0	\$1,793.0	\$0.0
60 Row, Land	\$235.7	\$235.7	\$115.4	\$104.7	\$235.7	\$0.0
70 Vehicles (Non-Revenue)	\$1.4	\$1.4	\$0.0	\$0.0	\$1.4	\$0.0
80 Professional Services	\$449.3	\$449.3	\$204.3	\$162.7	\$449.3	\$0.0
90 Unallocated Contingency	\$292.2	\$292.2	\$0.0	\$0.0	\$292.2	\$0.0
Total (10 - 90)	\$2,771.6	\$2,771.6	\$331.3	\$271.5	\$2,771.6	\$0.0

Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks.

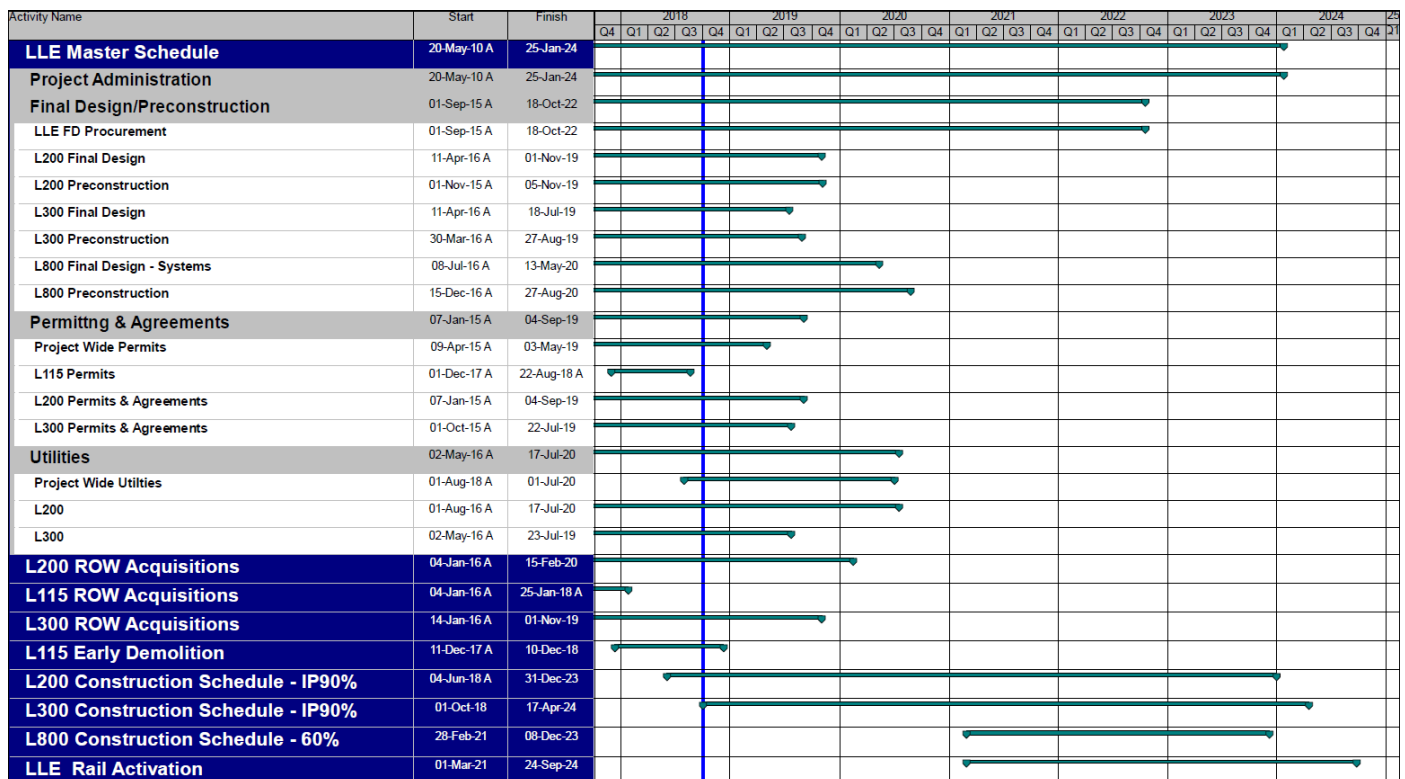
The next quarterly (4th QTR) risk update for the project is scheduled for December 2018. ST includes participation of construction management consultants and construction contractors in its risk management program.

The following are the top project risks:

- FFGA approval and execution schedule.
- Obtaining permits—Cities, WSDOT and resource agencies.
- Timely completion of right-of-way acquisition.
- Construction market conditions.
- Differing site conditions encountered during construction.

Project Schedule

The Project Team continues to progress through the final design efforts for both L200 and L300 main packages. The GC/CM is currently bidding portions of the Early Work packages. The L115 Demolition work is scheduled to complete in November. Early work for L200 and L300 still scheduled to start in 1st Quarter 2019. Close coordination of the Right-of-Way (ROW) schedules with the Master Schedule has removed ROW from the critical path. Based on the status of City of Seattle permitting, the acquisition of demolition permits has become the driving activities in the critical path. The team is currently refining the schedule in order to identify the work most dependent of the demolition permits, as well as working with the city, to mitigate potential delays. Revenue Service for Lynnwood Link remains 2024.



Contingency Management

The Lynnwood Link project budget was baselined in May 2018 with a total contingency of \$737.7M.

Design Allowance (DA) was established to account for unquantified scope at the time of the cost estimate. DA is expected to be fully drawn when all construction contract packages are executed.

Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement.

Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties.

During this period, AC decreased by \$0.2 M due to change orders to the Civil Final Design contract.

No drawdown to UAC occurred in this period.

Contingency Status (Monthly)

Type	Baseline		Current Status	
	Amount	% of Total Budget	Remaining Amount	% of Work Remaining
Design Allowance	\$247.9	8.9%	\$247.9	9.9%
Allocated Contingency	\$197.6	7.1%	\$197.2	7.9%
Unallocated Contingency	\$292.2	10.5%	\$292.2	11.7%
Total:	\$737.7	26.6%	\$737.4	29.5%

Contingency by Type

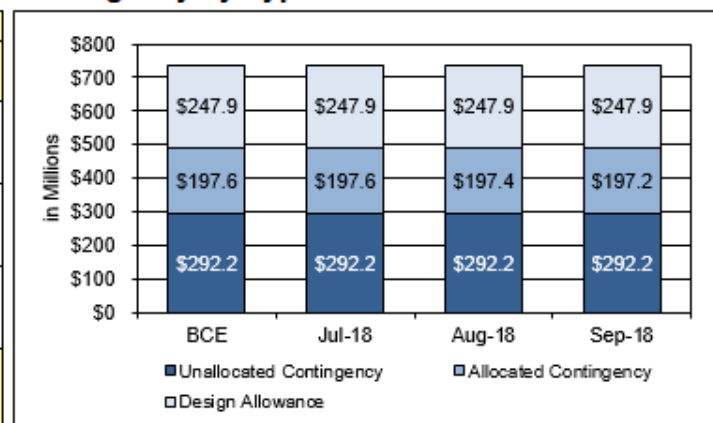
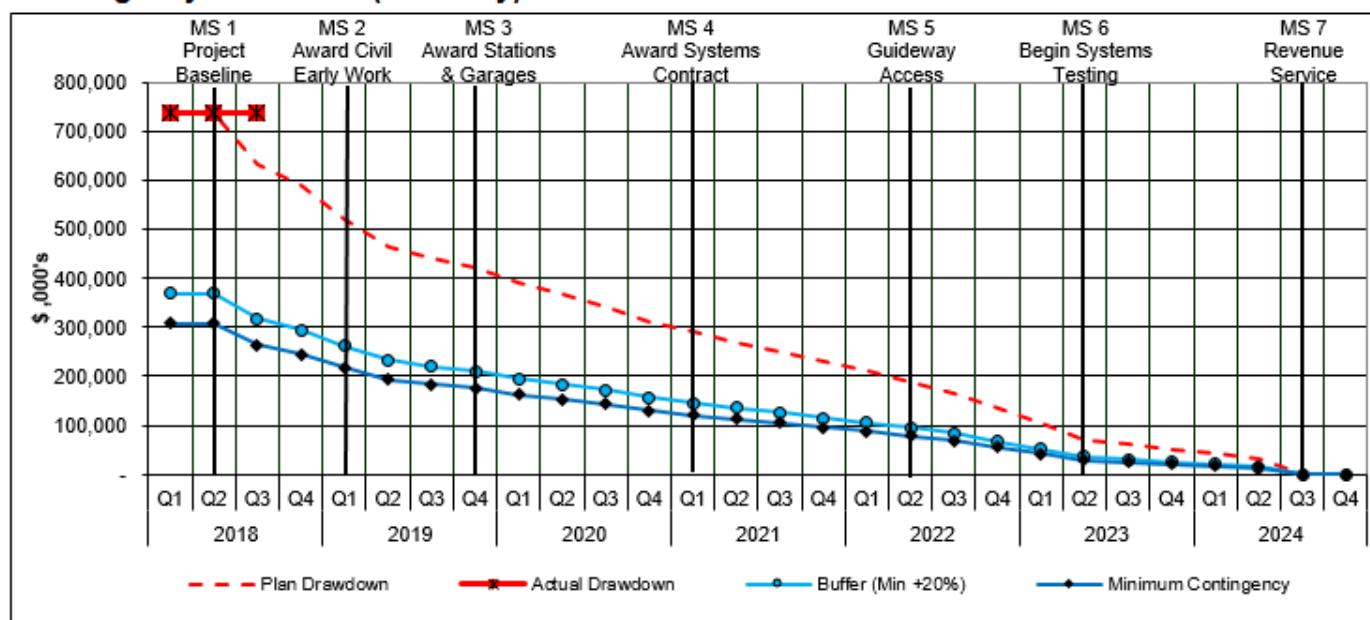


Table figures are shown in millions.

Contingency Drawdown (Quarterly)



Right-of-Way

The Right-of-Way effort for this project involves the acquisition of a range of property interests which includes compensable (e.g. fee acquisitions, guideway easements, permanent and temporary construction easements) and non-compensable rights (e.g. rights of entry). These acquisitions will result in owner and tenant residential and commercial relocations. The Right-of-Way program status for this period is summarized in the following table.

Lynnwood Link Extension Property Acquisition Status					
ACQUISITION				RELOCATION	
Total Acquisitions	Board Approved	Offers Made to date	Closings to date	Relocations Required	Relocations Completed to date
365	343	170	97	236	142
* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.					

Community Outreach

- **Fair on 44th in Lynnwood** – Participated and staffed an information booth at the largest annual community festival in Lynnwood. Most visitors were familiar with the project and excited for its opening. Several visitors mentioned attending the recent open house. The roll plot was popular and the overall tone was positive. Outreach and project staff engaged with 332 booth visitors, answered numerous questions and handed out 66 folios.
- **New project folio and tree factsheet**—Shared with cities of Lynnwood, Mountlake Terrace, Shoreline, Seattle, and WSDOT, as well as King Conservation District and The Nature Conservancy, who we are looking to collaborate with to tell the positive tree/environmental story.
- **Field Work** – Throughout September, Community Outreach staff performed door-to-door outreach to 11 homes regarding utility potholing near or on their properties in Shoreline, Mountlake Terrace and Lynnwood and 163 properties for nighttime noise monitoring in Shoreline and Mountlake Terrace.
- **Early Demolition** – Staff left notices about demolition activities at 12 homes near Shoreline demolition sites on September 19th. Spoke directly with 5 residents to answer questions about the work.

Sound Transit Board Actions

Board Action	Description	Date
M2018-110	Authorizing the chief executive officer to execute a lease agreement with Redstone WA Property LLC for office space located on the third floor of the Redstone Corporate Center Building in Mountlake Terrace, WA through December 31, 2025 (including an optional one year extension), for a total authorized agreement not-to-exceed \$5,447,401.	9/27/2018

Civil Final Design Overview

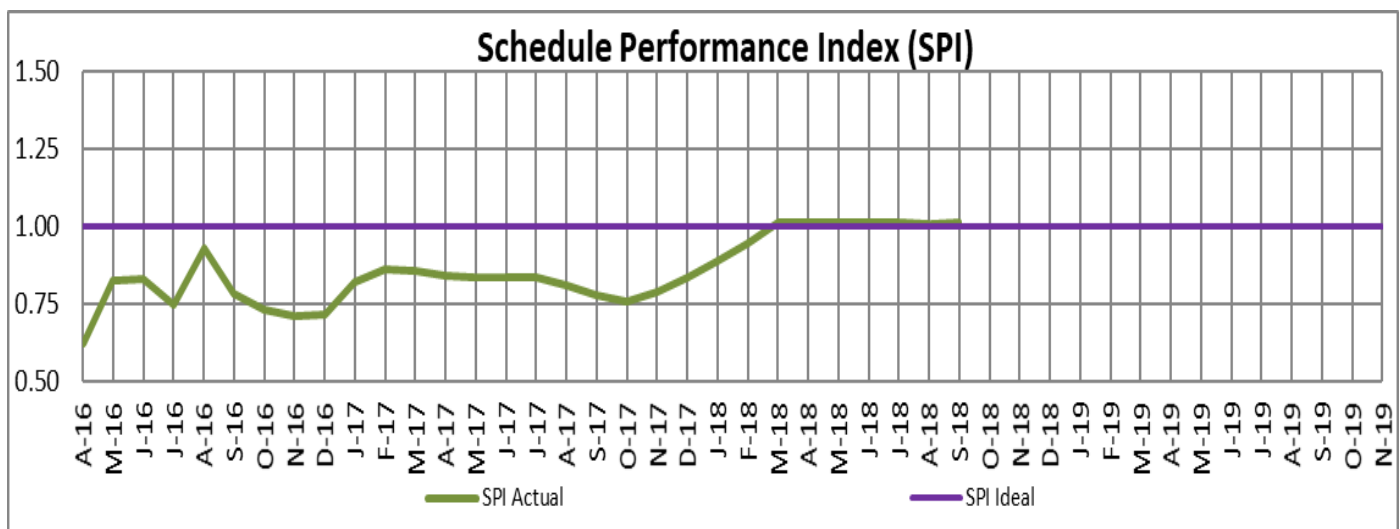
Sound Transit executed a professional services contract with HNTB Jacobs in April 2016 to perform civil final design along the entire Lynnwood Link alignment. Design services include preparation of comprehensive civil contract documents for construction, design coordination and cooperation with the GC/CM contractors, permit support, survey, geotechnical investigations, right-of-way planning and acquisition support, third party coordination support, risk assessment support, value engineering and constructability support, building and station systems design, cost estimating, and sustainability reports.

Current Progress

- Execution of the change order to incorporate cost savings ideas and all related changes through September 2018 has been completed. This has revised the civil final design contract amount to \$100 M.
- Advancement of the 90/100% civil final design.
- Early Work pricing set revisions and IFC submittals.
- Advancement of the Mountlake Terrace Temporary Interim Parking at Rogers Market.
- Successful intake of the Lynnwood PDR permit on September 12th.
- Successful intake of the Mountlake Terrace Conditional Use Permit on September 20th.

Schedule Performance Index

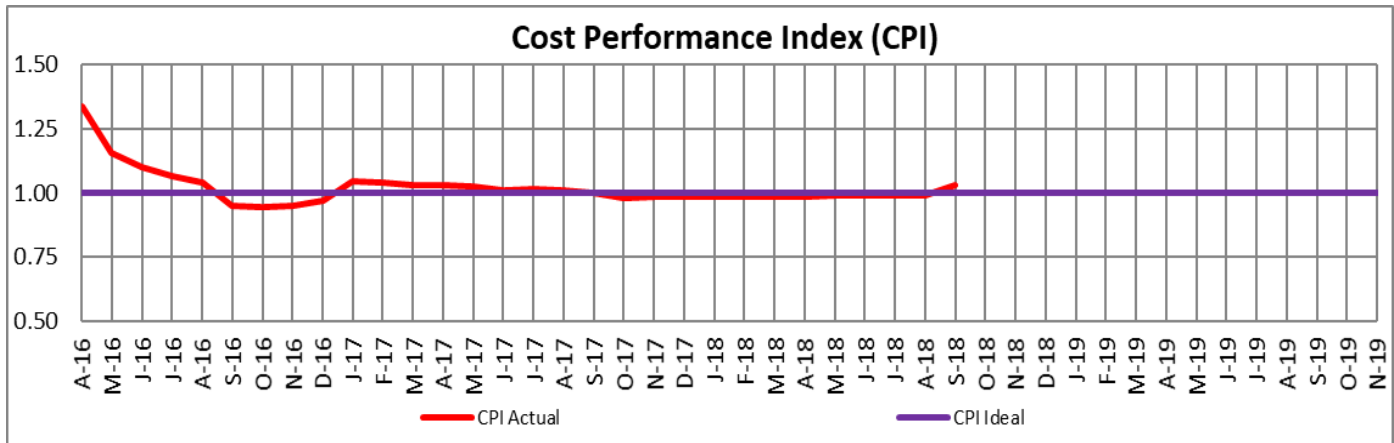
The cumulative Schedule Performance Index (SPI) trends at 1.01 through September 2018, which means that the cumulative amount of work accomplished is consistent with the amount of work originally planned. The civil final design cost savings ideas development was completed in October 2017. A change order to incorporate the cost savings ideas into the design packages was executed in September 2018, revising the remaining earned value plan.



Link Light Rail Lynnwood Link Extension

Cost Performance Index

\$72.9 M of the total contract amount, 72.5%, has been spent through September 2018. The civil final design percent complete is 74.8%, with an earned value of \$75.2 M. The cumulative Cost Performance Index (CPI) through September is 1.03 indicating that expenditures are consistent and trending lower than the earned value of work performed. A change order to incorporate the cost savings ideas into the design packages was executed in September 2018, revising the remaining earned value plan.



Cost Summary

Contract	Cumulative To-date
Amount Invoiced	\$72.9 M
% Spent	72.5%
Earned Value	\$75.2 M
% Complete	74.8%
SPI	1.01
CPI	1.03



Lynnwood Link project staff engage with attendees at the Lynnwood Fair on 44th.

Systems Final Design Overview

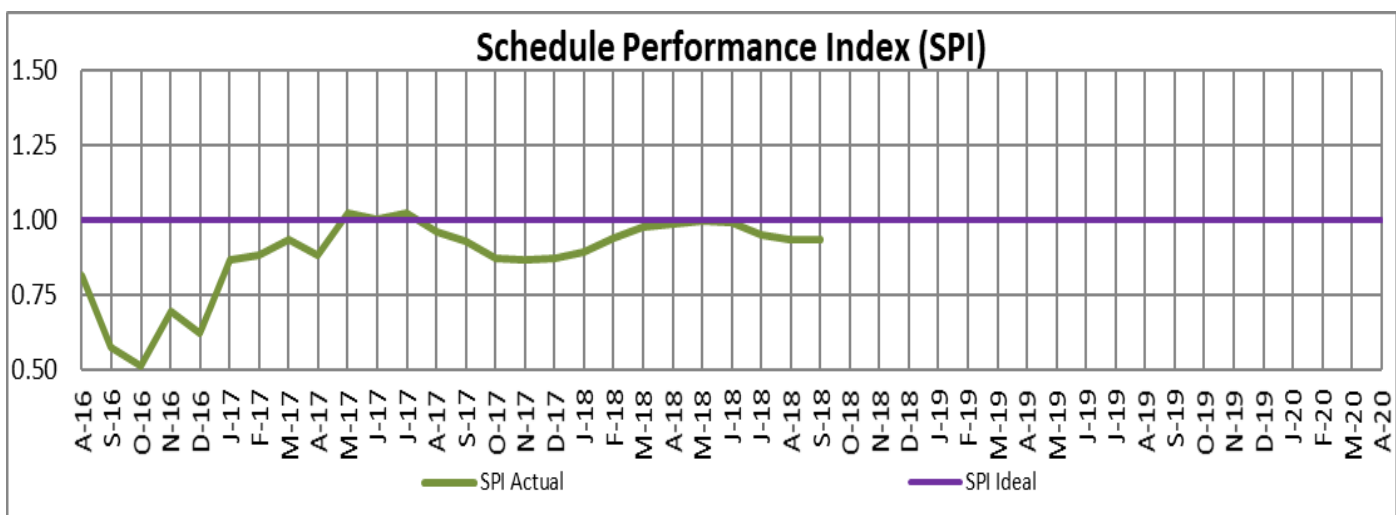
Sound Transit executed a professional services contract with LTK Engineering in July 2016 to perform systems final design along the entire Lynnwood Link alignment. Design services include preparation of comprehensive systems contract documents for construction, design coordination and cooperation with the civil final designer and GC/CM contractors, permit support, third party coordination support, risk assessment support, value engineering and constructability support, schedules and cost estimating.

Current Progress

- Advancement of 90% Design work, targeting 1st Quarter 2019 completion.
- Continued planning for constructability review in 4th quarter 2018.

Schedule Performance Index

The cumulative Schedule Performance Index (SPI) trends at 0.94 through September 2018, which means that cumulative amount of work accomplished is slightly less than the amount of work originally planned.

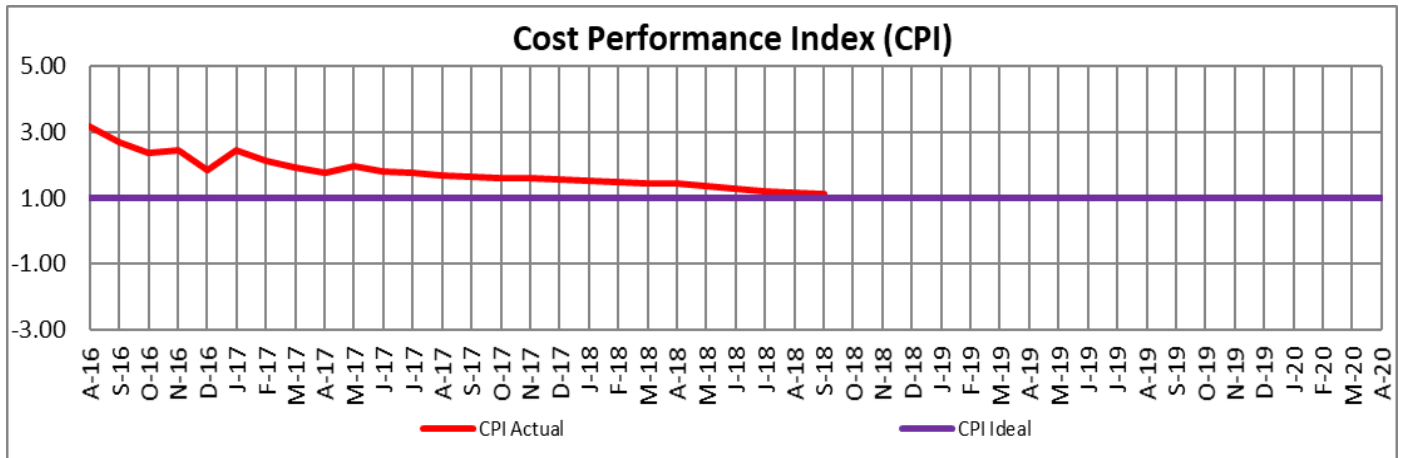


Link Light Rail Lynnwood Link Extension



Cost Performance Index

\$5.8 M of the total contract amount, 62%, has been spent through September 2018. The systems final design percent complete is 68%, with an earned value of \$6.4 M. The cumulative Cost Performance Index (CPI) through September is 1.10 indicating that expenditures are significantly lower than the earned value of work performed.



Cost Summary

Contract	Cumulative To-date
Amount Invoiced	\$5.8M
% Spent	62%
Earned Value	\$6.4M
% Complete	68%
SPI	0.94
CPI	1.10

Civil Construction Management Overview

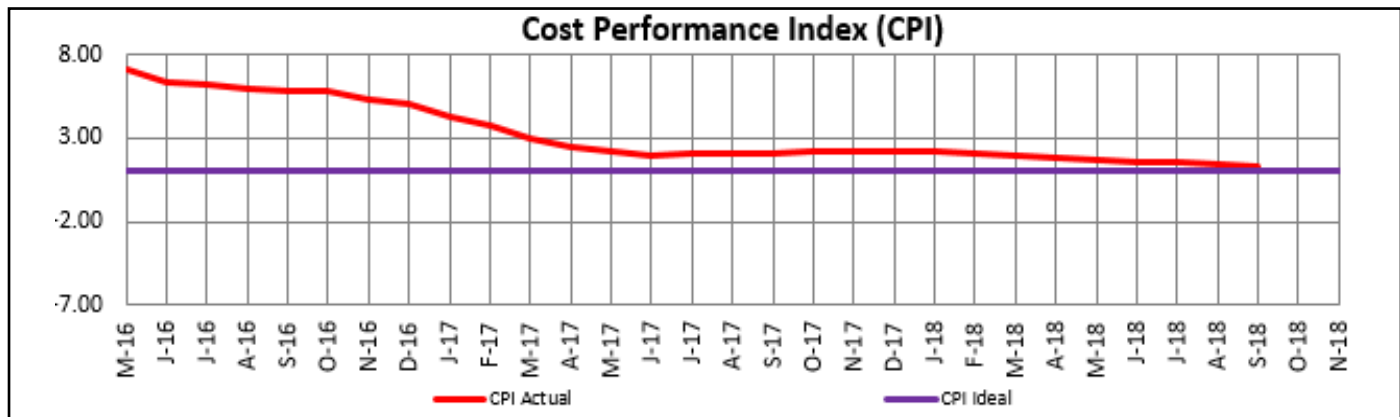
Sound Transit executed a professional services contract with PGH Wong in May 2016 to perform civil Construction Management (CMC) Services, including procurement support, permit support, contract document review, construction estimate reviews, participation in value engineering, risk assessments and constructability reviews, construction management support and oversight of early works by adjacent private and public developments, and public and private utility relocations.

Current Progress

- Coordinating meetings with design, GC/CM, and Sound Transit teams.
- Coordination on various preconstruction activities including cost estimates, schedule, and constructability.
- Coordinating with GC/CMs and Final Designer in review of the Civil 100% design package.
- Construction management oversight for the L115 demolition contract.

Cost Performance Index

\$5.5 M of the total contract amount, 74%, is spent through September 2018, with an earned value of \$7.5 M. The cumulative Cost Performance Index (CPI) is 1.35, indicating that expenditures are significantly lower than the earned value of work performed. Phase 1 of the contract was planned to end in January 2018, but the schedule extended along with the schedule for design completion. Phase 2 of the contract is expected to begin in late 2018.



Cost Summary

Contract	Cumulative To-date
Amount Invoiced	\$5.5 M
% Spent	74%
Earned Value	\$7.5 M
CPI	1.35



L115 demolition U/G storage tank removal

GC/CM Pre-Con Overview - L200 Northgate to NE 200th Street

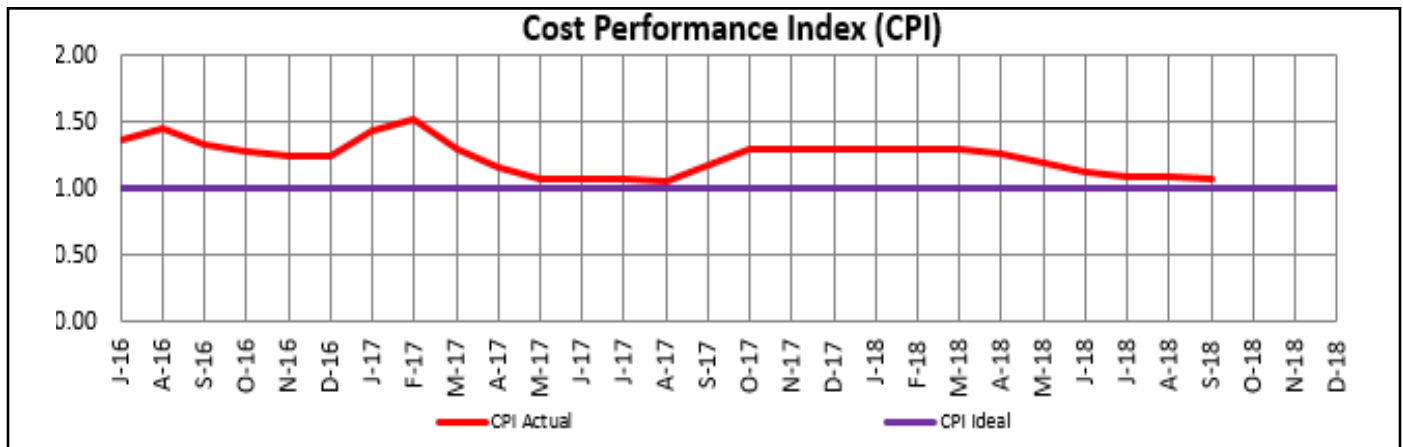
Sound Transit executed a professional services contract with Stacy & Witbeck Kiewit Hoffman in June 2016 to perform GC/CM pre-construction services for the L200 segment, including assistance in preparation of final construction plans including traffic control, preparation of schedules, reviewing right-of-way needs, identifying potential early work, assisting in risk assessments, value engineering and constructability workshops, preparing cost estimates, and completing reviews of contract documents.

Current Progress

- Coordinating meetings with design, Construction Management Consultant (CMC), and Sound Transit teams.
- Progress on various preconstruction activities including cost estimates, schedule, and constructability.
- Coordinating with CMC and final designer in review of the Civil 100% early work design package.

Cost Performance Index

\$4.4 M of the total contract amount, 86%, is spent through September 2018, with an earned value of \$4.7 M. The cumulative Cost Performance Index (CPI) is 1.07 indicating that expenditures are lower than expected for the earned value of work performed.



