

Progress Report

Link Light Rail Program



OMF East Work in Progress

April | 2019



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



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SOUND TRANSIT LINK LIGHT RAIL CURRENT SERVICE AND FUTURE EXTENSIONS

Link Light Rail

Future service:

- Everett–Seattle–West Seattle
- Redmond–Seattle–Mariner
- Ballard–Seattle–Tacoma
- Issaquah–Bellevue–South Kirkland
- Tacoma Dome–Tacoma Community College

In service:

- Univ. of Washington–Angle Lake
- Tacoma Dome–Theater District

○ New station
 P Added parking
 ○ Existing station
 P Existing parking
 ○ Provisional light rail station



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. The ST Board adopted the baseline capital budget of \$1.53B on October 25, 2018.

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.

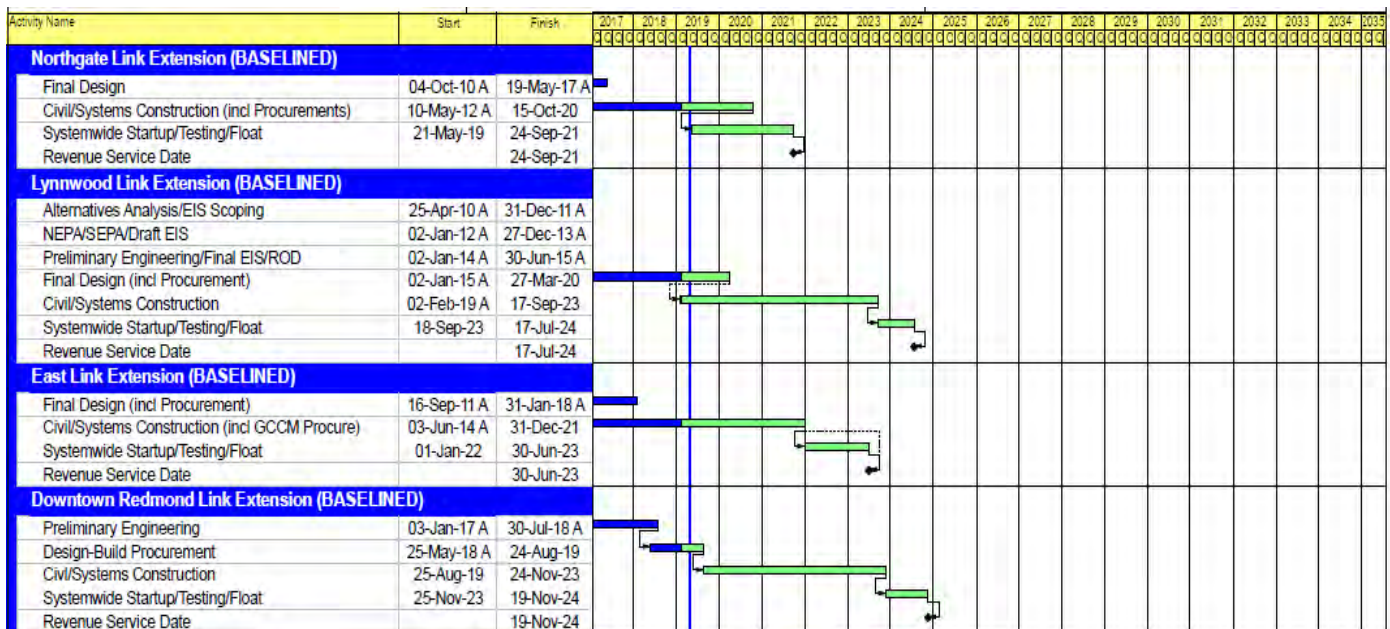
Program Budget

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	\$1,518.9	\$1,510.4	\$35.2	\$1,554.1	\$201.9
Northgate Link Extension	\$1,899.8	\$1,653.2	\$1,410.9	\$194.1	\$1,847.3	\$52.5
Lynnwood Link Extension	\$2,771.6	\$621.4	\$353.9	\$2,150.2	\$2,771.6	0
East Link Extension	\$3,677.2	\$3,047.8	\$1,844.0	\$629.3	\$3,677.2	0
Downtown Redmond Link Ext.	\$1,530.0	\$41.8	\$29.5	\$1,488.2	\$1,530.0	0
West Seattle and Ballard Link Ext.	\$285.9	\$34.2	\$31.2	\$251.7	\$285.9	0
South 200th Link Extension	\$383.2	\$332.0	\$329.1	\$0.5	\$332.4	\$50.8
Federal Way Link Extension	\$2,451.5	\$134.9	\$114.8	\$2,316.6	\$2,451.5	0
Hilltop Tacoma Link Extension	\$217.3	\$184.1	\$60.4	\$33.2	\$217.3	0
Tacoma Dome Link Extension	\$125.7	\$14.6	\$10.6	\$112.0	\$125.7	0
Link O & M Facility: East	\$449.2	\$357.5	\$213.4	\$91.7	\$449.2	0
LRV Fleet Expansion	\$740.7	\$655.9	\$89.6	\$84.8	\$740.7	0
Total Link	\$16,288.2	\$8,596.3	\$5,997.6	\$7,387.6	\$15,983.0	\$305.2

Program Schedule

Schedules for active projects are summarized below.

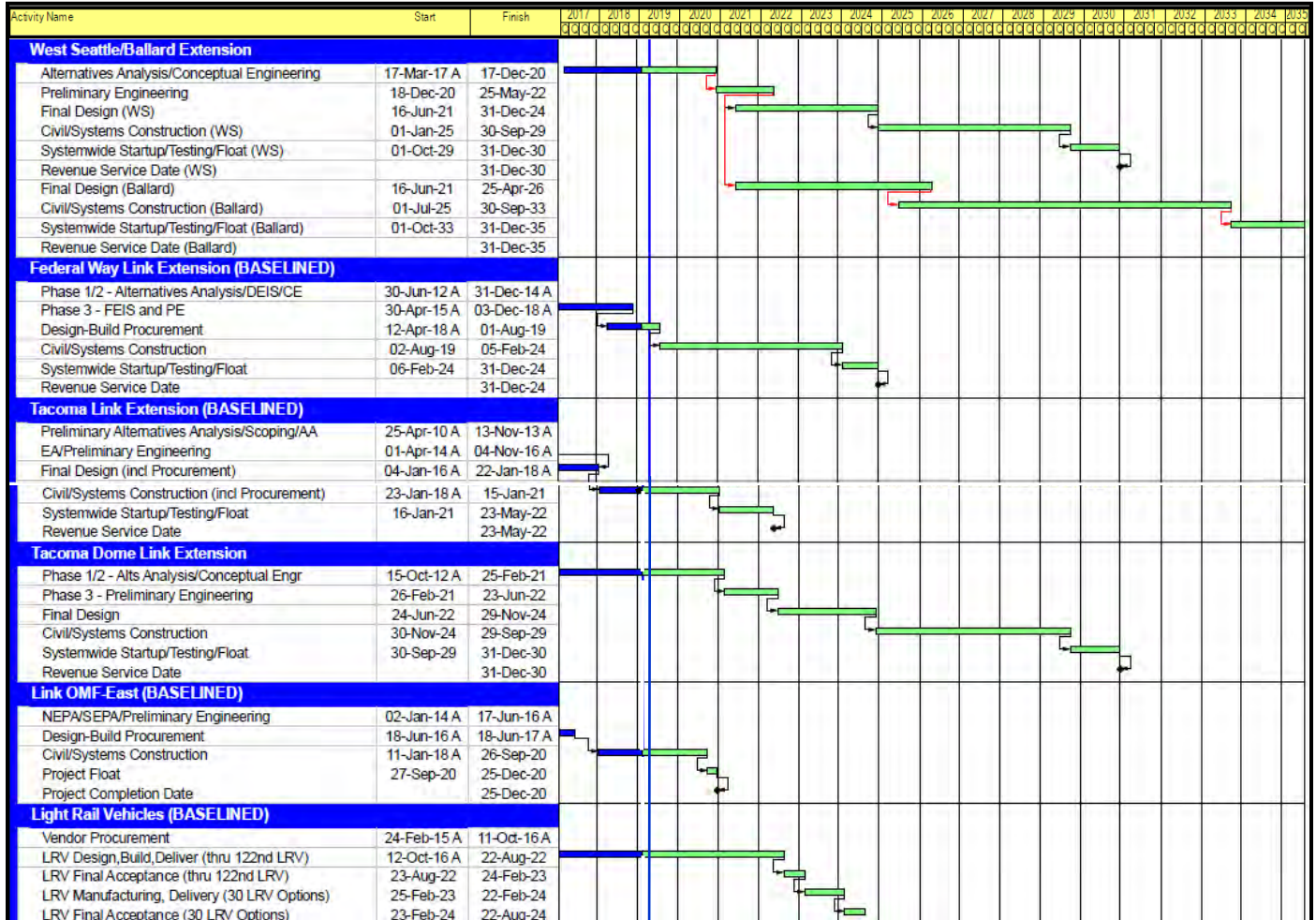


Link Light Rail Program Overview



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. All C of O for stations has been issued. The request for system/tunnel C of O for the University Link has been submitted and continues to wait for Seattle Fire Department's determination.
- Continue negotiation with Capitol Hill Station Contractor on commercial issues.
- Miscellaneous follow-on commitments and restoration work remains including but not limited to the following: Additional UW escalator work, 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 recommended "on to off" data collection to expand the survey data to more accurately reflect total ridership were 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 was negligible where the total project expenditure remain at \$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 \$1.02B. This trend continues to hold as the project is substantially complete with only miscellaneous follow on scope and commercial issues remaining. The Total Incurred to Date for the Construction Phase is approximately \$992M 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	\$83.58	\$83.43	\$88.20	\$25.35
Preliminary Engineering	\$24.39	\$24.26	\$24.26	\$24.26	\$24.26	\$0.00
Final Design	\$77.94	\$90.31	\$87.96	\$86.77	\$89.17	\$1.14
Construction Services	\$68.53	\$94.81	\$86.88	\$86.57	\$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	\$998.91	\$992.40	\$1,021.84	\$136.34
Vehicles	\$103.91	\$103.91	\$99.19	\$99.19	\$101.91	\$2.00
ROW	\$167.33	\$152.33	\$126.43	\$126.43	\$126.79	\$25.54
Capital Total	\$1,755.97	\$1,756.01	\$1,518.86	\$1,510.38	\$1,554.10	\$201.90
Finance Cost	\$191.71	\$191.71	\$191.71	\$174.87	\$191.71	\$0.00
Project Total	\$1,947.68	\$1,947.72	\$1,710.57	\$1,685.25	\$1,745.81	\$201.90

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

Construction commitment under the SCC format remains relatively unchanged at about \$985.6M. Construction SCC expenditures to date is just under \$980M this period mostly attributed to 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	\$456.48	\$456.34	\$461.61	(\$11.15)
20 Stations	\$366.33	\$350.75	\$346.16	\$343.81	\$353.10	(\$2.34)
30 Support Facilities: Yards, Shops	\$7.01	\$24.83	\$23.55	\$23.54	\$24.80	\$0.03
40 Sitework & Special Conditions	\$59.03	\$67.39	\$57.47	\$55.06	\$56.77	\$10.62
50 Systems	\$69.63	\$116.42	\$102.19	\$101.88	\$102.40	\$14.02
Construction Subtotal (10 - 50)	\$1,128.82	\$1,009.85	\$985.85	\$980.63	\$998.67	\$11.18
60 Row, Land, Existing Improvements	\$167.33	\$126.60	\$126.43	\$126.43	\$125.77	\$0.83
70 Vehicles	\$99.76	\$100.16	\$99.87	\$99.87	\$100.16	\$0.00
80 Professional Services	\$306.41	\$346.58	\$306.72	\$303.45	\$318.02	\$28.56
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	\$1,518.86	\$1,510.38	\$1,554.10	\$201.90
100 Finance Cost	\$191.71	\$191.71	\$191.71	\$174.87	\$191.71	\$0.00
Project Total	\$1,947.68	\$1,947.72	\$1,710.57	\$1,685.25	\$1,745.81	\$201.90

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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

- **U District Station/UW Campus (N140):** In the north and south areas, crews continued to work on Milestone 3B, Early Systems and Raceway availability; continued installation of fan transition sections to sound attenuators.
- **Roosevelt Station (N150):** Crews continuing the finish phase framing walls, rough-in MEP in walls, hanging drywall, mud, and taping, painting and wall/floor tile installation throughout the station; setting elevator 2 platform entrances.
- **Northgate Station (N160): Guideway Substructure/Superstructure:** Punchlist is 78% complete. **Station:** Station finish work continues with roof installation, metal stud framing, drywall and painting activities throughout the station. Utility work, traffic signal work, and grading continues at station area. **Garage:** Additional waterproofing and crack injection performed.
- **Trackwork (N180):** Crews began installing fasteners, end separation pads and rail at the U District Station platform level; continued thermite welds in the southbound trackway at U District Station.
- **Environmental:** Continuing environmental compliance weekly inspections. Awaiting formalized plan for water management throughout N180's occupation of guideway.

Closely Monitored Issues

- **N150 Emergency Fan 02:** Testing of the fan components has been completed and recommendations made for re-pairs/replacement. The spare motor provided under the contract has been shipped for use in the fan, a new nose cone ordered and the hub tested satisfactorily. The fan blades were not installed yet, and are undamaged. Crews continue to work on re-building the fan in place.
- **N125 Geotechnical Investigations:** N125 Geotechnical Investigations – Completed drilling and grouting per consultant recommendations. Presenting findings to the City in May.

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 \$1,847.3M, which is \$52.5M below the current project budget, unchanged since last period. This period approximately \$19.6M was incurred, bringing the total project expenditures from \$1.39B to \$1.41B. Project commitments are at \$1.65B 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	\$70.9	\$71.0	\$136.5	\$8.4
Preliminary Engineering	\$15.1	\$15.1	\$15.1	\$15.1	\$15.1	\$0.0
Final Design	\$132.2	\$132.2	\$120.5	\$117.2	\$133.6	\$(1.5)
Construction Services	\$118.3	\$118.3	\$103.1	\$80.8	\$110.4	\$7.9
3rd Party Agreements	\$11.8	\$11.8	\$9.8	\$6.9	\$11.4	\$0.4
Construction	\$1,343.0	\$1,343.0	\$1,233.1	\$1,019.1	\$1,334.4	\$8.7
ROW	\$112.3	\$112.3	\$100.7	\$100.7	\$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	\$1,653.2	\$1,410.9	\$1,847.3	\$52.5

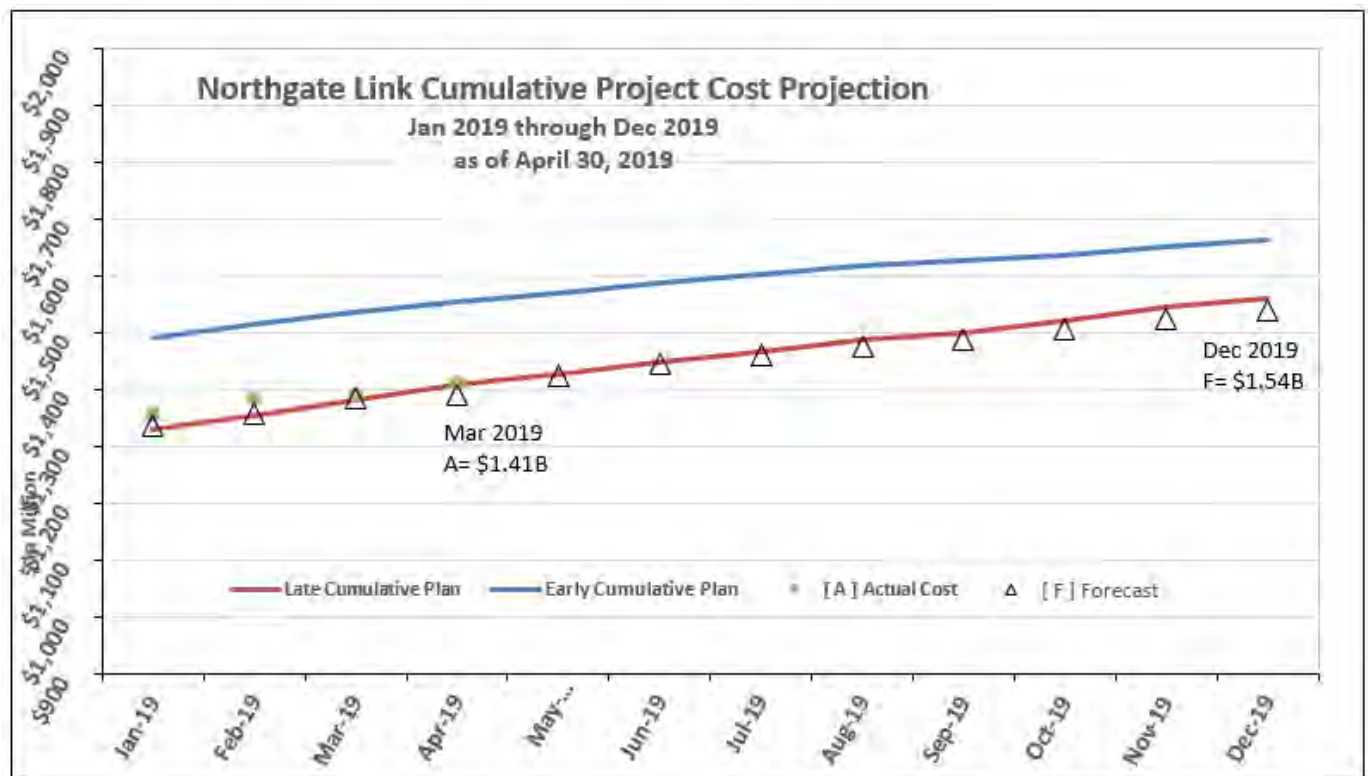
Cost Summary by SCC

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	\$548.2	\$516.5	\$491.5	\$533.9	\$14.2
20 Stations	\$376.1	\$425.1	\$423.7	\$327.5	\$448.5	\$(23.5)
30 Support Facilities: Yard, Shop	\$5.3	\$6.1	\$6.5	\$6.3	\$6.5	\$(0.3)
40 Sitework & Special Conditions	\$140.8	\$230.7	\$168.5	\$149.8	\$200.6	\$30.1
50 Systems	\$110.9	\$98.5	\$107.5	\$34.8	\$119.5	\$(21.0)
Construction Subtotal (10 - 50)	\$1,228.7	\$1,308.6	\$1,222.6	\$1,009.9	\$1,309.0	\$(0.5)
60 Row, Land, Existing Improvements	\$119.9	\$110.9	\$100.7	\$100.7	\$105.5	\$5.4
80 Professional Services	\$420.7	\$435.2	\$329.9	\$300.2	\$427.4	\$7.8
90 Contingency	\$130.4	\$45.1	\$0.0	\$0.0	\$5.4	\$39.7
Total (10 - 90)	\$1,899.8	\$1,899.8	\$1,653.2	\$1,410.9	\$1,847.3	\$52.5

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 \$19.6M included \$17.2M for the ongoing major construction contracts including the N140, N150, and N160 Station Finishes contracts, the N180 Trackwork contract, the N830 Systems contract, and other miscellaneous construction; \$0.6M was incurred for civil and systems final design and design support during construction; and \$1.1M was for construction management. The remaining expenditures were for third party coordination, permits, staff, legal, start-up planning, right-of-way and other direct charges.

Total project cost incurred to date reached \$1.41B of which about \$1.02B (72%) is attributed to the Construction Phase. The project cost is currently predicted to increase to approximately \$1.54B by December 2019, reflecting continued active construction activities. Total project cost incurred to date reached \$1.35B of which about \$974M (72%) is attributed to the Construction Phase. The project cost is currently predicted to increase to approximately \$1.4B by June 2019, reflecting continued active construction activities.



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 top project-wide risks are:

- Coordination with third parties (City of Seattle, WSDOT, UW etc.).
- Coordination of system installation, integration, and testing.
- Potential shortage of skilled labor and O&M support during startup and integration testing.
- Multiple contract interfaces/loss of interface float.

Contingency Management

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

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 in the 1st QTR 2019 with a total decrease of \$1.9M this period following execution of change orders on the N140, N150 and N160 Station contracts, and the N180 Trackwork contract. The overall UAC 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%	\$139.5	32.0%
Unallocated Contingency	\$98.3	5.2%	\$22.9	5.2%
Total:	\$396.2	20.9%	\$162.4	37.2%

Contingency by Type

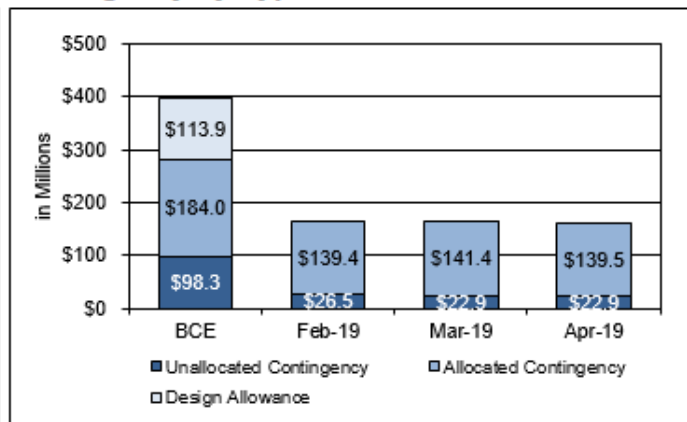
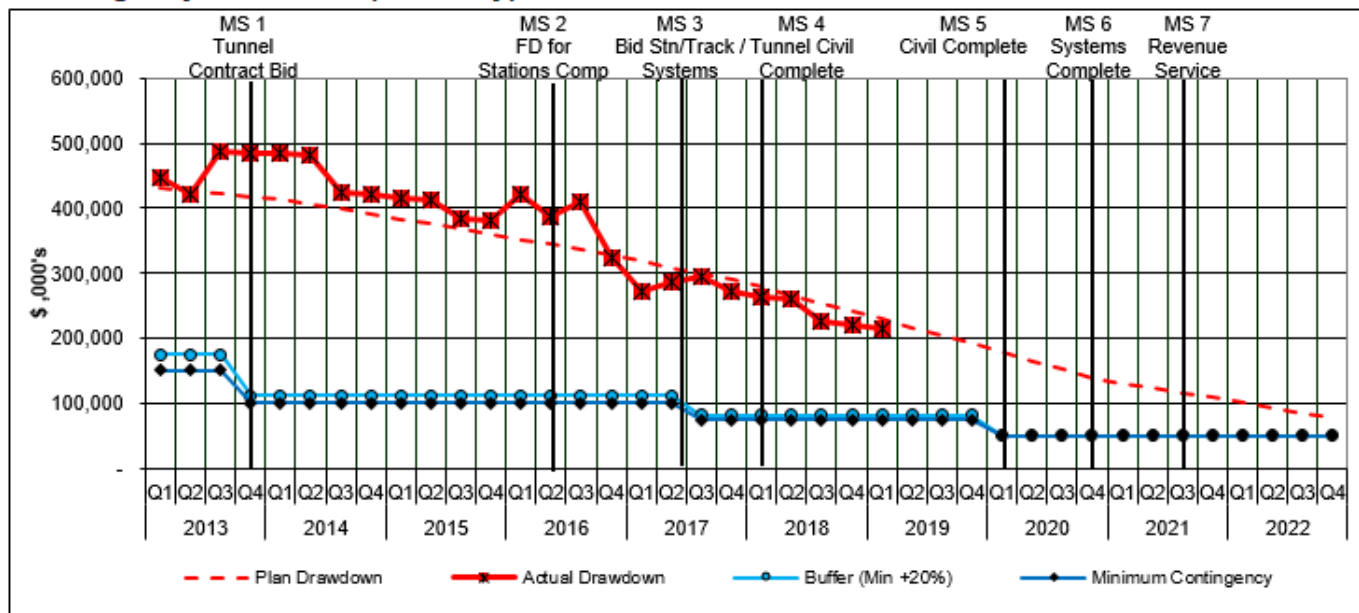


Table figures are shown in millions.