Cost Summary

Contract	Cumulative To-date
Amount Invoiced	\$4.4 M
% Spent	86%
Earned Value	\$4.7 M
CPI	1.07

GC/CM Pre-Con Overview - L300 NE 200th St. to Lynnwood Transit Center

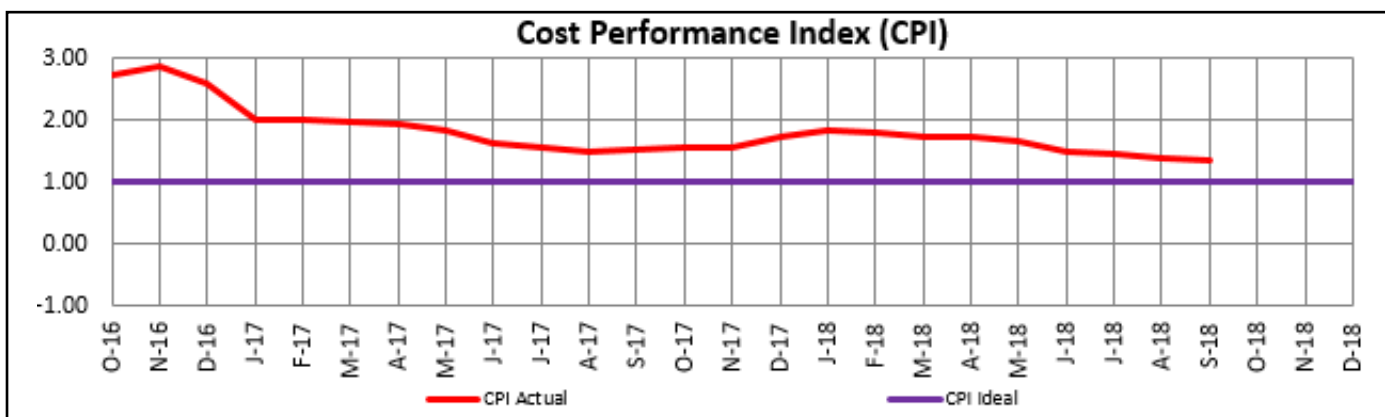
Sound Transit executed a professional services contract with Skanska in October 2016 to perform pre-construction services for the L300 segment, including assistance in preparation of final construction plans including traffic control, preparation of schedules, reviewing right-of-way needs, identifying potential early work, assisting in risk assessments, value engineering and constructability workshops, preparing cost estimates, and completing reviews of contract documents.

Current Progress

- Coordinating meetings with design, Construction Management Consultant, and Sound Transit teams.
- Progress on various preconstruction activities including cost estimates, schedule, and constructability.
- Coordinating with CMC and Final Designer in review of the Civil 100% design package.

Cost Performance Index

\$3.7 M of the total contract amount, 70%, has been spent through September 2018, with an earned value of \$5.1 M. The cumulative Cost Performance Index (CPI) is 1.36, indicating that expenditures are significantly lower than expected for the earned value of work performed.



Cost Summary

Contract	Cumulative To-date
Amount Invoiced	\$3.7 M
% Spent	70%
Earned Value	\$5.1 M
CPI	1.36

Link Light Rail I-90 Two-Way Transit & HOV Operations (Stage 3)

Project Summary

Scope

The I-90 Two-Way Transit and HOV Operations (Stage 3) project provides approximately four miles of HOV lanes in each direction of the outer roadway between 80th Avenue South on Mercer Island and Rainier Avenue in Seattle. The project includes upgrades and retrofits to the fire, life, safety, and other systems in the Mount Baker and Mercer Island/First Hill tunnels. The project also includes remaining dowel bar retrofit work on the west side of Lake Washington, and the installation of screening on the shared-use pathway on the I-90 floating bridge.



Since June 2017, the project has provided 24/7 HOV access on I-90 between Seattle, Mercer Island and Bellevue.

Phase

Construction

Budget

\$225.6 Million

Schedule

Construction Complete: 2nd QTR 2018

Major Contracts

	Scope	Agreement/Contract Amount
WSDOT	Final Design	\$ 20,942,000
WSDOT	CM Services	\$ 16,358,000
IMCO	Construction	\$122,021,000
City of Mercer Is	Transportation Mitigation	\$10,050,000

Key Project Activities

- **Work Outside the Tunnels** – Continue to troubleshoot MBRT jet fan and irrigation controller issues; ongoing mitigation of graffiti at several areas; replacement of defective flame detectors and batteries.
- **Mercer Island Tunnel** – Remove of remaining signal head; replace defective IR cameras under warranty; ongoing final commissioning documentation; ongoing electrical punch list work.
- **Mount Baker Ridge Tunnel** – Replace defective IR cameras under warranty; ongoing final commissioning documentation; ongoing electrical punch list work.
- **SCADA** – Continue troubleshooting SCADA alarm/lighting interface.
- **Simplex** – Continue troubleshooting Simplex auto/manual notification interface and auto/manual abort communication interface.

Closely Monitored Issues

While the center roadway turnover to Sound Transit was completed on schedule, Substantial Completion continues to slip; achievement of Substantial Completion is anticipated for 4th Quarter 2018, due to the following:

- Challenges continue with final commissioning of the Fire/Life/Safety Systems, including incomplete BIM As-Built data, incomplete or missing O&M manuals, and missing test reports.

Project Cost Summary

The following tables summarize the cost information for the I-90 Two-way Transit and HOV Operations (Stage 3) project. WSDOT has caught up on their invoice submittals, allowing resolution to past over-accruals and a more realistic expenditure forecast. September's monthly expenditure was \$603.8K, including Contractor payments for portions of the final commissioning. Future expenditures will continue to taper off as anticipated. Tables below are in millions.

Cost Summary by Phase

Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$3.6	\$3.6	\$2.3	\$2.3	\$3.6	\$0.0
Preliminary Engineering	\$1.5	\$1.5	\$1.5	\$1.5	\$1.5	\$0.0
Final Design	\$22.1	\$22.1	\$18.7	\$18.0	\$22.1	\$0.0
Construction Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3rd Party Agreements	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction	\$198.3	\$198.3	\$182.6	\$167.2	\$198.3	\$0.0
Total	\$225.6	\$225.6	\$205.2	\$189.0	\$225.6	\$0.0

Totals may not equal column sums due to rounding of line entries.

Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
40 Sitework & Special Conditions	\$180.6	\$190.7	\$182.6	\$167.2	\$190.7	\$0.0
80 Professional Services	\$26.3	\$26.3	\$22.6	\$21.8	\$26.3	\$0.0
90 Unallocated Contingency	\$18.7	\$8.7	\$0.0	\$0.0	\$8.7	\$0.0
Total	\$225.6	\$225.6	\$205.2	\$189.0	\$225.6	\$0.0

Totals may not equal column sums due to rounding of line entries.

Cost Contingency Management

In the table below, the Allocated Contingency includes both WSDOT-controlled construction contingency and the total ST-controlled allocated contingencies. The decrease in the amount of total contingency remaining is due to WSDOT executing construction change orders with their Contractor, and a pending amendment to the Task Order for I-90 Spot Improvements in the amount of \$59,800 to mitigate public transit issues due to turnover of the center roadway for East Link construction (to be executed in October).

Link Light Rail I-90 Two-Way Transit & HOV Operations (Stage 3)

Cost Contingency Management

In the table below, the Allocated Contingency includes both WSDOT-controlled construction contingency and the total ST-controlled allocated contingencies. The decrease in the amount of total contingency remaining is due to WSDOT executing construction change orders with their Contractor, and a pending amendment to the Task Order for I-90 Spot Improvements in the amount of \$59,800 to mitigate public transit issues due to turnover of the center roadway for East Link construction (to be executed in October).

Contingency Status	Baseline		Current	
	Amount	% of Total	Amount	Contingency as a % of Work Remaining
Design Allowance	\$0.0	0.0%	\$0.0	0.0%
Allocated Contingency	\$17.0	7.5%	\$2.2	6.1%
Unallocated Contingency	\$18.7	8.3%	\$8.7	23.6%
Total:	\$35.7	15.8%	\$10.9	29.8%

Note: Table in millions.

Project Schedule

Project Milestones for construction are indicated below; forecast dates were submitted by WSDOT as anticipated dates, but have not at this time been accepted. Ongoing negotiations between WSDOT and the contractor to resolve commercial issues have pushed the forecast Substantial and Physical Completion dates into 4th QTR 2018.

Contract	Final Tunnel Commissioning Complete		Substantial Completion		Center Roadway Turnover		Physical Completion	
	Baseline	Forecast / Actual	Baseline	Forecast / Actual	Baseline	Forecast / Actual	Baseline	Forecast / Actual
I-90 Two-Way Transit & HOV Operations Stage 3	2/16/2017	Q4/2018	2/20/2017	Q4/2018	5/31/2017	6/14/2017 A	5/31/2017	Q4/2018

Changes from previous update are indicated in **RED**; A indicates Actual



Opening foam valve during commissioning test in tunnel foam room.



Electrical punch list work: labeling control panel wires.

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Link Light Rail East Link Extension

Project Summary

Scope

Limits Fourteen-mile extension from Downtown Seattle to Mercer Island, Bellevue and the Overlake area of Redmond.

Alignment East Link Extension expands light rail to East King County via I-90 from Downtown Seattle to the Overlake Transit Center area of Redmond.

Stations Judkins Park, Mercer Island, South Bellevue, East Main, Bellevue Downtown, Wilburton, Spring District/120th, Bel-Red/130th, Overlake Village and Redmond Technology

Systems Signals, traction electrification, and communications (SCADA).

Phase Construction

Budget \$3.677 Billion (Baseline April 2015)

Schedule Revenue Service: June 2023



Map of East Link Extension Alignment.

Key Project Activities

Seattle to South Bellevue

- **Floating Bridge Retrofit (E130):** Completed post tensioning work; ongoing electrical retrofit for cathodic protection and approach structural retrofit; ongoing construction of OCS bases.
- **Mercer Island (E130):** Ongoing retrofit of tunnel electrical and structural modifications; ongoing construction of Mercer Island Station structures and Traction Power Sub Station (TPSS) sites 3 and 4; ongoing sub ballast for rail.
- **IDS to Mt. Baker Tunnel (E130):** Ongoing retrofit of tunnel electrical and structural modifications; ongoing construction of Judkins Park Station conveyance structures and utilities; Preparation for demolition at Rainier Ave. Bridge.

South Bellevue to Redmond

- **South Bellevue (E320):** Continued erecting falsework in preparation for long span work crossing I-90 and soldier pile work and pouring of slab on grade ramps in parking garage. Completed traffic revision temporary bypass road on 112th Ave. SE.
- **Downtown Bellevue Tunnel (E330):** Continued tunnel invert mucking. Continued mitigating leaks in the tunnel in preparation for the spray applied waterproofing, and continued installation of the waterproofing in the mid-tunnel shaft.
- **Downtown Bellevue to Spring District (E335):** Continued work on City of Bellevue parking garage. The long-span of I-405 bridge progressed with base slab and stem wall on either side of I-405. Aerial guideway work progressed through Wilburton station. Placed 123rd Ave bridge. Work started on 120th AVE/Spring District station.
- **Bel-Red (E340):** Ongoing closure on NE Spring Blvd. between 132nd Ave and 134th Ave. Installing false decking, form & pour girder stops and diaphragms, and form guideway OCS (Overhead Catenary System) supports and overhangs.
- **SR520 to Redmond Technology Station (E360):** Design - Completed Landscape Guideway 100% review, and Civil Systems comment resolution. Construction - Ongoing wall construction for walls along SR520 and superstructure work.
- **Systems (E750):** Continue with submittals, components and product design. Coordinated Installation Plan discussions between civil and system contractors.

Closely Monitored Issues

- Completing remaining property acquisitions and easements from both public and private owners.
- Timely submissions and issuance of construction permits.
- With ongoing construction in all segments, construction safety and environment compliance are priorities.
- Unidentified commercial utility connections within roadways and private properties continues to be challenging.

Project Cost Summary

The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

The Estimated Final Cost (EFC) continues to be projected at approximately \$3.68B. This period's expenditure is about \$56.1M, pushing the total project expenditure to date cost from \$1.47B to \$1.52B. Project commitments has risen to over \$3B with all major construction contracts in place and construction is on-going throughout the alignment.

Cost Summary by Phase

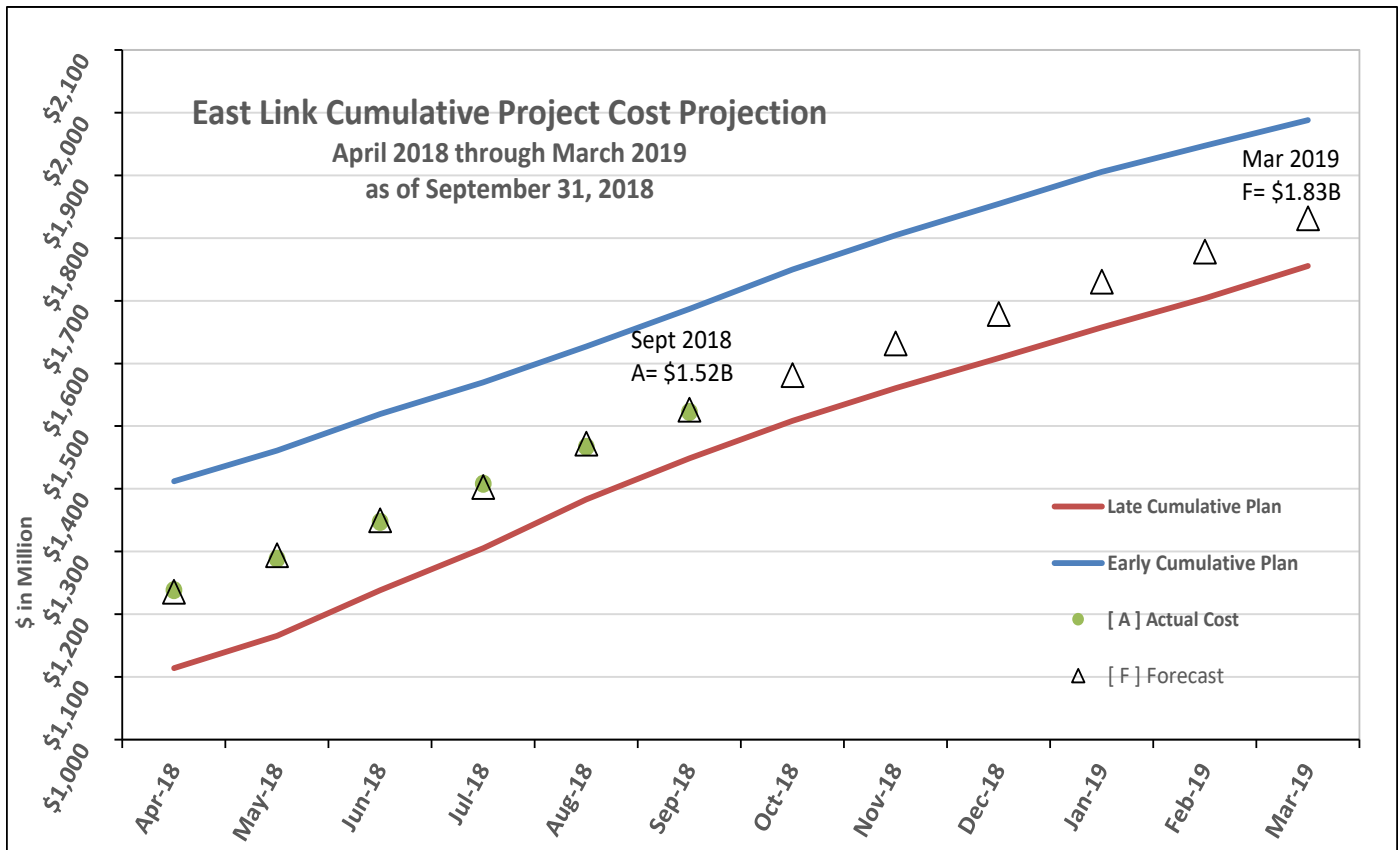
Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$186.2	\$186.2	\$74.1	\$74.1	\$186.2	\$0.0
Preliminary Engineering	\$55.9	\$55.9	\$54.8	\$54.7	\$55.9	\$0.0
Final Design	\$283.0	\$283.0	\$245.6	\$210.5	\$283.0	\$0.0
Construction Services	\$257.5	\$257.5	\$196.7	\$69.6	\$257.5	\$0.0
3rd Party Agreements	\$52.2	\$52.2	\$38.5	\$18.9	\$52.2	\$0.0
Construction	\$2,544.3	\$2,544.3	\$2,149.1	\$828.9	\$2,544.3	\$0.0
Light Rail Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$298.2	\$298.2	\$267.4	\$266.0	\$298.2	\$0.0
Total	\$3,677.2	\$3,677.2	\$3,026.3	\$1,522.7	\$3,677.1	\$0.0

Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$744.6	\$949.7	\$889.9	\$410.4	\$960.1	(\$215.4)
20 Stations	\$397.7	\$474.2	\$434.1	\$123.4	\$471.0	(\$73.3)
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$808.5	\$568.3	\$456.6	\$233.9	\$599.2	\$209.3
50 Systems	\$353.8	\$367.9	\$345.9	\$50.1	\$329.8	\$24.0
Construction Subtotal (10 - 50)	\$2,304.6	\$2,360.1	\$2,126.5	\$817.7	\$2,360.0	(\$55.4)
60 Row, Land	\$288.5	\$288.5	\$267.4	\$266.0	\$288.5	(\$0.0)
70 Vehicles (non-revenue)	\$2.8	\$2.8	\$0.0	\$0.0	\$2.8	\$0.0
80 Professional Services	\$898.4	\$889.1	\$632.3	\$438.9	\$889.2	\$9.2
90 Unallocated Contingency	\$182.9	\$136.6	\$0.0	\$0.0	\$136.6	\$46.2
Total (10 - 90)	\$3,677.2	\$3,677.2	\$3,026.3	\$1,522.7	\$3,677.2	(\$0.0)

Project Cash Flow Projection

The East Link cost projection continues to progress within the planned expenditure as construction activities continue to pickup. This period's project expenditure topped out at approximately \$56.1M where Construction Phase is responsible for over 90% or approximately \$50.7M of September's expenditure. Total project cost incurred to date topped \$1.52B, to which about \$829M was recorded in the Construction Phase. The project expenditures continue to pick up and is currently predicted to increase to approximately \$1.83B by March 2019, reflecting continued active construction through the remainder of 2018.



Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks.

The 3rd QTR 2018 risks and a Quantitative Risk Assessment is currently taking place due to the completion of the 4th Risk Mitigation Milestone (completion of SEM Tunneling). It is anticipated that the report of this workshop will be issued by mid November.

The following are the current top project wide risks areas:

- Coordination and completion of the relocations of public and private utilities.
- Compliance with environmental requirements.
- Competitiveness in the construction market and potential shortage of skilled labor.
- Interfaces between various contracts and third party jurisdictions.

Contingency Management

East Link project budget was baselined on April 2015 with a total contingency of \$795.9M. At the end of September 2018, all major construction contracts have been procured, the total contingency balance stands at \$417.8M (previously \$417.9M). The current contingency balance is consistent with the project's planned contingency drawdown.

Design Allowance (DA) was established to account for unquantified scope at the time of the cost estimate. DA is unchanged this period with a balance at \$3.6M and is expected to be fully drawn when all construction scope are executed.

Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. This period, AC decreased by a net amount of approximately \$0.1M. Due to rounding, total AC remained at \$277.6M. The contingency draw in this period is primarily driven by aggregation of construction change orders in the project, primarily in E130, E340 and E750.

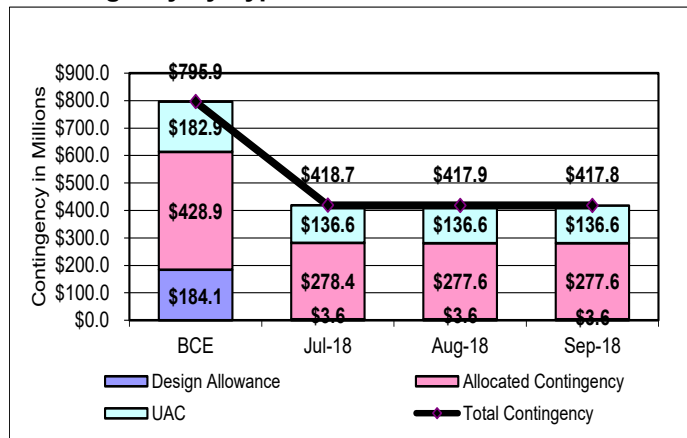
Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. The UAC balance remains unchanged at \$136.6M.

Contingency Status

Contingency Type	Baseline		Current Status	
	Amount	% of Total Budget	Amount Remaining	% of Work Remaining
Design Allowance	\$184.1	5.0%	\$3.6	0.2%
Allocated Contingency	\$428.9	11.7%	\$277.6	12.9%
Unallocated Contingency	\$182.9	5.0%	\$136.6	6.3%
Total	\$795.9	21.6%	\$417.8	19.4%

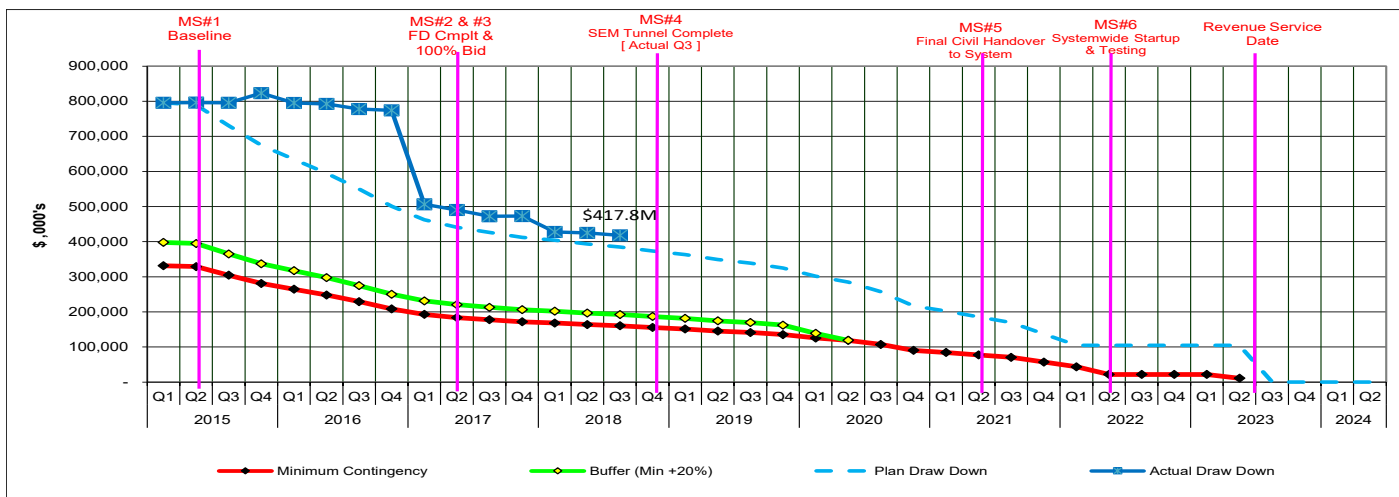
Table figures are shown in millions.

Contingency by Type



Contingency Drawdown

At the end of the 3rd QTR 2018, East Link Project's total contingency drawdown plan is trending as planned. Total contingencies balance is approximately \$417.8M and with all major construction contracts procured, remains above the baseline drawdown projection and well above both the minimum contingency and the buffered (minimum plus 20%) contingency levels. The next contingency drawdown update is schedule for the end of 4th QTR 2018.



Graph for Quarter ending September 2018

Link Light Rail East Link Extension



Project Schedule

The Integrated Master Schedule is presented below.

E130 continued structural steel placement at Mercer Island Station and conveyance systems at Judkins Park station; continued placing OCS foundations along the floating bridge; and prepared for the Rainier Bridge demo in October.

E320 continued pier table work for the long span structure, and continued installing walls at the parking garage, along Bellevue Way SE, and at the 112th undercrossing; began removal of roadway at 112th undercrossing.

E330 continued final tunnel lining work.

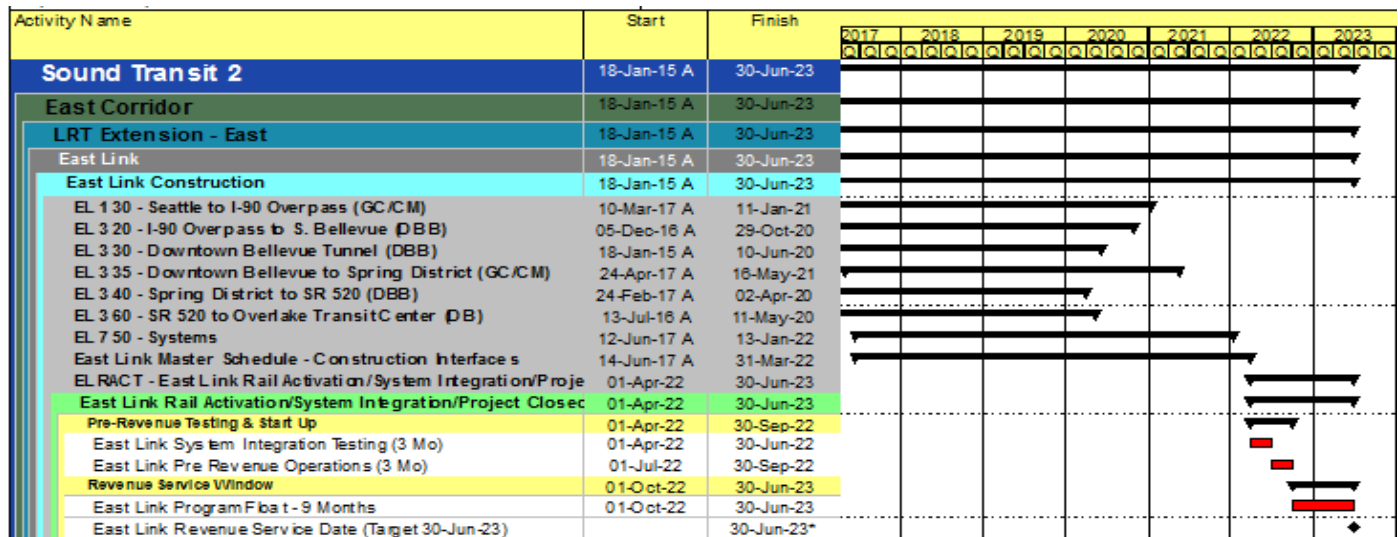
E335 continued formwork, rebar placement, and concrete pours for the long span base slab placement; continued placing trackwalls in the Kirkland Wye and placing sub-ballast and permanent fencing; continued trench wall construction east of 120th Station; and neared completion of City of Bellevue garage. Stations subcontractor has fully mobilized.

E340 continued sanitary sewer installation and retaining wall placement on Spring Blvd; completed excavation for the wetland mitigation pond; and continued formwork and girder stops in preparation for the bridge deck.

E360 continued placing columns and caps along the aerial guideway. Wall placement continued, working east toward RTS.

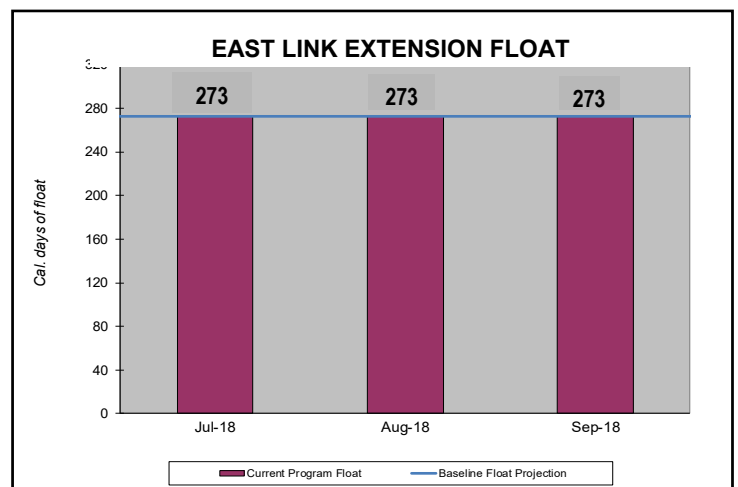
E750 Systems contractor continued product design, submittal, and procurement. This phase of work will be on-going for the next year. The physical construction on Northgate Link will occur before commencing on East Link. Systems construction on East Link is anticipated to start on the eastern segment of E130 in Summer of 2019.

All contracts are forecast to complete on or before target. Revenue Service is forecast in June 2023.