Contingency Drawdown (Quarterly)



Link Light Rail Northgate Link Extension

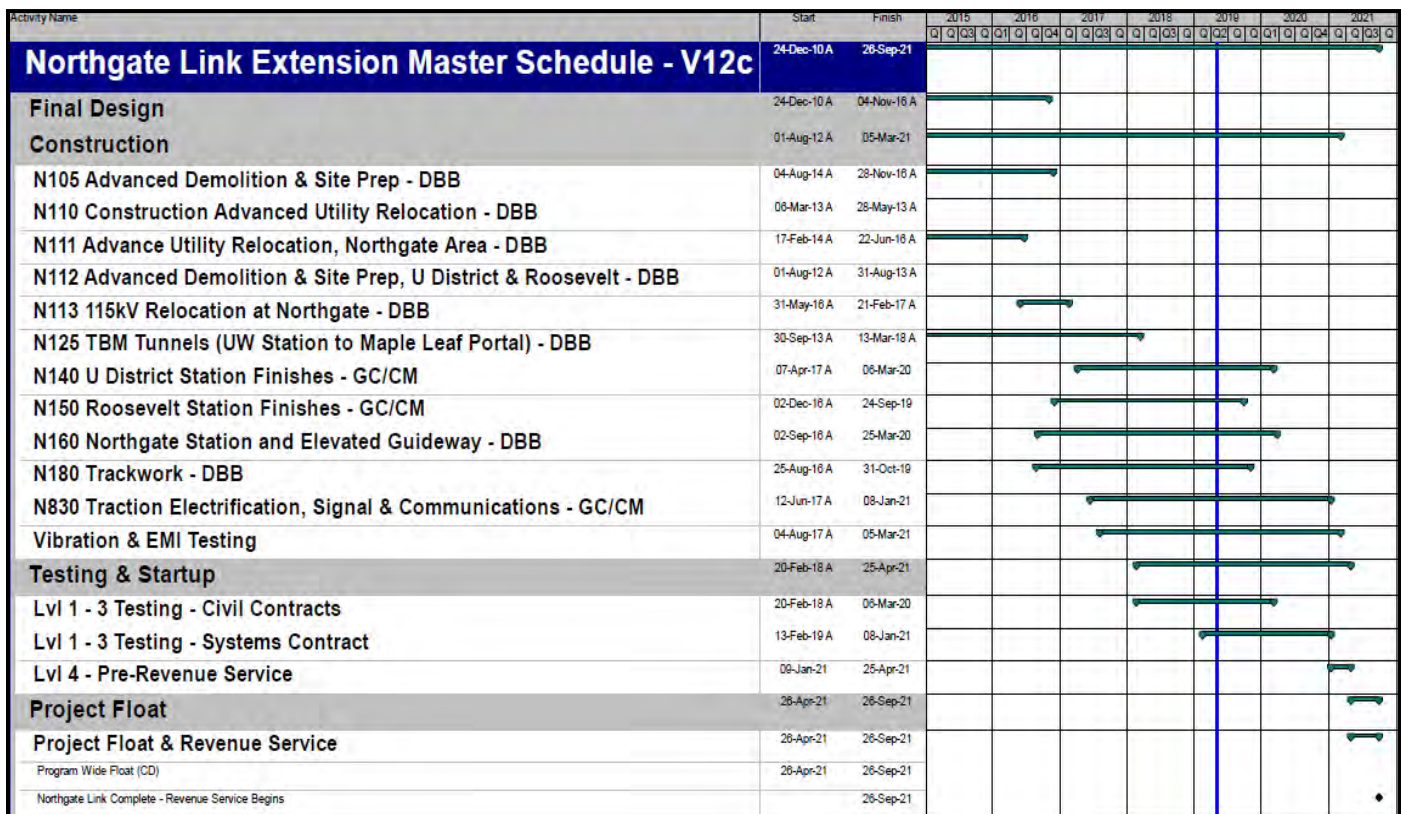


Project Schedule

As of April 2019, the physical percent complete for all Northgate Link Extension construction contracts increased from 79.5% to 81.6%.

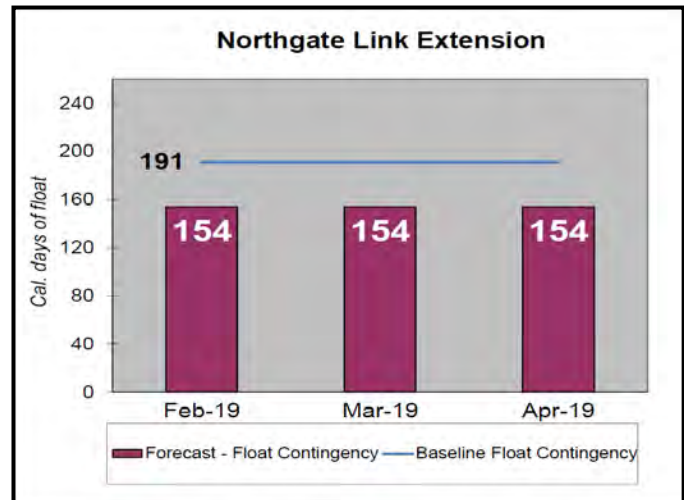
The Northgate Link Extension continues to progress with ST and the contractors focused closely on maintaining progress on the critical path. Time lost due to weather and design changes is has been assessed, negotiated, and agreed to, with the time impacts processed in April. Interior build-out and Head House construction continue at both Roosevelt (RVS) and U-District Stations (UDS). At Northgate Station (NGS) MEP installations and Platform enclosure work are in progress. The Systems contractor has installed in the MVSS at RVS and permanent power should be available in mid-May. Completion of the civil construction remains in late 3rd QTR of 2020, with Systems construction & testing currently forecast to be complete in late 4th QTR 2020 as planned.

The Revenue Service date remains late September 2021.



Project Float

The Northgate Link Project currently retains 154 days of unallocated project float. ST and its contractors have settled the impacts of adverse winter weather and design change. The next significant re-evaluation of Project Float will likely occur as the Rail Activation Plan continues to develop. Currently the project remains on schedule.



Critical Path Analysis

The critical path for the Northgate Link Extension is unchanged, running through the N830 Systems installations, then into the Testing & Commissioning proceeding the Pre-Revenue Service period. Extended durations for the procurement and building of Train Control systems remains the current driver of the critical path.

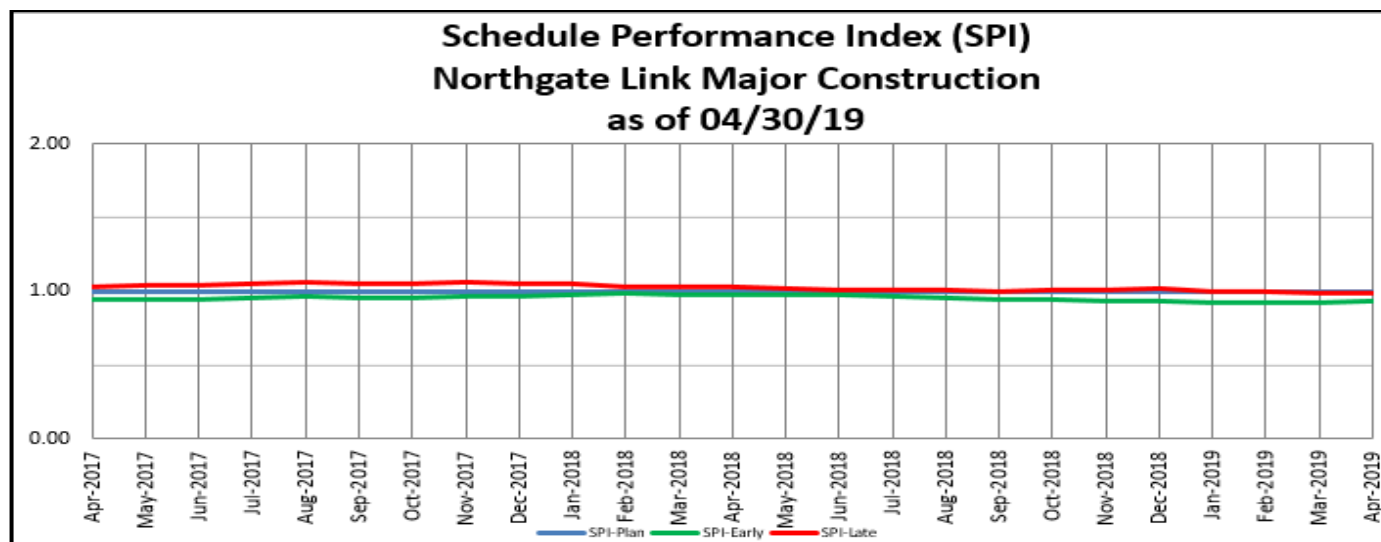
Activity ID	Activity Name	Start	Finish	2019												2020												2021											
				Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Northgate Link Extension Master Schedule - V12c				20-Feb-18 A				26-Sep-21																															
Construction				01-May-19				29-Jun-20																															
N830 Traction Electrification, Signal & Communications - GC/CM				01-May-19				29-Jun-20																															
Testing & Startup				20-Feb-18 A				25-Apr-21																															
Lvl 1 - 3 Testing - Civil Contracts				20-Feb-18 A				06-Mar-20																															
Lvl 1 - 3 Testing - Systems Contract				13-Feb-19 A				08-Jan-21																															
Lvl 4 - Pre-Revenue Service				09-Jan-21				25-Apr-21																															
Project Float				26-Apr-21				26-Sep-21																															
Project Float & Revenue Service				26-Apr-21				26-Sep-21																															
NGLSUM9010	Northgate Link Project Float (CD)	26-Apr-21	26-Sep-21																		Northgate Link																		
NGLPWF1000	Program Wide Float (CD)	26-Apr-21	26-Sep-21																		Program Wide																		
NGLMS9000	Northgate Link Complete - Revenue Service Begins		26-Sep-21																		Northgate Link																		
N830/E750 - Systems				12-Jun-17 A				15-Jan-22																															
General				12-Jun-17 A				15-Jan-22																															
Key Dates				12-Jun-17 A				15-Jan-22																															
Procurement				12-Jun-17 A				20-Aug-18 A																															
Engineering				19-Aug-17 A				22-Sep-17 A																															
N830 Project				12-Jun-17 A				29-Jun-20																															
N830 Engineering				18-Sep-17 A				11-May-18 A																															
N830 Construction				15-Aug-18 A				29-Jun-20																															
N830 Traction Power / Substations Procurement				22-Oct-19				31-Oct-19																															
N830 Signals				15-Aug-18 A				29-Jun-20																															

Link Light Rail Northgate Link Extension



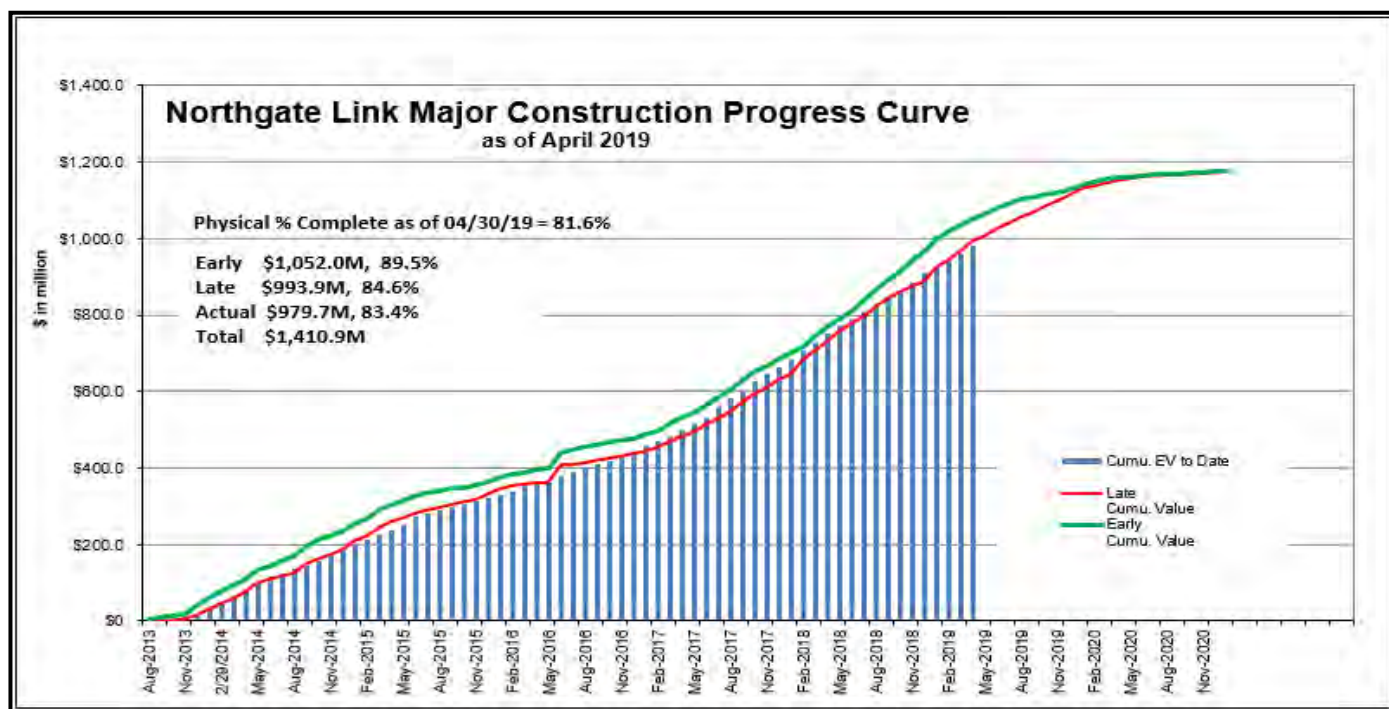
Schedule Performance Index

The early Schedule Performance Index (SPI) for the project is at 0.93 for this period, unchanged from last period, and the late SPI is at 0.99, also unchanged from last period, showing that in general, performance continues to be satisfactory. Both 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

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 toward the late projection as drawn from the master schedule. The overall physical percent complete for Northgate Link construction is approximately 81.6% as compared to approximately 79.8% of contractual duration expended.



Community Outreach

University District Station (N140)

- Distributed construction alerts for crane removal at U District Station site.

Roosevelt Station (N150)

- Distributed construction alerts for Geotechnical work along 12th Ave NE.
- Distributed construction alerts for Utility work along NE 67th Street between Roosevelt Way NE & 8th Ave NE.

Northgate Station (N160)

- Conducted Haller Lake Community Council briefing (4/4) and Maple Leaf Community Council briefing (4/24).
- Platform newsletter post – Roosevelt crane dismantle + general updates (4/12).
- Began early banner plan for Northgate Station Link Extension.
- Responded to 7 inquiries about Northgate Station/NGLE & a complaint.

Sound Transit Board Actions

Board Action	Description	Date
M2019-37	Additional Contingency for Civil Design Support During Construction for the Northgate Link Extension	4/25/19

Construction Safety

Data/ Measure	April 2019	Year to Date	Project to Date
Recordable Injury/Illness Cases	0	3	107
Days Away From Work Cases	0	0	6
Total Days Away From Work	0	0	397
First Aid Cases	4	10	162
Reported Near Mishaps	2	11	132
Average Number of Employees on Worksite	558	-	-
Total # of Hours (GC & Subs)	101,273	382,635	4,422,663
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	0.00	1.57	4.84
Lost Time Injury (LTI) Rate	0.00	0.00	0.27
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.

Link Light Rail Northgate Link Extension

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 - Crews installing special trackwork at north end of elevated guideway at Northgate.

Contract N140—U District Station Finishes

Current Progress

The N140 Contractor, Hoffman Construction, is continuing structural work above grade as well as mechanical, electrical, and plumbing (MEP) work below grade.

- Completed Milestone 3B, Early Systems and Raceway Availability.
- Commenced installation of walls at the north headhouse.
- Continued mechanical work on escalators 1 and 2 and commenced mechanical work on escalators 3 and 4.
- Commenced Fireproofing application on ceiling of the South headhouse.
- Continued installation of sound attenuator, transition, and pad for fans in the South headhouse.

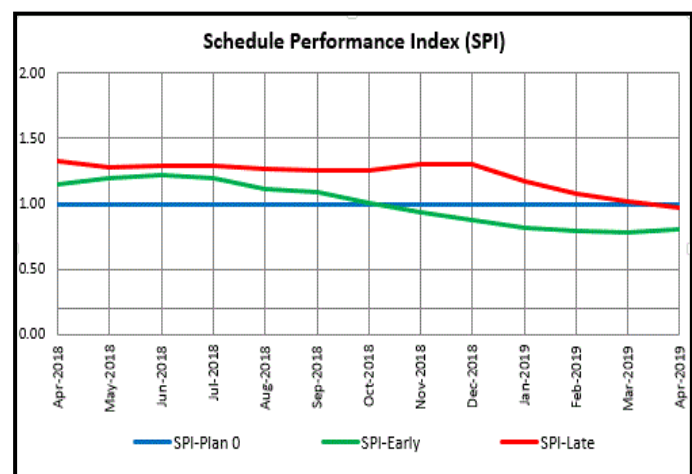
Schedule Summary

Hoffman continues to forecasting a substantial completion of March 6, 2020, ten days late. Turn over of the Station TPSS and Main Electrical Room remain key to Systems remain critical areas of focus. The critical path for N140 continues to be the North Headhouse MEP installations. ST and Hoffman have analyzed and completed negotiations for the time impacts of the Stem Wall redesign and February Snow Storm. Some interim handoff milestones with the Systems contractor have been redefined to accommodate both these time impacts as well the current status of the Systems procurements.

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	770	216	10-Feb-17 A	06-Mar-20														
MILESTONES	0	0	06-Mar-20	06-Mar-20														
Milestone 4 - Substantial Completion	0	0		06-Mar-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	770	216	10-Feb-17 A	06-Mar-20														
Structure	746	192	10-Feb-17 A	03-Feb-20														
EXTERIOR SHELL / SKIN	199	113	28-Dec-18 A	09-Oct-19														
INTERIORS	382	185	23-Jul-18 A	23-Jan-20														
ELEVATORS	165	165	20-May-19	14-Jan-20														
ESCALATORS	388	164	18-Jun-18 A	27-Dec-19														
STAIRS	364	117	10-May-18 A	15-Oct-19														
SITWORK	402	181	18-Jun-18 A	17-Jan-20														
START-UP & COMMISSIONING	171	171	05-Jul-19	06-Mar-20														

Schedule Performance Index

This period, the SPI early is at 0.80 and the SPI late is 0.98. The early index indicates that the contractor continues to perform slightly behind plan when compared to the baseline schedule and cash flow and is expected to trend the same way next period.



Next Period's Activities

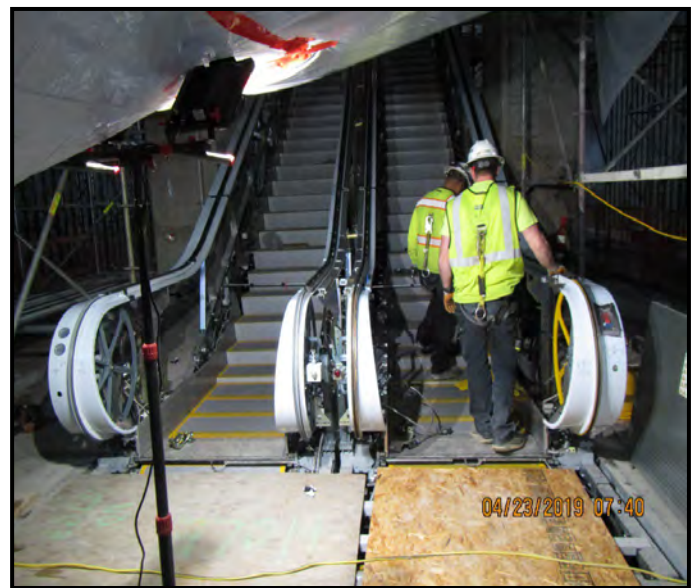
- Commence installation of light fixtures on BL3.
- Commence installation of ceiling insulation on BL0, east BL1, and BL2.
- Continue installation of sound attenuators on BL2.
- Continue forming, resteel, and placing housekeeping pads on BL2.
- Commence installation of CMU on stairwell 3 & 4 and on stair 8 at BL2.
- Continue installation of formwork for slab on grade at headhouse.
- Commence Alleyway Restoration.
- Continue final setting of escalators.
- Continue applying acoustical plaster on south and north walls.
- Continue detensioning of tiebacks on east side of site.
- Continue Fireproofing on ceiling of South headhouse.
- Commence sheathing and insulation of exterior walls at headhouse.