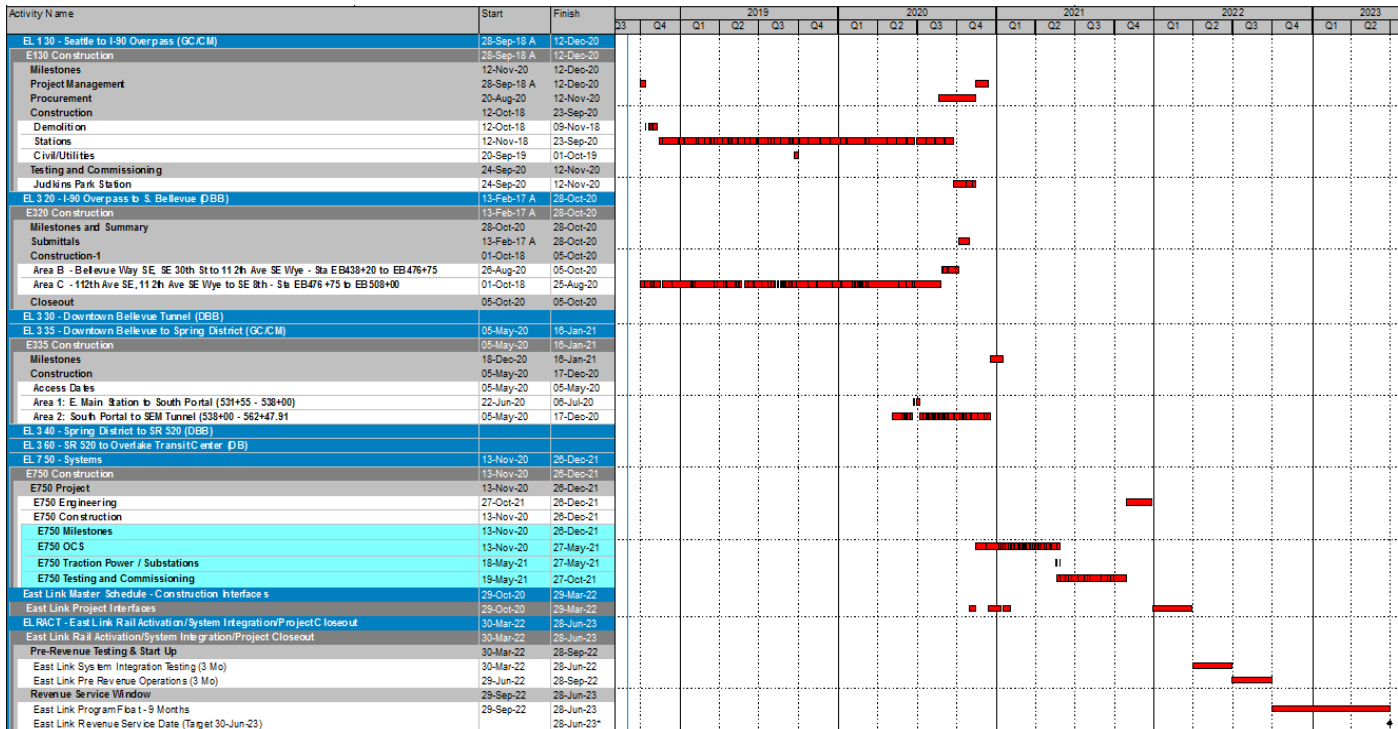
Project Float

East Link was baselined with 273 days of program float.
No float has been used to date.



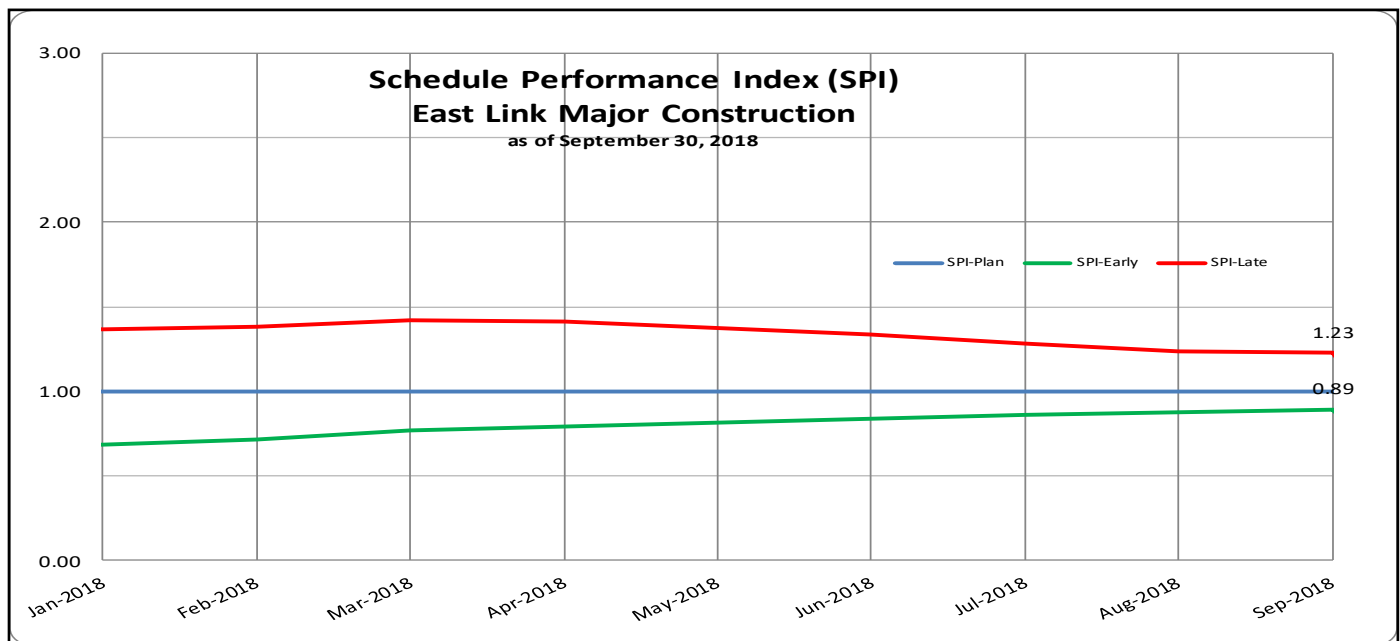
Critical Path Analysis

The East Link Critical path currently runs through the final three civil-systems handovers—E320, E130, and E335. The E750 critical path follows these handovers through OCS installation on the western half of the alignment.



Schedule Performance Index

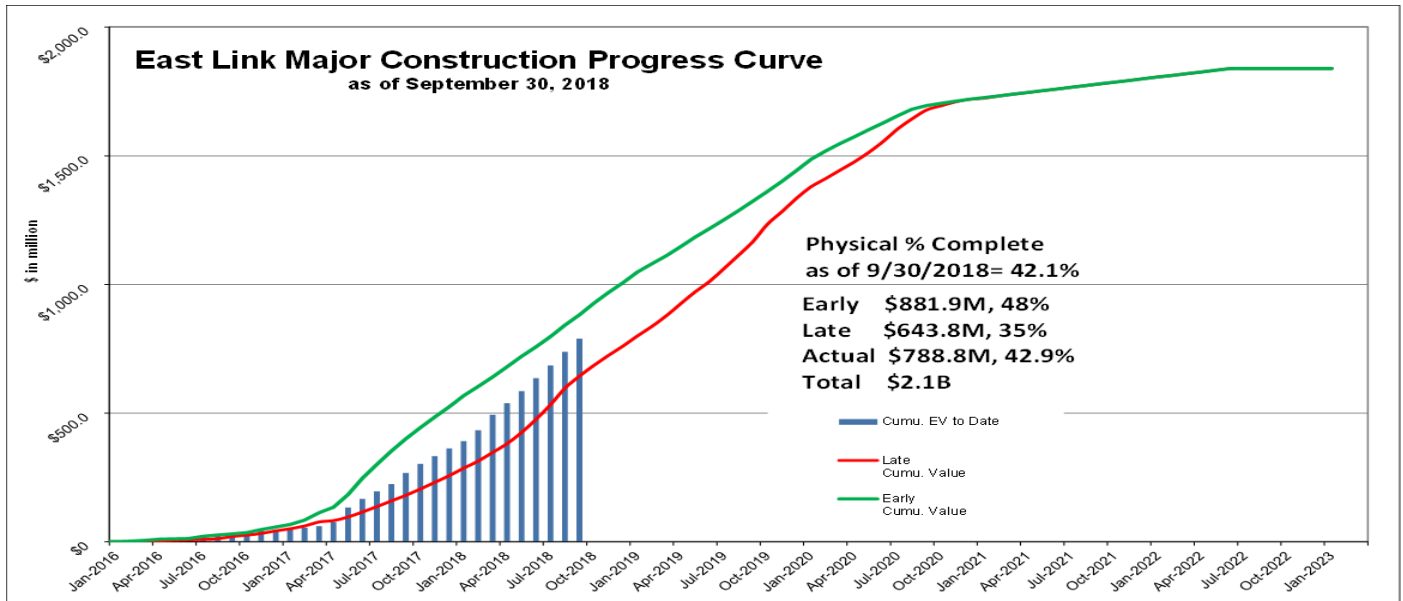
The early Schedule Performance Index (SPI) for East Link's Major Construction Packages is at 0.89 for this period, which continues the upward trend of previous months. The late SPI is at 1.23 showing that in general, performance is satisfactory.



Project Cash Flow Projection

All seven major construction contractors are now mobilized. All major civil work is well underway. The overall East Link Major Construction percent complete analysis is based on a weighted measurement among the seven major construction contracts' schedule, duration and cost. The graph below shows the aggregate cost progression for these construction contracts. As of the end of September, performance is trending appropriately between the early/late projection as drawn from the master schedule. The overall physical percent complete for East Link construction is approximately 42.1%.

The current period's analysis reflects the incorporation of the stations package into the E335 contract.



E340 Bel-Red: Placing concrete for girder stops.

Right-of-Way

The East Link Extension involves the acquisition of a range of property interests including fee acquisitions for stations, guideway, staging areas, support facilities, and tunnel and guideway easements as well as permanent and temporary easements for construction. These acquisitions resulted in owner and tenant residential and commercial relocations. Property acquisition and relocations are mostly complete, with limited processing of relocation claims and coordination of property transfers with the City of Bellevue remaining. The right-of-way program status for this period is summarized in the following table:

East Link Ext Extension Acquisition Status					
ACQUISITION				RELOCATION	
Total Acquisitions	Board Approved	Offers Made to date	Closings to date	Relocations Required	Relocations Completed to date
237	244	234	224	227	225
* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.					

Community Outreach

- Ongoing distribution of weekly construction alerts for maintenance of traffic activities for Mercer Island, Bellevue and Redmond.
- Coordinated many briefings and meetings with impacted neighbors about upcoming major traffic changes including but not limited to full closures.
- Ongoing engagement with individual property owners, members of the public and impacted neighbors on a variety of concerns including demolition, noise wall construction, signage, night time noise, traffic, access, maintenance of traffic, irrigation line repairs.
- Coordinated with WSDOT and Seattle's Department of Neighborhood on the Rainier Ave. I-90 bridge demolition.



E335 Downtown Bellevue to Spring District: Ongoing Sack and Patch

Sound Transit Board Actions

Board Action	Description	Date
	None to report.	

Construction Safety

Data/ Measure	September2018	Year to Date	Project to Date
Recordable Injury/Illness Cases	2	20	33
Days Away From Work Cases	0	5	6
Total Days Away From Work	91	249	251
First Aid Cases	4	75	105
Reported Near Mishaps	11	76	168
Average Number of Employees on Worksite	926	-	-
Total # of Hours (GC & Subs)	150,399	1,320,987	2,023,440
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	2.66	3.03	3.26
LTI Rate	0.00	0.76	0.59
Recordable National Average	3.20	3.20	3.20
LTI National Average	1.30	1.30	1.30
Recordable WA State Average	6.40	6.40	6.40
LTI WA State Average	2.10	2.10	2.10

Note: Due to the timing of contractor's reporting periods, the current month's numbers above are a combination of actuals and estimates. All previous months' numbers are reconciled and replaced with actuals.

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Major Construction Contract Packages

Below are the major construction contract packages for the project with a brief scope description of each.

R8A Stage 3A – Modification of HOV Ramp between I-90 and Bellevue Way SE. [Design-bid-build]

Status: Completed and Operational.

E130 Seattle to South Bellevue – International District Station (IDS) modification, Retrofit of existing WSDOT structures, I-90 Center Roadway and two light rail stations. [Heavy Civil GC/CM]

Status: See following pages under Contract E130.

E320 South Bellevue – One light rail station and a parking garage at South Bellevue P&R; aerial, at-grade and retained-cut guideway along Bellevue Way SE and 112th Avenue SE. [Design-bid-build]

Status: See following pages under Contract E320.

E330 Downtown Bellevue Tunnel – SEM Tunneling along 110th Ave. NE in Downtown Bellevue. [Design-bid-build]

Status: See following pages under Contract E330.

E335 Downtown Bellevue to Spring District – Four light rail stations; aerial, at-grade and retained-cut guideway from Downtown Bellevue, over I-405 to 124th Ave. NE. [Heavy Civil GC/CM]

Status: See following pages under Contract E335.

E340 Bel-Red – One light rail station, aerial and at-grade guideway from 124th Ave. NE to NE 20th. [Design-bid-build]

Status: See following pages under Contract E340.

E360 SR520 to Redmond Technology Center – Two light rail stations; aerial and retained-cut guideway along SR-520 in the Overlake area of Bellevue and Redmond. [Design-Build]

Status: See following pages under Contract E360.

E750 Systems – Light rail systems elements, including Traction Power Electrification, Overhead Catenary System, Train Signals and Communication System. Combined with Northgate Link N830. [Heavy Civil GC/CM]

Status: Contractor continues with critical submittal, reviews of plans, component and product designs as well as meetings with civil contractors with regards to the Coordinated Installation Plan (CIP).



E320 South Bellevue - Placing concrete into track slabs

Contract E130 – Seattle to South Bellevue Heavy Civil GC/CM

Current Progress

D2 Structure & Mt. Baker Tunnel (West Segment): Ongoing retrofit of tunnel electrical and structural modifications; ongoing construction of Judkins Park Station conveyance structures and utilities; demo prep at Rainier Bridge.

Floating Bridge Retrofit (Center Segment): Complete post tensioning work; ongoing electrical retrofit for cathodic protection and approach structural retrofit; ongoing construction of OCS bases.

Mercer Island (East Segment): Ongoing retrofit of tunnel electrical and structural modifications; ongoing construction of Mercer Island Station structures and Traction Power Sub Station (TPSS) sites 3 and 4; ongoing sub ballast for rail.

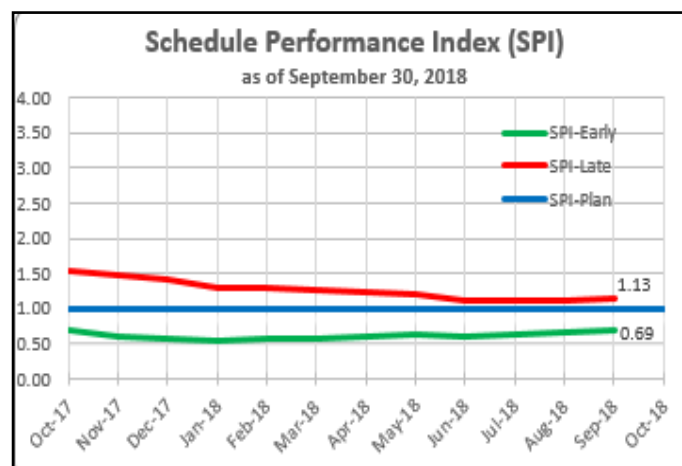
Schedule Summary

The critical path for this project continues to run through access to the D2 roadway and subsequent demolition of the Rainier Avenue Bridge, then through Judkins Park Station. Contractor is currently forecast to achieve all milestones on or ahead of target completion dates.

Activity Name	Start	Finish	2019					2020					
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
E130 Construction	10-Mar-17 A	11-Jan-21											
Milestones	10-Mar-17 A	11-Jan-21											
Access Milestones	10-Mar-17 A	12-May-17 A											
16. Notice to Proceed - Package 1	10-Mar-17 A												
16. Notice To Proceed - Remaining Scope	12-May-17 A												
Major Project Complete Milestones	17-Jul-19	11-Jan-21											
16. MS#01 - Substantial Completion Mercer Island Station to East End Of Project (17-Jul-19)		17-Jul-19*											
16. MS#02 - Substantial Completion Mercer Island Station to West Mercer Island Lid (29-Jan-20)		08-Dec-19*											
16. MS#03 - Substantial Completion of IDS Conversion (27-Feb-20)		23-Feb-20*											
16. ST E130 Work Complete		12-Nov-20											
16. MS#04 - Substantial Completion All Work (12-Dec-20)		12-Dec-20*											
16. Acceptance		11-Jan-21											
Construction	20-Mar-17 A	10-Nov-20											
Preliminary Activities	03-Apr-17 A	01-Oct-20											
Sitework	23-Aug-17 A	26-Oct-18											
Demolition	20-Jul-17 A	15-Apr-19											
Tunnel Modifications	18-Sep-17 A	20-Aug-19											
Stations	15-Sep-17 A	23-Sep-20											
OCS Bases/Frames	02-Apr-18 A	10-Aug-20											
Civil/Utilities	05-Jul-17 A	10-Nov-20											
Electrical	20-Mar-17 A	06-Oct-20											
Structures Retrofit	20-Mar-17 A	10-Nov-20											
Trackwork	29-Jan-18 A	27-Oct-20											
Systems	28-Jun-17 A	10-Nov-20											
IDS Modification	16-Sep-19	23-Feb-20											

Schedule Performance Index

This period, the SPI early is 0.69, SPI late is 1.13. The early index indicates the Contractor is behind their early finish plans; the late index shows the Contractor is on target with their late finish plan. These figures support the fact the Contractor encountered challenges in the initial phases of the post-tensioning scope, but continues to catch up to their baseline plan. All post tensioning work is now complete.



Link Light Rail East Link Extension

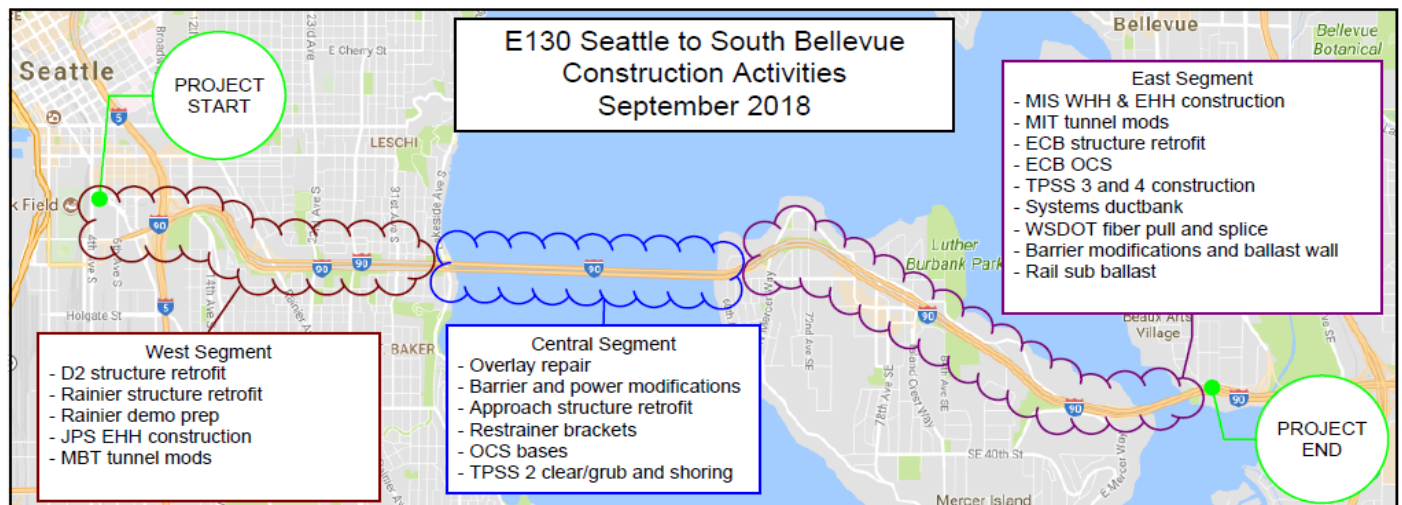
Next Period's Activities

- **West Segment:** Continue tunnel electrical and structure seismic retrofits; ongoing structures construction and utility work; Rainier Ave Bridge demolition.
- **HMH Floating Bridge (Center Segment):** Continue cathodic protection, OCS foundation activities; remove post tensioning temporary support structures; WSDOT winter work window shut-down.
- **East Segment:** Continue retrofit of tunnel electrical; continue MI Station, TPSS sites construction, ongoing structures retrofit.

Closely Monitored Issues

- Extent of variations in the actual deck thickness on the East Channel Bridge and potential ramifications.
- Timeliness of PSE service connection at TPSS #4 regarding Milestone 1 and E750 interface.

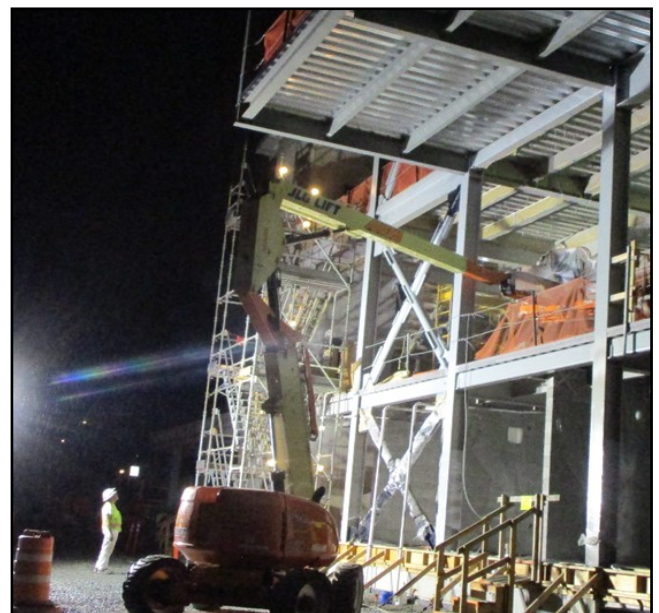
E130 Construction Activities



Cost Summary

Present Financial Status	Amount
E130 Contractor - Kiewit-Hoffman	
Original Contract Value (incl. Phase 2 MACC)	\$665,000,000
Change Order Value	\$15,463,488
Current Contract Value	\$679,508,488
Total Actual Cost (Incurred to Date)	\$262,973,299
Financial Percent Complete	38.7%
Authorized Contingency	\$46,660,541
Contingency Drawdown	\$15,463,488
Contingency Index	1.2

Contract Value excludes Betterment



MI Station structural steel undercoat painting operations

Contract E320 – South Bellevue

Current Progress

I-90 Flyover: Continued erecting falsework and erecting traveler in preparation for long span work crossing I-90. Poured first cantilever segment.

S. Bellevue Stn/P&R: Continued concrete works on parking garage. Preparing for track slab span.

Bellevue Way SE: Continued soldier pile work & set cap beam forms at Winters House.

Wye-to-East Main: Completed traffic revision to detour traffic on by pass road on 112th. Start removal of roadway at 112th undercrossing. Begin planting work at Swayolocken and Coal Creek.

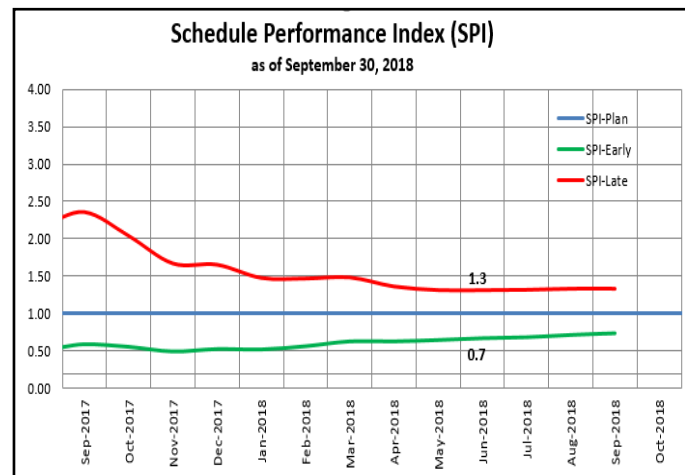
Schedule Summary

The critical path for this project currently runs through the 112th undercrossing and trench along Bellevue Way SE. The contractor is currently forecast to achieve all milestones on schedule.

Activity Name	Start	Finish	2019					2020			
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
E320 Construction	05-Dec-16 A	28-Oct-20									
Milestones and Summary	05-Dec-16 A	28-Oct-20									
Contract Milestones	05-Dec-16 A	28-Oct-20									
Limited Notice to Proceed	05-Dec-16 A										
Notice to Proceed	13-Feb-17 A										
Milestone 3A - Clear & Grub Swayolocken (Start of 'Wetland Fill' Work+365 D)	09-Oct-18*										
Milestone 1 - (Alternate) Phase B21 Not Used	23-Jan-19										
Milestone 3B - Clear & Grub Coal Creek	12-Aug-19*										
Milestone 4 - SIFT & SCADA Complete (NTP+1180D)	28-Jan-20*										
Milestone 5 - Acceptance of South Bellevue Station (NTP+1215D)	18-Jun-20*										
Milestone 2 - Final Restoration of Bellevue Way (Start+897D)	19-Jul-20										
Milestone 6 - Required Substantial Completion (NTP+1340D)	28-Oct-20*										
Construction-1	21-Apr-17 A	05-Oct-20									
Mobilization	21-Apr-17 A	16-Jul-18 A									
Area A - I-90 Mainline to Bellevue Interchange - Sta EB405+54 to EB438+20	16-Jun-17 A	04-Aug-20									
Area B - Bellevue Way SE, SE 30th St to 112th Ave SE Wye - Sta EB438+20 to EB476+75	30-May-17 A	05-Oct-20									
Area C - 112th Ave SE, 112th Ave SE Wye to SE 8th - Sta EB476+75 to EB508+00	13-Jun-17 A	14-Sep-20									
Area D - 112th Ave SE to SE 8th St to Main St - Sta 508+00 to EB528+25	22-May-17 A	01-Sep-20									
Area E - Coal Creek Stream Enhancement	09-Jul-18 A	12-Aug-19									
Area F - Swayolocken Mitigation	23-Apr-18 A	09-Oct-18									

Schedule Performance Index

This period, the SPI early is at 0.7 and the SPI late is at 1.3. The numbers indicate that the Contractor continues to be behind the early finish plans, but maintains ahead of the late curve when compared to the baseline work plan. The SPI early and SPI late have been holding steady for the past several months.



Link Light Rail East Link Extension

Next Period's Activities

I-90 Flyover: Continue night work erecting traveler for main span work over I-90. Continue top deck pours.

S. Bellevue Stn/P&R: Continue rebar work and slab on grade pours in parking garage

Bellevue Way SE: Continue soldier pile and soil nail work at Winters House.

Wye-to-East Main: Continue roadway removal at 112th undercrossing road.

Closely Monitored Issues

- Working adjacent to wetland areas, environmental compliance concerns.
- MOT restrictions on BWSE are directly tied to the final restoration of BWSE. ST engaged the City of Bellevue to determine acceptable timeframes for the restoration and completion date of MOT related to milestones 1 & 2. ST and City of Bellevue are reviewing options to allow for longer lane restriction durations.



Cost Summary

Present Financial Status	Amount*
E320 Contractor - Shimmick/Parsons JV.	
Original Contract Value	\$319,859,000
Change Order Value	\$1,631,225
Current Contract Value	\$321,490,225
Total Actual Cost (Incurred to Date)	\$132,819,255
Financial Percent Complete	41%
Authorized Contingency	\$38,532,000
Contingency Drawdown	\$1,631,225
Contingency Index	9.7

* \$ Amount excludes betterments and STArt.



CIP Segment Pour / Traveler Work

Contract E330 – Downtown Bellevue Tunnel

Current Progress

Tunnel: Continued to maintain the temporary erosion/sediment control and the traffic control at the South Portal and at the mid-access shaft. Continued to apply the crown smoothing layer from the north end of the tunnel working south along with the invert excavation, grinding, and smoothing. Reinforcement support dowels also started at the north end of the tunnel working to the South.

Between Portals: Saw cut shaft and installing stairway block out and commenced installing reinforcing in the mid tunnel shaft. Started excavation at the South Portal for the portal walls.

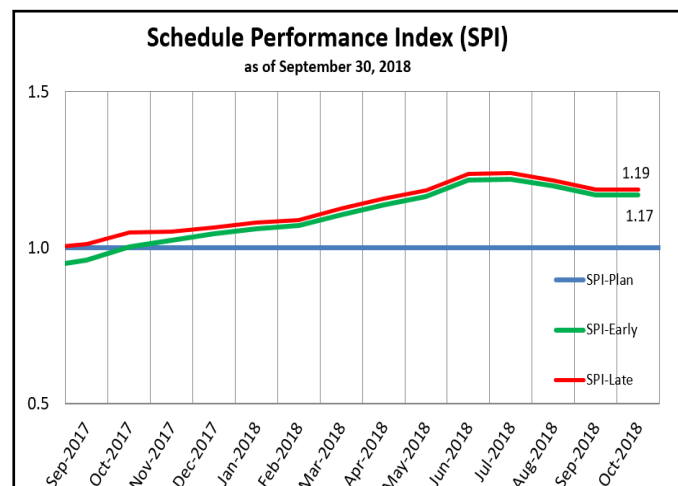
Schedule Summary

The critical path for this contract follows the final tunnel lining and the completion of the South Portal structure. The Contractor is now forecast to achieve Substantial Completion ahead of their contractual requirements.