Closely Monitored Issues

- **Additional stairs from intermediate level to the platform:** The Construction Management Team is coordinating with the Contractor to resolve review comments on the estimate and schedule. Work Directives for the critical activities have been issued to expedite the work. A meeting to discuss the remaining issues is planned for next month to resolve for finalizing this item in a change order.
- **Lid Level Stem Walls & 0053 North Plenum Insulation & Doors:** A Time Impact Analysis has been completed for this work directive and a change order updating the schedule and affected milestones will be finalized next month. The cost for the change will be reviewed separately.
- **Roof Deck Composition for System Supports:** The RFC has been reviewed by ST and the Contractor is reviewing the recommendation to issue this item as an RCA as opposed to an RFC.

Cost Summary

Present Financial Status	Amount
N140 Contractor—Hoffman Construction	
Original Contract Value	\$ 159,836,688
Change Order Value	\$ (875,518)
Current Contract Value	\$ 158,961,170
Total Actual Cost (Incurred to Date)	\$ 105,205,985
Financial Percent Complete	66.2%
Physical Percent Complete	64.0%
Authorized Contingency	\$ 7,991,834
Contingency Drawdown	\$ 875.518
Contingency Index	5.8



UDS – Escalator Mechanical Work on Escalators 1 & 2

Contract N150—Roosevelt Station Finishes

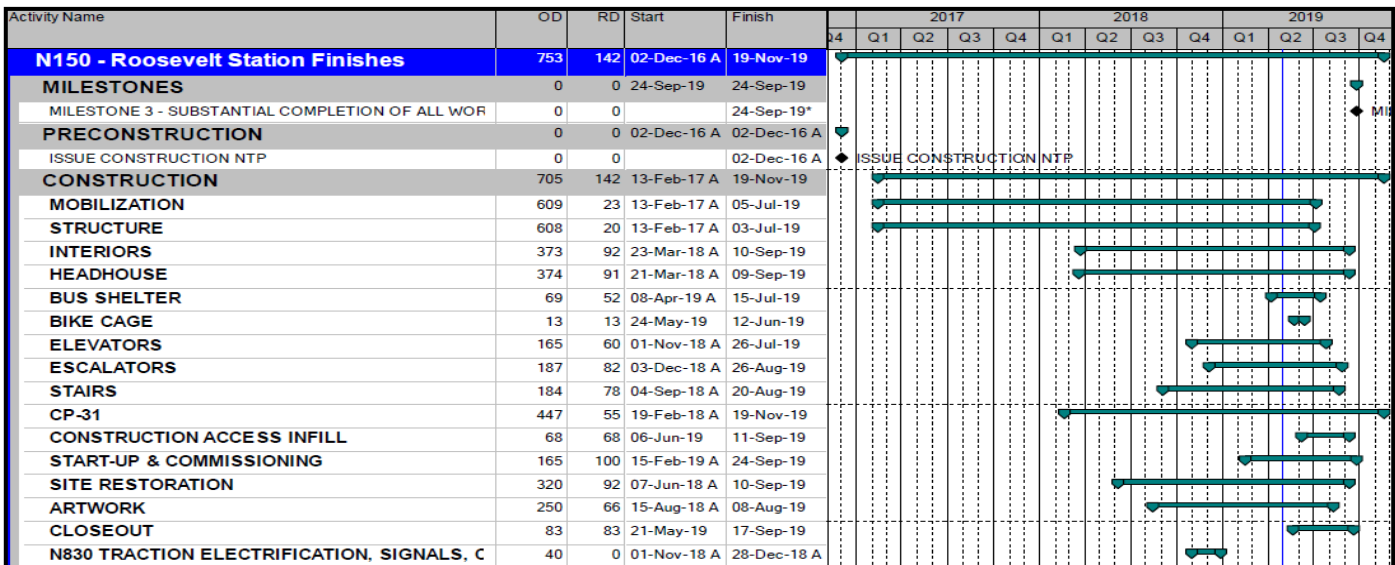
Current Progress

Hoffman Construction (HCC) continues to focus on interior mechanical and electrical installations, vertical transportation, and utility work. On-going work this period includes:

- Continued work at entrance and platform for elevator 1.
- Continued terminating branch circuits to electrical and mechanical equipment and lighting throughout the station.
- Continued framing walls, rough-in MEP in walls, hanging drywall, mud, taping and painting throughout the station.
- Continue demolition of tower crane pad, and continued backfill and grading for 66th Street restoration.
- Continued equipment install in Main Electrical room.
- Continued installation of floor tile at platform.

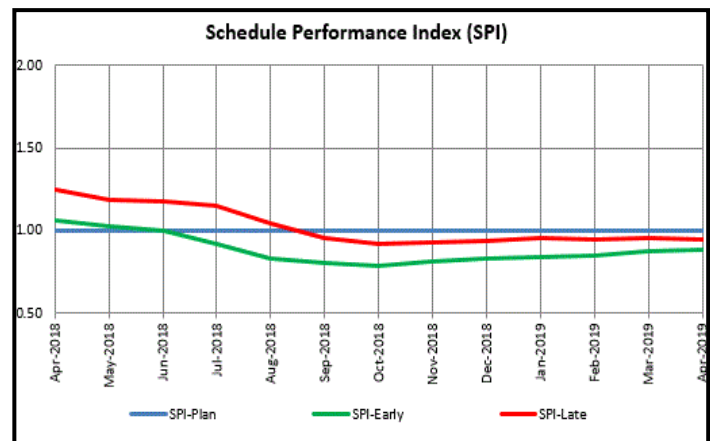
Schedule Summary

The N150 March schedule update continues to forecast a thirteen day late Substantial Completion date. The critical path is unchanged, driven by installation of the Tunnel Ventilation Fans, Station Testing and Commissioning. Finishes, and North Headhouse finishes remain near critical. All interim milestones in the contract have been achieved.



Schedule Performance Index

This period, the SPI early is at 0.90 and the SPI late is 1.0 (unchanged from last month). The early index indicates that the contractor continues to perform slightly behind plan when compared to the baseline schedule and cash flow and it is expected to continue this trend next period.



Next Period's Activities

- Continue CMU infill of openings throughout the station.
- Commence BMS level 1 commissioning and continue pulling wire for BMS equipment throughout the station.
- Continue terminating branch circuits to electrical and mechanical equipment and lighting throughout the station.
- Continue leak remediation at platform exterior walls.
- Continue framing walls, rough-in MEP in walls, hanging drywall, mud, taping and painting throughout the station.
- Complete EMFN-02 in field-installation of motor and installation of hub and fab blades.
- Continue fire alarm installation throughout the station.
- Install precast treads on stair 9 and metal panels along stair 9.
- Continue restoration of 66th Street.
- Commence installation of BL3 horizontal dampers.
- Continue louver installation and curtain walls at south head house.
- Continued equipment install in Main Electrical room.

Closely Monitored Issues

- **450h Fans (3 Located at North Station):**
The Contractor resubmitted the NCR for the damage to north 450hp EMFN-02 and documentation of corrective actions required. A plan has been approved by the Engineer of Record (EOR) and is currently being reviewed by ST/ QA . A new motor was set on the fan. Clarage will be on site next month to complete motor terminations, torque fan motor base, install the hub, blades, anti-stall ring and nose cone on EMFN-02. In order to finalize the revised hub/impeller pre-production testing, a heat test is required. Hoffman is working to obtain plan and dates from McKinstry/Clarage for heat test as the motor assembly will not be ready for testing until in mid-May or possibly June.

Cost Summary

Present Financial Status	Amount
N150 Contractor - Hoffman Construction	
Original Contract Value	\$ 152,291,184
Change Order Value	\$ 7,478,530
Current Contract Value	\$ 159,204,218
Total Actual Cost (Incurred to Date)	\$ 133,699,531
Financial Percent Complete	83.7%
Physical Percent Complete	83.0%
Authorized Contingency	\$ 14,614,559
Contingency Drawdown	\$ 7,478,530
Contingency Index	1.6



RVS— North Head House & Tower Crane Pad Demolition.

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

Current Progress

The N160 Contractor, Absher Construction, is continuing to prosecute work in all areas of the project. Accomplishments to date:

- KLB installing gabion baskets at the north pedestrian bridge abutment and wall connecting to Garage.
- Elcon continued electrical rough-in which will be crossing over NE 103rd St on night shift next week. Deep conduits are still going in between columns C1 and Stair 2 at the KCM Building.
- Stripped MLP Acoustical Wall foundation, formed and placed wall. Placing backfill and subbase for slab.
- AIE began erection of south maintenance stair tower.
- Mission Glass glazing west side of Station with GL-5 panels, gridlines C2 to C3.

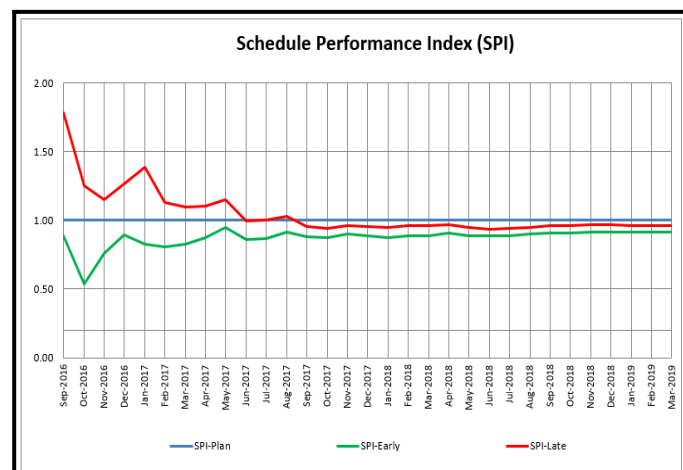
Schedule Summary

The project schedule for April moves up the Substantial Completion date from March 26 to March 25, 2020. ST has extended the time to achieve interim Milestones 05 & 05a by 64 days, and Substantial Completion Milestone 08 by 12 days due to owner changes and severe weather. The critical path for the contract remains the station platform lobby finishes.

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	900	228	01-Sep-16 A	25-Mar-20																
1.00 - General Requirements	900	0	01-Sep-16 A	25-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	25-Mar-20	25-Mar-20																
Absher Contract Milestones	0	0	25-Mar-20	25-Mar-20																
MS08 - Substantial Completion [Site Access+1201c	0	0		25-Mar-20*																
2.00 - Procurement	843	172	02-Sep-16 A	06-Jan-20																
3.00 - Preparatory Work	861	228	17-Oct-16 A	25-Mar-20																
4.00 - Earthwork & Utilities	815	228	04-Jan-17 A	25-Mar-20																
5.00 - Guideway (inc. Station Unit)	640	43	03-Jan-17 A	01-Jul-19																
6.00 - Station Finishes	465	187	27-Mar-18 A	28-Jan-20																
7.00 - Garage	468	2	27-Jun-17 A	02-May-19																
8.00 - At-Grade Restoration	597	192	22-Sep-17 A	04-Feb-20																
9.00 - Transition to Operations	5	0	14-Jan-19 A	22-Jan-19 A																
10.00 - Project Close-out	76	76	06-Dec-19	25-Mar-20																

Schedule Performance Index

This period, the SPI early is at 0.92 and the SPI late is at 0.96, unchanged from last period. The early index indicates that the contractor continues performing slightly behind plan when compared to the baseline schedule. 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:** Hold Readiness Review meeting for escalator installation.
- **Guideway Substructure/Superstructure:** Continue punchlist work.
- **Station:** Continue painting of structural steel and installation of curtain wall glass and roof assembly. Continue installation of electrical, plumbing, and HVAC. Continue gabion fascia at MSE Wall #05, and fill and compaction in bio-retention area.
- **MLP North:** Continue barrier wall and gate foundations. Continue electrical rough-in. Continue edging and prep for Acoustical Cement Plaster on west wall.
- **North TPSS and Signal Bungalow:** Backfill of underground electrical conduits. Strip screen wall/stair footing.
- **Ancillary Buildings/Bungalows:** Epoxy flooring of communication rooms. Install topping slab for roof and interior metal stud framing and door frames. Continue installation of conduits and vaults.
- **Utility & Drainage Work:** Continue storm drainage light pole foundations and water line work along 1st Ave NE. Continue drainage structures in new KCM transit area.

Closely Monitored Issues

- Schedule slippage continues on elevated structure and station. Delays from 3-hr Fire Rating revisions and other work directives continue to be reviewed.
- Scope of acoustical plaster at MLP was not clearly defined in the contract. Scope and cost impacts have been reviewed and negotiated.
- Underground Utility Conflicts identified during water line work are being mitigated on the night shift to lessen impacts.

Cost Summary

Present Financial Status	Amount
N160 Contractor - Absher Construction	
Original Contract Value	\$ 174,000,000
Change Order Value	\$ 8,384,010
Current Contract Value	\$ 182,384,010
Total Actual Cost (Incurred to Date)	\$ 145,770,565
Financial Percent Complete	79.9%
Physical Percent Complete	76.0%
Authorized Contingency	\$ 17,400,000
Contingency Drawdown	\$ 8,384,010
Contingency Index	1.6



Crews placing concrete for north bridge abutment.

Contract N180 – Trackwork UWS to Northgate Station

Current Progress

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

- Finishing thermite welds in the SB tunnel between UWS and UDS at the end of April.
- Continued installing fasteners, end separation pads, and rail, as well as finishing thermite welds in the SB trackway at UDS.
- Preparing to install fasteners, and perform final line and grade on rails between UDS and RVS.
- Thermite welding has started in the SB tunnels between UDS and RVS, as well as at Roosevelt Station.
- Begin constructing direct fixation plinths for Special Trackwork south of NGS.
- Northbound track at NGS is complete, as is the Pocket Track beyond the special trackwork, north of NGS.

Schedule Summary

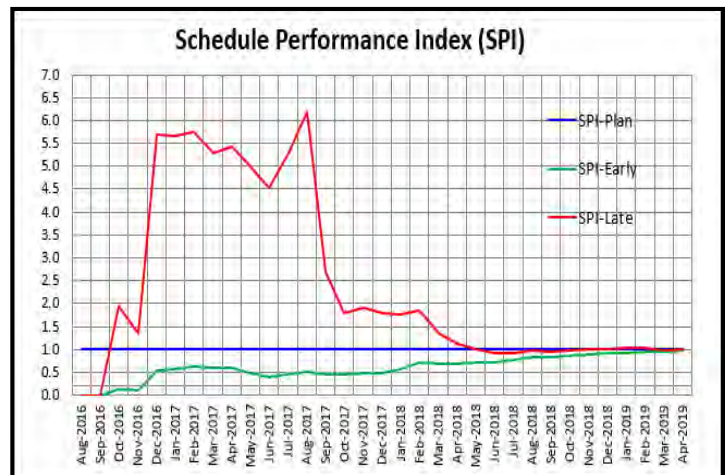
The N180 schedule for April continues to forecast an on-time completion of work. The critical path is driven by trackwork construction on the elevated guideway (Work Area 7).

Activity Name	OD	RD	Start	Finish	16	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
N180 - Trackwork	780	108	25-Aug-16 A	02-Oct-19															
Milestones	0	0	02-Oct-19	02-Oct-19															
Milestone 7d - Substantial Completion of Work Area 7, 7.1, 7.2 (10/31/19)	0	0	02-Oct-19	02-Oct-19*															
Construction	767	108	25-Aug-16 A	02-Oct-19															
Mobilization	658	108	25-Aug-16 A	02-Oct-19															
Submittals	1014	10	25-Aug-16 A	14-Jun-19															
Procurement	553	45	07-Oct-16 A	03-Jul-19															
Work Area 1 (N06 - UWS to UDS Tunnels)	230	0	13-Nov-17 A	09-Oct-18 A															
Work Area 2.1 and 2.2 (N07 - U-District Station)	321	0	15-Dec-17 A	27-Feb-19 A															
Work Area 3 (N08 - UDS to RVS Tunnels)	222	0	05-Feb-18 A	18-Feb-19 A															
Work Area 4 (N09 - Roosevelt Station)	186	0	19-Mar-18 A	11-Jan-19 A															
Work Area 5 (N10 - RVS to MLP Tunnels)	310	39	28-Feb-18 A	25-Jun-19															
Work Area 6 (MLP and At Grade Guideway)	323	47	19-Mar-18 A	08-Jul-19															
Work Area 7 (Elevated Guideway South of NGS)	150	67	12-Dec-18 A	05-Aug-19															
Work Area 7.1 (N11 - Northgate Station)	88	12	07-Jan-19 A	16-May-19															
Work Area 7.2 (Elevated Guideway North of NGS)	148	78	08-Jan-19 A	20-Aug-19															

Schedule Performance Index

This period, the SPI early is at 0.97 (slightly up from 0.95 last month), and the SPI late is at 0.99. The expected performance is between early and late.

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 met or exceeded forecasts.



Link Light Rail Northgate Link Extension

Next Period's Activities

- Continue reviewing and processing submittals and RFIs.
- Continue Thermite Welding in Work Area 1 and 2.
- Highmark and Corona Steel to continue work on MLP stair tower.
- Continue constructing DF plinths in Work Areas 5, 6, and 7.
- Continue constructing Special Trackwork in Work Areas 7.2 and 7.
- Punchlist and final line and grade to continue in Work Areas 1, 2, 3 and 4.
- Continue mass tunnel cleaning.

Closely Monitored Issues

- The most notable monitored issue going forward appears to be the Direct Fixation track construction in work Area 5. Tracking to meet the substantial completion milestones, but it still needs to be monitored closely since it is the critical path for the project.
- 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 constructed by another contract, with added complexity of staging concrete pours from below.
- Rail Grinding and Polishing -SWI has secured ARM (Advanced Rail Management) and Loram Rail Grinding to perform the rail profile grinding and polishing.

Cost Summary

Present Financial Status	Amount
N180 Contractor—Stacy & Witbeck Inc.	
Original Contract Value	\$ 71,455,950
Change Order Value	\$ 3,521,202
Current Contract Value	\$ 74,977,152
Total Actual Cost (Incurred to Date)	\$ 64,383,430
Financial Percent Complete	85.9%
Physical Percent Complete	89.9%
Authorized Contingency	\$ 10,718,393
Contingency Drawdown	\$ 3,521,202
Contingency Index	2.6



SWI - Forming DF Plinths in WA 5

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:

- Installation of control wiring for the MVSS is ongoing at UDS.
- Pulling of early fiber cables associated with the EVS System between UWS and UDS continued during the week.
- A requirement for Fire wrapping of the MVSS power cables at RVS has been confirmed. Power on is forecast for mid-May, upon completion of the wrapping.

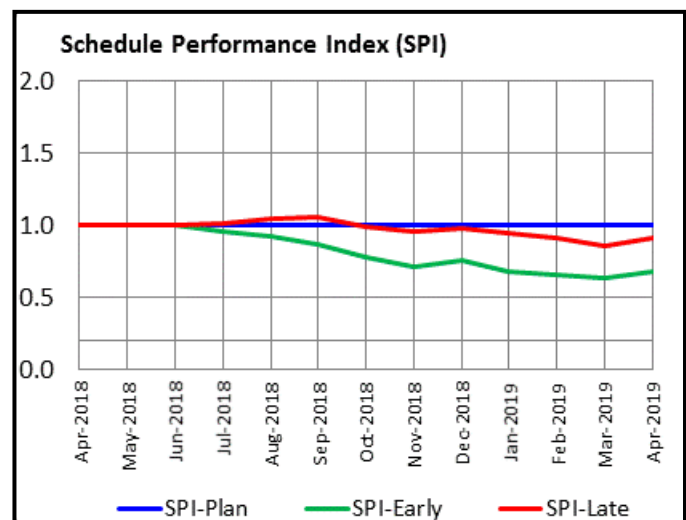
Schedule Summary

An updated N830 schedule for April forecasts an on-time completion of December 2020. The critical path is unchanged, driven by the fabrication, testing, and installation of the Train Control (TC) houses along the alignment. This is followed by testing of the equipment in the field, and finally Systems Integrated Testing.

Activity Name	OD	RD	Start	Finish	Gantt Chart																			
					2017	2018				2019				2020				2021						
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
N830 - E750 UD-20, 30Apr19 DRAFT	879	415	12-Jun-17 A	08-Jan-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																					
N830 Project	747	415	20-Dec-17 A	08-Jan-21																				
N830 Construction	747	415	20-Dec-17 A	08-Jan-21																				
N830 Milestones	0	0	31-Dec-20	31-Dec-20																				
MS#05 Northgate: Substantial completion of Northgate Li	0	0		31-Dec-20*																				
N830 OCS	465	299	10-Sep-18 A	26-Jul-20																				
N830 Traction Power / Substations Procurement	598	266	20-Dec-17 A	28-May-20																				
N830 Signals	447	288	15-Aug-18 A	29-Jun-20																				
N830 Communications	690	389	10-Feb-18 A	20-Nov-20																				
N830 Radio	444	262	09-Jul-18 A	21-May-20																				
N830 Trunk Fiber	385	226	28-Sep-18 A	01-Apr-20																				
N830 Testing and Commissioning	571	415	07-Sep-18 A	08-Jan-21																				

Schedule Performance Index

The Contractor performed slightly behind the late schedule (SPI 0.91) and behind the early schedule (SPI 0.68) in comparison to the baseline work plan.



Link Light Rail Northgate Link Extension

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, Overhead Catenary Systems, Train Control Systems/Signals and Communications.
- Ongoing meetings between Systems and Civil Contractors to discuss and coordinate interface/access points for respective contracts.
- Permanent Power at Roosevelt Station expected early May upon approval from City of Seattle Inspectors.
- Ongoing work related to MVSS switchgear at University District Station (UDS). Energization, originally scheduled for June 2019, will be delayed due to late access to N140. Energization likely to be in August 2019.