Activity Name	Start	Finish	2019							
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	
E330 Construction	15-Dec-15 A	12-May-20								
CONSTRUCTION	15-Dec-15 A	12-May-20								
MILESTONES CONSTRUCTION EASEMENTS	15-Dec-15 A	12-May-20								
MILESTONES	15-Dec-15 A	12-May-20								
CALCULATED MILESTONES	15-Dec-15 A	12-May-20								
L-NTP	15-Dec-15 A									
NTP	08-Feb-16 A									
MLST 1 - Acceptance of the 110th Ave Controlled Low Strength Material Work		14-Oct-16 A								
MLST 2 - Acceptance of CO #008 Work		14-Oct-16 A								
MLST 3 - Substantial Completion of all Work from Station EB 542+84.52 to Station EB 562+47.91		11-Jan-20								
MLST 4 - Substantial Completion Total Contract		12-May-20								
MOBILIZATION	08-Feb-16 A	23-May-19								
SITEWORK	29-Feb-16 A	12-May-20								
PRECONSTRUCTION	21-Mar-16 A	23-Jan-20								
TRAFFIC CONTROL	25-Mar-16 A	13-Aug-19								
SURVEY & MONITORING	29-Feb-16 A	03-May-18 A								
NORTH PORTAL AREA	13-Jun-16 A	14-Oct-16 A								
SOUTH PORTAL AREA	08-Feb-17 A	08-Apr-17 A								
SKYLINE BUILDING RETROFIT	29-Feb-16 A	12-May-20								
TUNNELING	01-Feb-17 A	17-Dec-19								
EXCAVATION	01-Feb-17 A	20-Jul-18 A								
FINAL TUNNEL LINING	20-Jul-18 A	16-Sep-19								
FINAL TUNNEL FINISHES	16-Sep-19	17-Dec-19								
MID TUNNEL	08-Mar-18 A	13-Aug-19								
DEMOBE	13-Mar-17 A	29-Apr-20								

Schedule Performance Index

For the month of September, the SPI early is at 1.17 and the SPI late is at 1.19. Both early and late SPI are well ahead of the baseline work. The advanced progress trend achieved was a result of good ground conditions encountered during excavation and elimination of spiles. This advanced progress could be challenged by additional permit requirements imposed by City of Bellevue, and additional activities to control and stop seepage in the tunnel.



Link Light Rail East Link Extension

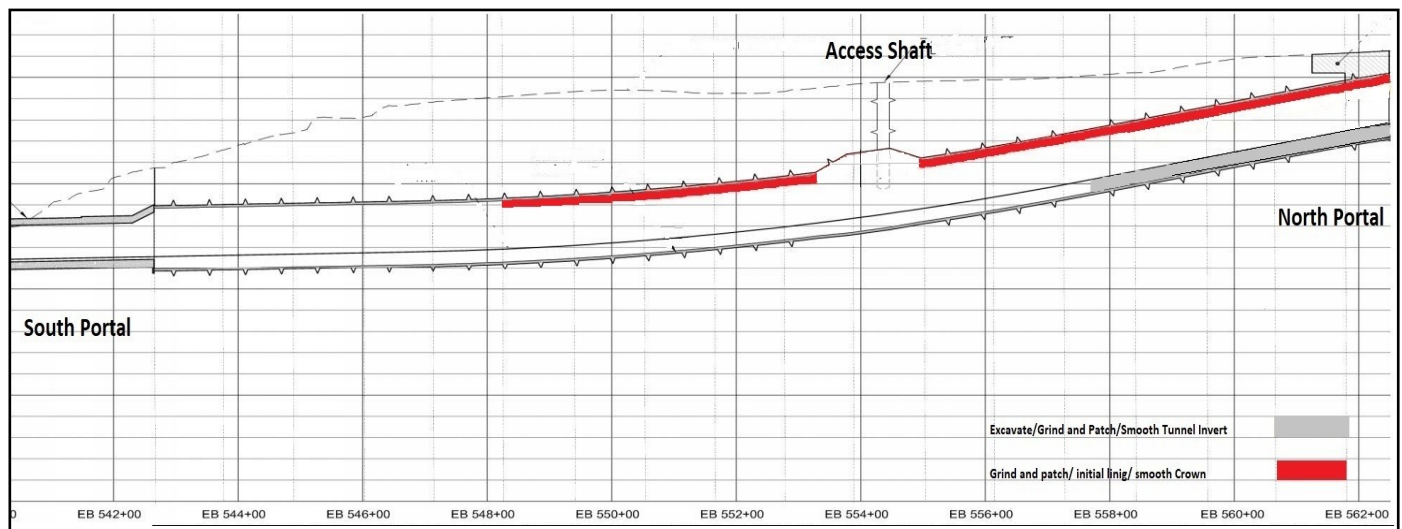
Next Period's Activities

- **Tunnel:** Continue excavating, grinding, patching, installing drainage mat and applying smoothing layer to invert from the North to South Portal. Commence installing drainage for the South Portal walls and begin placing the backfill between the temporary soil nail walls and the permanent South Portal walls. Waterproofing to start in the tunnel crown from North Portal to south.
- **Between Portals:** Continue installing shaft rebar. Continue removing instrumentation on 110th Ave. NE.

Closely Monitored Issues

- City of Bellevue additional permits requirement for the installation of the electrical and fire alarm conduits in the tunnel, will result in changes to the contract drawings, and cause additional cost.
- Sound Transit working through acceptance of substitution request and required request for deviation for the use of PVC conduit vs. GRS conduit in the tunnel invert. Design team finds the use of PVC acceptable; however, Sound Transit Quality Assurance has indicated the use of PVC conduits is not allowed per National Fire Protection Association in a tunnel.

E330 Tunnel invert excavation/ place crown smoothing layer (As of 9/28/2018)



Cost Summary

Preset Financial Status	Amount
E330 Contractor– Guy F Atkinson Construction, LLC.	
Original Contract Value	\$121,446,551
Change Order Value	\$1,480,108
Current Contract Value	\$122,926,659
Total Actual Cost (Incurred to Date)	\$91,957,108
Financial Percent Complete	75%
Authorized Contingency	\$12,144,655
Contingency Drawdown	\$1,480,108
Contingency Index	6.1



Dowell installation in Tunnel crown in expanded tunnel section

Contract E335 – Bellevue to Spring District Heavy Civil GC/CM

Current Progress

Area 1: S Portal/ East Main Station: Completed rock wall construction and cutting to grade at the East Main. Commenced installation of underground electrical duct systems.

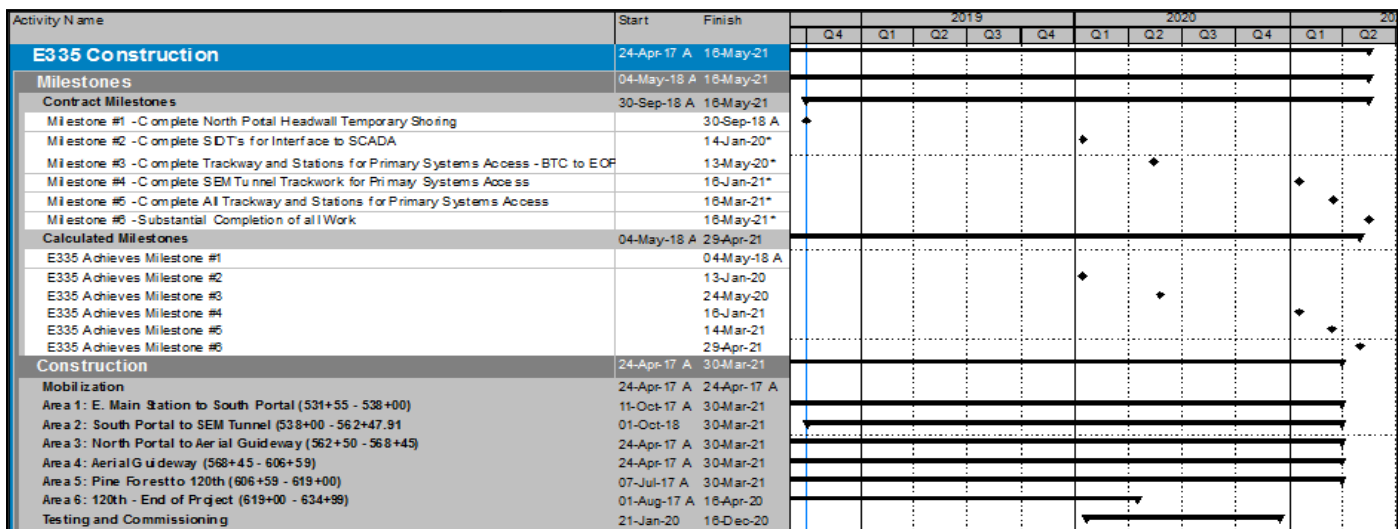
Area 3: N Portal/ City Of Bellevue parking: Continued reconstruction of the city hall garage with mechanical, plumbing electrical inspections and paint doors, and punch list work. Completed struts and whalers removal and continue installing blind-side waterproofing, rebar templates at exterior walls, and set back forms on North Portal west walls.

Area 5: Pine Forest: Continued work on cast in place track walls at the Kirkland wye, sub-ballast and permanent fencing.

Area 6: 120th-124th Trench/Station: Continued setting wall forms and pouring footing and station base slabs; plumbing and electrical infrastructure work.

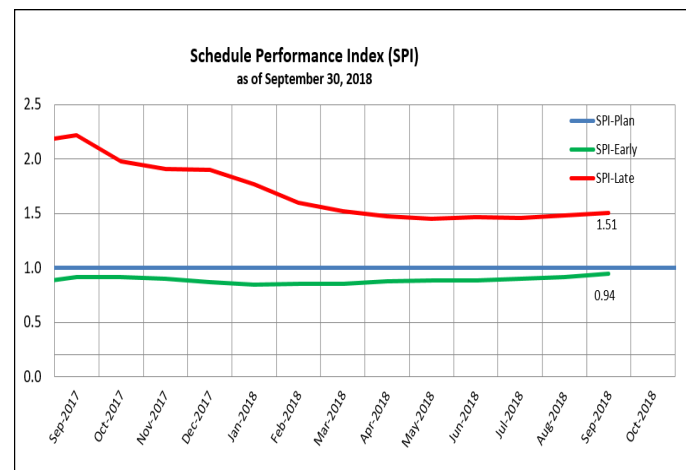
Schedule Summary

There are two primary critical paths for this contract, corresponding to the two handovers to the E750 Systems Contractor — one runs through the North Portal and BTC station work in Area 3, and the other follows access to the SEM tunnel (E330 contract) in Area 2 and goes through the South Portal and the South Portal Electrical Building. That work will not start until mid-2020. The Contractor is currently 11 days behind their first interface milestone, but has recovered some time since last month and is expected to continue mitigating to deliver on schedule.



Schedule Performance Index

This period, the SPI early is at 0.94 and the SPI late is at 1.51. The contractor continues to lag the early plan, but well ahead of the late finish plan when compared to the baseline work. Numbers are supported by the fact that delivery of rail, ties and special track work are pushed later than baselined. Procurement and delivery of pre-cast girders construction of aerial guideway is behind originally planned, while work at North Portal and open cut excavation 120th Ave to 124th Ave is ahead of schedule compare to the baseline.



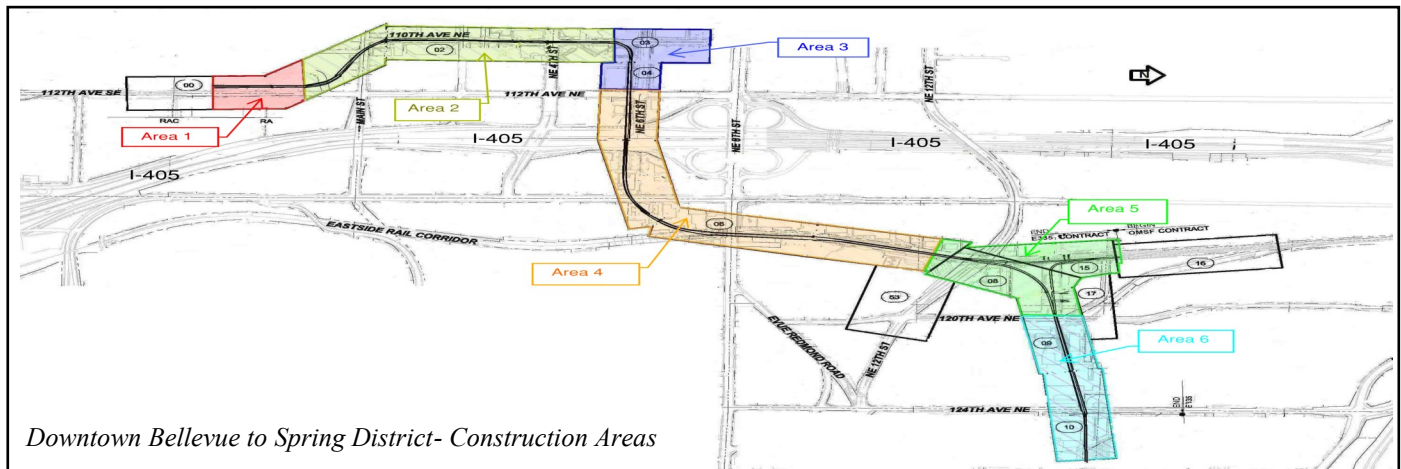
Link Light Rail East Link Extension

Next Period's Activities

- **Area 1:** S Portal/ East Main Station: Continue duct bank excavation and placement and installation of precast panels for sound wall.
- **Area 4:** Aerial Guideway: Continue formwork and reinforcing and commence concrete pour for the base slab over I-405.
- **Area 5:** Pine Forest: Commence formwork and reinforcing for the 123rd Ave NE Bridge traffic barriers.
- **Area 6:** 120th-124th Trench/Station: Continue formwork for the 120th Station platform and exterior walls and place concrete for the footing slab.

Closely Monitored Issues

- Recent RFIs have identified the need to revise the Wye special track work, which resulted in a change to Overhead Catenary System (OCS) foundation, added system duct bank and material change in the special track work for these crossings. Re-design of special track work will result in a delay to procurement.
- Outstanding design items related to the electrical scopes for 120th Station are currently being evaluated for impact. Also, ongoing design revisions related to the elevator/escalator scopes could pose risk to the schedule.



Cost Summary

Present Financial Status	Amount
E335 Contractor– Stacy & Witbeck/Atkinson Joint Venture (SWA-JV).	
Original Contract Value (includes station scope)	\$393,798,210
Change Order Value	\$4,524,577
Current Contract Value	\$398,322,787
Total Actual Cost (Incurred to Date)	\$136,258,366
Financial Percent Complete	34.1%
Authorized Contingency	\$19,689,911
Contingency Drawdown	\$4,524,577
Contingency Index	1.5



Track rebar installation. (Area 4)

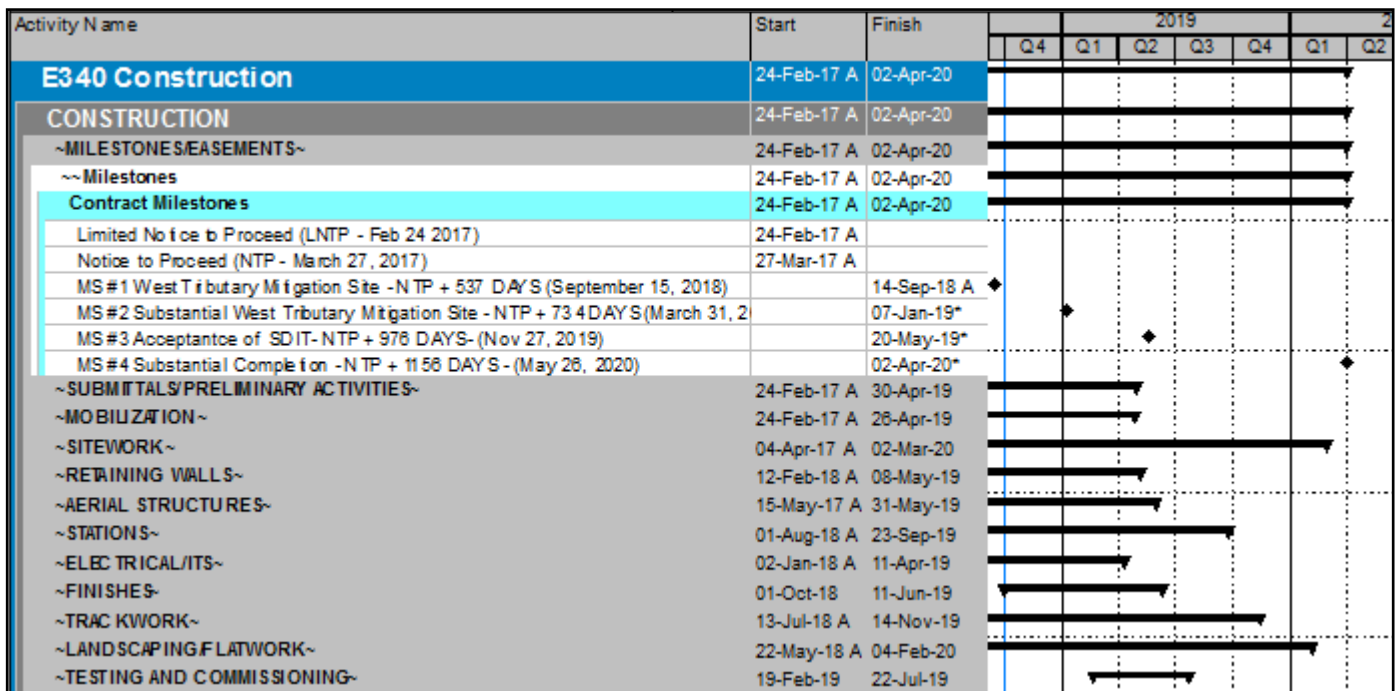
Contract E340 – Bel-Red

Current Progress

Ongoing closure at NE Spring Blvd (132nd Ave to 134th Ave). Preparing west side of 136th Pl NE to move traffic from the East side to the West side. South Station Wall: 4 of 5 footing sections are complete, panel placement is underway. NE Spring Blvd Wall, excavating for additional footing pours. 2 of 5 footing sections and 6 of 13 wall panels are completed to date. Excavating for the footing on the east end. All footings for the wall at the corner of 136th and NE Spring Blvd are completed; 13 of 16 wall panels are completed to date. Installing storm drain on NE Spring Blvd.

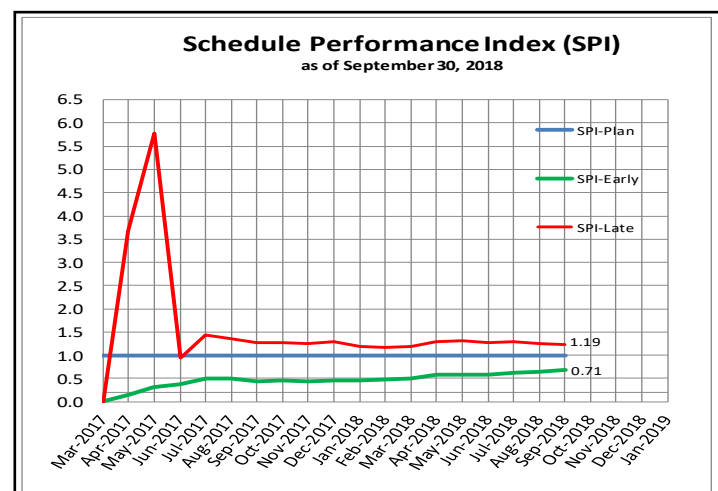
Schedule Summary

Critical path of this project now runs through the casting and placement of track wall along 136th, followed by trackwork. The Contractor is trending to finish ahead of their contractual milestone.



Schedule Performance Index

This period, the SPI early is at 0.71 and the SPI late is at 1.19. The late index indicates that the contractor continues to be ahead of the planned finish work; while the SPI early measures the Contractor's planned early finish is behind. Some of the factors that contribute the Contractor to be ahead of the SPI late are the continuation of retaining wall as well as aerial guideway superstructure constructions progress, the completion of soldier pile and tiebacks installation. Finished the sewer along NE Spring Blvd and installed side sewers.



Link Light Rail East Link Extension

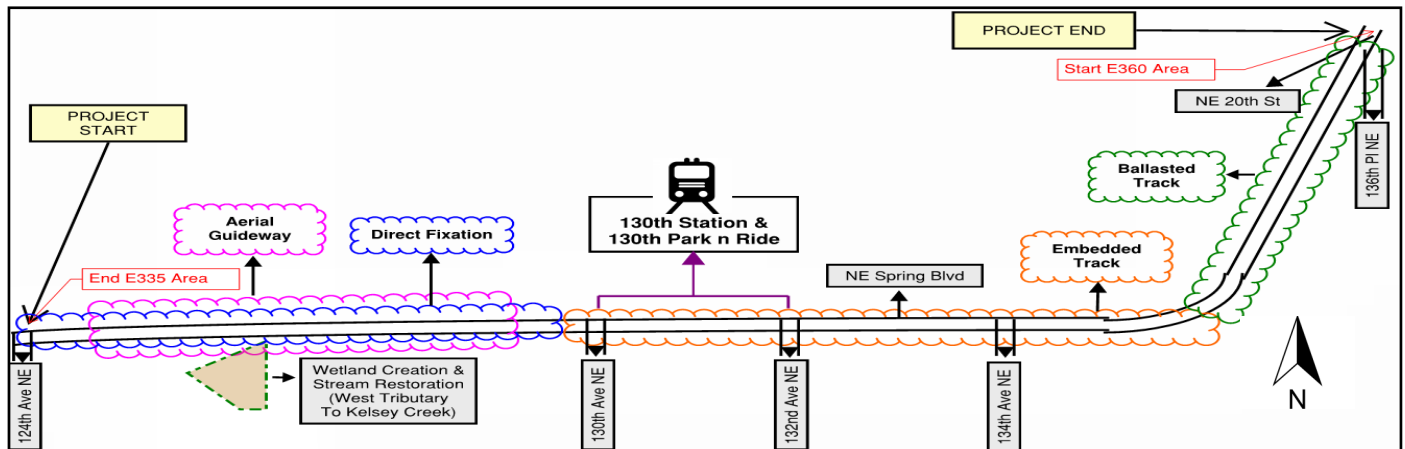
Next Period's Activities

- For the aerial guideway, continue forming and pouring girder stops and diaphragms, form guideway OCS. (Overhead Catenary System) supports and overhangs.
- Form and pour wall panels on South Station Wall. Excavate for remaining footing section.
- Continue storm drain installation on NE Spring Blvd.
- Continue excavation and placement of Wall as well as forming and pouring wall footings and panels at NE Spring Blvd footings.
- Grading and begin placement of controller pad for the signal at 132nd Ave NE.

Closely Monitored Issues

- Delayed start on west end of the project: West Tributary, Mid-Lakes Pump Station and late start on the 124th Ave Bridge project has potential to impact to the overall project schedule.
- Working with the Contractor to determine a path forward on the differing site conditions relative to tie-backs on Soldier Pile Wall 11 between 124th NE to 130th NE. Installed a monitoring well to observe the water table and conditions.
- Working with the Contractor and Third Party Utilities to identify and find remedies for utility conflict prior to these conflicts affecting the work schedule.

E340 Construction Work Areas



Cost Summary

Present Financial Status	Amount
E340 Contractor– Max J Kuney	
Original Contract Value	\$93,170,012
Change Order Value	\$2,053,977
Current Contract Value	\$95,223,989
Total Actual Cost (Incurred to Date)	\$40,988,583
Financial Percent Complete	43%
Authorized Contingency	\$9,317,000
Contingency Drawdown	\$2,053,977
Contingency Index	1.95



Setting 130th Station south retaining wall panel

Contract E360 – SR 520 to Redmond Technology Center (RTC)

Current Progress

Design: Advanced design packages for the following areas: SR520 Landscape Guideway 100% complete Sound Transit review. Civil Systems 100% submittal comment resolution complete. Continued IFC design validation for OVS pedestrian bridge substructure/superstructure design packages (DP). Landscape Guideway 100% ST submittal review complete.

Construction: WA #1 MSE wall construction started. Aerial guideway structures continued in WA #2 with four columns, and two caps placed. Girder erection is on hold until October. Superstructure work for diaphragms and precast panels continues. Work Area #3/4/5 continues sound/barrier footing and wall placement starting at OVS and working towards Redmond Technology Station (RTS) (walls 16 and B6). Work Area #5 continue wall 16 placement and continue systems duct bank installation. Work Area #6 continue fascia for soil nail wall S8. Continued wall construction for RTS walls and start garage grade beam placement. Underground utilities ongoing along OTC station and east of garage.

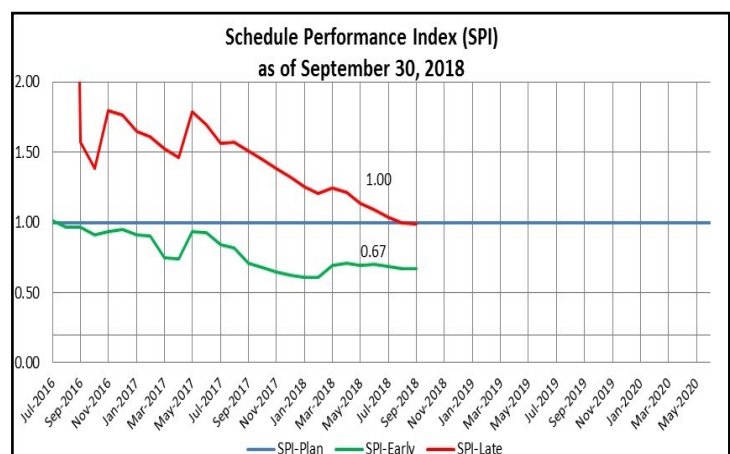
Schedule Summary

The critical path for this project currently goes through the structural work at Redmond Technology Station (formerly Overlake Transit Center). The contractor is currently forecast to complete this contract on schedule.

Activity Name	Start	Finish	2019	2020
E360 Construction	13-Jul-16 A	16-Feb-20		
Base Contract	13-Jul-16 A	16-Feb-20		
Design	13-Jul-16 A	15-Jan-19		
Design Milestones				
Design Submittals Start	03-Oct-16 A	31-Dec-18		
30% Design Submittals Complete		03-Oct-16 A		
60% Design Submittals Complete		28-Oct-16 A		
100% Design Submittals Complete		26-Feb-18 A		
IFC Design Submittals Complete		01-Oct-18		
Design Overhead	13-Jul-16 A	18-Jul-17 A		
Design and Engineering	13-Jul-16 A	15-Jan-19		
Construction	13-Jul-16 A	16-Feb-20		
General	13-Jul-16 A	16-Feb-20		
Project Milestones	13-Jul-16 A	16-Feb-20		
Notice to Proceed	13-Jul-16 A			
Civil/Systems 100% Design Submittal (NTP+300d) (09-May-2017)		10-Apr-17 A		
Substantial Completion		18-Dec-19		
Actual Acceptance of all Work		16-Feb-20		
WA #1 -Track Slab Guideway	22-May-17 A	22-Oct-19		
WA #2 -Aerial Guideway	01-Jun-17 A	29-Oct-19		
WA #3 -Ballast Guideway Block #1	08-Jun-17 A	15-Aug-19		
WA #4 -Overlake Village Station	14-Jul-16 A	22-Oct-19		
WA #5 -Ballast Guideway Block #2	15-Aug-17 A	23-Aug-19		
WA #6 -Overlake Transit Center	01-May-17 A	18-Dec-19		
WA #7 -OVS Pedestrian Bridge	01-Oct-18	21-Oct-19		
WA #8 -OTC Pedestrian Bridge	18-Dec-19	18-Dec-19		

Schedule Performance Index

This period, the SPI early is 0.67 and SPI late is 1.00. The early SPI value continues to reflect slippage of early finish of baseline plan. ST directed stoppage of RTS Pedestrian Bridge due to Microsoft reevaluation of the bridge has contributed to the slippage as well. Drilled shaft work is complete, there are 3 columns and 6 caps left. Girder work has resumed. Some procurement activities have been rolled into construction activities, which has contributed to lowered early SPI recovery.



Link Light Rail East Link Extension

Next Period's Activities

- **Design:** Civil SR520 IFC and Landscaping Guideway DP issuance. Start civil systems IFC submittal. Complete OVS Ped Bridge IFC submittal.
- **Work Area #2:** Ongoing column/cap/diaphragms placement and precast panel set. Resume girder erection.
- **Work Area #3/4:** Continue MSE abutment wall, sound wall and OCS foundation placement. Continue undergrounding utility work. Start OVS station walls.
- **Work Area #5:** Continue construction of footings/walls for track wall B5 and 16. Continue OCS placement. Duct bank placement ongoing. Start guideway fine grade.
- **Work Area #6:** Continue undergrounding utility construction. Start garage grade-beam excavation and FRP.

Closely Monitored Issues

- Microsoft designs for an alternative pedestrian bridge. Contract amendment will be required if pursued.
- Contractor, ST and City of Redmond continue to work out permitting issues having commercial impacts.
- Commercial Issues on Sales Tax Increase, Waterline Routing at RTS, and As-Built Specification.
- Clearance requirements between the WSDOT Aggregate Disposal Site access road and aerial guideway.
- Content and timeliness of Construction Work Plan submittals.
- Geotechnical special inspections and design compliance during construction (monthly site visits).

E360 Construction Work Areas



Cost Summary

Present Financial Status	Amount
E360 Contractor— Kiewit-Hoffman	
Original Contract Value	\$225,336,088
Change Order Value	\$1,441,444
Current Contract Value	\$226,777,532
Total Actual Cost (Incurred to Date)	\$110,631,572
Financial Percent Complete	48.8%
Authorized Contingency	\$22,533,609
Contingency Drawdown	\$1,441,444
Contingency Index	6.2



Work Area 3: MSE Wall Backfill along SR520.

Excludes Betterment

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Link Light Rail

Downtown Redmond Link Extension

Project Summary

Scope

Limits The Downtown Redmond Link Extension builds new light rail from the Redmond Technology Station to downtown Redmond.

Alignment The extension starts at Redmond Technology Station travels generally along SR-520 and SR-202 to downtown Redmond.

Stations Two Stations—SE Redmond (at Marymoor Park) and Downtown Redmond.

Systems Signals, traction electrification, and communications (SCADA)

Phase Planning

Budget \$178M through completion of Preliminary Engineering and Right of Way Acquisition.

Schedule Revenue Service: 2024



Map of Downtown Redmond Link Extension

Key Project Activities

- Presented to the ST Board the refined route, profile and stations for the Downtown Redmond Link Extension and supersedes a portion of the project selected under R2013-09 for the East Link Station.
- Preparation for Capital Committee and Board to Baseline Downtown Redmond Link Extension.
- Continued partner agency agreements negotiations. Focusing on impact mitigation, staffing resources, permitting and design preferences.
- Continued drafting of RFP for the Design Build contract package for DRLE.
- Continued preparation and finalization of Phase Gate 4 and Project Baseline.
- Reached agreement on project permitting plan with the City of Redmond.

Project Cost Summary

Voters approved funding for preliminary engineering for the Redmond Link extension in the 2008 in the Sound Transit 2 ballot measure. In response to the 2007-2009 Great Recession, the ST Board suspended the project. In February 2016, the ST Board restored funding to support preliminary engineering of the project prior to funding approval for final design and construction as part of the Sound Transit 3 Plan. Table (below) figures in millions.

The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

In this period, the Redmond Link project incurred approximately \$1.5M of expenses bringing the total expenditure to date from \$21.1M to \$22.6M. Preliminary Engineering at \$623K, followed by Construction Services at \$338K, Administrative at \$290K and Right of Way (ROW) at \$236K activities continue to be the cost drivers during this period. Agency Administration, primarily staffing cost amounting the rest of the monthly expenditure.

Cost Summary by Phase

Project Phase	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$4.9	\$4.0	\$3.8	\$4.9	\$0.0
Preliminary Engineering	\$21.3	\$17.9	\$15.7	\$21.3	\$0.0
Final Design	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction Services	\$2.0	\$1.7	\$0.3	\$2.0	\$0.0
3rd Party Agreements	\$2.8	\$0.3	\$0.3	\$2.8	\$0.0
Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$147.1	\$8.0	\$2.4	\$147.1	\$0.0
Total	\$178.0	\$31.8	\$22.6	\$178.0	\$0.0

Cost Summary by SCC

SCC Element	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
20 Stations	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
50 Systems	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction Subtotal (10 - 50)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
60 Row, Land	\$140.0	\$8.0	\$2.4	\$140.0	\$0.0
80 Professional Services	\$29.4	\$23.9	\$20.2	\$29.4	\$0.0
90 Unallocated Contingency	\$8.6	\$0.0	\$0.0	\$8.6	\$0.0
Total (10 - 90)	\$178.0	\$31.8	\$22.6	\$178.0	\$0.0

Link Light Rail Downtown Redmond Link Extension



Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility to continuously monitor project status and associated risks.

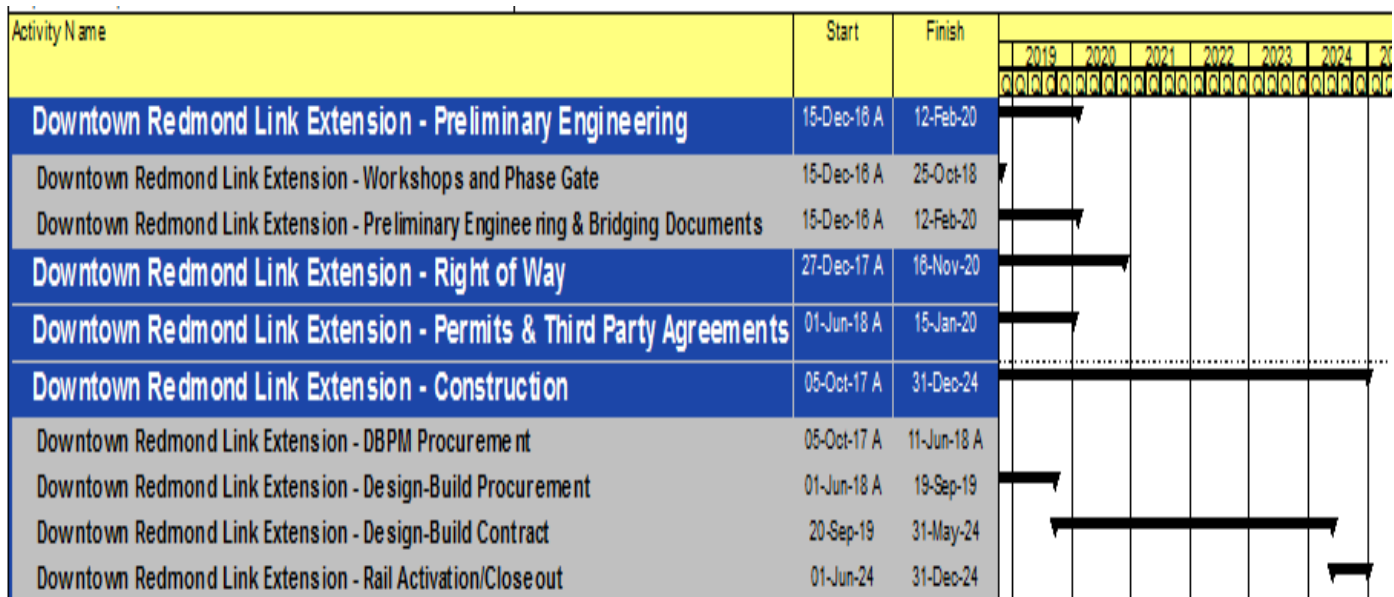
The project completed its quantitative risk assessment risk workshop as part of the process of towards the anticipated 4th QTR 2018's baselining of the project. The quantitative risk assessment report is completed and finalized.

The highest risk areas continues to be:

- Property acquisition - market conditions; protracted durations of attaining control of properties; evolving design impacts property needs.
- Permitting and 3rd party requirements - construction adjacent to SR520; flood prone areas by Sammamish River and Bear Creek; archaeological discovery; betterment requests increases complexity of projects; construction impacts to traffic; stormwater discharge requirements by King County Parks; protracted negotiation with 3rd parties.
- Construction market conditions - inflationary pressure due to potential shortages of labor; higher materials pricing due to demand as well as regulations (tariffs and taxes).
- Agency staffing capacity - Developing and mobilizing resources and coordinating start up activities across multiple Link extensions within a short time frame.

Project Schedule

The project schedule is presented below. In September, the Sound Transit Board formally adopted the project to be built. Property acquisitions have begun. The project is anticipated to be baselined in October 2018 after which the RFP will be issued. Project is currently forecast for completion near the end of 2024.



Right-of-Way

The Right-of-Way effort for this project involves the acquisition of a range of property interests which includes compensable (e.g. fee acquisitions, guideway easements, permanent and temporary construction easements) and non-compensable rights (e.g. rights of entry). These acquisitions will result in owner and tenant residential and commercial relocations. The right-of-way program status for this period is summarized in the following table.

Downtown Redmond Link Extension Property Acquisition Status					
ACQUISITION				RELOCATION	
Total Acquisitions	Board Approved	Offers Made to date	Closings to date	Relocations Required	Relocations Completed to date
88	64	0	0	1514	0
* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.					

- Anticipate going to the Board in October for the authority to acquire addition of parcels for the project.

Community Outreach

- Continued meetings with potentially impacted property owners in southeast and downtown Redmond to provide updated project information and real estate process information and timing.

Sound Transit Board Actions

Board Action	Description	Date
R2018-32	Refines the route, profile and stations for the DRLE and supersedes a portion of the project selected under Resolution No R2013-09 for the East Link Extension	9/27/2018
M2018-97	Amend Task Order with the Washington State Department of Transportation for the continuation of preliminary design services for the DRLE in the amount of \$160,637 for a new total authorized amount not to exceed \$486,355	9/13/2018

Link Light Rail West Seattle and Ballard Link Extensions

Project Summary

Scope

Limits The West Seattle extension includes 4.7 miles of light rail from downtown Seattle to West Seattle's Junction neighborhood. The Ballard extension includes 7.1 miles of light rail from downtown Seattle to Ballard's Market Street area.

Alignment The West Seattle extension route is assumed to run primarily on elevated guideway with a new rail-only bridge over the Duwamish River. The Ballard extension route is assumed to run through a new downtown Seattle rail-only tunnel, elevated guideway, and a rail-only bridge over Salmon Bay.

Stations Five stations planned for West Seattle Segment. Nine stations planned for the Ballard Segment.

Phase Planning

Budget \$286M through completion of Preliminary Engineering

Schedule Revenue Service: 2030 (West Seattle), 2035 (Ballard)



Map of Project Alignment

Key Project Activities

- Presented preliminary Level 2 technical evaluation results to the Interagency Group (IAG).
- Continued engagement with WSDOT, Port of Seattle, KC Metro and Tribes regarding alternatives development process.
- Met with Federal Aviation Administration to discuss navigable airspace considerations that could potentially affect bridge designs for WSBLE water crossings. Continued coordination with departments and work groups within the City of Seattle regarding engineering, station planning, permitting, potential impacts and external engagement.
- Conducted four station planning charrettes for South Lake Union, Denny, SODO and Stadium stations.
- Worked to complete the Level 2 technical evaluation and information gathering from station planning charrettes and other stakeholder engagement efforts.
- Prepared to present results to Stakeholder Advisory Group (SAG) and IAG in September in order to receive recommendations for alternatives to be carried forward to Level 3 evaluation.

Project Cost Summary

The West Seattle and Ballard Link Extensions are voter-approved projects under the ST3 Plan. The Current Budget for the project that has been approved by the Sound Transit Board allows staff to conduct alternatives development, followed by an Environmental Impact Statement, leading to ST Board selection of the project to be built and FTA issuance of a Record of Decision no later than 2022.

Out of the total Authorized Project Allocation, it is anticipated that the project would incur approximately \$25M in 2018 for alternatives development and evaluation; conducting feasibility studies on key project scope assumption in the ST3 Plan, project administration and stakeholder engagement.

The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

Cost Summary by Phase

Project Phase	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$63.1	\$4.0	\$3.4	\$63.1	\$0.0
Preliminary Engineering	\$205.4	\$24.5	\$12.7	\$205.4	\$0.0
Final Design	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3rd Party Agreements	\$11.4	\$1.1	\$0.0	\$11.4	\$0.0
Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Light Rail Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$6.0	\$0.1	\$0.1	\$6.0	\$0.0
Total	\$285.9	\$29.7	\$16.2	\$285.9	\$0.0

Cost Summary by SCC

SCC Element	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
20 Stations	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
50 Systems	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction Subtotal (10 - 50)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
60 Row, Land	\$5.0	\$0.1	\$0.1	\$5.0	\$0.0
80 Professional Services	\$263.4	\$29.6	\$16.0	\$263.4	\$0.0
90 Unallocated Contingency	\$17.5	\$0.0	\$0.0	\$17.5	\$0.0
Total (10 - 90)	\$285.9	\$29.7	\$16.2	\$285.9	\$0.0

Link Light Rail West Seattle and Ballard Link Extensions



Risk Management

Sound Transit has a vigorous risk management program and is committed to identifying, assessing, and monitoring risks and implementing risk reduction/mitigation actions. Risk Assessment for the West Seattle and Ballard Link Extensions Project was conducted as part of the ST3 Planning process.

Project issues and risks identified at this stage include:

- Reaching stakeholder consensus on a preferred alternative;
- Complexity of alignments in constrained environment with challenging topography and waterway crossings;
- Complexity associated with tunneling through a mature urban environment;
- Potential construction effects in a constrained environment;
- Potential effect on Central Link operations during construction;
- ROW and property impacts.

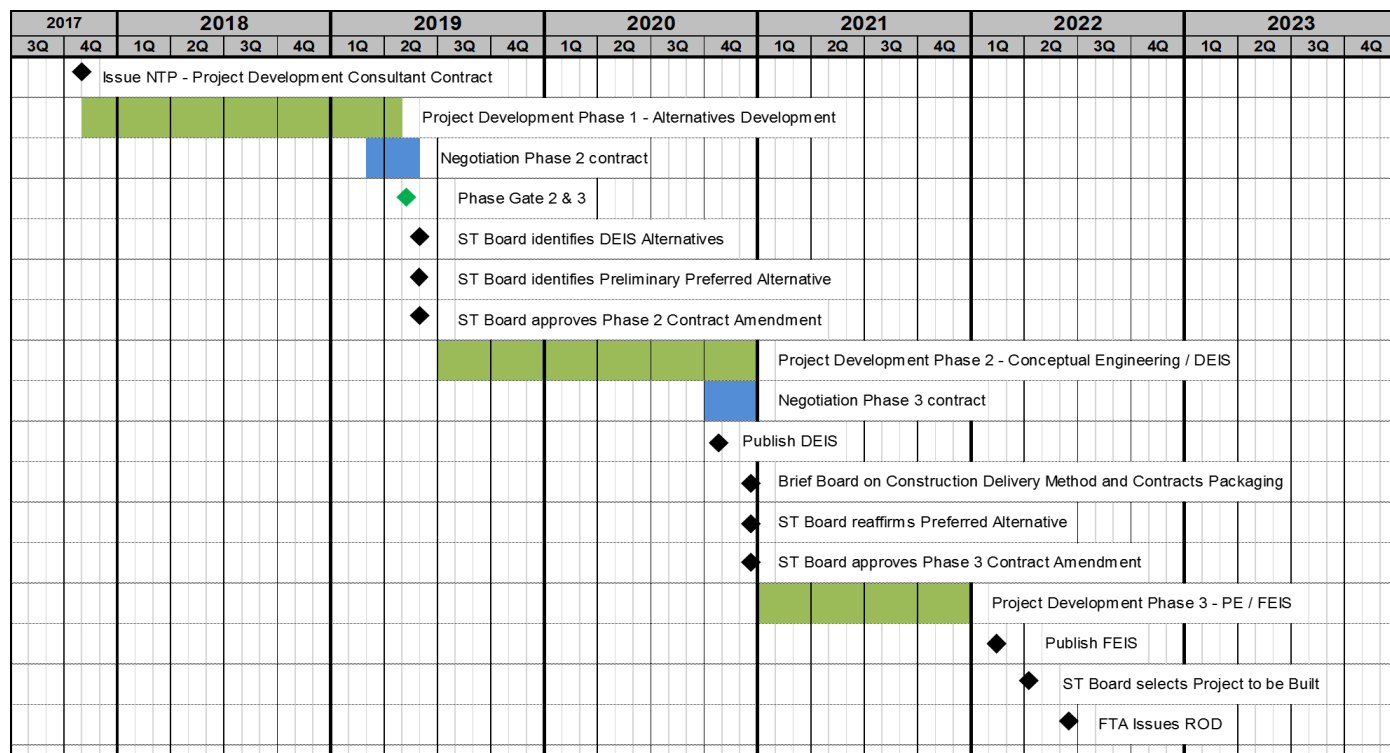
Project Schedule

The preliminary project schedule through the ST Board selection of the project to be built and FTA issuance of ROD is presented below. Sound Transit is developing the master project schedule in Primavera P6, which is supported by a detailed schedule of Phase 1, Alternatives Development, created by the project development consultant.

Final Design is expected to begin in 2022.

Revenue Service between West Seattle and Downtown Seattle is targeted for 2030, and revenue service between Ballard and Downtown Seattle is targeted for 2035.

Revenue Service/In Service/ Project Completion for project name is scheduled for Month Year.



Community Outreach

- Continued summer outreach at fairs and festivals around Seattle area, including events in West Seattle, Ballard and Chinatown/International District.
- Prepared and conducted station planning charrettes, which took place in June through September.
- Prepared for upcoming neighborhood forums, SAG and ELG meetings for Level 2 evaluation and screening activities.

Sound Transit Board Actions

Board Action	Description	Date
	None to report.	

Link Light Rail

S. 200th Link Extension

Project Summary

Scope

Limits

South 200th Link Extension consists of 1.6-mile extension of light rail from the SeaTac/Airport Station to South 200th Street

Alignment

The extension continues in an aerial configuration heading south of the existing SeaTac/Airport Station, east of Air Cargo Road across South 188th Street, and continuing south along the east side of 28th Avenue South to the elevated Angle Lake Station located at South 200th Street. A passenger pickup/drop-off area, bus transfer, plaza, and a minimum 1,050-space structured park and ride facility is located at Angle Lake Station. Up to 70 additional spaces were developed for interim parking while Angle Lake Station is the interim southern terminus of the Link system. Guideway/Station and Parking Garage/Plaza was delivered under a Design Build contract.

Stations

Angle Lake Station is located at South 200th Street

Systems

Signals, track electrification, and SCADA communications

Budget

\$383.2 Million

Schedule

Revenue Service began on September 24, 2016



Map of S. 200th Link Extension

Key Project Activities

- **Design Build (DB) Guideway and Station (S440):** Contract closeout and Final Acceptance are pending.
- **DB Parking Garage (S445):** Contractor to complete façade repairs. Contract closeout and Final Acceptance are pending.
- **Military Road/South 200th Intersection (S446):** WSDOT 1yr plant establishment and contract closeout by Oct 2018.
- **Project Wide:** Conclude project activities by end of 1st QTR 2019; ADA Ramp Agreement pending execution with City of SeaTac.
- CM is working to execute a JOC contract for rail grinding activity that will complete by end of 2018.

Closely Monitored Issues

- **S445:** Garage facade panels require repairs.

Project Cost Summary

The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

Cost Summary by Phase

Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$16.1	\$17.1	\$16.3	\$16.3	\$16.5	\$0.6
Preliminary Engineering	\$5.9	\$5.7	\$5.7	\$5.7	\$5.7	\$0.0
Final Design	\$20.0	\$9.5	\$8.7	\$8.7	\$8.7	\$0.8
Construction Services	\$15.1	\$17.3	\$17.1	\$17.1	\$17.1	\$0.2
3rd Party Agreements	\$6.9	\$7.1	\$5.7	\$3.8	\$3.3	\$3.7
Construction	\$275.7	\$282.9	\$239.7	\$238.6	\$243.1	\$39.8
Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$43.5	\$43.5	\$38.1	\$38.0	\$38.1	\$5.5
Capital Total	\$383.2	\$383.2	\$331.3	\$328.3	\$332.6	\$50.6
Finance Cost	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Project Total	\$383.2	\$383.2	\$331.3	\$328.3	\$332.6	\$50.6

The overall project Estimated Final Cost (EFC) for this period reflects \$332.6M, a savings projection of \$50.6M. This period incurred cost was increased by approximately \$0.04M, of this \$0.02M is ST staff time in Administration Phase; \$0.05M for incurred ROW administration; and \$0.01M for minor construction contract in Construction Phase.

The EFC grouped by SCC is also reflecting \$332.6M, a savings projection of \$50.6M. The work remaining can be achieved under the adopted budget.

Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$144.8	\$133.0	\$100.3	\$100.3	\$109.4	\$23.6
20 Stations	\$46.4	\$51.7	\$42.1	\$42.1	\$42.4	\$9.4
30 Support Facilities: Yards, Shops	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$34.6	\$55.3	\$55.6	\$54.5	\$55.0	\$0.3
50 Systems	\$30.8	\$19.9	\$20.4	\$20.4	\$20.4	-\$0.4
Construction Subtotal (10 - 50)	\$256.6	\$259.9	\$218.5	\$217.4	\$227.1	\$32.8
60 Row, Land, Existing Improvements	\$43.5	\$43.5	\$38.1	\$38.0	\$38.1	\$5.5
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services	\$64.1	\$72.5	\$74.8	\$72.8	\$65.7	\$6.8
90 Unallocated Contingency	\$19.0	\$7.3	\$0.0	\$0.0	\$1.8	\$5.5
Capital Total (10 - 90)	\$383.2	\$383.2	\$331.3	\$328.3	\$332.6	\$50.6
100 Finance Cost	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Project Total	\$383.2	\$383.2	\$331.3	\$328.3	\$332.6	\$50.6

Cost Contingency Management

S. 200th Link Extension was baselined with a total contingency amount of \$75.6M, the Total Contingency has decreased by \$23.3M to \$52.0M. During this reporting period, there was a minor change to project contingency. See below table for details.

Design Allowance (DA): N/A

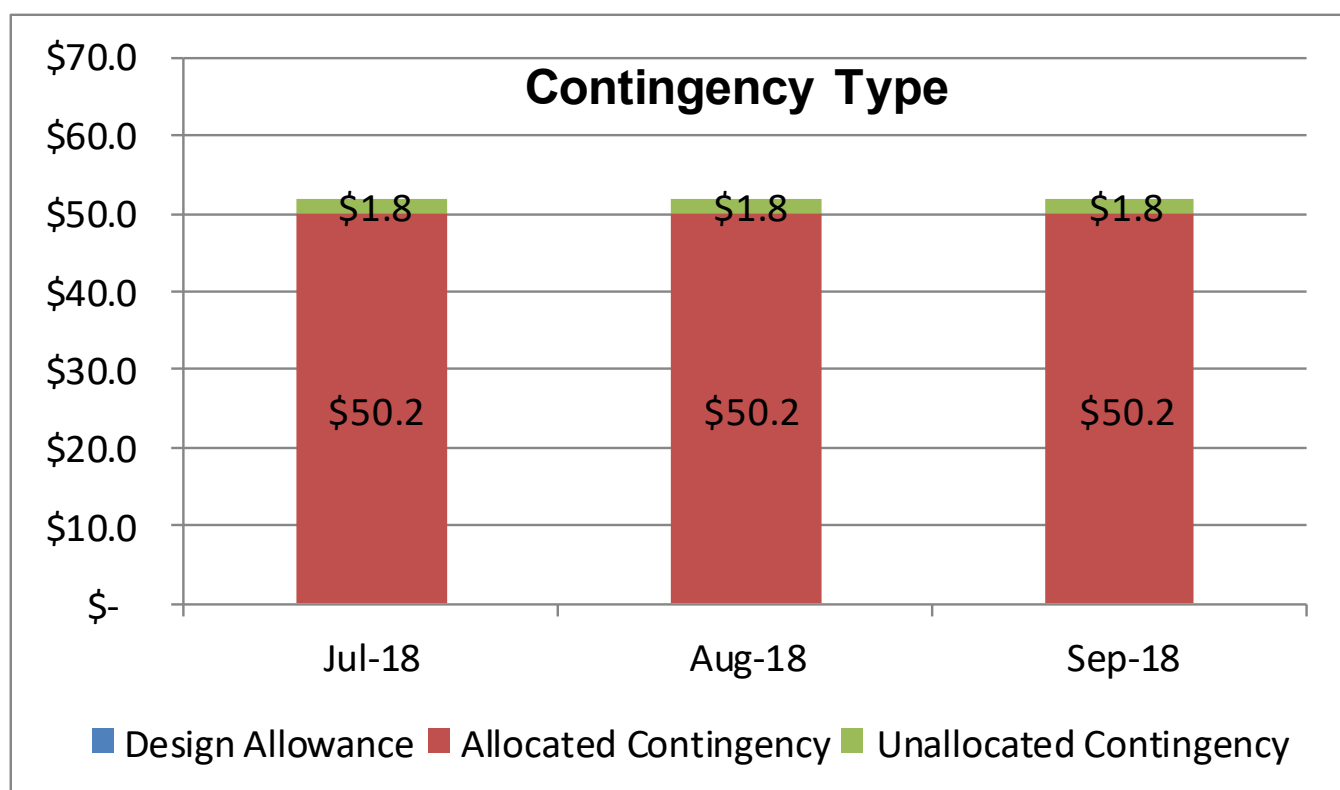
Allocated Contingency (AC): The AC balance is \$50.2M, reflecting no change.

Unallocated Contingency (UAC): This period the UAC balance is \$1.8M, reflecting no change.

Contingency Status

Contingency Type	Baseline		Current	
	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$26.7	7.0%	\$ -	0.0%
Allocated Contingency	\$29.8	8.0%	\$50.2	1146.8%
Unallocated Contingency	\$19.0	5.0%	\$ 1.8	41.2%
Total	\$75.6	20.0%	\$52.0	1188.0%

Table figures are shown in millions.



Contract S440—Design -Build (Guideway and Station)

Close-out Current Progress

- Contractor finalize closeout items.
- Contractor awaits Final Acceptance.

Next Period's Activities

- Issue Final Acceptance to Contractor.

Closely Monitored Issues

- None to report.

Cost Summary

Present Financial Status	Amount
S440 Contractor—PCL Civil Contractors, Inc	
Original Contract Value	\$169,000,000
Change Order Value	7,112,438
Current Contract Value	\$176,112,438
Total Actual Cost (Incurred to Date)	\$176,112,438
Financial Percent Complete	100%
Physical Percent Complete	100%
Authorized Contingency	\$13,520,000
Contingency Drawdown	\$6,407,562
Contingency Index	1.9

Contract S445—Design -Build Parking Garage

Close-out Current Progress

Substantial Completion issued on December 21, 2016.

- Contractor finalizing closeout item; garage facade repairs.

Next Period's Activities

- Complete façade repairs.
- Issue Final Acceptance to Contractor.

Closely Monitored Issues

- The Contractor needs to repair garage façade panels.

Cost Summary

Present Financial Status	Amount
S445 Contractor—Harbor Pacific/Graham.	
Original Contract Value	\$29,978,000
Change Order Value	\$2,607,828
Current Contract Value	\$32,585,828
Total Actual Cost (Incurred to Date)	\$32,582,606
Financial Percent Complete	100%
Physical Percent Complete	100%
Authorized Contingency	\$2,798,240
Contingency Drawdown	\$2,607,828
Contingency Index	1.0

Link Light Rail Federal Way Link Extension

Project Summary

Scope

Limits The Federal Way Link Extension adds approximately 7.8 miles of light rail from the Angle Lake Station in the City of SeaTac to the Federal Way City Center.

Alignment The extension generally parallels SR 99 and I-5 freeway.

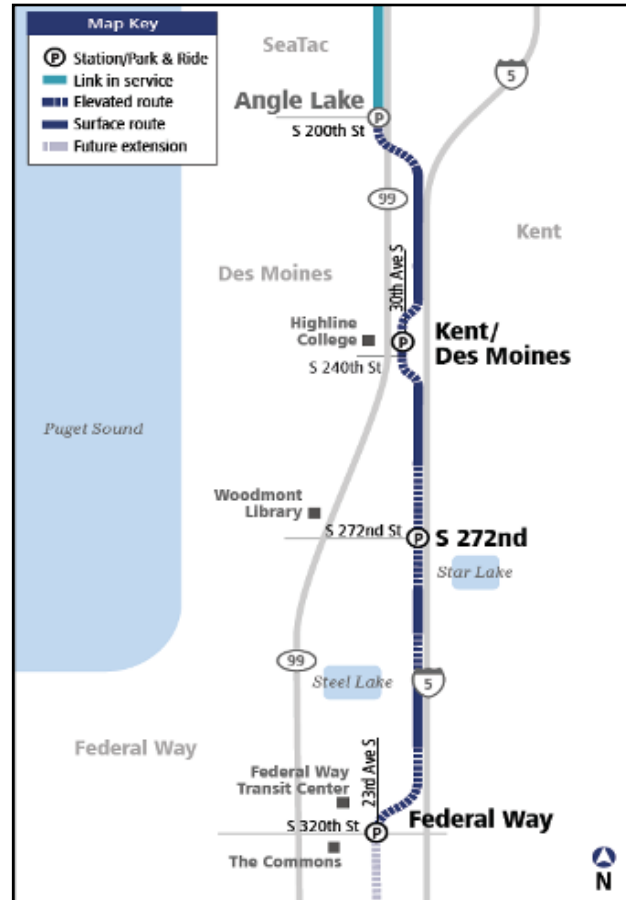
Stations Stations at Kent/Des Moines, South 272nd Star Lake Park –and-Ride and the Federal Way Transit Center

Systems Signals, traction power, and communications (SCADA)

Phase Proceed to Final Design/Construction

Budget \$2.451 Billion (Baseline Sep 2018)

Schedule Revenue Service: December 2024



Map of Federal Way Link Extension.

Key Project Activities

- The Sound Transit Board approved the project baseline budget and schedule on September 27, 2018.
- Continue preparing for Entry to Engineering (EIE) and is scheduled for submission next month.
- New Starts Rating Submittal was submitted to FTA.
- Final RFP was issued to the short listed firms this period.
- Project Team continues with one-on-one meetings with short listed DB teams, and responding to RFIs.
- Bids opened for advanced demolition of nuisance properties; notice of award next month.
- Discussions continue with WSDOT to finalize Construction Funding Agreement; Board scheduled for October 2018.
- Coordination continues with WSDOT regarding the Air Space Lease (ASL) and Temporary Construction Air Space Lease (TCAL). Agreement execution is scheduled for October 2018.
- Continued working with cities to finalize Development and Transit way agreements with all four cities.
- Continue discussions with Authority Having Jurisdiction (AHJ) to clarify permitting requirement and activities required of DB Contractor; permit database requirement added to Special Conditions in DB contract.
- Continued ROW acquisition and relocation activities; relocation volume is concerning due to limited housing availability.
- A new Task Order for Appraisal Review services is pending prepared to assist with backlog.

Project Cost Summary

The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

This period the Sound Transit Board approved the Project Baseline scope, schedule and budget which is reflected in the tables below. Approximately \$1.6M was incurred, of which \$1M was for Right-of-Way administration appraisal services and acquisition/relocations; \$0.4M incurred for ST staff administration. The remaining expenditures were for preliminary engineering, construction services, general final design and third party services.