Closely Monitored Issues

- Sound Transit (ST) and the Construction Management Consultant (CMC) closely monitoring the schedule of the procurement packages and equipment delivery to ensure it does not impact upcoming work activities.
- ST and CMC ongoing coordination for the IDS cutover change from full shutdown to single tracking.
- ST, CMC, and Contractor closely monitoring and continue to work with the N140 project team to manage the later than expected access to the Above Grade System Rooms at UDS and the effects on installation, testing, and Milestone #2.

Cost Summary

Present Financial Status	Amount
N830 Contractor - Mass Electric Construction Co.	
Original Contract Value	\$ 104,660,444
Change Order Value	\$ 687,611
Current Contract Value	\$ 105,348,055
Total Actual Cost (Incurred to Date)	\$ 32,679,260
Financial Percent Complete	31.0%
Percent Complete	38.3%
Authorized Contingency	\$ 5,233,022
Contingency Drawdown	\$ 687,611
Contingency Index	2.9

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



Installation of Conduits in Communications Room at Roosevelt Station, 04/25/2019.

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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

- US Army Corps of Engineers issued the Nationwide Corps permit for the project on Apr. 11th.
- Contract execution and Notice to Proceed (NTP) for the L300 Early Work (Skanska) contract were issued Apr. 12th.
- Lynnwood City Council approved Development Agreement on Apr. 8th; Sound Transit Board approved on Apr. 25th.
- Held preconstruction open houses for Mountlake Terrace on Apr. 18th and Lynnwood on Apr. 25th.
- City of Shoreline Critical Areas Special Use Permit (CASUP) Hearing for approving work in geologic hazard areas was held on Apr. 10th. Hearing Examiner decision approving CASUP issued on Apr. 24th. City of Shoreline Hearing Examiner held the hearing for Special Use Permit (SUP) on Apr. 24th. Decision due by May 31st.
- WSDOT issued the Project Development Approval (PDA) for L300 on Apr. 30th.
- Conducted quantity reviews with the L300 contractor (Skanska) in advance of negotiations scheduled to commence in May.
- Received price proposal and independent cost estimates for the L200 guideways and structures package. Commenced quantitative risk assessment of the L200 contract package.
- Mobilized early work construction teams to field office locations in Shoreline for L200 and Mountlake Terrace for L300.

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 April 2019, \$15.7 M was incurred. The major project expenditures were for L200 construction, property acquisition, and advancing civil & systems final design.

The remaining expenditures were for third party coordination, permits, staff, legal, and other direct charges.

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	\$30.2	\$30.1	\$98.2	\$0.0
Preliminary Engineering	\$39.1	\$39.1	\$39.1	\$39.1	\$39.1	\$0.0
Final Design	\$164.2	\$164.2	\$134.9	\$103.3	\$164.2	\$0.0
Construction Services	\$128.4	\$128.4	\$91.8	\$20.9	\$128.4	\$0.0
3rd Party Agreements	\$14.6	\$14.6	\$10.4	\$6.1	\$14.6	\$0.0
Construction	\$1,921.4	\$1,921.4	\$168.2	\$25.1	\$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	\$146.9	\$129.4	\$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	\$621.4	\$353.9	\$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	\$703.1	\$88.6
20 Stations	\$333.8	\$333.8	\$0.0	\$0.0	\$333.8	\$0.0
30 Support Facilities	\$2.0	\$2.0	\$0.0	\$0.0	\$2.0	\$0.0
40 Sitework & Special Conditions	\$421.1	\$421.1	\$161.1	\$24.7	\$509.7	-\$88.6
50 Systems	\$244.4	\$244.4	\$0.0	\$0.0	\$244.4	\$0.0
Construction Subtotal (10 - 50)	\$1,793.0	\$1,793.0	\$161.1	\$24.7	\$1,793.0	\$0.0
60 Row, Land	\$235.7	\$235.7	\$146.9	\$129.4	\$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	\$313.4	\$199.8	\$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	\$621.4	\$353.9	\$2,771.6	\$0.0

Link Light Rail Lynnwood 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 quarterly (1st QTR) risk update for the project was held at the end of March 2019, and the project initiated a quantitative risk review in April 2019. ST includes participation of construction management consultants and construction contractors in its risk management program.

The following are the top project risks:

- 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 continues to forecast a Revenue Service date in August 2024. The L200 contract baseline construction schedule has been accepted and incorporated into the project master schedule. The contractor is currently working on the first update. The L300 contract NTP was issued Apr. 12th and the Contractor is working on their baseline construction schedule. Sound Transit staff continues to closely monitor the status of Permits, Right-of-Way, and has begun an effort to more closely align the third party utility activities with the utility task orders. The L800 pre-construction contract is underway and an updated schedule is expected this summer.

Activity Name	Start	Finish	Total Float	2018	2019	2020	2021	2022	2023	2024
				Q2	Q3	Q4	Q1	Q2	Q3	Q4
LLE Master Schedule	20-May-10 A	25-Jan-24	150							
Project Administration	20-May-10 A	25-Jan-24	131							
Final Design/Preconstruction	01-Sep-15 A	15-Feb-22	639							
LLE FD Procurement	01-Sep-15 A	15-Feb-22	443							
L200 Final Design	11-Apr-16 A	29-Oct-19	1207							
L200 Preconstruction	01-Nov-15 A	01-Nov-19	179							
L300 Final Design	11-Apr-16 A	23-Dec-19	927							
L300 Preconstruction	30-Mar-16 A	23-Apr-20	843							
L800 Final Design - Systems	08-Jul-16 A	30-Apr-20	290							
L800 Preconstruction	15-Dec-16 A	23-Apr-20	251							
Permitting & Agreements	07-Jan-15 A	08-Apr-20	1075							
Utilities	02-May-16 A	31-Aug-22	501							
L200 ROW Acquisitions	04-Jan-16 A	15-Feb-20	2322							
L300 ROW Acquisitions	14-Jan-16 A	08-Apr-20	1301							
L200 Construction Baseline Schedule - E	10-Dec-18 A	28-Jul-23	107							
L300 Construction Schedule - IP90%	25-Sep-18 A	16-Jan-24	153							
L800 Construction Schedule - 60%	29-Feb-21	03-Nov-23	0							
LLE Rail Activation	01-Mar-21	21-Aug-24	0							
Contracts	14-Jun-23	06-Nov-23	201							
RA Tasks	01-Mar-21	20-Dec-23	245							
Pre-Revenue Service	27-Jul-23	20-Dec-23	174							
Pre-Revenue Tasks	27-Jul-23	20-Dec-23	174							
Revenue Service	21-Dec-23	21-Aug-24	0							
Program Wide Float (CD)	21-Dec-23	21-Aug-24	0							
Revenue Service - 7/17/2024		21-Aug-24	0							

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 increased by a net amount of \$7.4 M. The change included lower than budgeted cost of civil design services during construction, balance was moved to AC. DA was drawn down by \$9.5 M in alignment with L300 early work NTP. 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%	\$224.8	9.3%
Allocated Contingency	\$197.6	7.1%	\$199.0	8.2%
Unallocated Contingency	\$292.2	10.5%	\$292.2	12.1%
Total:	\$737.7	26.6%	\$716.0	29.6%

Contingency by Type

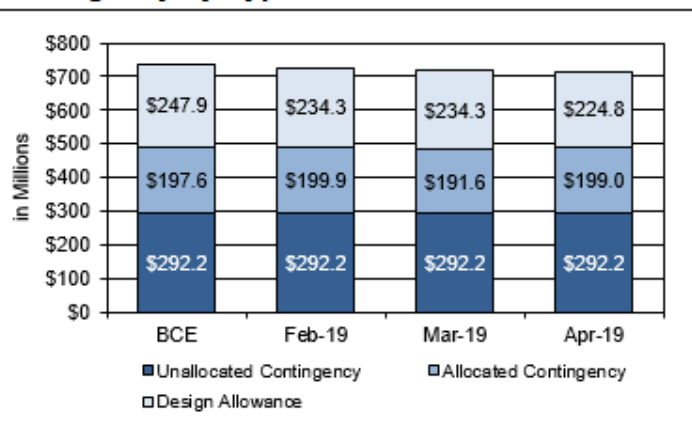
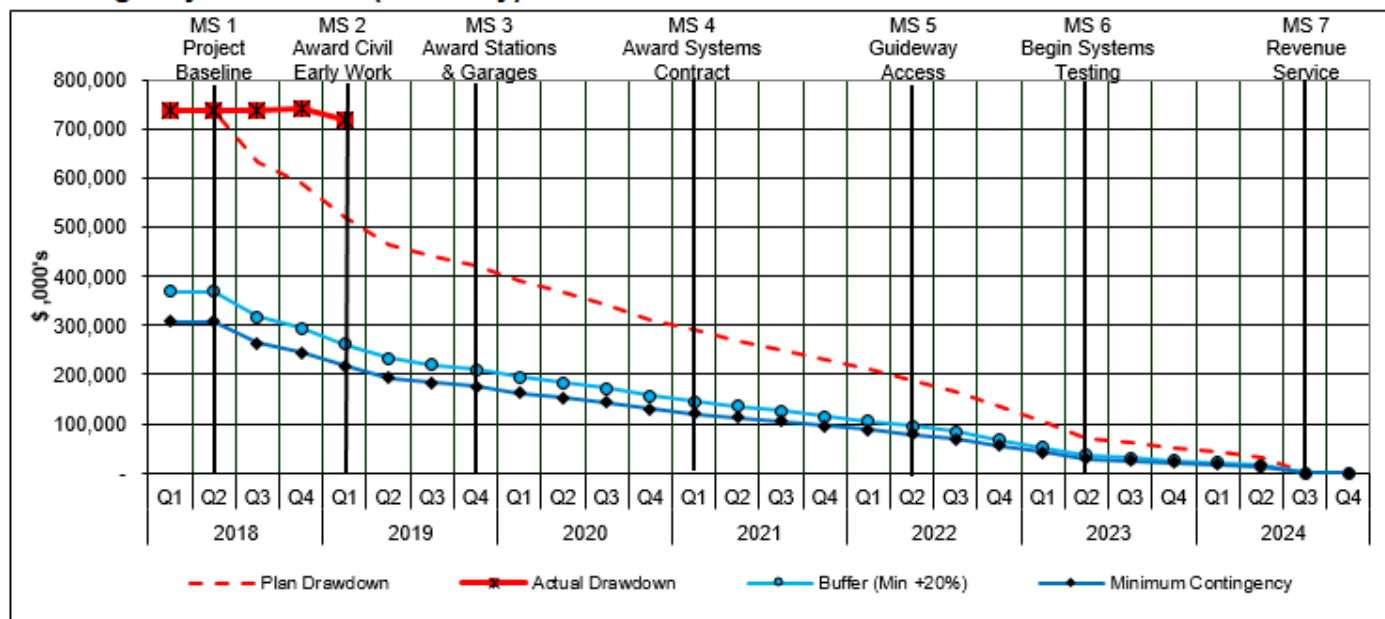


Table figures are shown in millions.

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
368	361	328	210	301	274
* 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

In April, the Lynnwood Link Community Outreach team:

- Provided updated construction content for the online open house that launched in February. To date, the online open house has had 6,370 visits and produced 552 new signups to the project e-mail list.
- Hosted two pre-construction public meetings in Mountlake Terrace on Apr. 18th and Lynnwood on Apr. 25th with approximately 230 members of the public in attendance.
- Executed a communications and outreach strategy regarding the start of tree removal that included the production of an educational video, a press release, construction alert and media briefing.
- Met with True Jesus Church board members on Apr. 11th to provide a pre-construction briefing at their request.
- Met with the Haller Lake Neighborhood Association to provide a pre-construction briefing with approximately 20 people in attendance.
- Hosted a Sound Transit volunteer event at Paramount Open Space Park in Shoreline to plant trees and remove invasive species in support of the project's early tree planting effort.

Sound Transit Board Actions

Board Action	Description	Date
R2019-36	Authorizes the CEO to execute a Development and Access Enhancements Agreement with the City of Lynnwood, granting land use approvals by the City and funding by Sound Transit for certain station area access enhancements for a total authorized agreement amount not to exceed \$2,500,000.	4/25/2019

Civil Final Design Overview

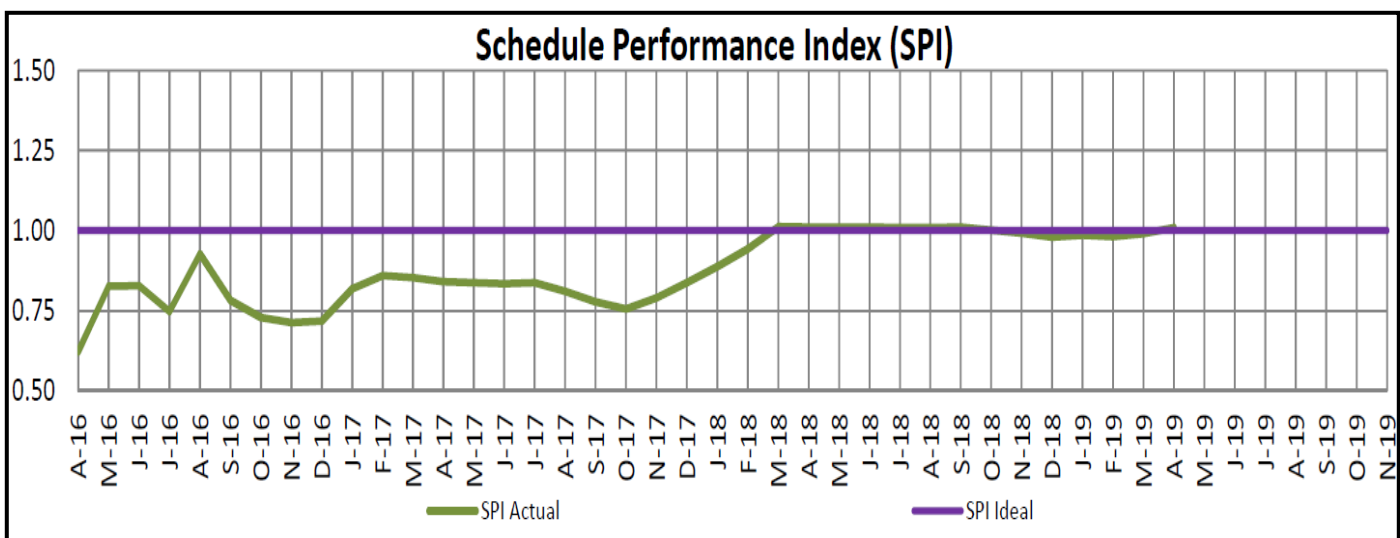
Sound Transit executed a professional services contract with HNTB Jacobs in April 2016 to perform civil final design along the entire Lynnwood Link alignment. Design services include preparation of comprehensive civil contract documents for construction, design coordination and cooperation with the GC/CM 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

- Conducted Quality Checking and Quality Audit to ensure that the upcoming May Issue for Construction (IFC) design submittal meets the level of quality Sound Transit requires from their consultants.
- Supported land use permitting, development agreements, and third parties to resolve outstanding design review comments.
- Provided Design Support during Construction (DSDC) for L200 Early Work by responding to Requests for Information (RFIs), submittals, and coordinating with utilities for all relocation needs.
- Finalized and received signed Project Development Agreement (PDA) for both L200 and L300 Early Work packages. Continued to work on PDAs for the main packages. Conducted a page-turn review of the drainage report with WSDOT.
- Continued coordination effort to reach an agreement on the Maintenance of Traffic (MOT) during construction of the I-5 cross-over bridge with WSDOT.

Schedule Performance Index

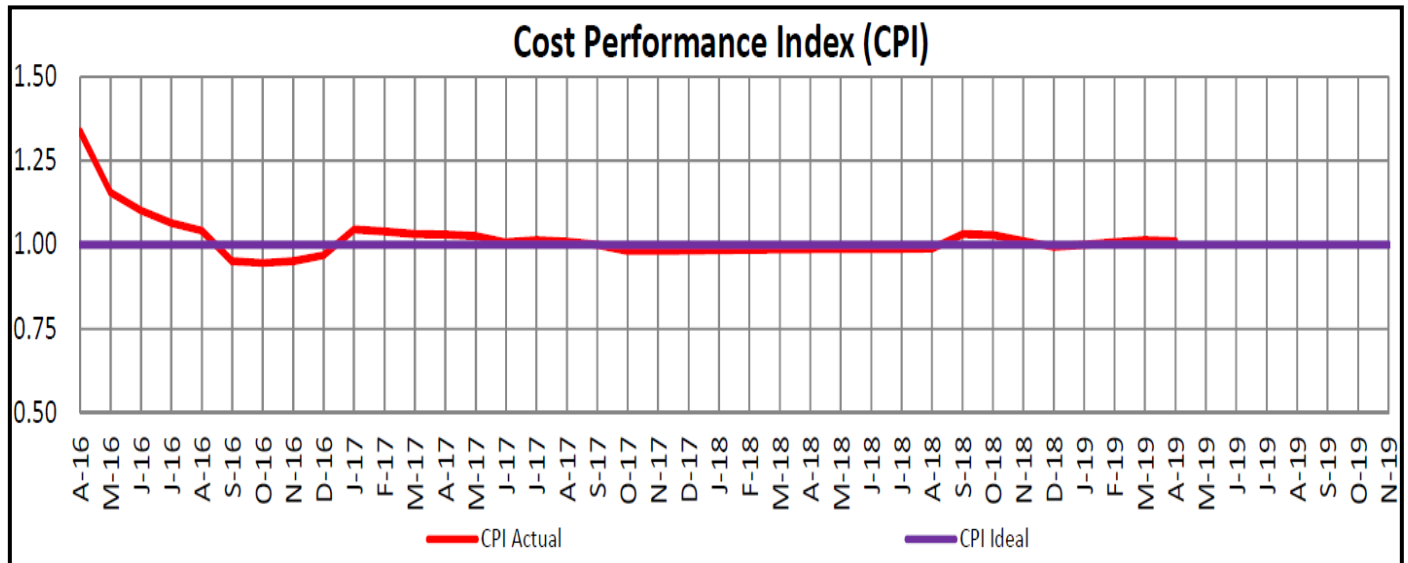
The cumulative Schedule Performance Index (SPI) trends at 0.99 through April 2019, which means that the cumulative amount of work accomplished is close to the value of work planned. As the work nears completion, the SPI will continue to be near 1.0.



Link Light Rail Lynnwood Link Extension

Cost Performance Index

\$94.0 M of the total contract amount, 93%, has been spent through April 2019. The civil final design percent complete is 94%, with an earned value of \$95.0 M. The cumulative Cost Performance Index (CPI) through April is 1.01 indicating that actual costs are close to the earned value of work performed.



Cost Summary

Contract	Cumulative To-date
Amount Invoiced	\$94.0 M
% Spent	93%
Earned Value	\$95.0 M
% Complete	94%
SPI	1.01
CPI	0.99



Lynnwood Link project staff engage with attendees at an open house meeting.

Systems Final Design Overview

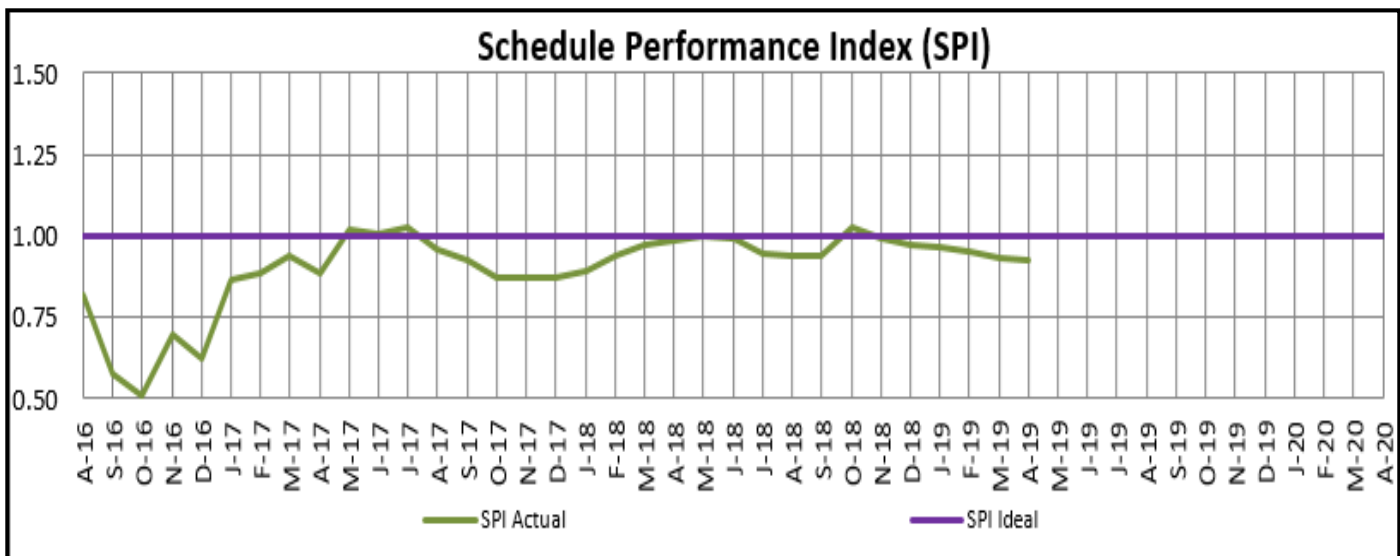
Sound Transit executed a professional services contract with LTK Engineering in July 2016 to perform systems final design along the entire Lynnwood Link alignment. Design services include preparation of comprehensive systems contract documents for construction, design coordination and cooperation with 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

- Progressed with the 90% systems design, performed quality control (QC) verification on the drawings, specifications and submitted the Systems 90% design package.
- Coordinated with the civil designer on device locations and high rail gate access control system, building management system interfaces, and use of shared conduits.