Cost Summary by Phase

Project Phase	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$96.5	\$13.1	\$13.2	\$96.5	\$0.0
Preliminary Engineering	\$43.7	\$43.1	\$42.8	\$43.7	\$0.0
Final Design	\$3.1	\$0.9	\$0.8	\$3.1	\$0.0
Construction Services	\$107.0	\$4.6	\$1.2	\$107.0	\$0.0
3rd Party Agreements	\$27.7	\$3.7	\$2.6	\$27.7	\$0.0
Construction	\$1,831.9	\$0.0	\$0.0	\$1,831.9	\$0.0
ROW	\$341.6	\$38.1	\$19.7	\$341.6	\$0.0
Total	\$2,451.5	\$103.6	\$80.4	\$2,451.5	\$0.0

Cost Summary by SCC

SCC Element	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$523.0	\$0.0	\$0.0	\$523.0	\$0.0
20 Stations	\$318.9	\$0.0	\$0.0	\$318.9	\$0.0
30 Support Facilities	\$5.3	\$0.0	\$0.0	\$5.3	\$0.0
40 Sitework & Special Conditions	\$558.4	\$0.0	\$0.0	\$558.4	\$0.0
50 Systems	\$153.8	\$0.0	\$0.0	\$153.8	\$0.0
Construction Subtotal (10 - 50)	\$1,559.4	\$0.0	\$0.0	\$1,559.4	\$0.0
60 Row, Land	\$341.6	\$38.1	\$19.7	\$341.6	\$0.0
70 Vehicles	\$1.8	\$0.0	\$0.0	\$1.8	\$0.0
80 Professional Services	\$370.7	\$65.5	\$60.6	\$370.7	\$0.0
90 Unallocated Contingency	\$178.1	\$0.0	\$0.0	\$178.1	\$0.0
Total (10 - 90)	\$2,451.5	\$103.6	\$80.4	\$2,451.5	\$0.0

Link Light Rail Federal Way Link Extension



Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks.

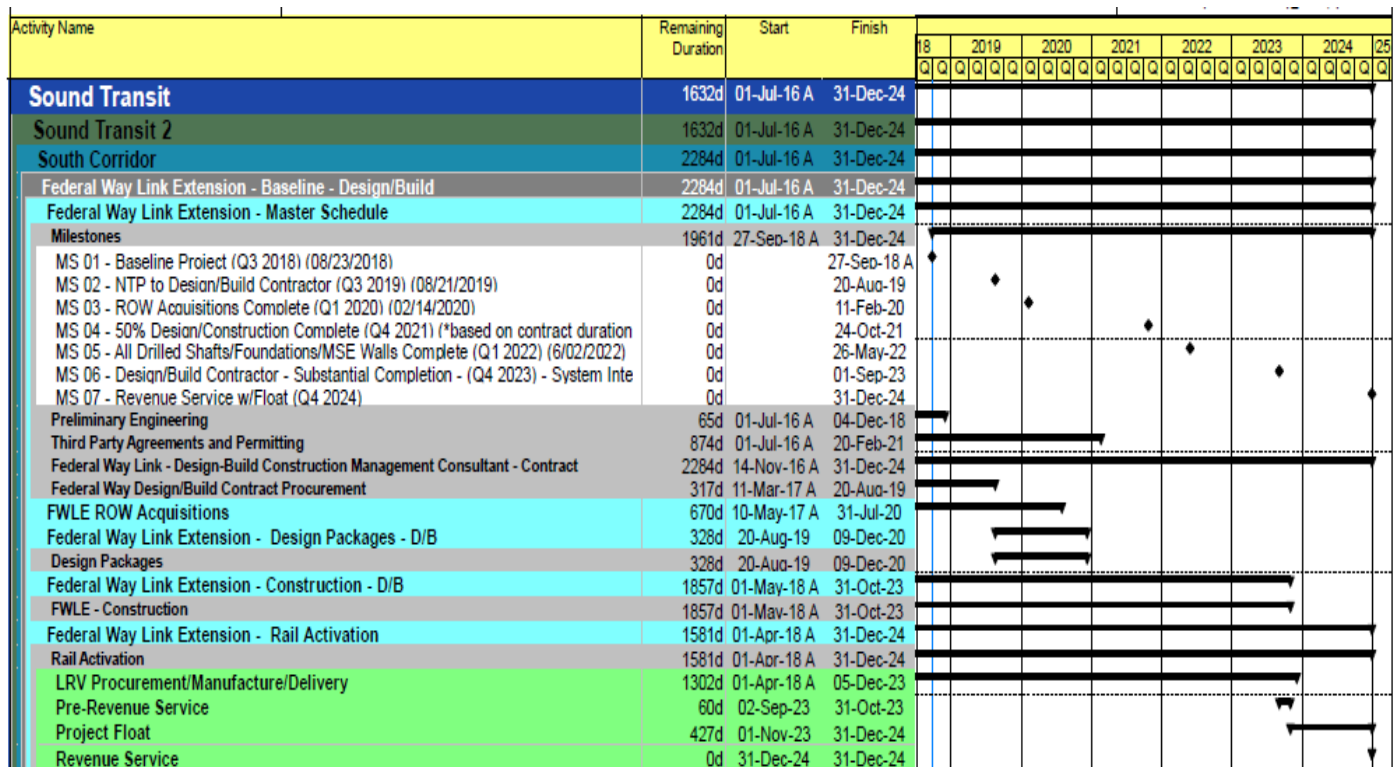
The most recent Quarterly Risk Register review update was held in September 2018. Below are the top project risks.

- Property acquisition and relocations completed in time for construction.
- Volume of residential relocations continues to be a concern due to limited housing availability.
- Volatility in construction market and unanticipated jurisdictional stakeholder requirements may drive project cost higher than PE cost estimate.
- Availability of federal funding remains uncertain and may impact schedule and funding resources.

Project Schedule

The project schedule is presented below. Design-Build contractors received the Final RFP this period. Real Estate acquisitions and relocations continue and additional detail has been added to the master schedule to monitor any impacts to the project. Board Approved Project Baseline this period, and Final Entry to Engineering submittal is expected next period.

Revenue Service expected in 4th QTR 2024.



Right-of-Way

The Right-of-Way effort for this project involves the acquisition of a range of property interests which includes compensable (e.g. fee acquisitions, guideway easements, permanent and temporary construction easements) and non-compensable rights (e.g. rights of entry). These acquisitions will result in owner and tenant residential and commercial relocations. The Right-of-Way program status for this period is summarized in the following table.

Federal Way Link Extension Property Acquisition Status					
ACQUISITION				RELOCATION	
Total Acquisitions	Board Approved	Offers Made to date	Closings to date	Relocations Required	Relocations Completed to date
257	259	91	20	457	60
* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.					

- 69 Relocations added due to larger acquisition impacts on three (3) Board approved acquisitions.

Community Outreach

- Communication with property owners regarding FWLE route, profile, station areas, acquisition and relocation is ongoing.
- Provided project updates at various outreach events:
 - Federal Way Community Connections 9/4
 - 30th District Democrats 9/5
 - Korean Community Quarterly Meeting 9/20
 - Des Moines Waterfront Market 9/29
- Held Neighborhood Briefings for area residents
 - South Midway Area 9/19
 - S 285th St Area 9/25



Community Outreach at Des Moines Waterfront Market

Sound Transit Board Actions

Board Action	Description	Date
R2018-30	Execute Baseline Budget and Schedule for the Federal Way Link Extension	9/27/18

Phase 3 Preliminary Engineering (PE)

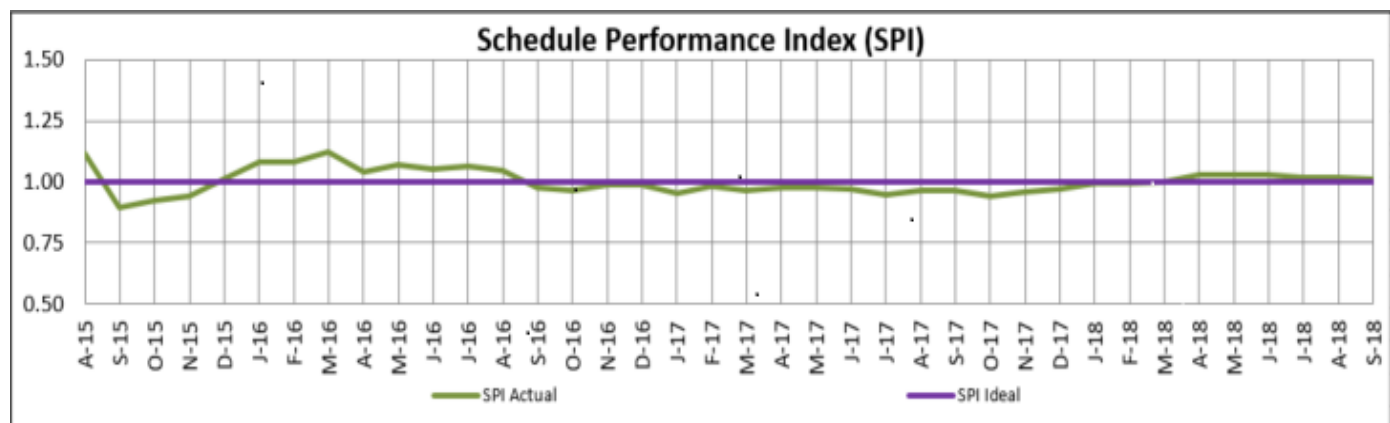
In July 2015, Sound Transit executed an amendment to the professional services agreement with HDR Engineering, Inc. for Phase 3 professional services, including completion of a Final Environmental Impact Statement (FEIS) using the preferred alternative and the other alternatives in the Draft EIS, preliminary engineering of the preferred alternative to Kent/Des Moines and additional engineering as needed to support receipt of environmental approvals. In February 2016, Sound Transit executed an amendment to extend the preliminary engineering effort from Kent/Des Moines to the Federal Way Transit Center.

Current Progress

- Final RFP issued to shortlisted firms for DB Contract of Federal Way Link Extension Project.
- Discussions continued with WSDOT to finalize the construction agreement for SR 99 Bridge.
- Continued discussion with AHJs (Authorities Having Jurisdiction) to clarify permitting requirements and activities required of DB Contractor.
- Continued efforts to finalize the Transit Way and Development Agreements with the cities.
- Coordination continues with WSDOT regarding signing the ASL (Airspace Leases) and TCAL (Temporary Construction Airspace Leases).

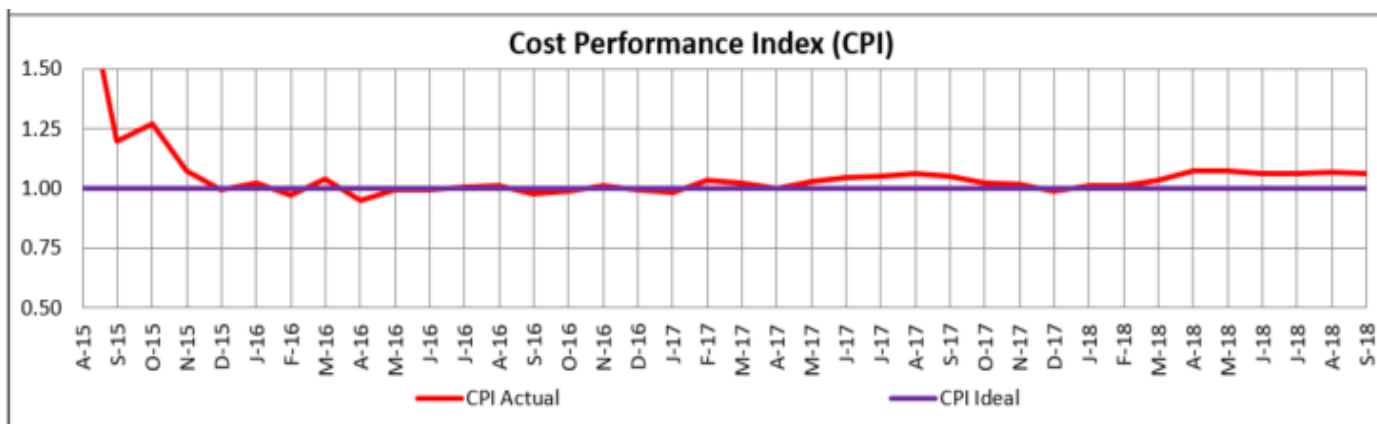
Schedule Performance Index

The cumulative Schedule Performance Index (SPI) is 1.02 through September 2018, indicating the overall amount of work accomplished is as planned. The Consultant is fully engaged on the scope, to assist in RFP process of DB contract, environmental permit support and in ROW acquisition support.



Cost Performance Index

Phase 3 expenditures through September 2018 totaled \$34.3M, approximately 92.1% of the amended total contract. The Phase 3 percent complete is reported at 98%, with an earned value of \$36.4. The cumulative Cost Performance Index (CPI) is 1.06 showing costs are on track with work accomplished. The Consultant is engaged in assistance in RFP process of DB contract, environmental permits, support and in ROW acquisition support.



Cost Summary

Contract (Ph.3 portion)	Cumulative To-date
Amount Invoiced	\$34.3M
% Spent	92.1%
Earned Value	\$36.4M
% Complete	98%
SPI	1.02
CPI	1.06

Link Light Rail Hilltop Tacoma Link Extension

Project Summary

Scope

Limits City of Tacoma

Alignment The Hilltop Tacoma Link Extension project is a 2.4-mile extension of the existing Tacoma Link system from the Theater District in downtown Tacoma to the Hilltop neighborhood. The extension will travel at-grade along Stadium Way, North 1st Street, Division Avenue, and Martin Luther King Jr. Way.

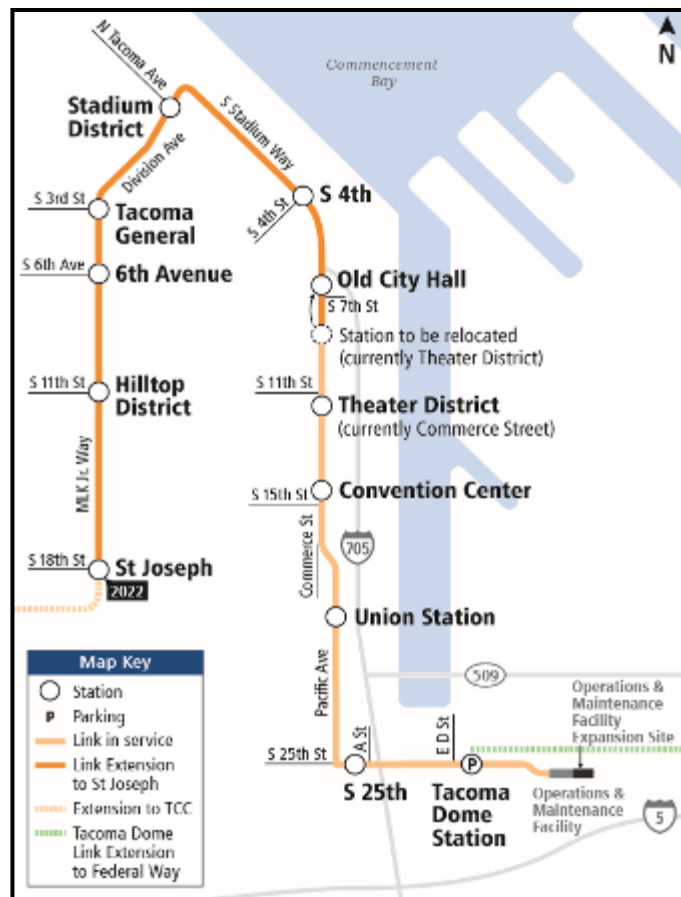
Stations Old City Hall, S. 4th, Stadium District, Tacoma General, 6th Avenue, Hilltop District, and St. Joseph.

Systems Expansion of the Operations and Maintenance Facility; The at-grade alignment will include additional signals, OCS, traction power, and communications infrastructure.

Phase Final Design and Construction

Budget \$217.3 Million (Baselined September 2017)

Schedule Revenue Service: May 2022



Map of Hilltop Tacoma Link Extension.

Key Project Activities

Final Design

- Project staff continued design conformance verification activities.

Construction:

- Contractor began work on required early submittals including quality management, safety and temporary erosion and sediment control (TESC) plans.
- Advanced utility relocation work by third parties continued along the alignment.
- Staff held quarterly project Fire Life Safety and Security Committee meeting with representatives from City of Tacoma Public Works, Tacoma Fire Dept. and State Safety Oversight in attendance.

Right-of-Way

- Right-of-Way property acquisition activities continued as they relate to required temporary construction easements (TCE) along the alignment.

Vehicles

- Held monthly progress meeting with representatives from Brookville Equipment Corporation on Hilltop Tacoma Link Extension LRVs. ST staff and vehicle consultant reviewed design submittals, August 2018 progress report and schedule update.

Project Cost Summary

In September 2017, Sound Transit Board adopted the Hilltop Tacoma Link Extension baseline schedule and budget by increasing the authorized project allocation from \$34.6M to \$217.3M. The project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions. To date, most of the expenditures have been from Administration, Design, 3rd Party, and ROW.

Bids were received for the construction contract (T100) on May 23, 2018. The lowest apparent bid was 15% over the engineer's estimate. Award of the construction contract required phase level budget transfers and were approved at July's ST Board meeting. The T100 construction contract was executed in August 2018.

Cost Summary by Phase

Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$16.9	\$16.9	\$7.2	\$7.1	\$16.9	\$0.0
Preliminary Engineering	\$5.6	\$5.6	\$5.6	\$5.6	\$5.6	\$0.0
Final Design	\$10.8	\$10.8	\$10.4	\$9.2	\$10.8	\$0.0
Construction Services	\$9.9	\$9.9	\$8.9	\$0.7	\$9.9	\$0.0
3rd Party Agreements	\$1.5	\$1.5	\$1.3	\$1.1	\$1.5	\$0.0
Construction	\$127.2	\$129.2	\$114.5	\$0.5	\$129.2	\$0.0
Vehicles	\$35.4	\$33.7	\$31.2	\$0.8	\$33.7	\$0.0
ROW	\$3.6	\$3.2	\$2.0	\$1.8	\$3.2	\$0.0
Contingency	\$6.6	\$6.6	\$0.0	\$0.0	\$6.6	\$0.0
Total	\$217.3	\$217.3	\$181.1	\$26.7	\$217.3	\$0.0

Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$21.9	\$21.6	\$20.5	\$0.0	\$21.6	\$0.0
20 Stations	\$1.8	\$2.7	\$2.3	\$0.0	\$2.7	\$0.0
30 Support Facilities	\$26.6	\$28.8	\$27.3	\$0.0	\$28.8	\$0.0
40 Sitework & Special Conditions	\$40.0	\$44.9	\$41.5	\$0.5	\$44.9	\$0.0
50 Systems	\$25.0	\$25.5	\$22.9	\$0.0	\$25.5	\$0.0
Construction Subtotal (10 - 50)	\$115.4	\$123.5	\$114.5	\$0.5	\$123.5	\$0.0
60 Row, Land	\$3.4	\$3.0	\$2.0	\$1.8	\$3.0	\$0.0
70 Vehicles (non-revenue)	\$34.1	\$34.1	\$31.2	\$0.8	\$34.1	\$0.0
80 Professional Services	\$48.4	\$48.7	\$33.2	\$23.6	\$48.7	\$0.0
90 Unallocated Contingency	\$16.1	\$8.1	\$0.0	\$0.0	\$8.1	\$0.0
Total (10 - 90)	\$217.3	\$217.3	\$181.1	\$26.7	\$217.3	\$0.0

Risk Management

The Hilltop Tacoma Link Risk and Contingency Management Plan (RCMP) was updated in 2nd QTR 2018. This establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It will provide a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks, taking mitigation actions for known risks identified on the risk register, and effectively responding in a timely manner to those risks that pose a significant impact to the project cost or schedule forecast. The quarterly risk review for Q3 2018 was held on September 12th. The Q4 2018 Risk Review is tentatively scheduled for December 7th 2018.

The Baseline Risk Assessment was conducted in May 2017. The following are current the top project wide risks:

- Unidentified utility conditions under the proposed alignment lead to schedule delays and increased cost.
- Utility relocation associated with the MLK Pedestrian undercrossing may require additional work than anticipated.
- Requirements and request from the City for MOT and property access lead to increased cost and schedule delays.
- Unknown subsurface conditions under the proposed alignment (old Tracks) or OCS pole locations.

Contingency Management

Hilltop Tacoma Link Extension was baselined on September 2017 with a total contingency of \$33.9M. Since baselining, there were draw downs on AC and UAC to address Final Design Change Orders, the Procurement of the Tacoma LRV contract and the T100 Construction contract.

Design Allowance (DA) was established to account for unquantified scope at the time of the cost estimate. DA is at \$0M, as a result of completion of Final Design.

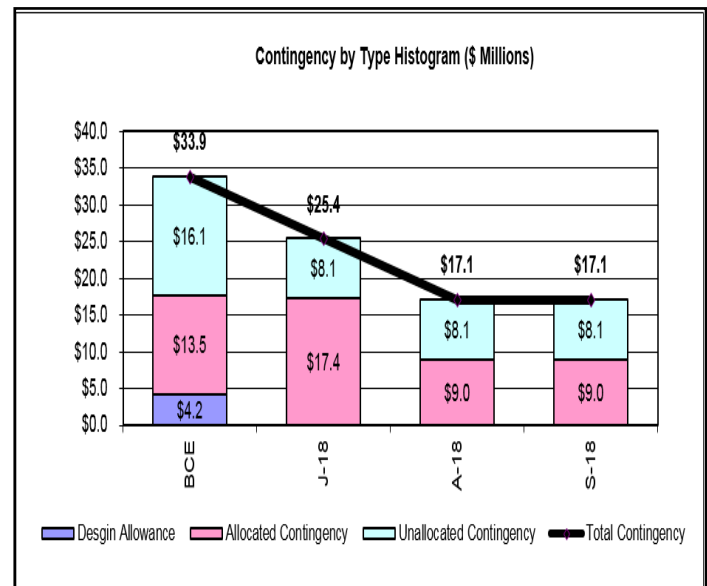
Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. This period the Total AC remained the same to \$9.0M.

Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. The UAC balance remained the same in September with a net amount of \$8.1M.

Contingency Status

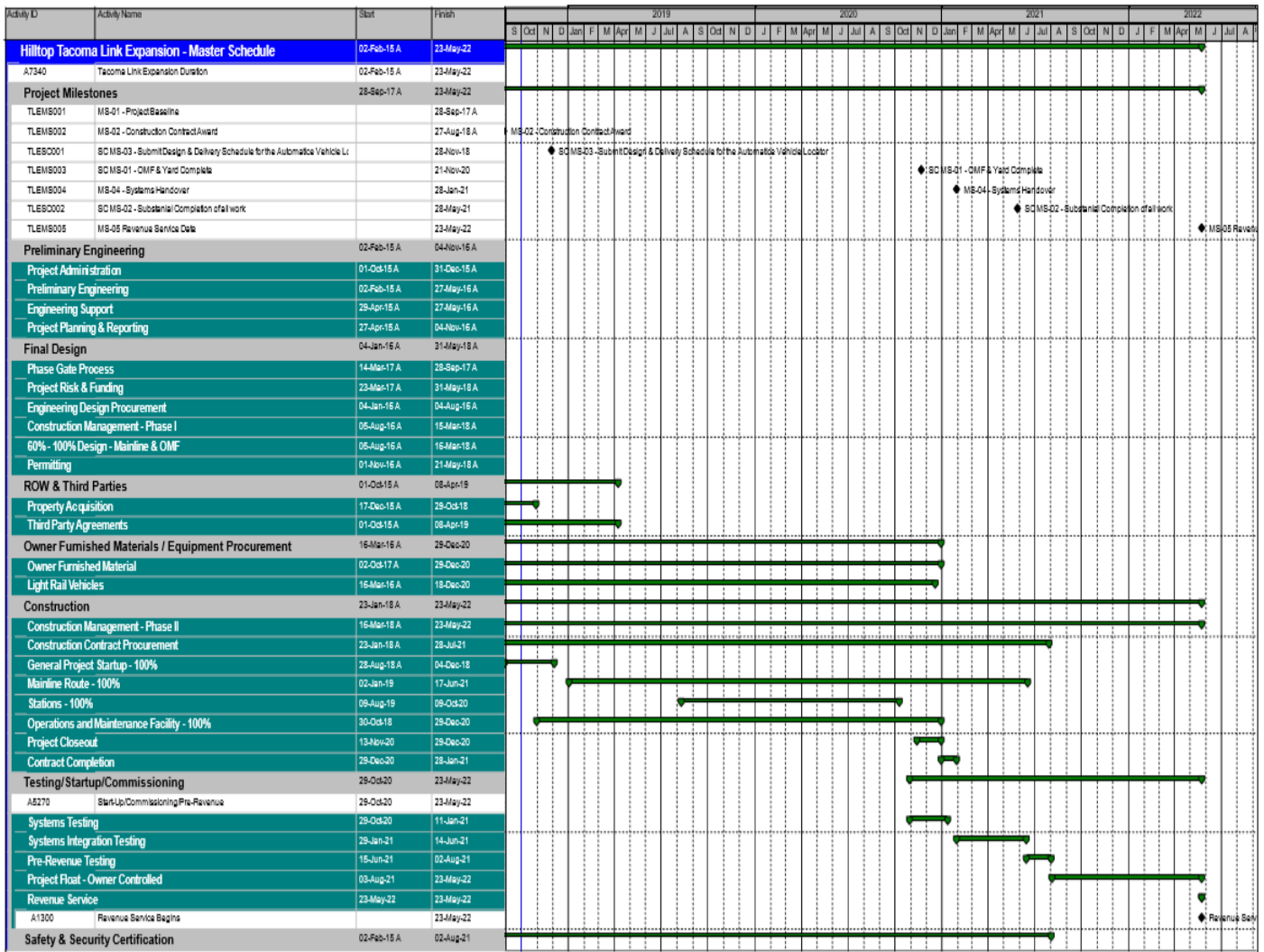
Contingency Type	Baseline		Current Status	
	Amount	% of Total Budget	Amount Remaining	% of Work Remaining
Design Allowance	\$4.2	2.2%	\$0.0	0.0%
Allocated Contingency	\$13.5	6.8%	\$9.0	4.7%
Unallocated Contingency	\$16.1	8.2%	\$8.1	4.2%
Total	\$33.9	17.2%	\$17.1	8.9%

Table figures are shown in millions.



Project Schedule

The Master Schedule has been updated through the end of September 2018. Construction contractor has submitted the CPM baseline for review and it is expected to be approved in October 2018. The LRV procurement contractor continues submitting CDRLS (Contract Data Requirement Lists) packages in support of Preliminary Design Reviews (PDRs) scheduled 1st QTR 2019. Forecast delivery of the LRVs remains on target with first car arriving in 2nd QTR 2020 and last car in 4th QTR 2020.

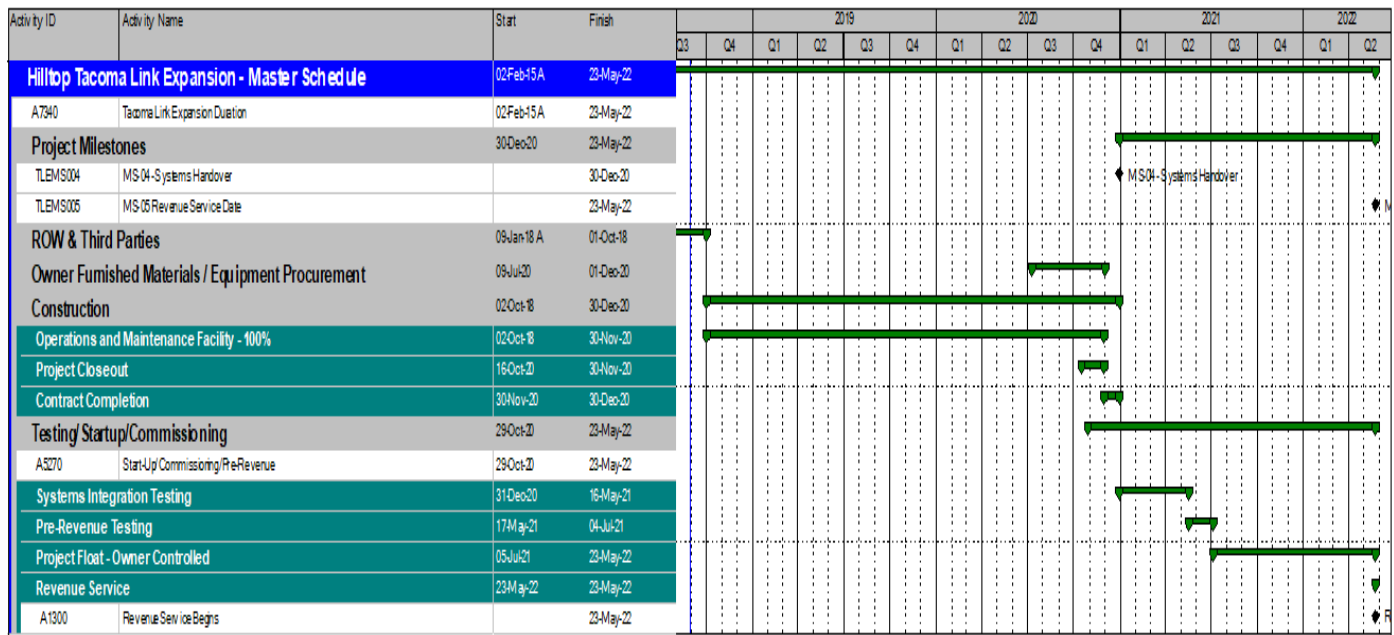


Link Light Rail Hilltop Tacoma Link Extension



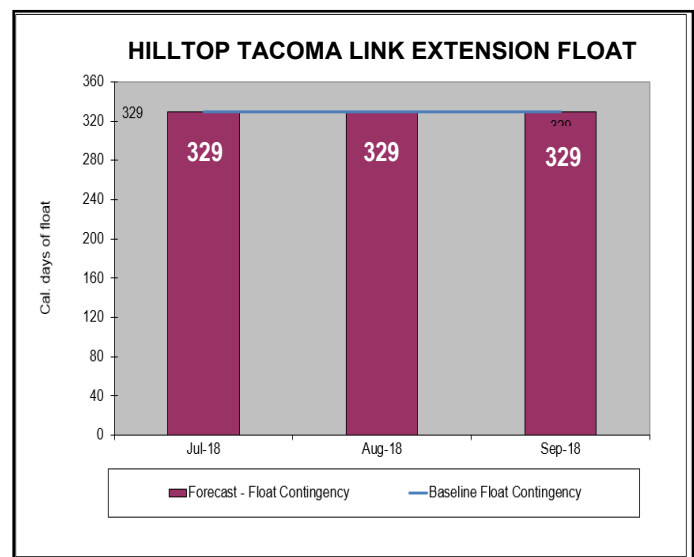
Critical Path Analysis

The critical path for Hilltop Tacoma Link remains the same as last period, driven by the execution of the T100 construction contract. Once awarded, the critical path runs through the completion of the water service work being performed by TPU in Segment 4a Roadway MLK Way – Division to S. 6th Street on the Mainline Route. Vehicle Delivery is still not on the critical path as the LRV contractor is still forecasting shipment earlier than original target date of June 2020. The project retains adequate float at 329 calendar days.