Schedule Performance Index

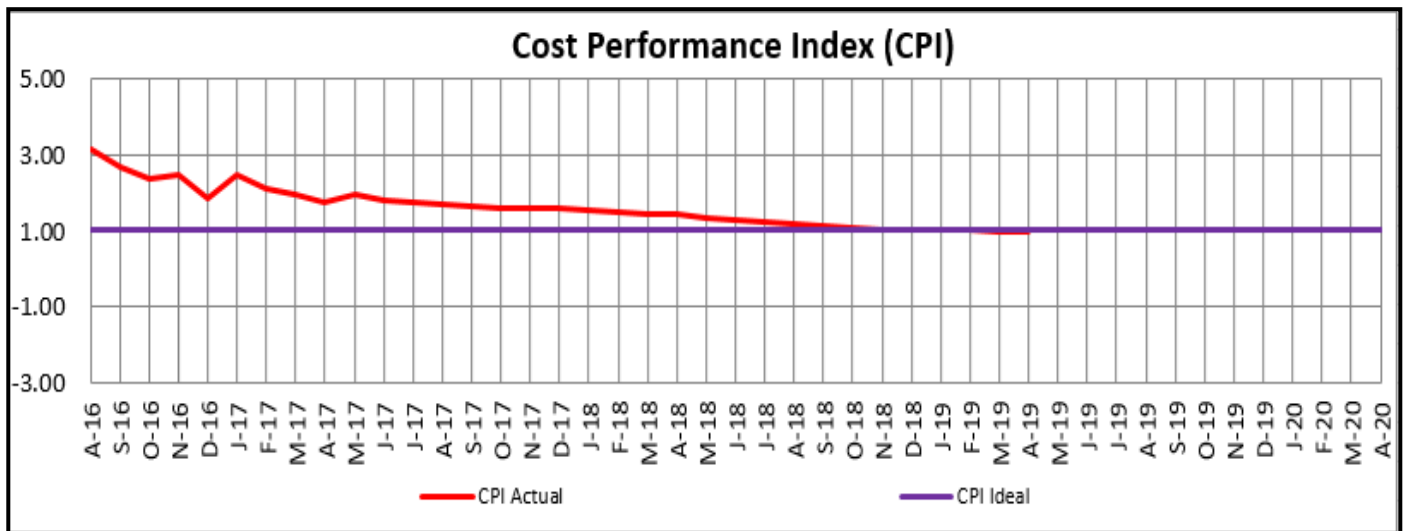
The cumulative Schedule Performance Index (SPI) trends at 0.92 through April 2019, which means that cumulative amount of work accomplished is lower than the value of work planned. The variance is due to delay in completion of civil final design work compared to the original planned schedule, impacting the schedule for the following systems design.



Link Light Rail Lynnwood Link Extension

Cost Performance Index

\$8.2M of the total contract amount, which is 88.3%, has been spent through April 2019. The systems final design percent complete is 83.9%, with an earned value of \$7.9M. The cumulative Cost Performance Index (CPI) 0.95 indicating that actual costs are slightly more than earned value of work performed.



Cost Summary

Contract	Cumulative To-date
Amount Invoiced	\$8.2M
% Spent	88.3%
Earned Value	\$7.9M
% Complete	83.9%
SPI	0.92
CPI	0.95



Outreach staff engaging with the community at the Celebrate Shoreline festival in August 2018.

Contract L200 GC/CM—Northgate to NE 200th Street

Current Progress

This period, SKH performed the following work:

- Site equipment mobilization
- Mobilize craft to begin demolition
- Site surveying checks
- Complete staging plan for site access

Schedule Summary

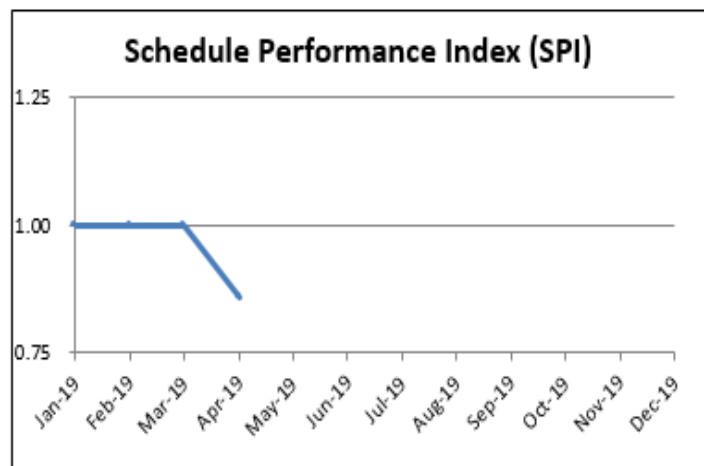
ST Staff and Construction Management Consultant completed the review of the Baseline Construction schedule and accepted it with some exceptions noted. Contractor SKH, is currently working on the first update, which is expected to take into account any delays, re-sequencing, and mitigations that have taken place since NTP.

Activity Name	Start	Finish	Total Float	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021
L200 Construction Baseline Schedule - E	08-Jan-19	25-Nov-20	781										
Milestones	08-Jan-19	07-Jan-20	1										
Right-of-Way	08-Jan-19	01-Oct-19	1148										
Temporary Construction Easement	08-Jan-19	01-Oct-19	1130										
Wetland Impact	26-Apr-19	26-Nov-20	667										
Permits & Agreements	08-Jan-19	30-Apr-19	218										
Submittals	08-Jan-19	08-Sep-19	181										
Procurement	08-Jan-19	20-Sep-19	128										
Mobilization	08-Jan-19	10-Oct-19	111										
Maintenance of Traffic	09-Apr-19	28-Jun-19	40										
Potholing & Utility Locate	12-Apr-19	25-Jun-19	80										
TESC & Site Water Discharge	09-Apr-19	10-Feb-20	638										
Geotechnical	24-May-19	06-Jan-20	120										
Civil	28-Feb-19	15-Apr-20	604										
Track Work	05-Sep-19	08-Dec-19	360										
Punchlist & Commissioning	16-Mar-20	24-Apr-20	783										
Schedule of Values	08-Jan-19	07-Apr-20	1383										

Schedule Performance Index

This period the cumulative SPI is at 0.86 which means that cumulative amount of work accomplished is lower than the value of work planned.

The variance is due to delay in receiving master permits in Shoreline. No work can be done within the city without these permits. Forecast of issuance is May 22.



Link Light Rail Lynnwood Link Extension

Next Period Activities

- Begin tree removal in Seattle
- Begin utility work, received materials.
- Bird surveying.
- Approve abatement plans.

Closely Monitored Issues:

- City of Shoreline– Master Use Permit delayed issuance. Contractor cannot do work within city limits without permit.

Cost Summary

Financial Status	Amount
L200 Contractor - Stacy & Witbeck– Kiewit– Hoffman JV (SKH)	
Original Contract Value	\$ 88,147,258
Change Order Value	\$ 500,000
Current Contract Value	\$ 88,647,258
Total Actual Cost (Incurred to Date)	\$ 15,954,230
Financial Percent Complete	18.0%
Authorized Contingency	\$ 6,170,342
Contingency Drawdown	\$ 500,000
Contingency Index	2.2



Contract L300 GC/CM—NE 200th Street to Lynnwood Transit Center**Current Progress**

The ST Board approved the L300 construction contract with Skanska Constructors for early work scope in February 2019. In this period Skanska performed the following work:

- Notice-to-Proceed issued Apr. 12th.
- Began mobilization and fulfilling insurance/bonding requirements.
- Started development of contract baseline schedule.
- Initiated contract submittal requirements to begin physical work (safety, environmental, etc.)

Schedule Summary

Skanska is currently developing the contract baseline schedule.

Next Period Activities

- Continue construction work plan and other submittals.
- Establish site survey control.

Closely Monitored Issues:

- Awaiting land use approval and issuance of permits.

Cost Summary

Financial Status	Amount
L300 Contractor - Skanska Constructors	
Original Contract Value	\$ 56,886,631
Change Order Value	\$ 0
Current Contract Value	\$ 56,886,631
Total Actual Cost (Incurred to Date)	\$ 0
Financial Percent Complete	0.0%
Authorized Contingency	\$ 3,982,064
Contingency Drawdown	\$ 0
Contingency Index	0.0

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: 1st QTR 2019

Major Contracts

	Scope	Agreement/Contract Amount
WSDOT	Final Design	\$ 20,942,000
WSDOT	CM Services	\$ 39,188,449
IMCO	Construction	\$131,515,559
City of Mercer Isl.	Transportation Mitigation	\$10,050,000

Key Project Activities

- **Work Outside the Tunnels** – Advance project closeout and as-built plans review.
- **Mercer Island Tunnel** – Work to complete punch list items.
- **Mount Baker Ridge Tunnel** – Progressed resolution of Fire/Life Safety systems punch list items.
- **SCADA** – Ongoing WSDOT final reviews of systems integration.
- **Simplex** – Continue punch list items & resolution of remaining programming issues.

Closely Monitored Issues

While the center roadway turnover to Sound Transit was completed on schedule, Substantial Completion continues to slip; granting of Substantial Completion is anticipated for 2nd Quarter 2019, due to the following:

- Challenges continue with final commissioning of the Fire/Life/Safety Systems, including incomplete Building Information Modeling (BIM) As-Built data and incomplete or missing Operations & Maintenance manuals; and
- Unresolved issues with multiple punch list items.

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. Project expenditures for April were \$620.3K. 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	\$18.2	\$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	\$182.7	\$170.6	\$198.3	\$0.0
Total	\$225.6	\$225.6	\$205.3	\$192.6	\$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	\$182.7	\$170.6	\$190.7	\$0.0
80 Professional Services	\$26.3	\$26.3	\$22.6	\$22.0	\$26.3	\$0.0
90 Unallocated Contingency	\$18.7	\$8.7	\$0.0	\$0.0	\$8.7	\$0.0
Total	\$225.6	\$225.6	\$205.3	\$192.6	\$225.6	\$0.0

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

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 increase to the Current Contingency Amount from the last period is due to WSDOT reducing pending change order risk based on settlement negotiations. This results in a net 2.8% increase from last month to the overall Current Contingency % when compared to the remaining work budgeted.

Contingency Status	Baseline Amount	Baseline % of Total	Current Amount	CTG as % of Remaining
Design Allowance	\$0.0	0.0%	\$0.0	0.0%
Committed Allocated Contingency	\$17.0	7.5%	\$2.4	7.5%
Unallocated Contingency	\$18.7	8.3%	\$8.7	26.7%
Total	\$35.7	15.8%	\$11.1	34.1%

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 continue to push out the Substantial and Physical Completion dates; resolution is anticipated for 2nd QTR 2019.

Contract	Fire/Life Safety Systems Commissioning		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	Q2/2019	2/20/2017	Q2/2019	5/31/2017	6/14/2017 A	5/31/2017	Q2/2019

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



Crews verifying data connections for F/L/S System interface, Mt. Baker Tunnel plenum

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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 (OVS) and Redmond Technology Center (RTS).

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):** Modifications for cathodic protection & seismic retrofit of approach structures continue; direct fixation track installation progresses; begin placement & installation of modular track bridges.
- **Mercer Island (E130):** Continue electrical & structural modifications at Mercer Island Tunnel; progress interior and exterior finishes & utility construction at Mercer Island Station; ongoing East Channel Bridge direct fixation track installation.
- **IDS to Mt. Baker Tunnel (E130):** Early works on track tie in begins in the International District Station; continued electrical & structural modifications in the Mt. Baker Tunnel; progress on Judkins Park Station structures & utilities construction.

South Bellevue to Redmond

- **South Bellevue (E320):** Continue long span across I-90. Continued aerial guideway decking and installing mechanical, electrical and plumbing elements in the garage, progressing up to level 4 on the north side of garage.
- **Downtown Bellevue Tunnel (E330):** Completed waterproofing at South Portal cut and cover walls. Continued installation of invert rebar, conduits and drainage pipe at of South portal. Continued waterproofing work in the tunnel.
- **Downtown Bellevue to Spring District (E335):** Commenced post tensioning work the long span over I-405. Continued concrete placement for lid slabs at North Portal. Removed shoring tower for NP roof lid. Continued excavation remaining east portion of the trench. Poured the bottom slab at 120th to 124th Open –Cut Trench.
- **Bel-Red (E340):** Continued placing end diaphragms, forming bridge deck and bridge deck rebar at the aerial guideway. Placed storm drains and grade at 130th Station area. Placed ductbank on NE Spring Blvd, east of 136th PI NE.
- **SR520 to Redmond Technology Station (E360):** Design -100% Landscape and Restoration packages. Construction - Guardrail installation began, Overlake Village Station slab on grade placement, continued wall 14 & 15 fascia panel erection Redmond Technology Station, and continued construction of ramp footings for OVS Pedestrian Bridge
- **Systems (E750):** Continued with submittals, components, product design, and Coordinated Installation Plan discussions.

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, quality, 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) remains the same at approximately \$3.68B. This period's expenditure is at \$51.2M, pushes the total expenditure to date from \$1.79B to \$1.84B. Project commitments is over \$3B with all major construction contracts in place and construction is on-going throughout the alignment. This period's continues to under perform due to a combination of rescheduling of work plan and construction challenges. It is anticipate to be made up throughout the current year.

Cost Summary by Phase

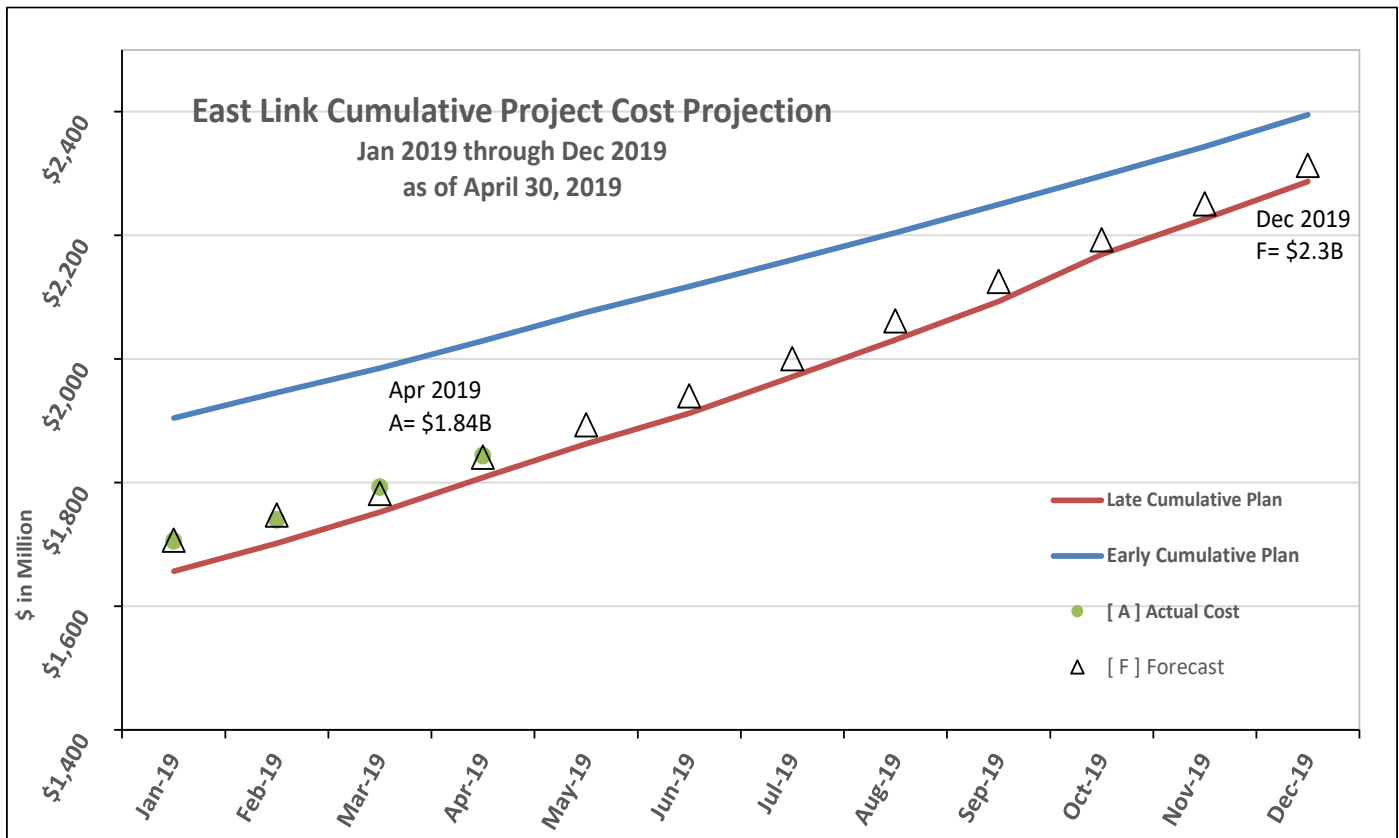
Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$186.2	\$186.2	\$80.7	\$80.7	\$186.2	\$0.0
Preliminary Engineering	\$55.9	\$55.9	\$54.8	\$54.8	\$55.9	\$0.0
Final Design	\$283.0	\$283.0	\$245.5	\$215.9	\$283.0	\$0.0
Construction Services	\$257.5	\$257.5	\$196.7	\$90.9	\$257.5	\$0.0
3rd Party Agreements	\$52.2	\$52.2	\$38.5	\$24.1	\$52.2	\$0.0
Construction	\$2,544.3	\$2,544.3	\$2,161.9	\$1,109.1	\$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	\$269.6	\$268.4	\$298.2	\$0.0
Total	\$3,677.2	\$3,677.2	\$3,047.8	\$1,844.0	\$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	\$892.7	\$536.2	\$957.6	(\$213.0)
20 Stations	\$397.7	\$474.2	\$436.2	\$181.7	\$469.8	(\$72.1)
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$808.5	\$568.3	\$462.6	\$292.3	\$602.4	\$206.1
50 Systems	\$353.8	\$367.9	\$347.5	\$84.3	\$330.2	\$23.6
Construction Subtotal (10 - 50)	\$2,304.6	\$2,360.1	\$2,139.0	\$1,094.5	\$2,360.0	(\$55.4)
60 Row, Land	\$288.5	\$288.5	\$269.6	\$268.4	\$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	\$639.2	\$481.0	\$889.3	\$9.1
90 Unallocated Contingency	\$182.9	\$136.6	\$0.0	\$0.0	\$136.6	\$46.2
Total (10 - 90)	\$3,677.2	\$3,677.2	\$3,047.8	\$1,844.0	\$3,677.1	\$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 \$51.2M where Construction Phase is responsible for about 90% or approximately \$46M of April's expenditure. Total project cost incurred to date topped \$1.84B, to which over \$1,063M was recorded in the Construction Phase. The project expenditures continue to pick up and is predicted to rise to approximately \$2.3B by December 2019, taking into consideration weather inclement in earlier in the year and construction challenges.



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 4th QTR 2018 risks updates have been completed. The Risk Mitigation Milestone #4(completion of SEM Tunneling) report is completed and given the current risk profile in the project, there are sufficient schedule and budget in the project to complete in accordance to baseline. The 1st QTR 2019 risk update is are being finalized. 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 this period, all major construction contracts have been procured, the total contingency balance stands at \$408.6M (previously \$410.3M). 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 \$1.7K bring the AC to \$268.3M. The contingency draw in this period is primarily driven by aggregation of construction change orders in the project, primarily the construction contracts.

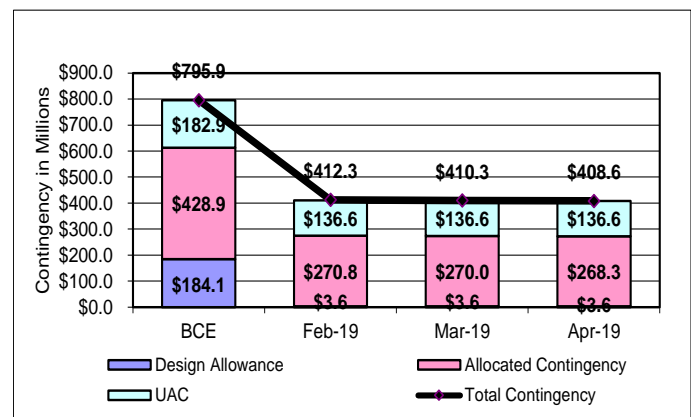
Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. The UAC balance remains unchanged at \$136.6M.

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%	\$268.3	14.6%
Unallocated Contingency	\$182.9	5.0%	\$136.6	7.5%
Total	\$795.9	21.6%	\$408.6	22.3%

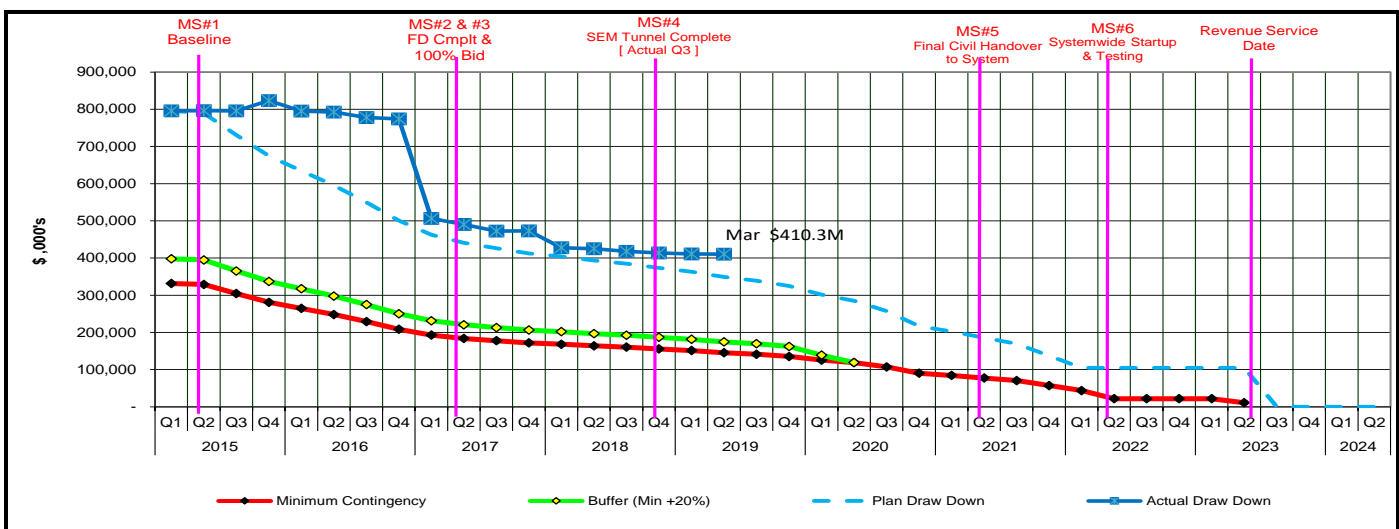
Table figures are shown in millions.

Contingency by Type



Contingency Drawdown

At the end of the 1st QTR 2019, East Link Project's total contingency drawdown plan is trending within plan with an overall balance was approximately \$410.3M and with all major construction contracts procured, remains above the baseline draw down projection and well above both the minimum contingency and the buffered (minimum plus 20%) contingency levels. The contingencies at the end of March represented a quarterly draw of about \$800K. The next update will be end of 2nd QTR 2019.



Contingency Drawdown as of March 31, 2019

Link Light Rail East Link Extension



Project Schedule

The Integrated Master Schedule is presented below.

E130 continued placing track on the East Channel Bridge; work continues at both stations; the first of the track bridges were delivered to the site and will be installed in May.

E320 remobilized the traveler crane to begin the second long-span segment over I-90; continued excavation and trackslab prep; continued fill and grade at 112th undercrossing; finished erecting structural steel at the station and continued pouring concrete for vertical elements at the station and garage.

E330 continued surface prep for crown waterproofing, including grinding, patching, and dowel installation.

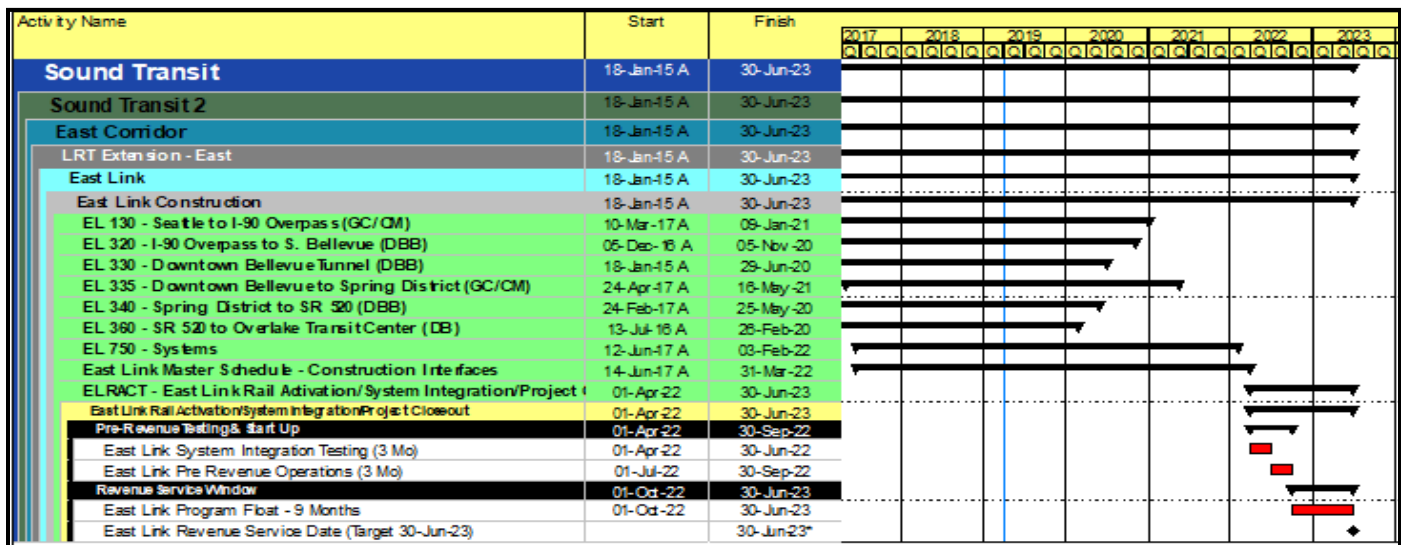
E335 continued concrete pour for lid over north portal; commenced post-tensioning for long span over I-405; poured bottom slab for 120th trench.

E340 continued placed systems duct bank and storm drains on Spring Blvd; placed duct bank and formed platform canopy wall at 130th Station; and continued placing bridge deck rebar for the aerial guideway.

E360 continued superstructure work for aerial guideway; continued RTS garage with level 4 columns and deck/beams and MEP rough-ins on levels 3 and 4; continued ramp foundation substructure for OVS pedestrian bridge paperclip.

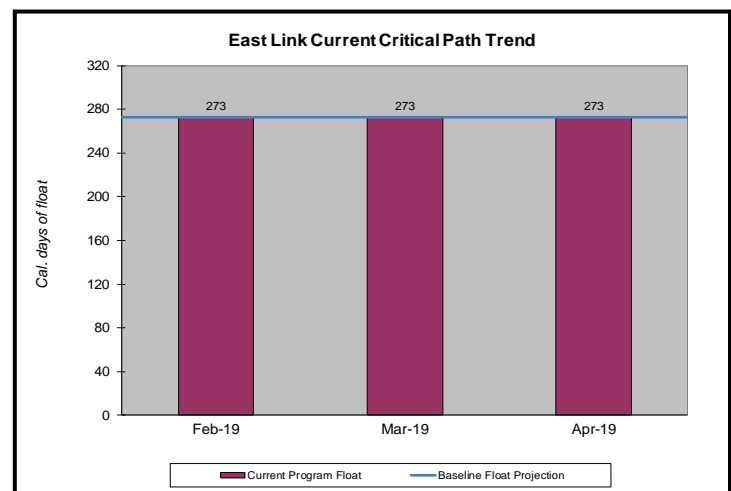
E750 Systems contractor continued procuring equipment and began mobilizing for construction, which will begin with the eastern segment of E130 in Summer of 2019.

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



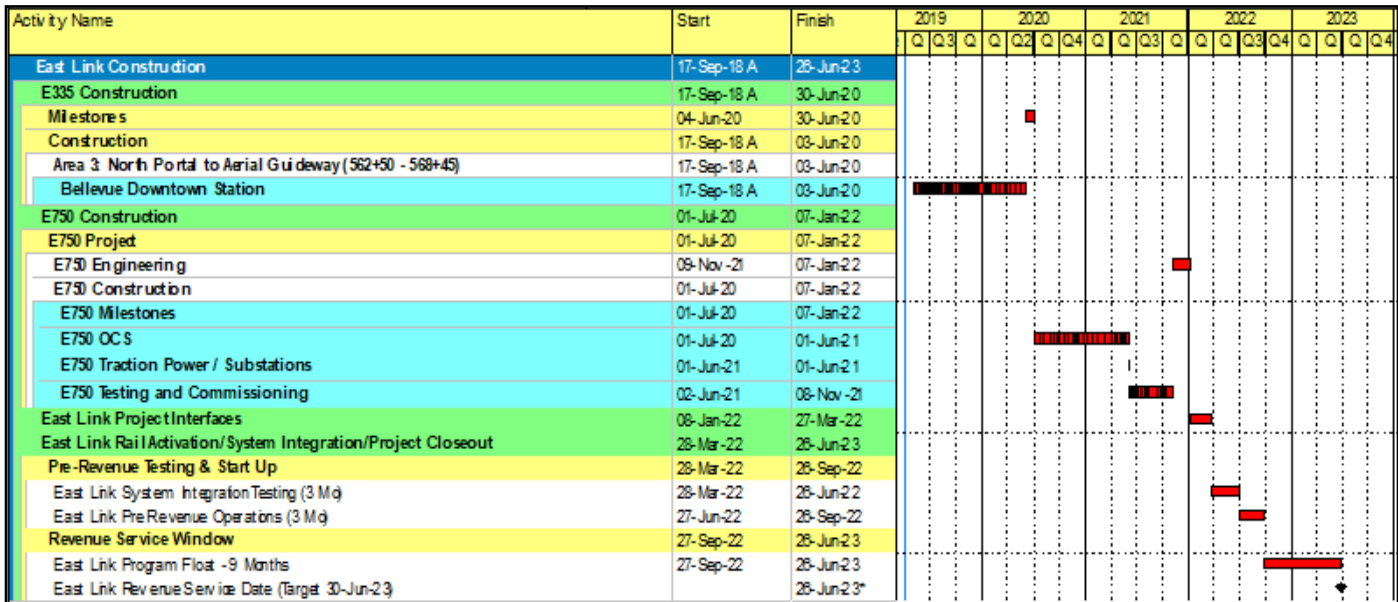
Project Float

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



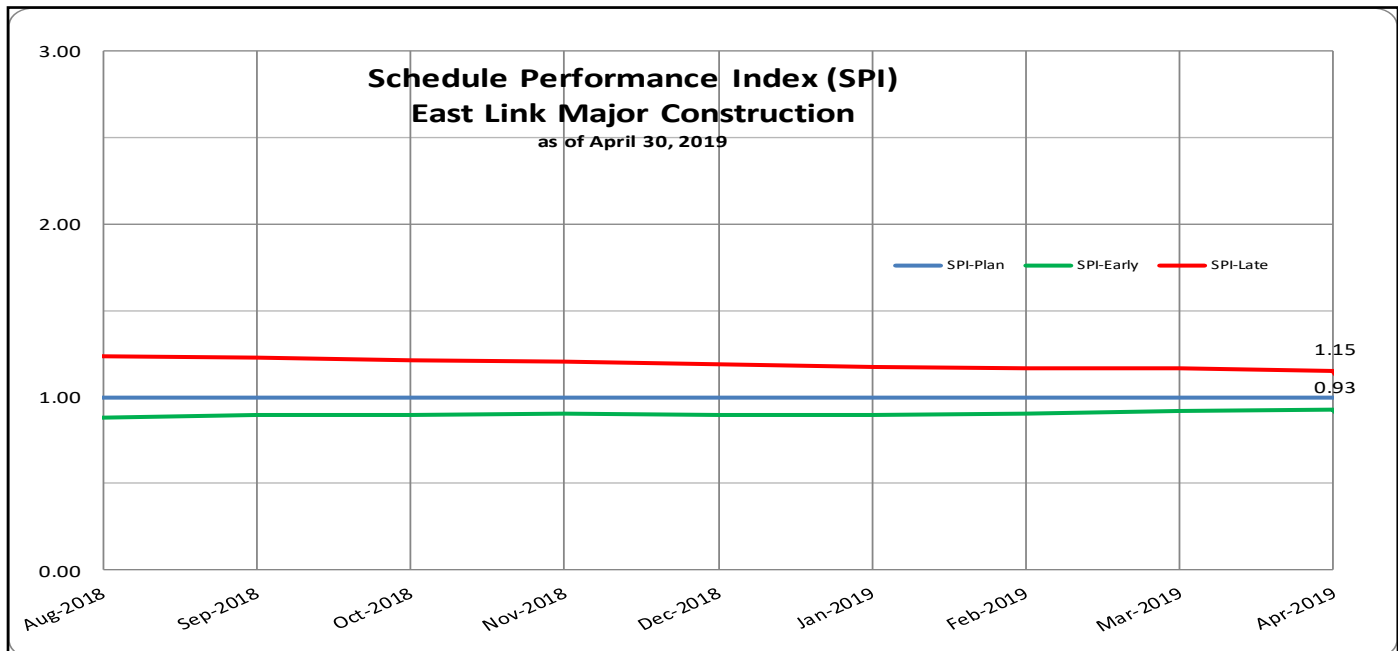
Critical Path Analysis

The East Link Critical path is currently driven by the forecasted delay to E335 Milestone 3. Critical work goes through Bellevue Downtown Station and into the E750 OCS and TPSS work. It is anticipated that this delay will be mitigated and the critical path will likely revert to the final handovers of E130 and E335 in early 2021.



Schedule Performance Index

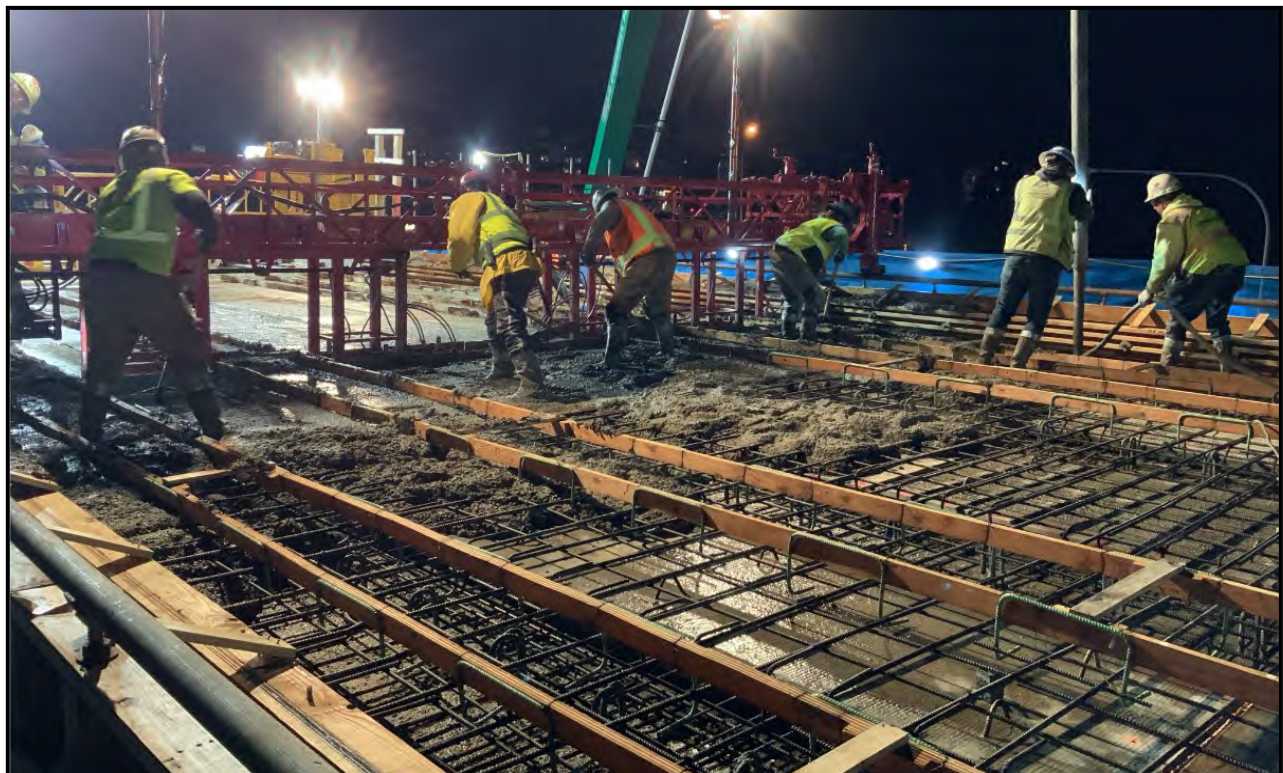
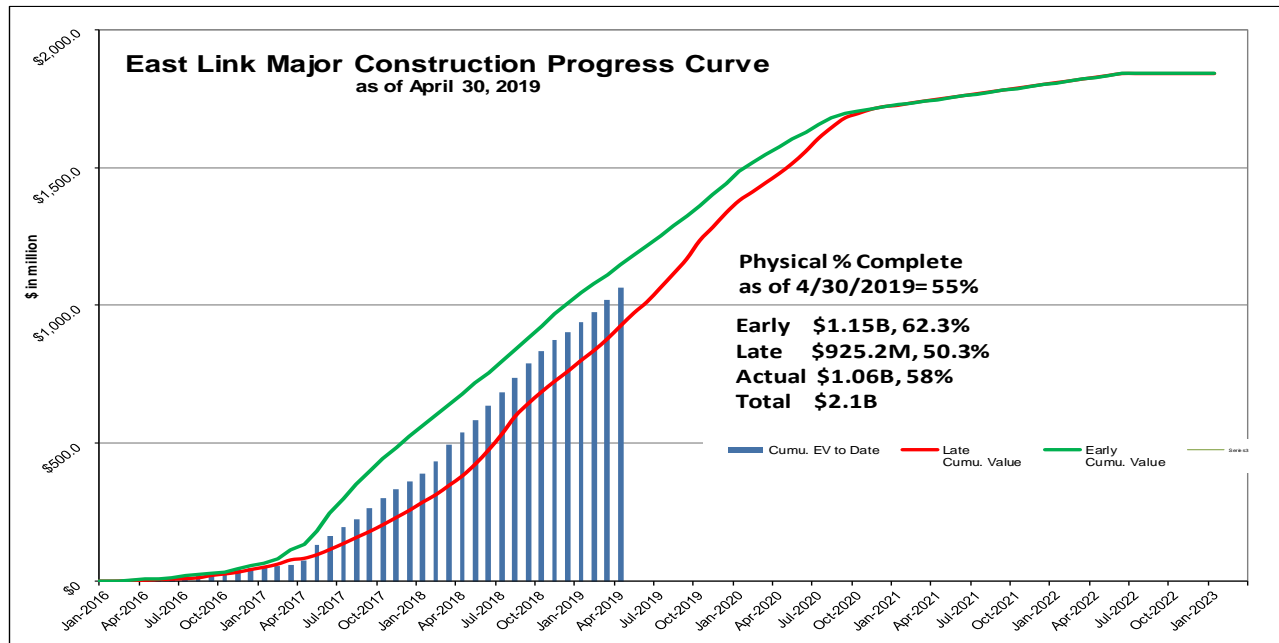
The early Schedule Performance Index (SPI) for East Link's Major Construction Packages has increased to 0.93 for this period, which indicates continued steady performance. The late SPI is at 1.15 showing that in general, performance is satisfactory.



Link Light Rail East Link Extension

Project Cash Flow Projection

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 April, performance continues to trend appropriately between the early/late projection as drawn from the master schedule. The overall physical percent complete for East Link construction is 55%.



E360 SR520 to Redmond Technology Station: Concrete placement on aerial guideway.

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
239	246	234	226	227	226
* 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.
- Engaged identified Mercer Island property owners impacted by the construction of a Bus/Rail Interchange resultant of the settlement agreement between the City of Mercer Island and Sound Transit for the East Link Extension.
- Continued major outreach for the Connect 2020 early works in the International District Station.



E335 Downtown Bellevue to Spring District: Bridge spanning over Highway I-405 along NE 6th Street on April 30, 2019

Sound Transit Board Actions

Board Action	Description	Date
R2019-12	Authorizes the CEO to acquire certain real property interest identified as necessary for the construction of a roundabout for a Bus/Rail Interchange as referenced in the settlement agreement between the City of Mercer Island and Sound Transit for the East Link Extension	4/25/2019

Construction Safety

Data/ Measure	April 2019	Year to Date	Project to Date
Recordable Injury/Illness Cases	5	13	52
Days Away From Work Cases	0	2	9
Total Days Away From Work	60	165	549
First Aid Cases	13	34	155
Reported Near Mishaps	2	12	202
Average Number of Employees on Worksite	1,286	-	-
Total # of Hours (GC & Subs)	222,408	669,669	3,139,851
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	4.50	3.88	3.31
LTI Rate	0.00	0.60	0.57
Recordable National Average	3.10	3.10	3.10
LTI National Average	1.20	1.20	1.20
Recordable WA State Average	5.70	5.70	5.70
LTI WA State Average	2.30	2.30	2.30

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.

Note2: Pass reports included OMF East construction safety's statistics. From this current month forward, OMF East's statis-

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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 Station – 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).



E330 Downtown Bellevue to Spring District : Rebar work and Conduits on the tunnel floors.

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

Current Progress

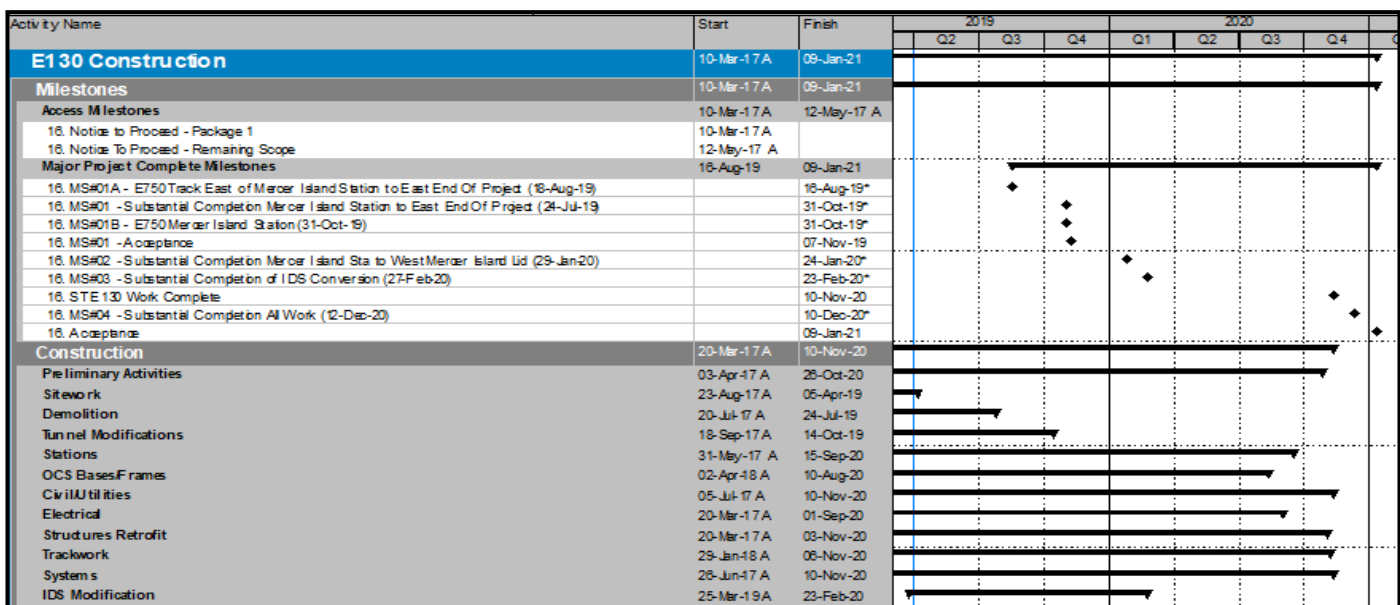
West Segment: Saw cutting and preliminary demo work for track alignment begins in the International District Station vicinity; continued electrical and structural modifications in the Mt. Baker Tunnel; progress on Judkins Park Station structures and utilities construction.