Project Float

The Hilltop Tacoma Link Extension project currently forecasts 329 days of unallocated project float.



Right-of-Way

The Hilltop Tacoma Link Operations and Maintenance Facility will be expanded to the east and five new vehicles will be purchased. The Right-of-Way effort for this project involves the acquisition of a range of property interests which includes compensable (e.g. fee acquisitions, guideway easements, permanent and temporary construction easements) and non-compensable rights (e.g. rights of entry). These acquisitions will result in owner and tenant residential and commercial relocations. The Right-of-Way program status for this period is summarized in the following table. Design efforts have reduced the total acquisitions required from 140 to 22 parcels.

Tacoma Link Extension Property Acquisition Status					
ACQUISITION				RELOCATION	
Total Acquisitions	Board Approved	Offers Made to date	Closings to date	Relocations Required	Relocations Completed to date
20	22	20	13	1	1
* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.					

Community Outreach

- Provided a project update at the Dome District Fall Social.
- Provided a project update at the monthly Hilltop Business District Association Meeting.
- Provided a project update at the quarterly Stadium Historical Business District Meeting.
- Provided a project update at the Hilltop Engagement Committee Meeting.
- Continued outreach to businesses and residences along alignment.

Sound Transit Board Actions

Board Action	Description	Date
	None to report.	

Link Light Rail

Tacoma Dome Link Extension

Project Summary

Scope

Limits Federal Way Transit Center to South Federal Way, Fife, East Tacoma, and Tacoma Dome

Alignment The Tacoma Dome Link Extension expands light rail 9.7 miles from the Federal Way Transit Center to Tacoma. The representative alignment travels adjacent to I-5 with four stations.

Stations South Federal Way, Fife, and East Tacoma (elevated stations) and Tacoma Dome (at-grade station)

Systems Signals, traction power, communications (SCADA), Operations and Maintenance Facility South (OMF South)

Phase Planning: Alternative Development

Budget \$125.7 Million for Preliminary Engineering Phase 1—Alternative Development

Schedule Revenue Service: December 2030



Map of Tacoma Dome Link Extension.

Key Project Activities

- Held online open house to preview Level 1 analysis and for public input.
- Held Interagency Group and Stakeholder Group meetings.
- Fife City Council took action to approve Project Administration Agreement and Task Order 1.
- Continued negotiations of Project Administration Agreement and Task Order 1 with the cities of Milton, Federal Way and Tacoma.
- Coordinating with the operations analysis for OMF: South placement and timing.
- Held agency coordination meetings with FHWA, FTA, EPA, Department of Ecology, and Seattle Public Utilities related to environmental review process for OMF.
- Continued individual briefings for ELG members to review Level 1 alternatives and OMF South update.
- Continued Level 1 evaluation criteria and preliminary alternatives for corridor alignment and station locations.

Project Cost Summary

The Tacoma Dome Link Extension and OMF South project cost is summarized below in two cost categories. The first table summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS). The second table summarizes costs in accordance with the FTA's Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

Project cost and monthly expenditures are trending slightly lower than planned monthly budget but the current forecast is on track for completing this phase within the authorized budgeted amount.

Cost Summary by Phase

Project Phase	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$26.8	\$2.3	\$1.9	\$26.8	\$0.0
Preliminary Engineering	\$87.1	\$10.3	\$3.3	\$87.1	\$0.0
Final Design	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3rd Party Agreements	\$5.8	\$0.2	\$0.1	\$5.8	\$0.0
Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$6.0	\$0.0	\$0.0	\$6.0	\$0.0
Total	\$125.7	\$12.8	\$5.3	\$125.7	\$0.0

Cost Summary by SCC

SCC Element	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
20 Stations	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
50 Systems	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction Subtotal (10 - 50)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
60 Row, Land	\$5.0	\$0.0	\$0.0	\$5.0	\$0.0
80 Professional Services	\$110.9	\$12.8	\$5.3	\$110.9	\$0.0
90 Unallocated Contingency	\$9.8	\$0.0	\$0.0	\$9.8	\$0.0
Total (10 - 90)	\$125.7	\$12.8	\$5.3	\$125.7	\$0.0

Link Light Rail Tacoma Dome Link Extension



Risk Management

The Tacoma Dome Link Extension and OMF South Risk and Contingency Management Plan (RCMP) will establish a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It will provide a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks, taking mitigation actions for known risks identified on the risk register, and effectively responding in a timely manner to those risks that pose a significant impact to the project cost or schedule forecast.

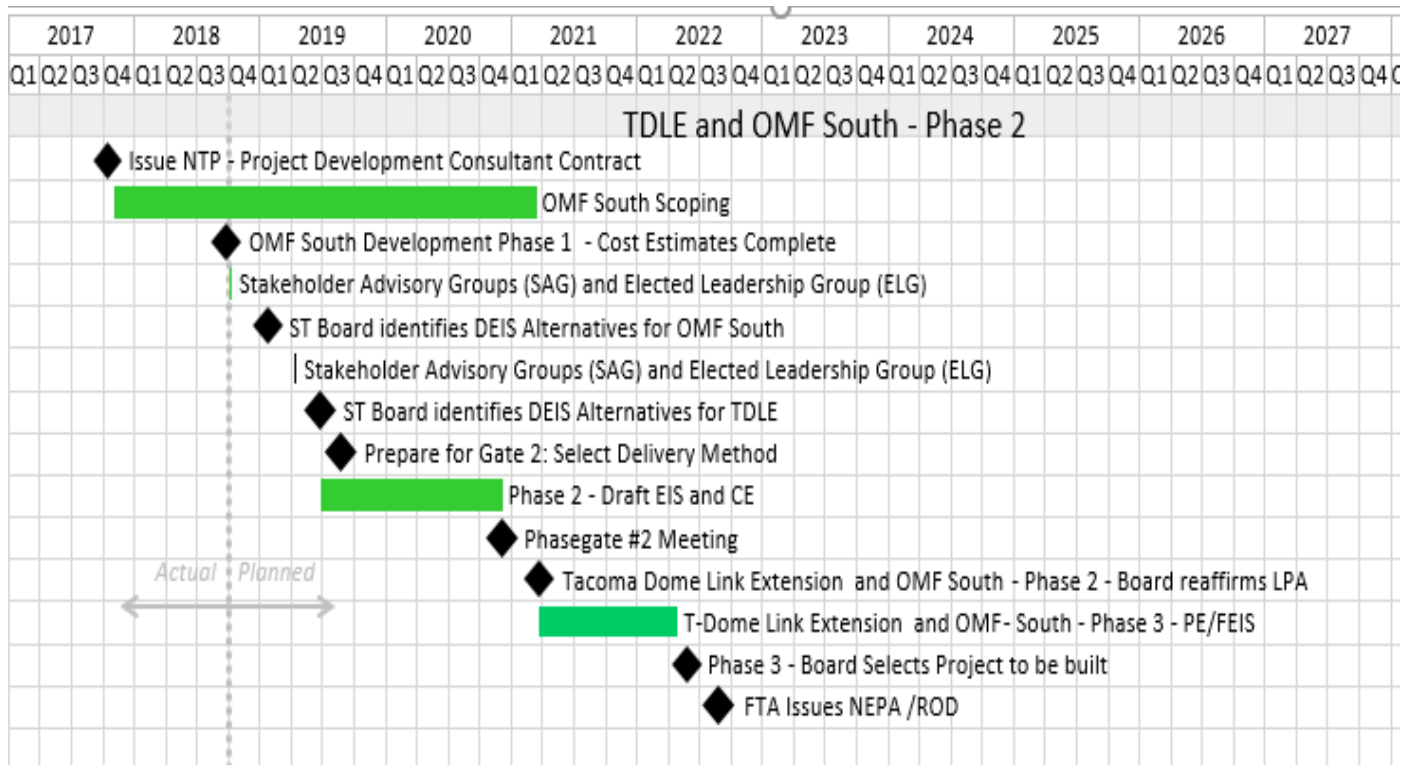
The third risk review workshop is scheduled for the 4th QTR 2018. The following are the top project wide risks:

- Clearance of the Bonneville Power Administration high voltage transmission lines.
- Geotechnical challenges and potential environmental considerations at/near the Puyallup River and Tacoma Dome area.
- Timely approvals of necessary permitting requirements.
- Coordination with WSDOT's SR 167/Gateway project.
- Potential third party scope requests.

Project Schedule

Phase I Alternative Analysis —The HDR detailed schedule as of Sept 30, 2018 is remaining on target for completing level 1 and level 2 scoping and Final DEIS Alternatives Development and Preferred Alternative Identification in 2nd QTR 2019 for the TDLE project. The OMF South schedule target for completing level 1 and level 2 scoping and Final DEIS Alternatives Development and Preferred Alternative Identification in 1st QTR 2019.

The critical path of this project continues to run through Phase 1 Alternatives Development level 1 and level 2 screening to preparing Capital Cost Estimating required for briefing the Sound Transit Board to help identify the Preferred Alternative.



Community Outreach

- Conducted field visits to South Federal Way businesses and apartment complexes.
- Attended the South Federal Way Chamber of Commerce Luncheon.
- Participated in Downtown to Defiance Fair.
- Hosted TDLE Interagency Coordination meeting.
- Hosted public open houses in South Federal Way, Fife, Tacoma.
- Provided briefing for the board members of the Affordable Housing Consortium.
- Attended the Dome District fall social.
- Conducted outreach at Freighthouse Square.
- Provided briefing for the Korean Community Quarterly Meeting.
- Conducted field visits at Fife businesses.
- Provided briefing for the Eastside Collaborative.
- Hosted TDLE Stakeholder Group meeting.

Sound Transit Board Actions

Board Action	Description	Date
	None to report.	

Link Light Rail

Link Operations & Maintenance Facility: East

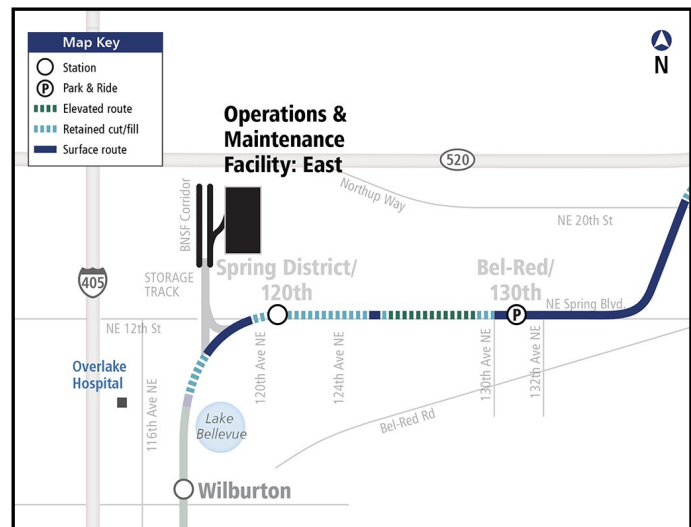
Project Summary

Scope The Link Operations and Maintenance Facility: East (OMF East) project, located in the City of Bellevue, includes a 160,000 sq. ft. operations and maintenance facility that will maintain, store and deploy and expanded light rail fleet, including seven LRV service bays, a LRV wash facility and storage for up to 96 LRVs.

Phase Proceed to Construction

Budget \$449.2 Million (Baselined July 2016)

Schedule Project Completion: December 2020



Map of OMF East Site

Key Project Activities

- Design Package (DP) development for DP3, DP3A, and DP4A are ongoing. DP4 was split into DP4 (OMF and MOW foundation and structure design) and DP4a (OMF and MOW Building Design)
- Vault work is ongoing; completed storm conveyance work around Vault A and B.
- Completed concrete pour for south elevator pit.
- Completed excavation for wheel truing pit and poured a mud slab.
- Completed installation of time lapse camera to the project site.

Closely Monitored Issues

- Elements of DB Contractor's proposal (shear wall elimination for future development) may require MOU amendment with City of Bellevue.
- Spur property exchange proposal with City of Bellevue may complicate the timing of the RFP for Transit Oriented Development.
- Commercial issues with the Design Build contractor regarding differing site conditions.
- Track related deviation with regards to the dynamic envelope of the LRV movements in the yard.

Project Cost Summary

The Baseline Budget (July 2016) for the OMF East is \$449.2M. The OMF East cost is summarized into two cost tables. The first table is in accordance with Sound Transit's Work Breakdown Structure (WBS) displaying the cost summary by phase. The second table summarizes project cost by SCC, in accordance to the FTA Standard Cost Categories (SCC) format. Both tables show figures in millions.

The Estimated Final Costs (EFC), continues to be projected at approximately \$449.2M. This period's expenditure of about \$3.5M. The total project cost incurred from \$165.4M to \$168.8M. The primary cost drivers during this period on the OMF East project comes from the design build (construction) phase at \$2.9M or roughly 83% of the total monthly expenditures. The next cost driver this period are the Construction Service and Administrative Phase expenditures at about \$0.17M and \$0.38M respectively.

Cost Summary by Phase

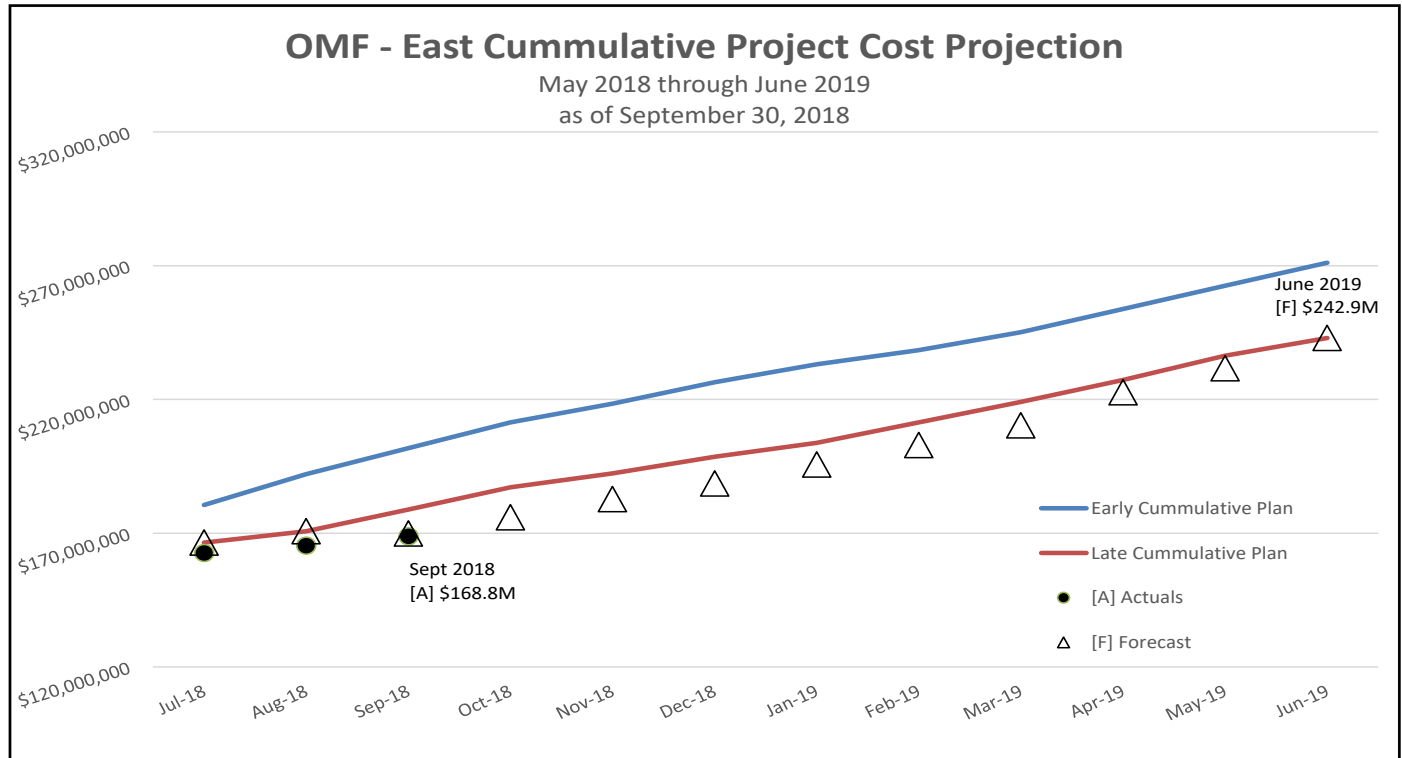
Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$17.6	\$17.6	\$4.9	\$4.8	\$17.6	\$0.0
Preliminary Engineering	\$9.5	\$9.5	\$9.0	\$8.7	\$9.5	\$0.0
Final Design	\$0.4	\$0.4	\$0.0	\$0.0	\$0.4	\$0.0
Construction Services	\$19.3	\$19.3	\$17.6	\$4.0	\$19.3	\$0.0
3rd Party Agreements	\$3.1	\$3.1	\$0.3	\$0.1	\$3.1	\$0.0
Construction	\$264.8	\$264.8	\$222.9	\$50.1	\$264.8	\$0.0
ROW	\$134.5	\$134.5	\$101.7	\$101.1	\$134.5	\$0.0
Total	\$449.2	\$449.2	\$356.4	\$168.8	\$449.2	\$0.0

Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
10 Guideway & Track	\$2.6	\$4.4	\$4.1	\$0.6	\$4.1	\$0.3
20 Stations	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
30 Support Facilities: Yard, Shop	\$140.1	\$136.2	\$124.1	\$18.1	\$145.4	-\$9.2
40 Sitework & Special Conditions	\$43.6	\$47.3	\$39.7	\$7.2	\$41.6	\$5.7
50 Systems	\$43.0	\$41.6	\$38.5	\$5.6	\$38.5	\$3.1
Construction Subtotal (10 - 50)	\$229.3	\$229.5	\$206.4	\$31.5	\$229.5	\$0.0
60 ROW, Land, Improvements	\$134.5	\$134.5	\$101.7	\$101.1	\$134.5	\$0.0
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services	\$71.6	\$71.4	\$48.4	\$36.2	\$71.4	\$0.0
90 Unallocated Contingency	\$13.8	\$13.8	\$0.0	\$0.0	\$13.8	\$0.0
Total (10 - 90)	\$449.2	\$449.2	\$356.4	\$168.8	\$449.2	\$0.0

Project Cash Flow Projection

The OMF East cost projection is trending late this period but anticipates to pick up through this summer. Total project expenditure incurred to date reached \$168.8M with Right-of-Way (ROW) phase cost being the largest driver at 60% and Construction Phase at about 30%. The projected cash flow was revised this period for the next nine months to reflect some current trends. The Design Builder's (DB) design completion continues to slip specifically on Systems where some procurements were anticipated that did not occur. In addition, ROW acquisitions and relocation phase is reflecting some positive trends where anticipated cost may not materialized as previously anticipated. The revised project expenditure trending is now to reach \$242.9M by June 2019 which is still within the lower bounds of the late planned expenditures.



Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks.

The project has completed Risk Mitigation Milestone 2, the completion of ROW Acquisition and Mass Grading. The 2nd quarter 2018 OMF East quarterly risk register has been updated and reviewed. A Quantitative Risk Assessment was performed at the end of the 3rd Quarter. The current top actively managed risk areas are listed below:

- **Design:** As the project approaches the 60% design milestone, changes made to scope or design will have greater cost impact than during the earlier design stages.
- **Scope:** Scope increase as a result of Third Parties or ST stakeholders requesting additional work or deviation from plans will impact the project schedule and budget.
- **Construction:** As the construction commenced with early work; normal and routine construction risks will be encountered and may complicate and influence design completion. Soil conditions and coordination with third parties has been some early evidence of such challenges.

Contingency Management

The Link Operations and Maintenance Facility: East was baselined and approved by Sound Transit Board in July 2016 with a total contingency of \$93.2M. The Project's starting contingency balance as of the Notice to Proceed for Construction was \$71.6M. For this period, there was some minor change order in the design build contract that required a contingency drawdown. The current contingency balance remains practically unchanged at approximately \$69.7M (previous quarter at \$69.8M).

Design Allowance (DA): N/A.

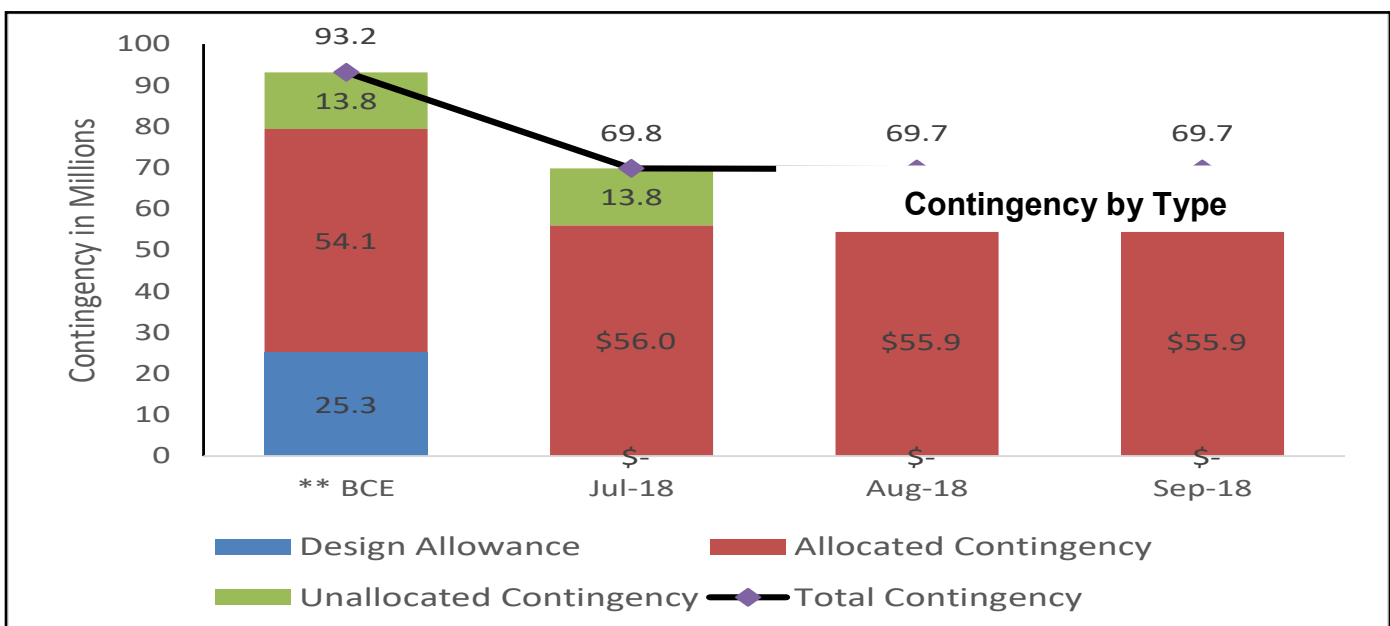
Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. Allocated contingency balance at the end of this period remained unchanged from the previous month at \$55.9M.

Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. The baseline UAC amount of \$13.8M reflects no changes this period.

Contingency Status

Contingency Type	Baseline		Current	
	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$ 25.3	5.6%	\$ -	0.0%
Allocated Contingency	\$ 54.1	12.0%	\$ 55.9	19.9%
Unallocated Contingency	\$ 13.8	3.1%	\$ 13.8	4.9%
Total	\$ 93.2	20.7%	\$ 69.7	24.9%

Table figures are shown in millions.

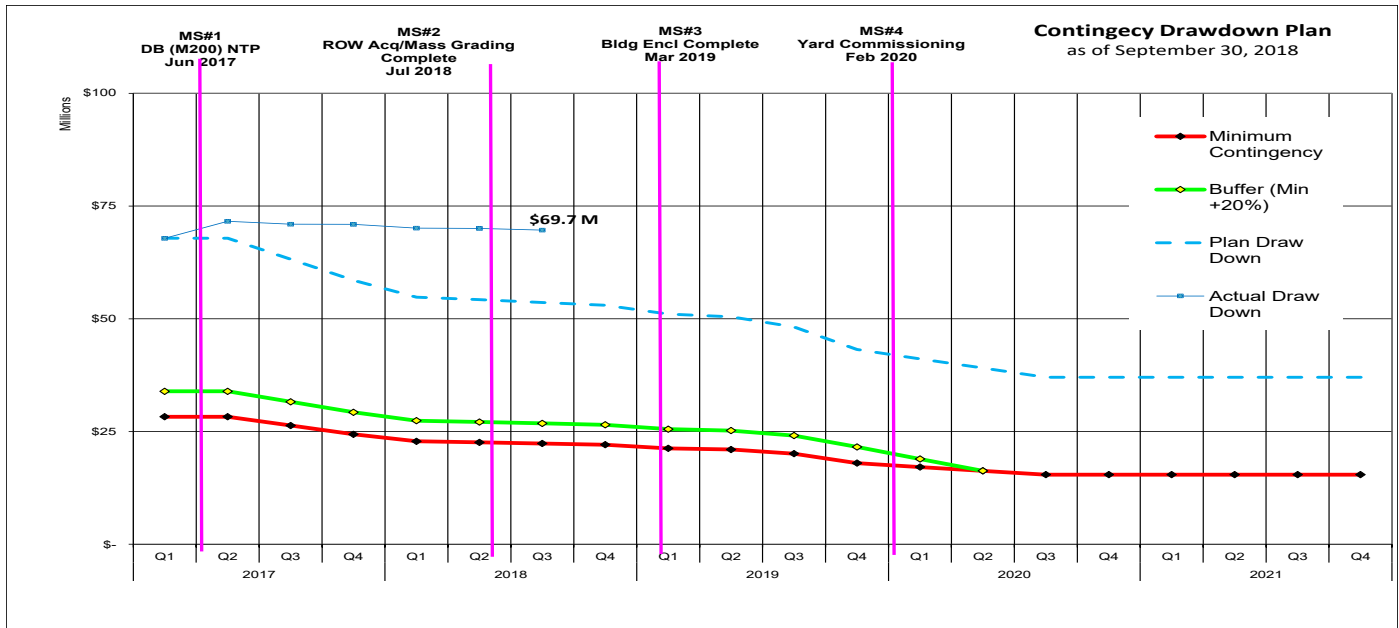


Link Light Rail

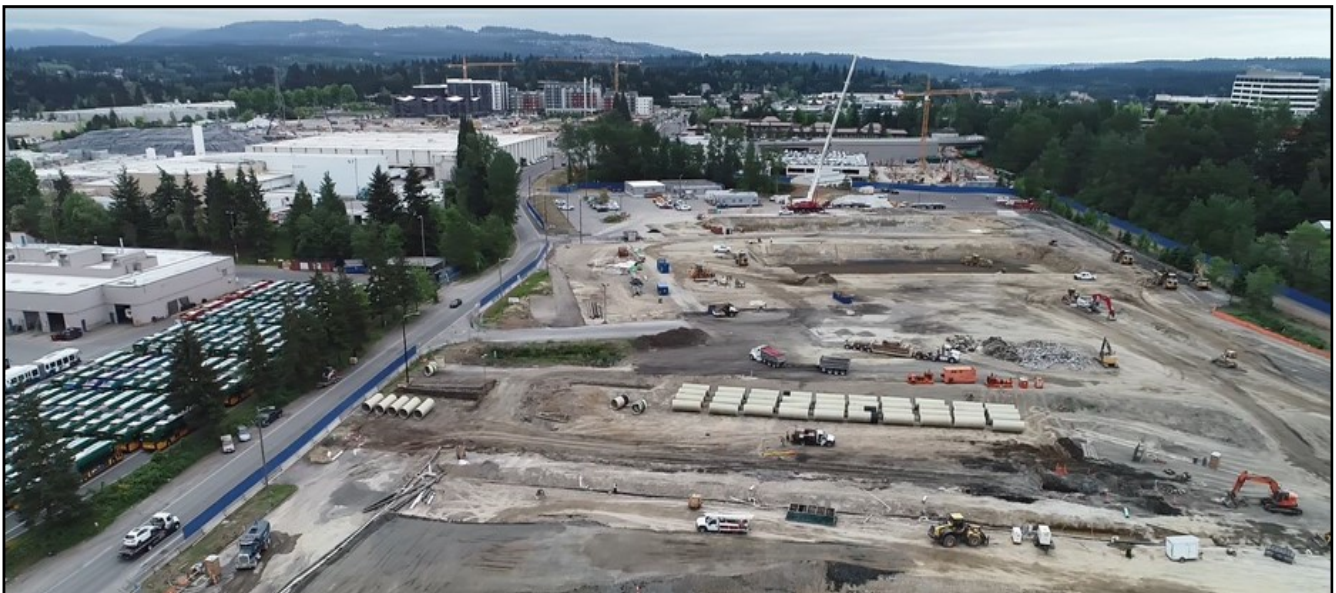
Link Operations & Maintenance Facility: East

Contingency Drawdown

At the end of the 3rd QTR 2018, OMF East Project's total contingency drawdown plan is trending positively. Total contingencies balance is at approximate \$69.7M (previously at \$70M) and remains above all the baseline draw down projection and well above both the minimum contingency and the buffered (minimum plus 20%) contingency levels. The next update will be at end of the 4th QTR 2018.