Center Segment: Modifications for cathodic protection and seismic retrofit of approach structures continue; direct fixation track installation progresses; begin placement and installation of modular track bridges.

East Segment: Continue electrical and structural modifications at Mercer Island Tunnel; progress interior, exterior finishes and utility construction at Mercer Island Station; ongoing East Channel Bridge direct fixation track installation.

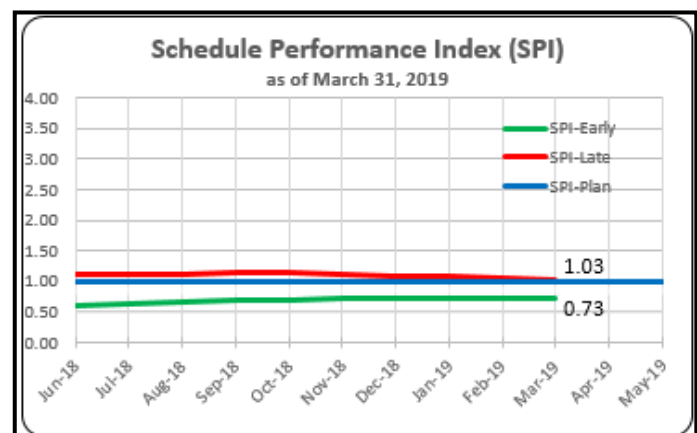
Schedule Summary

The critical path for this project currently runs through OCS foundations; however, ST believes that this is due to inefficient sequencing which does not align with how the job will be constructed; it is expected that the critical path will return to Judkins Park Station next month. The March update is shown below. The contractor, working with ST and the E750 Systems Contractor, has revised their plan for the handover of Mercer Island Station and the East Channel Bridge later this year. No impact to the overall schedule is anticipated. A current schedule update will be available on next months report..



Schedule Performance Index

This period, there is no update for the SPI as the contractor's April progress payment package has not yet been submitted; current figures are from the previous month. The contractor's March progress payment package was resubmitted, and is currently under review.



Link Light Rail East Link Extension

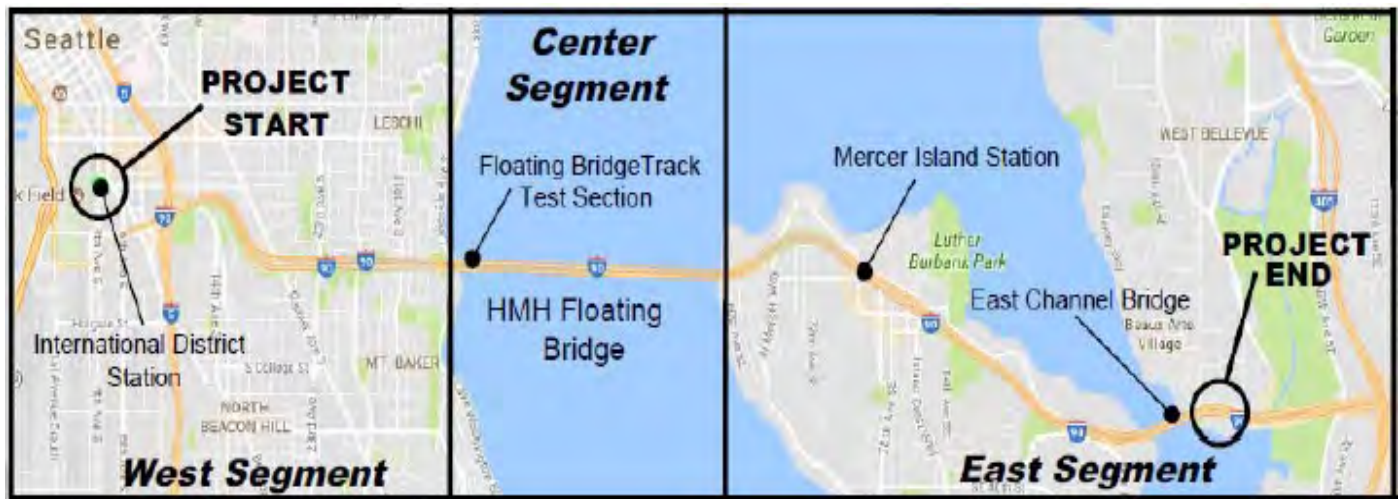
Next Period's Activities

- **West Segment:** Continue electrical and structure retrofits, Judkins Park Station construction and International District Station cutover work.
- **Center Segment:** Progress on cathodic protection, approach structures retrofits; ongoing production installation of direct rail attachment and track bridges.
- **East Segment:** Ongoing electrical and structures retrofits at MI Tunnel, E. Channel Bridge; continue elevator installation, platform construction at MI Station; progress installation of ballasted & direct fixation track.

Closely Monitored Issues

- Extent of variations in the actual deck thickness on the East Channel Bridge and potential ramifications.
- Timeliness of utility service connections on Mercer Island regarding Milestone 1 and E750 interface.
- Contractor recovery plan to achieve Milestone 1.
- Third party coordination of rail tie-in activities at the International District Station.

E130 Construction Features



Cost Summary

Present Financial Status	Amount
E130 Contractor - Kiewit-Hoffman	
Original Contract Value (incl. Phase 2 MACC)	\$665,000,000
Change Order Value	\$21,262,417
Current Contract Value	\$685,307,417
Total Actual Cost (Incurred to Date)	\$358,287,038
Percent Complete	49.04%
Authorized Contingency	\$46,660,541
Contingency Drawdown	\$21,262,417
Contingency Index	1.1

Contract Value excludes Betterment



Preparation for installation of Pier 9 track bridge

Contract E320 – South Bellevue

Current Progress

I-90 Flyover: Remobilize the Traveler system at the next long span of work to be completed over I-90. Continued pouring top deck spans.

Bellevue Way SE: Form/rebar/pour (FRP) deck and curb spans and continue excavation for drainage vault at Winters House. Continue to FRP track slab.

S. Bellevue Sta./P&R: Finish erecting structural steel below platform and installing mechanical, electrical and plumbing (MEP) at station. Pour elevator pit and walls for elevator 2 in station. Continue pouring vertical elements and decks in parking garage.

Wye-to-East Main: Continue fill and grade of west side embankments of 112th undercrossing and FRP east wall; Start light foam concrete backfill at undercrossing.

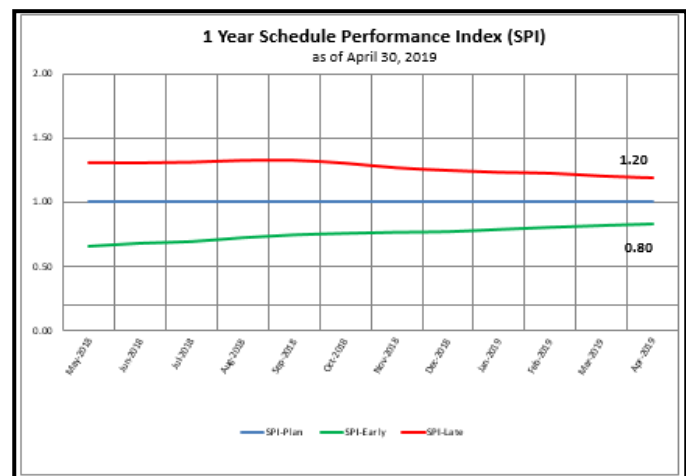
Schedule Summary

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.

me	Start	Finish	2019			2020		
			Q2	Q3	Q4	Q1	Q2	Q3
Construction	06-Dec-18 A	04-Nov-20						
tones and Summary	06-Dec-18 A	04-Nov-20						
act Milestones	06-Dec-18 A	04-Nov-20						
Notice to Proceed	06-Dec-18 A							
Start to Proceed	13-Feb-17 A							
one3A - Clear & Grub Swaylooken (Start of "Wetland Fill" Work-365D)		21-Dec-18 A						
one1 - (Alternate) Phase B2.1 Not Used		13-May-19	◆					
one3B - Clear & Grub Coal Creek		13-Aug-19*		◆				
one4 - SIFT & SCADA Complete (NTP+1160D)		31-Jan-20*				◆		
one5 - Acceptance of South Bellevue Station (NTP+1215D)		10-Jun-20*					◆	
one2 - Final Restoration of Bellevue Way (Start-897D)		11-Aug-20						◆
one6 - Required Substantial Completion (NTP+1340D)		04-Nov-20*						◆
Construction-1	21-Apr-17 A	23-Oct-20						
ization								
- I-90 Mainline to Bellevue Interchange - Sta EB405+54 to EB438+20	21-Apr-17 A	16-Jul-18 A						
- Bellevue Way SE, SE 30th St to 112th Ave SE Wye - Sta EB438+20 to EB476+75	16-Jun-17 A	30-Jul-20						
- 112th Ave SE, 112th Ave SE Wye to SE 8th - Sta EB476+75 to EB508+00	30-May-17 A	23-Oct-20						
- 112th Ave SE to SE 8th St to Main St - Sta 508+00 to EB528+25	13-Jun-17 A	13-Oct-20						
- Coal Creek Stream Enhancement	22-May-17 A	02-Oct-20						
- Swaylooken Mitigation	09-Jul-18 A	13-Aug-19						
	23-Apr-18 A	21-Dec-18 A						

Schedule Performance Index

The SPI early and late remain at 0.8 and 1.2 respectively. Confidence levels in the schedule have greatly increased over the last two months, based on timely and compliant CPM schedules. The only re-sequencing going on right now is for the station which has been an improvement in the contractor's schedule. Currently, the 112th undercrossing is critical path, as the excavation has taken much longer than anticipated.



Link Light Rail East Link Extension

Next Period's Activities

I-90 Flyover: Finish restoration of HOV ramp for upcoming opening; Continue main span work over I-90.

Bellevue Way SE: Continue pouring girder stops and end diaphragms; Continue pouring track slab and installing underdrains.

S. Bellevue Sta./P&R: Continue construction of North side of the parking garage and adding mechanical, electrical and plumbing elements.

Wye-to-East Main: Continue pouring east wall of embankment. Erect undercrossing lid falsework and install temp ventilation system.

Closely Monitored Issues

- Working adjacent to wetland areas, environmental compliance concerns.
- Refinement to the three-lane reversible MOT on Bellevue Way SE.



Cost Summary

Present Financial Status	Amount*
E320 Contractor - Shimmick/Parsons JV.	
Original Contract Value	\$319,859,000
Change Order Value	\$1,800,980
Current Contract Value	\$321,659,980
Total Actual Cost (Incurred to Date)	\$187,751,062
Percent Complete	56.24%
Authorized Contingency	\$38,532,000
Contingency Drawdown	\$1,800,980
Contingency Index	11.6

* \$ Amount excludes betterments and STArt.



Progress on the station platform—placing structural steel.

Contract E330 – Downtown Bellevue Tunnel

Current Progress

Tunnel Crown: Continued preparing the tunnel crown and wall surfaces for spray applied waterproofing by grinding, patching and repair. Continued installing reinforcing support dowels in the crown.

South Portal: Completed installing waterproofing at South Portal cut, cover walls and started repairing waterproofing on exterior wall. Continued installation of invert rebar, conduits and drainage pipe at South portal. Commenced assemble reinforcement gantry for reinforcement of the crown.

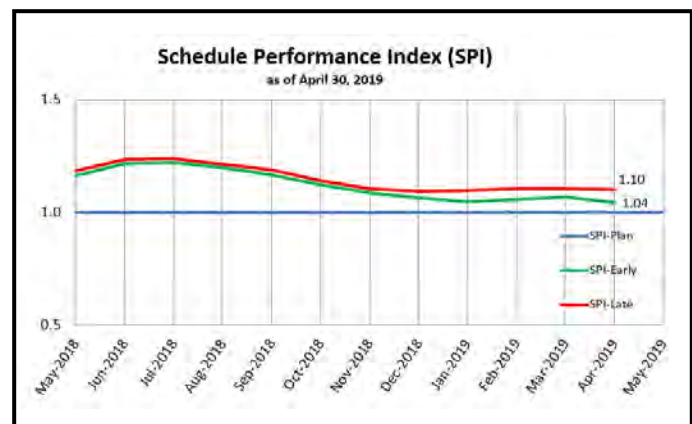
Schedule Summary

The critical path for this contract follows the final tunnel lining and the completion of the South Portal structure. The contractor is forecast to achieve Substantial Completion in time to meet their contractual requirements.

Activity Name	Start	Finish	2019					2020
			Q2	Q3	Q4	Q1	Q2	
E330 Construction	15-Dec-15 A	01-Jun-20						
CONSTRUCTION	15-Dec-15 A	01-Jun-20						
MILESTONES/CONSTRUCTION EASEMENTS	15-Dec-15 A	01-Jun-20						
MILESTONES	15-Dec-15 A	01-Jun-20						
CALCULATED MILESTONES	15-Dec-15 A	01-Jun-20						
L-NTP	15-Dec-15 A							
NTP	08-Feb-16 A							
MLST1 - Acceptance of the 110th Ave Controlled Low Strength Material Work		14-Oct-16 A						
MLST2 - Acceptance of CO #006 Work		14-Oct-16 A						
MLST3 - Substantial Completion of all Work from Station EB 542+64.52 to Station EB 562+47.91		03-Feb-20						
MLST4 - Substantial Completion Total Contract		01-Jun-20						
MOBILIZATION	08-Feb-16 A	05-Jul-18						
SITWORK	29-Feb-16 A	01-Jun-20						
PRECONSTRUCTION	21-Mar-16 A	10-Feb-20						
TRAFFIC CONTROL	25-Mar-16 A	21-Aug-19						
SURVEY & MONITORING	29-Feb-16 A	03-May-18 A						
NORTH PORTAL AREA	13-Jun-16 A	14-Oct-16 A						
CAST IRON PIPE REPLACEMENT	08-Feb-17 A	08-Apr-17 A						
SOUTH PORTAL AREA	29-Feb-16 A	01-Jun-20						
SKYLINE BUILDING RETROFIT	17-Jan-17 A	18-Oct-17 A						
TUNNELING	01-Feb-17 A	09-Jan-20						
EXCAVATION	01-Feb-17 A	20-Jul-18 A						
FINAL TUNNEL LINING	20-Jul-18 A	15-Oct-19						
FINAL TUNNEL FINISHES	09-Oct-19	09-Jan-20						
MD TUNNEL	08-Mar-18 A	27-Aug-19						
DEMOBE	13-Mar-17 A	19-May-20						

Schedule Performance Index

In April, the SPI early is at 1.04 and the SPI late is at 1.10. The SPI curves are leveling off the earlier gains achieved during tunneling and are still ahead of planned performance. Production curves decline as tunnel surface preparation took longer than expected and the steep learning curve associated with installation of the spray applied waterproofing.



Link Light Rail East Link Extension

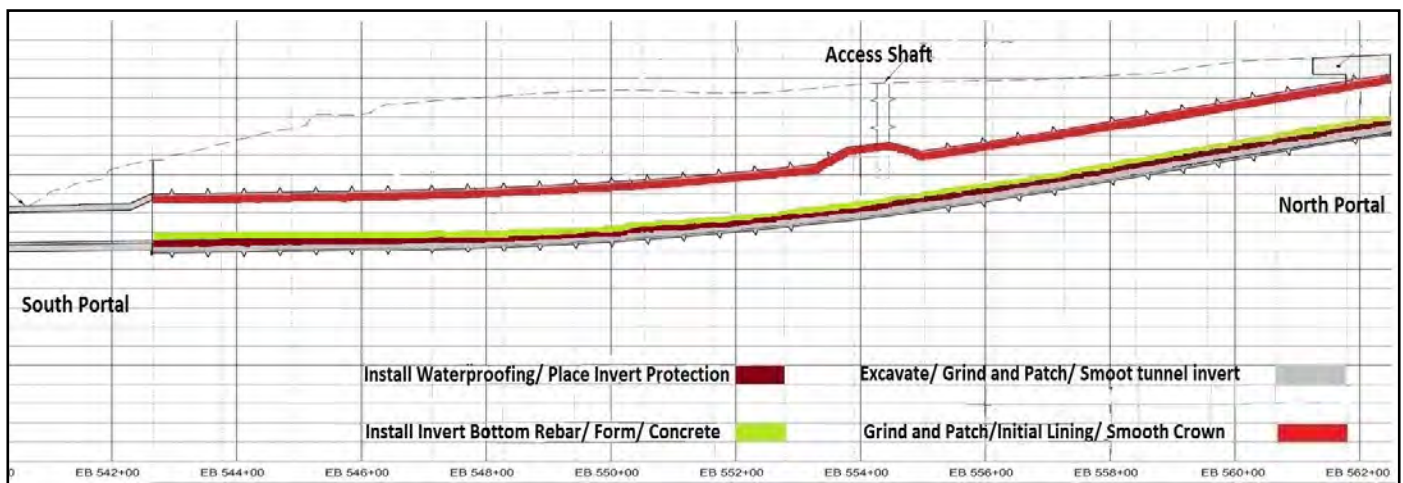
Next Period's Activities

- **South Portal:** Continue forming, reinforcement, installing conduits and concrete placement of cut and cover invert.
- **Tunnel Crown:** Continue gridding, patching, install support dowels and repair of the crown and wall surfaces. Start spray applied waterproofing application at North Portal working south. Finish assemble reinforcement gantry and mobilized into the tunnel and start form and carrier assembly.

Closely Monitored Issues

- Tunnel water seepage is a continued risk. The installation of drainage matting yielded a dry surface in most of the tunnel. Seepage through the tunnel has impacted the waterproofing within the tunnel. This risk will continue and will be mitigated throughout construction.
- Anticipate the initial waterproofing placement and concrete placements on the crown will be slower for the first few placements. Sound Transit and contractor considering contingency plans to address unexpected challenges.

E330 Downtown Bellevue Tunnel overall progress (As of 3/29/2019)



Cost Summary

Preset Financial Status	Amount
E330 Contractor– Guy F Atkinson Construction, LLC.	
Original Contract Value	\$121,446,551
Change Order Value	\$429,990
Current Contract Value	\$121,876,541
Total Actual Cost (Incurred to Date)	\$98,797,361
Percent Complete	79.43%
Authorized Contingency	\$12,144,655
Contingency Drawdown	\$429,990
Contingency Index	22.4



Moving Scaffold to grind and patch crown.

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

Current Progress

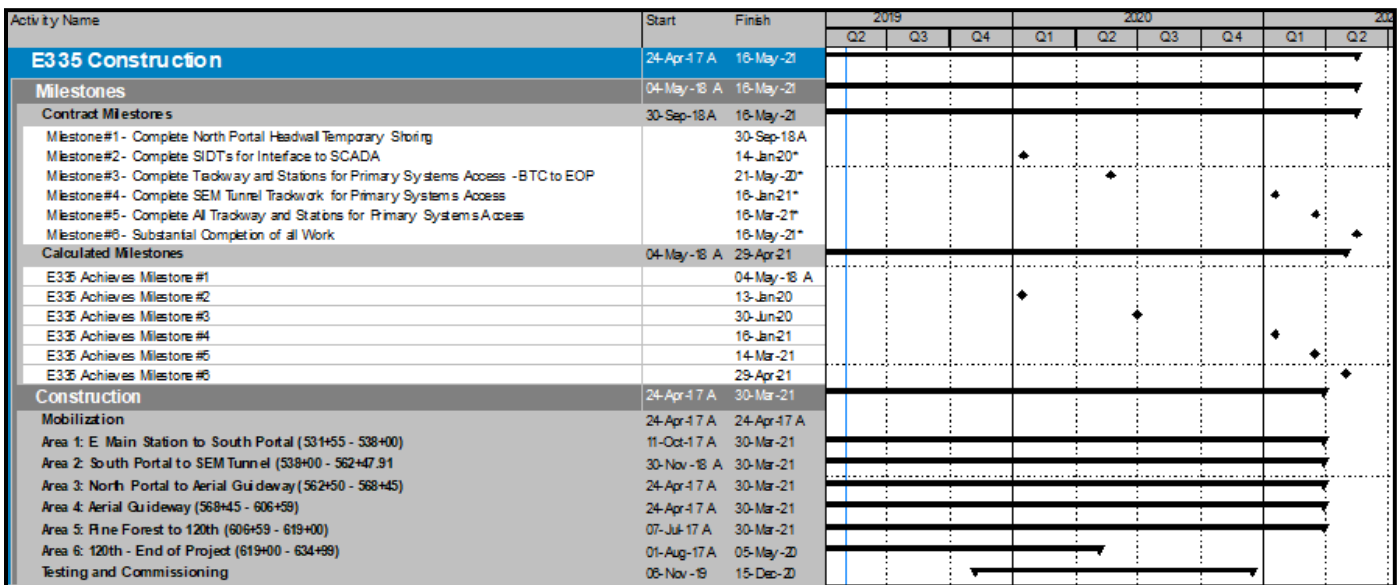
Area 3: N. Portal/Bellevue Downtown Station (BDS): Continued remove shoring towers and concrete placement for lid slabs at North Portal. Continued utility work, formwork, reinforcement and concrete placement for walls and footing at BDS.

Area 4: Aerial Guideway/ Wilburton Station: Commenced post tensioning for long span over I-405 and form and rebar for post tensioning anchor pour backs. Continued pouring concrete, formwork, rebar for spans decks, curbs, diaphragms and install emergency guardrails on Aerial Guideway. Continued excavate, formwork, rebar and concrete placement for Escalator step footings at Wilburton Station.

Area 6: 120th-124th Trench/Station: Continued excavation remaining east portion of the trench. Poured the bottom slab at Open –Cut Trench. Commenced setting forms, rebar for the deck barrier walls pour and cure, strip exterior walls. Completed setting shoring tower at 120th Station plaza and started form, rebar and pour concrete for plaza beams and deck.