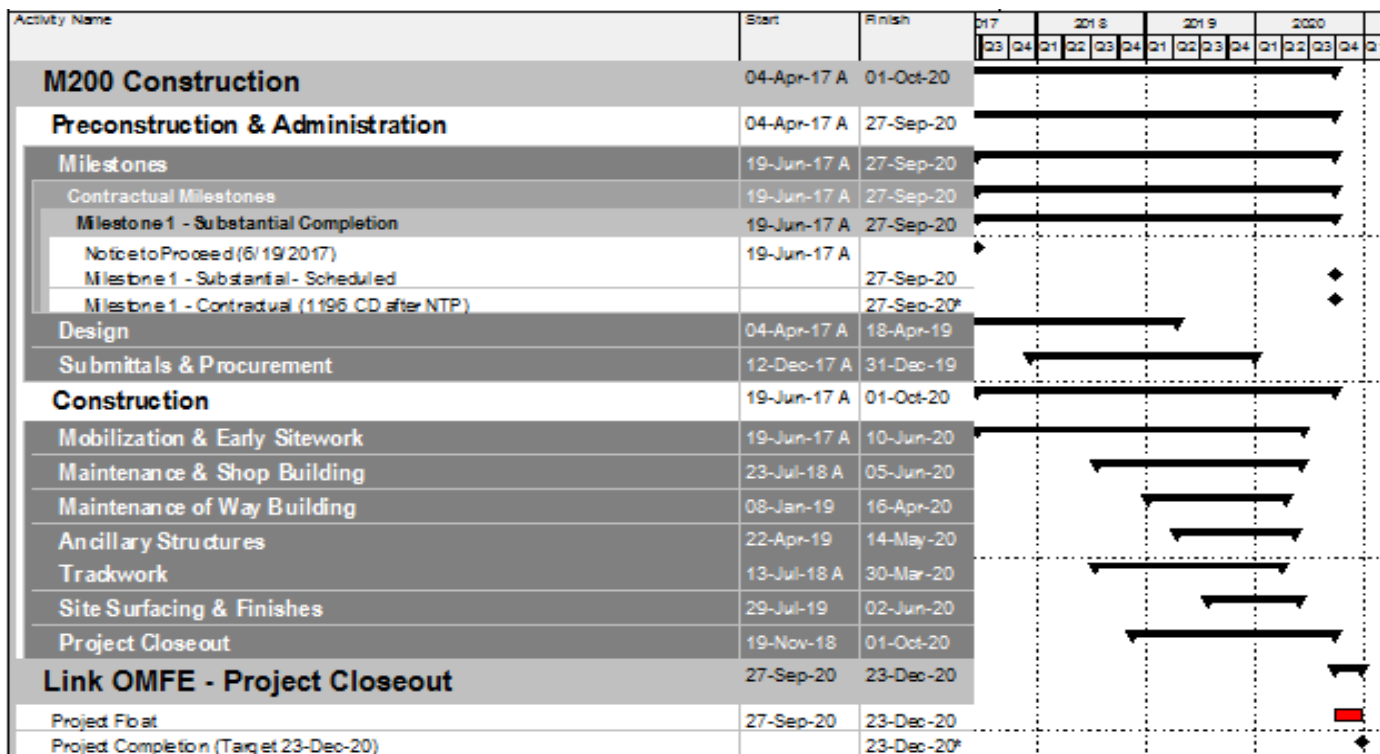
Graph for Quarter ending September 30, 2018



Drone photo of OMF East site looking south

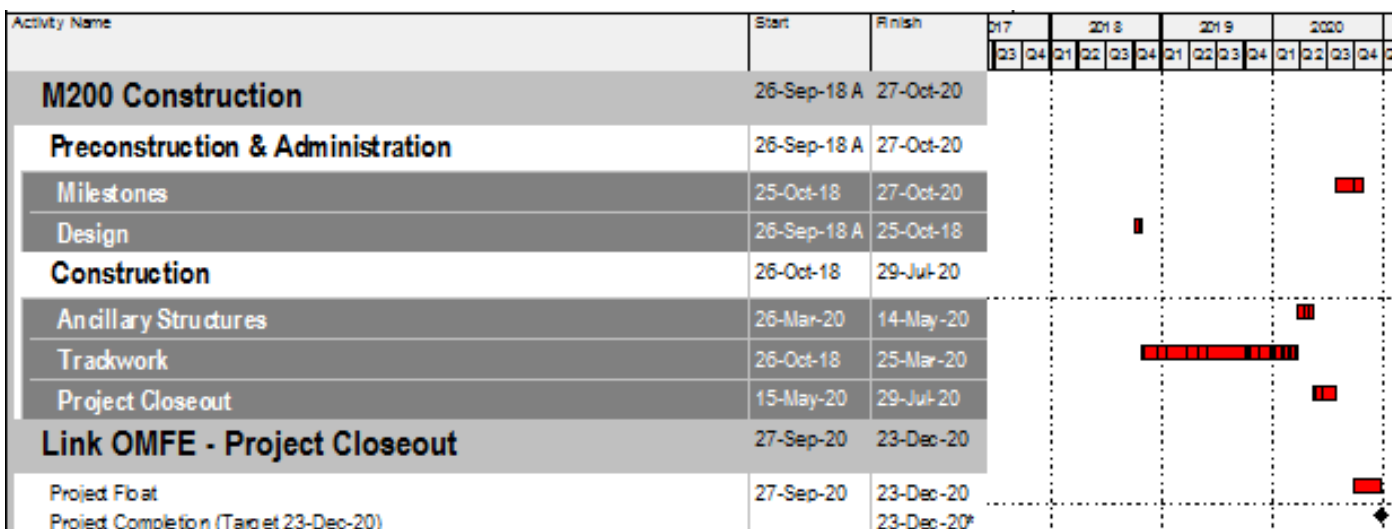
Project Schedule

The schedule for OMF East is now entirely within the M200 contract, which is presented below. The Contractor continues to progress as planned and is forecast to complete on target. The OMF East is expected to be available to begin receiving LRVs as needed in Summer 2020.



Critical Path Analysis

The critical path currently runs through Design Package 3 and the trackwork in the storage yard.



Link Light Rail

Link Operations & Maintenance Facility: East



Right-of-Way

All OMF East properties have now been vacated and are in the project’s control. Only administrative functions remain in this phase of the project. *No more updates.*

Community Outreach

- Secured web-based live camera system for the OMFE site, with images to be used on social media and project updates.

Sound Transit Board Actions

Board Action	Description	Date
	None to report.	



Design Builder’s 3-D model of the OMF—East looking Southeast.

Contract M200 - OMF East Design Build

Current Progress

Design: Hensel Phelps (HP) advanced design packages (DP) for the following areas: DP 3 & 3A 100% was submitted in August. Comments for DP 3 & 3A were sent to HP and incorporated in September. IFC for DP 3 is anticipated to be submitted in October. IFC set for DP 3A are expected to be submitted in October. DP 4A IFC was submitted in September and review comments are due early October.

Construction: HP completed storm conveyance work around Vault A and B. Dewatering efforts are ongoing for north vault excavation. Concrete pour for the south elevator pit was completed. Excavation for the wheel truing pit was completed, along with pouring a mud slab being placed to facilitate winter working conditions. Reinforcing and anchor bolt installation began on various footings in building Area A.

Next Period's Activities

- Complete DP #004A IFC Submittal & Review.
- Continue DP #003 IFC Submittal & Review.
- Continue DP #003A IFC Submittal & Review.
- Continue sanitary sewer work.
- Beaver Dam removal.
- Continue work at wheel truing pit.
- Work in elevator pit 2 continues.

Closely Monitored Issues

- *Site infiltration issue:* Contractor has submitted an RFC stating differing site conditions on the soil infiltration rate. ST has rejected this change order and currently working on partnering activities to resolve the issue and find a path forward.
- Beaver dam in the West Tributary continuation of discussion with stakeholders to provide options and plans for mitigation to allow OMF-East's site stormwater to be conveyed properly.

Cost Summary

Present Financial Status	Amount
M200 Contractor – Hensel Phelps	
Original Contract Value	\$218,912,000
Change Order Value	\$1,930,971
Current Contract Value	\$220,817,200
Total Actual Cost (Incurred to Date)	\$48,002,423
Financial Percent Complete	21.7%
Authorized Contingency	\$21,891,200
Contingency Drawdown	\$1,930,971
Contingency Index	2.5



Elevator 1 pit walls.

*Excludes Betterments

Link Light Rail Light Rail Vehicle Fleet Expansion

Project Summary

Scope	Design, manufacturing, assembly, inspection, testing and delivery of 152 low floor light rail vehicles for service requirements of Northgate, East Link and Lynnwood Link Extensions.
Phase	Manufacturing
Budget	\$740.7 Million (Baseline September 2015, Amended April 2017)
Schedule	Project Completion: 3rd QTR 2024



Graphic simulation of the new light rail vehicles

Key Project Activities

- Completed First Article Inspections (FAI) on Exterior Lights in Tonawanda, New York.
- LRV #001 commenced factory testing.
- LRV #001 Hi-Pot test is completed.
- LRV #002 Water tightness test is completed.

Closely Monitored Issues

- Commercial dispute remains open with Siemens regarding lift design and jacking points on the LRV.
- Performing ground born vibration testing in Seattle and assuming the risk of shipping vehicle back to Sacramento to address test failures.
- Truing interface basis information required from Siemens before car can begin shipping.
- Shipment of the 1st LRV in 4th QTR 2018 could be impacted due to the Final Design not being complete.



LRV #001 Hi-Pot Testing Interior of car.



LRV #002 in Water Tightness Test.

Project Cost Summary

The LRV Fleet Expansion Project has an approved baseline budget of \$740.7M. The project cost is summarized into two cost tables. The first table is in accordance with Sound Transit's Work Breakdown Structure (WBS) displaying the cost summary by phase. The second table summarizes project cost by SCC, in accordance to the FTA Standard Cost Categories (SCC) format. Both tables show figures in millions.

In September 2018, the project incurred to date costs increased by \$11.5M. The total incurred cost increased from \$75.2M to \$86.7M. The majority of this period's costs were attributed to payment milestone completions of approval of preliminary design review, car body and truck stress test reports, HVAC subsystem qualification test report and front end and operator cab design.

Cost Summary by Phase

Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$6.4	\$6.4	\$1.2	\$1.1	\$6.4	\$0.0
Construction Services	\$18.0	\$18.0	\$4.8	\$3.5	\$18.0	\$0.0
Vehicles	\$716.3	\$716.3	\$648.2	\$82.1	\$716.3	\$0.0
Total*	\$740.7	\$740.7	\$654.2	\$86.7	\$740.7	\$0.0

Cost Summary by SCC

SCC Element	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Construction Subtotal (10 - 50)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
60 ROW, Land, Improvements	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
70 Vehicles	\$702.8	\$702.8	\$653.0	\$85.7	\$702.8	\$0.0
80 Professional Services	\$6.1	\$6.1	\$1.2	\$1.0	\$6.1	\$0.0
90 Contingency	\$31.7	\$31.7	\$0.0	\$0.0	\$31.7	\$0.0
Total *(SCC 10 - 90)	\$740.7	\$740.7	\$654.2	\$86.7	\$740.7	\$0.0

**Totals may not equal column sums due to rounding of line entries.*

Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks.

The current top risk areas are listed below.

- Design of the propulsion and auxiliary power system taking longer than anticipated (System Requirements and Compatibility).
- Commissioning of LRVs is impacted due to lack of sufficient space, lift access or other resources at OMF (Forest St.).
- Limited yard storage capacity in 2020 may impact preventative maintenance or spares available to support peak service.
- Automatic Train Protection retrofit of existing fleet takes longer than expected.

Link Light Rail Light Rail Vehicle Fleet Expansion



Contingency Management

The project's budget was Baseline in September 2015 contained a total of \$78.0M of Total Contingency. The project's Total Contingency is currently at \$70.1M or about 12% of remaining work in the project.

Design Allowance (DA) was established to account for unquantified scope at the time of the cost estimate. This project contains \$0 design allowance.

Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. The project baseline's allocated contingency was \$46.3M. The current available allocated contingency is \$38.3M. No contingency was drawn this period.

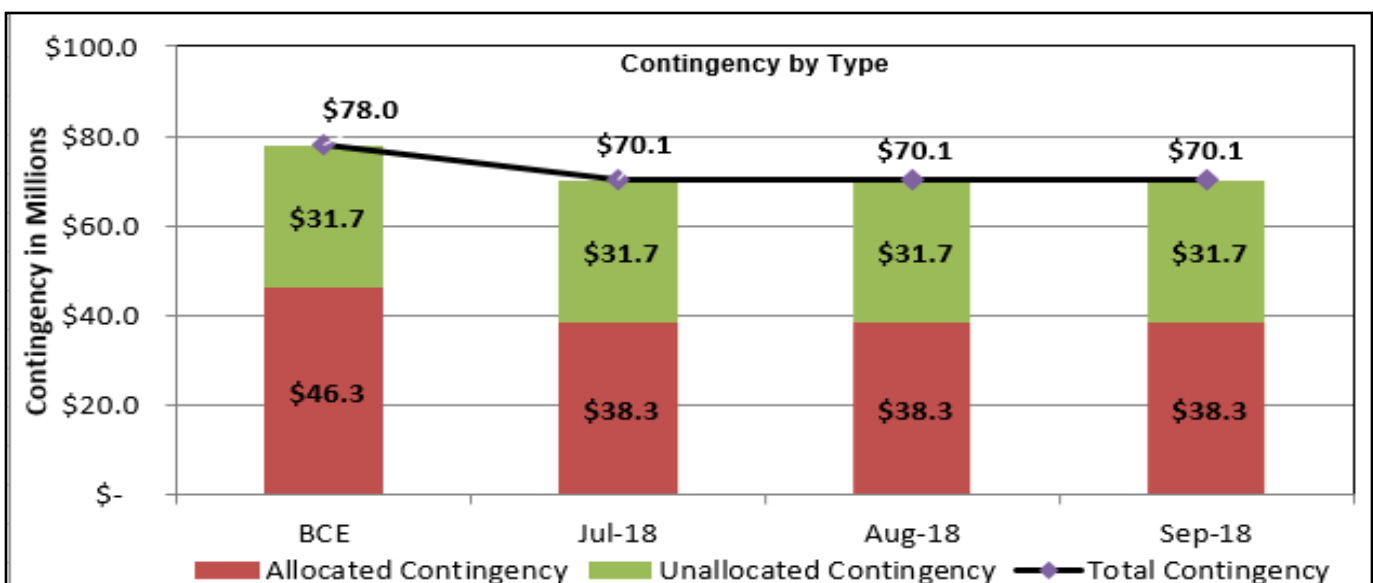
Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. The baseline UAC remained unchanged at \$31.7M.

Contingency Status

Contingency Type	Baseline		Current	
	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$ 00.0	0.0%	\$ 00.0	0.0%
Allocated Contingency	\$ 46.3	6.4%	\$ 38.3	6.6%
Unallocated Contingency	\$ 31.7	4.3%	\$ 31.7	0.0%
Total	\$ 78.0	10.7%	\$ 70.1	12.0%

Table figures are shown in millions.

Contingency by Type



Project Schedule

The LRV Fleet Expansion project schedule is shown below. The progress schedule for September 2018 (see below) was established by using the last monthly production schedule submittal and forecast milestones updates for engineering final design during the weekly progress and coordination meeting. The current schedule shows a disconnect between engineering and manufacturing of cars. This issue is being worked on by Siemens. This period's progress includes completion of preliminary design review for the Carshell, car body and truck stress analysis and structural test report, HVAC subsystem qualification test report and approval of the front end and operator cab design. Factory Testing of LRV#001 started on August 31, 2018.

The first LRV car will be released for shipment in January 2019. The final LRV is projected to be delivered around January 2024 and the project completion for Light Rail Vehicle Expansion is scheduled to complete in July 2024.

Activity Name	Start	Finish	2019	2020	2021	2022	2023	2024	2025	2026	2027
LRV Procurement Schedule	24-Feb-15 A	12-Jul-24									
LRV Vendor Procurement	24-Feb-15 A	10-Oct-16 A									
LRV Engineering and Manufacture	11-Oct-16 A	30-Nov-18									
LRV Design Reviews, Manufacturing, and System Tests	11-Oct-16 A	30-Nov-18									
LRV Delivery Schedule	18-Jan-19	12-Jul-24									
LRV #1-122 (122 LRV Base Order)	18-Jan-19	02-Feb-23									
Delivery of 1st LRV (BL 27-Mar-19)		18-Jan-19									
Delivery of 40th LRV - Northgate Link Vehicle Deliveries Complete (BL 26-Jun-20)		03-Apr-20									
Delivery of 42nd LRV - Existing OMF at capacity (104 LRVs) (BL 27-Jul-20)		24-Apr-20									
Final Acceptance of Vehicles (BL 28-Feb-23)		02-Feb-23									
Delivery of 122nd LRV - Final ST2 Delivery (BL 26-Aug-22)		27-Jul-22									
LRV #23-162 (30 LRV Options) - Change Order #4	11-Jan-24	12-Jul-24									
Delivery of 162nd LRV - Final Delivery (BL 26-Feb-24)		11-Jan-24									
Final Acceptance of Vehicles (BL 26-Aug-24)		12-Jul-24									
Project Closeout											

Critical Path Analysis

As of the end of September, the Manufacturer continues trending ahead of their baseline schedule; the delivery of the first LRV is still projecting to be completed in 1st QTR 2019, current schedule is forecasting that LRV#001 is approximately 2 months ahead of the schedule target completion date of March 27, 2019. Final Design Reviews and First Article of Inspections on Automatic Train Protection are needed to be approved before factory test for LRV #001 can be completed by January 2019.

The delivery of all the light rail vehicles requirements for Northgate Link Extension is currently anticipated approximately a year ahead of the start of revenue service. This is well within fleet requirement for a successful commissioning and testing of the LRVs prior to revenue simulation period. Consequentially, the planned deliveries and commissioning and testing of light rail vehicles are also ahead of requirements for East Link Extension.

LRV Manufacturing Critical Path Schedule

Activity Name	Start	Finish	2019				2020				2021				2022				2023				2024			
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
ST2 Light Rail Vehicle Fleet Expansion	11-Jun-18 A	15-Oct-19																								
Pre-Shipment & Qual Testing Testing (includes MP and GBV) LRV#001	12-Nov-18	04-Dec-18																								
Final Assembly LRV#001	11-Jun-18 A	03-Jan-19*																								
Final Assembly LRV#002	22-Aug-18 A	11-Jan-19																								
Shipment and Arrival at O&M Facility LRV#001	11-Jan-19	17-Jan-19																								
Qualification Testing (includes MP and GBV) LRV#001	18-Jan-19	14-Feb-19																								
Acceptance Testing LRV#001	15-Feb-19	25-Jun-19																								
Burn-In LRV#001	28-Jun-19	18-Jul-19																								
Conditional Acceptance (Milestone A-E) LRV#001	19-Jul-19*																									
Final Acceptance (Milestone A-F) LRV#001	15-Oct-19*																									

Link Light Rail Staffing Report



Link Capital Program Staffing July – September 2018 (updated quarterly)

Recruiting Status

The following positions were filled in 3rd QTR 2018 to support the Link Capital Program:

Position	Position
Corridor Design Manager	Cost Control Supervisor
Manager, Structural Eng	Sr. Project Control Specialist
Civil Engineer (2)	Construction Manager
Manager, Engineering - Rail/Vehicle	Principal Construction Manager
Sr. Systems Engineer	Sr. Administrative Specialist, CM
Manager, Communications & SCADA	Sr. Project Manager
Mech Engineer, Fire Protection	Assistant Mgr, Property Management
Systems Engineer	

As of the end of 3rd QTR 2018, below is the current DECM staffing levels:

Division	Total Positions	Open Positions	Filled Last Quarter
Executive, includes Project Directors	22	4	0
Project Management	33	8	1
Civil/Structural Engineering	60	10	4
System Engineering	40	3	5
Architecture & Art	18	1	0
Permitting	13	3	0
Construction Management	31	4	3
Project Control	62	8	2
Real Property	19	0	0
Property Management	11	2	1
TOTAL	309	43	16

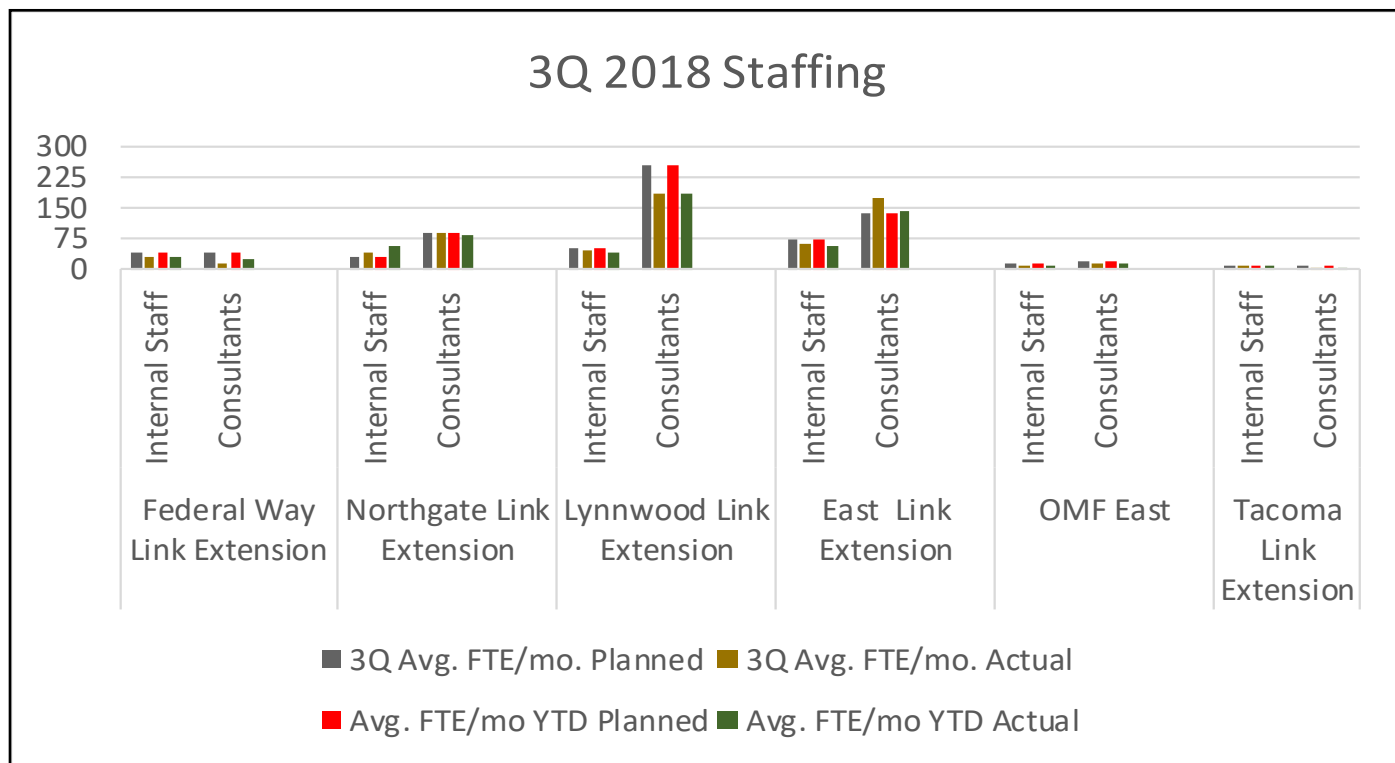
Link Light Rail Staffing Report



Staffing Variance relative to Plan

There were 206 internal and 485 consultant full time equivalents (FTE) supporting design and construction of Link light rail extensions (Table 1). Staffing for the Federal Way Link Extension and the OMF East was within 10% of plan. Staffing for the Northgate, Lynnwood, East, and Hilltop Tacoma Link Extensions was 95%, 76%, 86%, and 62% of plan respectively.

	Sound Transit Staff				Consultants				Total (AVG. YTD)			
	FTE		Variance		FTE		Variance		FTE		Variance	
Project	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan
Federal Way Link Extension	41	33	-8	-19%	41	15	-26	-63%	82	48	-33	-41%
Northgate Link Extension	30	40	10	33%	91	87	-4	-4%	121	128	6	5%
Lynnwood Link Extension	53	48	-6	-11%	255	188	-67	-26%	308	235	-73	-24%
East Link Extension	73	65	-8	-11%	140	178	38	27%	213	243	29	14%
OMF East	13	9	-4	-32%	19	12	-7	-35%	32	21	-11	-34%
Tacoma Link Extension	12	11	-1	-12%	12	4	-8	-63%	24	15	-9	-38%
Total	223	206	-18	-8%	558	485	-73	-13%	781	690	-91	-12%



AA	Alternative Analysis	GC/CM	General Contractor /Construction Management
APE	Area of Potential Impact	HVAC	Heating, Ventilation and Air Conditioning
BCE	Baseline Cost Estimate	ICD	Integration Control Document
BCWS	Budgeted Cost of Work	IFB	Issue for Bids
BIM	Building Information Modeling	IFC	Industry Foundation Classes
BNSF	Burlington Northern Santa Fe Railway	IRT	Independent Review Team
CCB	Change Control Board	IWP	Industrial Waste Permit
CDF	Controlled Density Fill	JA	Jacobs Associates
CHS	Capitol Hill Station	JARPA	Joint Aquatic Resource Permit Application
CM	Construction Management	KCM	King County Metro
CMU	Concrete Masonry Unit	LNTP	Limited Notice to Proceed
CO	Change Order	LRRP	Light Rail Review Panel
CPI	Cost Performance Index	LRT	Light Rail Transit
CPM	Critical Path Method	LRV	Light Rail Vehicle
DAHP	Department of Archaeology & History Preservation	LTK	LTK Engineering Services
DART	Days Away, Restricted or Modified	MACC	Maximum Allowable Construction Cost
DB	Design -Build	MDA	Major Discharge Authorization
DBPM	Design-Build Project Management	MLK	Martin Luther King, Jr. Way
DECM	Design, Engineering and Construction Management	MOA	Memorandum of Agreement
DEIS	Draft Environmental Impact Statement	MOS	Minimum Operable Segment
DP	Design Package	MOU	Memorandum of Understanding
DPD	Seattle Department of Planning and Development	MPPCV	Major Public Project Construction Variance
DSC	Differing Site Conditions	MRB	Material Review Board
DSDC	Design Support During Construction	MTP	Montlake Triangle Project
DSTT	Downtown Seattle Transit Tunnel	MUP	Master Use Permit
EFC	Estimated Final Cost	NB	Northbound
EMI	Electro Magnetic Interference	NCR	Notification of Change Report
ERC	East Rail Corridor	NCTP	North Corridor Transit Partners
FD	Final Design	NEPA	National Environmental Policy Act
FHWA	Federal Highway Administration	NOAA	National Oceanic and Atmospheric Administration
FSEIS	Final Supplemental Environmental Impact Statement	NTP	Notice to Proceed
FFGA	Full Funding Grant Agreement	OCS	Overhead Catenary System
FTA	Federal Transit Administration	OMF	Operations and Maintenance Facility
FTE	Full Time Employee	OMSF	Operations and Maintenance Satellite Facility

Link Light Rail

Acronyms

PE	Preliminary Engineering	UAC	Unallocated Contingency
PEP	Project Execution Plan	U-Link	University Link project
PEPD	Planning, Environment and Project Development	UDS	University District Station
PMOC	Project Management Oversight Consultant	USFWS	U.S. Fish and Wildlife Service
PSST	Pine Street Stub Tunnel	UW	University Of Washington
QA	Quality Assurance	UST	Underground Storage Tank
QC	Quality Control	UWS	University of Washington Station
QTR	Quarter	VE	Value Engineering
RE	Resident Engineer	VECP	Value Engineering Cost Proposal
RFC	Request for Change	WBS	Work Breakdown Structure
RFD	Request for Deviation	WDFW	Washington Department of Fish and Wildlife
RFI	Request for Information	WSDOT	Washington Department of Transportation
RFP	Request for Proposal		
RFQ	Request for Qualifications		
RIR	Recordable Injury Rates		
RMP	Risk Management Plan		
ROD	Record of Decision		
ROW	Right of Way		
SB	Southbound		
SCADA	Supervisory Central and Data Acquisition		
SCC	Standard Cost Categories		
SCL	Seattle City Light		
SDEIS	Supplemental Draft Environmental Impact Statement		
SEPA	State Environmental Policy Act		
SIP	Street Improvement Permitting		
SPI	Schedule Performance Index		
SR	State Route		
ST	Sound Transit		
START	Seattle Tunnel and Rail Team		
SWI	Stacy and Witbeck, Inc.		
TBM	Tunnel Boring Machine		
TCE	Temporary Construction Easement		
TE	Traction Electrification		
TFK	Traylor Frontier Kemper Joint Venture		
TOD	Transit Oriented Development		
TVM	Ticket Vending Machine		

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