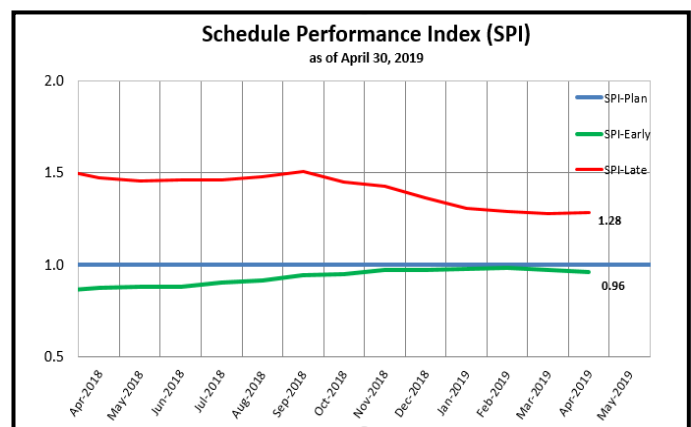
Schedule Summary

There are two primary critical paths for this contract, corresponding to the two handovers to the E750 Systems Contractor — one runs through Bellevue Downtown Station 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. The contractor's April update (shown below) was rejected due to incorrect activities and logic leading to –40 days of float on Milestone 3. The contractor is expected to mitigate these impacts and correct their logic.



Schedule Performance Index

This period, the SPI early is at 0.97 and the SPI late is at 1.28. The numbers indicate that the contractor continues to lag the early plan. Installation of emergency guardrail and acoustical panels is later than shown on the baseline which cause Aerial Guideway to keep lagging behind schedule. Construction of track on aerial guideway and the Sturtevant Creek Bridge are behind the baseline. In addition, non-critical work such as pigment seal and bridge drainage has not been started.



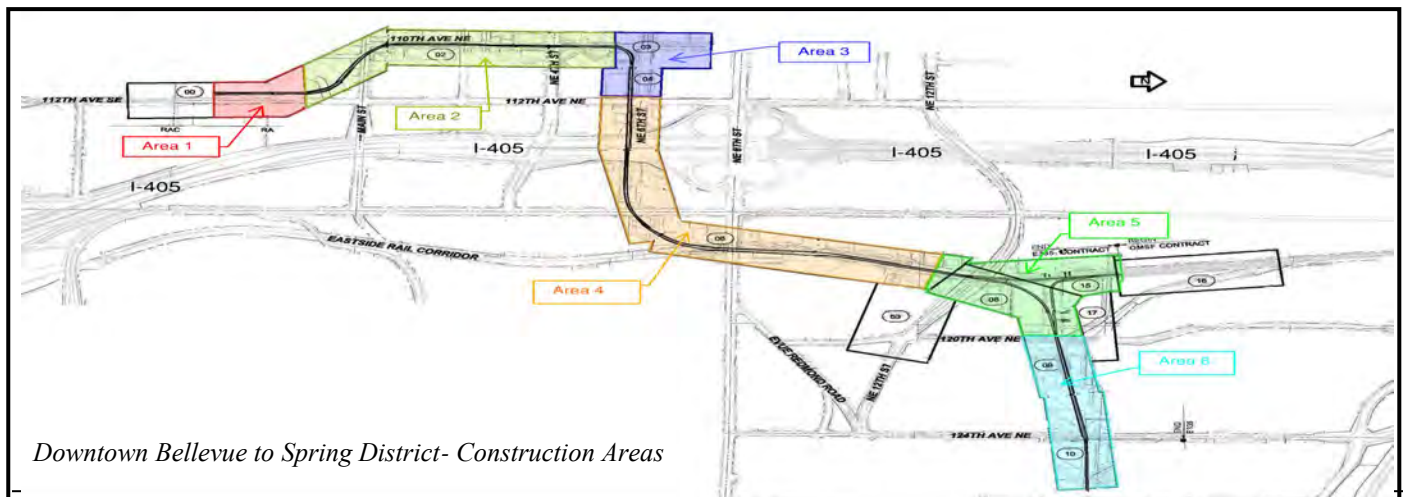
Link Light Rail East Link Extension

Next Period's Activities

- **Area 3:** N Portal/ Bellevue Down town Station (BDS): Complete formwork, reinforcing, and concrete placement for lid slabs at N Portal. Continue shoring tower removal for the N Portal roof lid and commence waterproofing and back filling on NP lid slab.
- **Area 4:** Aerial Guideway/Wilburton Station: Complete post tensioning for Long Span and install Cable railing. Continue form, rebar, and concrete placement for diaphragms, grout slabs and transition slabs on Aerial Guideway. Continue formwork, rebar, and concrete placement for walls and escalator footings at Wilburton.
- **Area 6:** 120th-124th Trench/Station: Continue form, rebar, and concrete placement at 120th Station exterior walls.

Closely Monitored Issues

- Building Information Modelling (BIM) by SWA has stopped at the two stations since late December 2018. There are a number of electrical and plumbing coordination issues that need designer input. The revisions need to be finalized by Sound Transit and provided to contractor to coordinated with the subcontractors.
- Outstanding design issues and design revisions related to stations impacted City of Bellevue Permits for mechanical and fire protection. Continued lack of issuance of these permits will impact installation of infrastructure to support these systems at the stations.



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	\$6,147,290
Current Contract Value	\$399,945,500
Total Actual Cost (Incurred to Date)	\$192,574,674
Percent Complete	56.19%
Authorized Contingency	\$19,689,911
Contingency Drawdown	\$6,147,290
Contingency Index	1.8



Strip out false work at 120th Station (Area 6)

Contract E340 – Bel-Red

Current Progress

Aerial Guideway: Placed intermediate and end diaphragms, formed bridge deck, placed bridge deck rebar.

130th Ave Station: Formed platform canopy stem wall. Placed PSE duct bank.

NE Spring Blvd: Closure between 132nd Ave NE to 134th Ave NE. Placed storm drains. Utility ductbank placement on NE Spring Blvd and in 130th Station area .

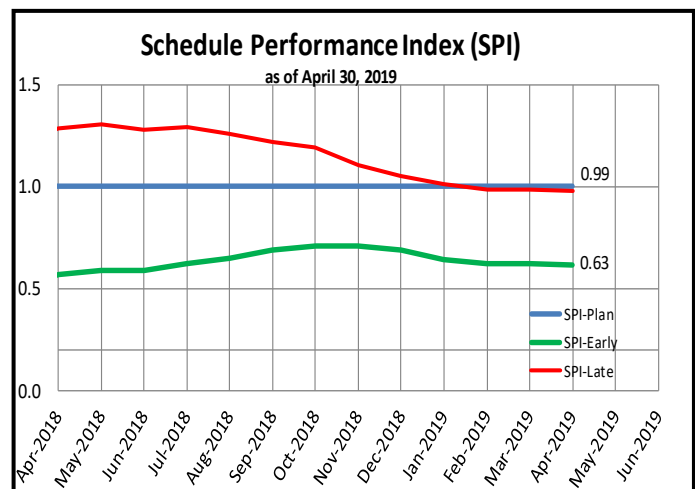
Schedule Summary

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.

Activity Name	Start	Finish	2019					2020
			Q2	Q3	Q4	Q1	Q2	
E340 Construction	24-Feb-17 A	25-May-20						
CONSTRUCTION	24-Feb-17 A	25-May-20						
~MILESTONE S/EASEMENTS~	24-Feb-17 A	25-May-20						
~Milestones	24-Feb-17 A	25-May-20						
Contract Milestones	24-Feb-17 A	25-May-20						
Limited Notice to Proceed (LNTP - Feb 24 2017)	24-Feb-17 A							
Notice to Proceed (NTP - March 27, 2017)	27-Mar-17 A							
MS #1 West Tributary Mitigation Site - NTP + 537 DAYS (September 16, 2018)		14-Sep-18 A						
MS #2 Substantial West Tributary Mitigation Site - NTP + 826 DAYS (July 1, 2019) Ref. C		14-Jun-19*						
MS #3 Acceptance of SDIT - NTP + 978 DAYS (Nov 27, 2019)		11-Jul-19*						
MS #4 Substantial Completion - NTP + 1156 DAYS - (May 26 2020)		25-May-20*						
~SUBMITTALS/PRELIMINARY ACTIVITIES~	24-Feb-17 A	29-Oct-19						
~MOBILIZATION~	24-Feb-17 A	07-Feb-20						
~SITEWORK~	04-Apr-17 A	24-Apr-20						
~RETAINING WALLS~	12-Feb-18 A	12-Nov-19						
~AERIAL STRUCTURES~	15-May-17 A	17-Dec-19						
~STATIONS~	01-Aug-18 A	21-Apr-20						
~ELECTRICAL ITS~	02-Jan-18 A	29-Jul-19						
~FINISHES~	01-May-19	30-Dec-19						
~TRACKWORK~	13-Jul-18 A	18-Feb-20						
~LANDSCAPING/FLATWORK~	22-May-18 A	17-Jan-20						
~TESTING AND COMMISSIONING~	02-Jul-19	23-Apr-20						

Schedule Performance Index

This period, the SPI early is at 0.63 and the SPI late is at 0.99. The late index is effective trending according to plan; while the SPI early continues to lag the early finish plans. Some of the contributing factors to the SPI late index are as follows. Completed the delivery of the project rail. Started rail welding the track rail. Progressed dutcbank along NE Spring Blvd. Progressed PSA gas line installation along 136th Pl. Progressed the signal conduit and pad installation at the 132nd Ave Intersection. Continued progress of the retaining wall as well as aerial guideway end diaphragm constructions.



Link Light Rail East Link Extension

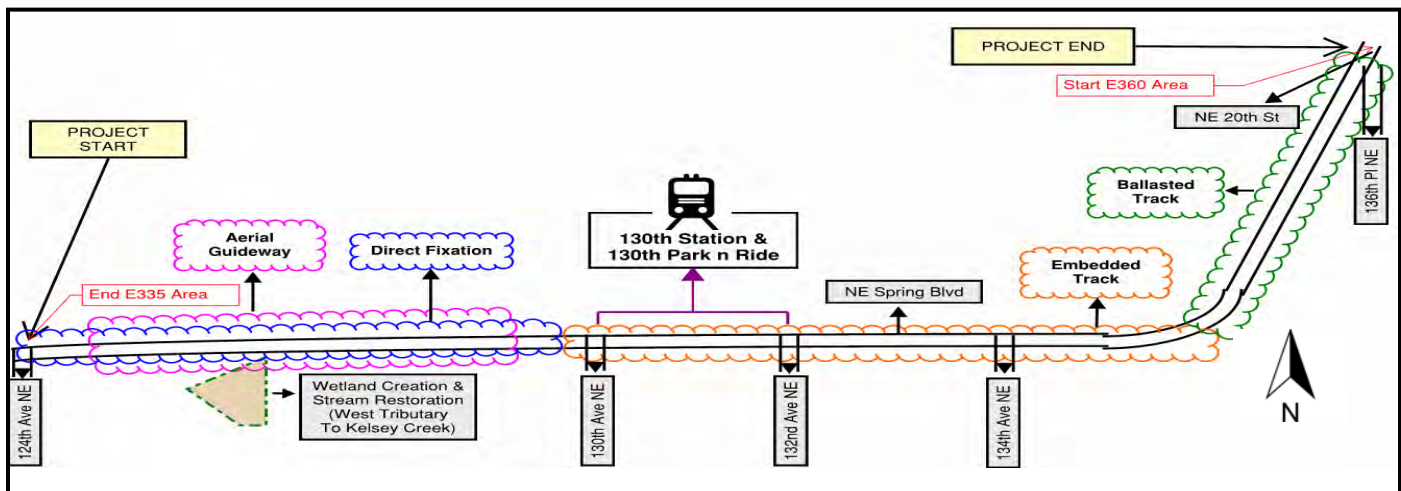
Next Period's Activities

- **Aerial Guideway:** Continue placing intermediate end diaphragms. Placing forms, rebar, and inserts for bridge deck and Overhead Contact System (OCS) Overhangs. Form and pour bridge deck pour mock-up. Install underground systems ductbank west of aerial guideway.
- **130th Ave Station:** Weld rail strings. Place platform canopy stem wall on south side of the station retaining wall.
- **NE Spring Blvd:** Set up one-way traffic east-bound spur, with traffic on the south side of the roadway. Complete service connections and activate water main
- **136th Pl NE:** Place storm drain. Excavate for footing and begin footing placement.

Closely Monitored Issues

- The City of Bellevue Mid-Lakes Pump Station and the late start on the 124th Ave NE Bridge Project have potential to impact to the overall project schedule. Seattle City Light has agreed to allow early works for Sound Transit while compatibility is discussed between Seattle City Light, City of Bellevue and Sound Transit.
- The delay of the 124th Ave NE Bridge Project also carries Maintenance of Traffic risk for upcoming closures on 130th Ave NE, 132nd Ave NE and NE 20th St. as the contract does not allow the contractor to keep the closures on these streets during the estimated nine-month closure of 124th Ave NE.

E340 Construction Work Areas



Cost Summary

Present Financial Status	Amount
E340 Contractor– Max J Kuney	
Original Contract Value	\$93,170,012
Change Order Value	\$3,964,705
Current Contract Value	\$97,134,717
Total Actual Cost (Incurred to Date)	\$52,413,036
Percent Complete	54.9%
Authorized Contingency	\$9,317,000
Contingency Drawdown	\$3,964,705
Contingency Index	1.29



Installing the south side overhand brackets looking northeast.

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

Current Progress

Design: Advanced design packages for the following areas: Design Package 5B/19B — Landscape and Restoration ST review 100% submittal and comment resolution. Continue design for Sound Transit initiated design changes: Bike Storage, Distributed Antenna Systems, Generator Tap, Platform Hydrants and PSE Meter Location.

Construction: Work Area (WA) #1 Set rows 1 & 2 for MSE wall construction. WA #2 Aerial guideway structures continued with superstructure work for diaphragms and precast panels. Deck and curb spans 77-74 were poured. Guardrail install started for six spans. WA #3 MSE wall coping and grading approach slab started. WA #4 station grade beams placement ongoing and backfill proceeding. Prepping for station slab on grade placement and continue light pole bases. WA #5 continued construction of wall 14 & 15 fascia panel erection. Wall 13 fascia cap continuing and wall 14 starting. WA #6 continued Redmond Technology Station (RTS) Garage level four columns and deck/beams placement. Level three and four MEP slab rough-in. Station F/R/P slab on grade and start erection of vertical circulation tower steel. WA #7 OVS Pedestrian Bridge continue paperclip ramp footing.

Schedule Summary

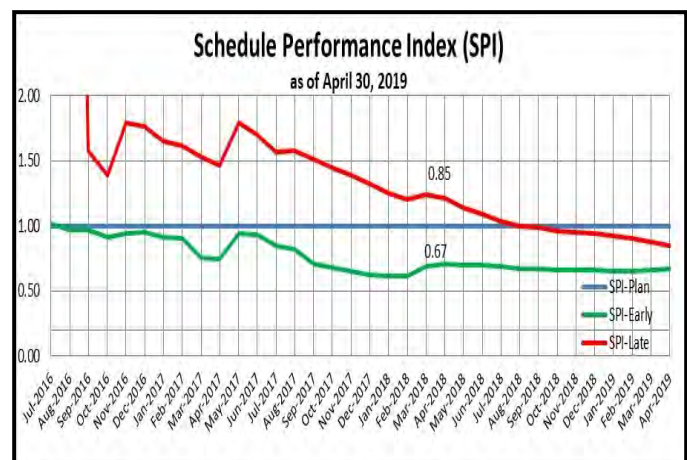
The critical path for this project currently goes through the structural work at RTS and then into the Leased Office Building near the station. The contractor is expected to achieve substantial completion by their contractual milestone.

Activity Name	Start	Finish	2019			
			Q2	Q3	Q4	Q1
E360 Construction	13-Jul-18 A	17-Feb-20				
Base Contract	13-Jul-18 A	17-Feb-20				
Design	13-Jul-18 A	13-Aug-19				
Construction	13-Jul-18 A	17-Feb-20				
General	13-Jul-18 A	17-Feb-20				
Project Milestones	13-Jul-18 A	17-Feb-20				
Notice to Proceed	13-Jul-18 A					
Civil/Systems 100% Design Submittal (NTP +300d) (09-May-2017)		10-Apr-17 A				
Substantial Completion		08-Jan-20				
Actual Acceptance of all Work		17-Feb-20				
WA #1 - Track Slab Guideway	22-May-17 A	19-Dec-19				
WA #2 - Aerial Guideway	01-Jun-17 A	12-Dec-19				
WA #3 - Ballasted Guideway Block #1	01-May-17 A	22-Oct-19				
WA #4 - Overlake Village Station	14-Jul-18 A	24-Dec-19				
WA #5 - Ballasted Guideway Block #2	15-Aug-17 A	30-Oct-19				
WA #6 - Overlake Transit Center	01-May-17 A	08-Jan-20				
WA #7 - OVS Pedestrian Bridge	01-Oct-18 A	25-Nov-19				
WA #8 - OTC Pedestrian Bridge	08-Jan-20	08-Jan-20				

Schedule Performance Index

This period, the SPI early is 0.67 and SPI late is .85. 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, design completion taking longer than anticipated, weather days

Impact and recovering from a pause in girder work have contributed to the slippage. Some procurement activities have been rolled into construction activities, which has contributed to lower late SPI recovery.



Link Light Rail East Link Extension

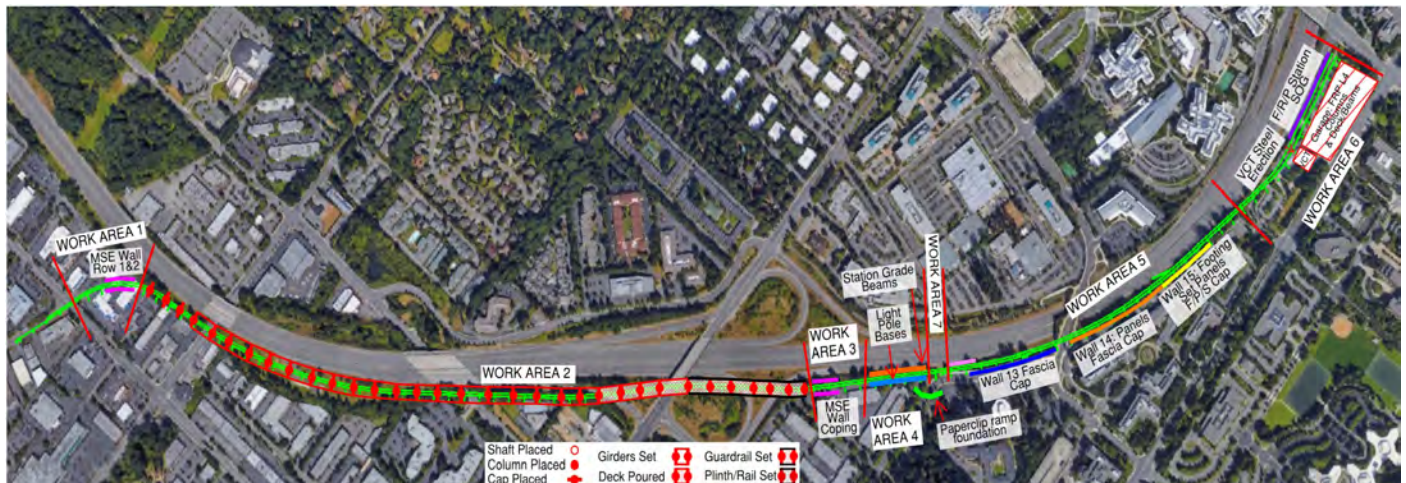
Next Period's Activities

- **Work Area #1:** MSE wall placement and backfill.
- **Work Area #2:** Continue diaphragm, precast panel, deck curb placement and guardrail set. Complete girder erection. Start Valley Creek vault and track work activities.
- **Work Area #3/4:** Start sub-ballast at transition and continue MSE coping/fencing. Start rail welding. Continue platform and track wall grade beams, footings and platform slab on grade placement at OVS.
- **Work Area #5:** Complete fascia panel and cap for walls 14 & 15. Start fine grade, sub-ballast and fencing activities.
- **Work Area #6:** Continue garage column and deck placement lvl 4. Continue MEP rough-in lvl 4 deck and

Closely Monitored Issues

- OTC Pedestrian Bridge - negotiations with Microsoft and contractor are in full stride to remove this scope. A contract amendment will be required.
- Contractor, ST and City of Redmond working out commercial & schedule impacts due to permitting issues.
- Commercial Issues on sales tax increase, waterline routing at RTS, north ancillary building deletion, intermediate diaphragm deletion VE and As-Built Specification.
- Clearance requirements between the WSDOT Aggregate Disposal Site access road and aerial guideway.
- Continuing trend of frequent quality and safety related incidents.

E360 Construction Work Areas



Cost Summary

Present Financial Status	Amount
E360 Contractor— Kiewit-Hoffman	
Original Contract Value	\$225,336,088
Change Order Value	\$2,129,346
Current Contract Value	\$227,465,434
Total Actual Cost (Incurred to Date)	\$142,129,729
Percent Complete	74.58%
Authorized Contingency	\$22,786,521
Contingency Drawdown	\$2,129,346
Contingency Index	8.2

Excludes Betterment



Work Area 2— MSE Wall Panel Set and Backfill

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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 and 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 \$1.530 Billion (Baselined October 2018)

Schedule Revenue Service: December 31, 2024



Map of Downtown Redmond Link Extension

Key Project Activities

- Continued work on Development Agreement with City of Redmond.
- Continued progressing permit applications including submittal of the Redmond shoreline substantial development permit materials.
- Continued development of O & M agreement to identify ownership and maintenance responsibilities along the alignment.
- Continued environmental due diligence investigation on ROW parcels.
- Continued development of Utility Relocation Settlement Agreements with private utilities for relocation.
- Continued development of Betterment Agreements with King County, City of Redmond and Microsoft for the project.
- Received three design build proposals and started technical evaluation.

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. This project has now been baselined, The baseline budget has been incorporated into the tables below.

The first table below summarizes costs in accordance with Sound Transit's budget Work Breakdown Structure (WBS), while the second table in 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 \$0.9M of expenses bringing the total expenditure to date from \$28.6M to \$29.56M Third Party, Preliminary Engineering and Administrative activities are the main cost drivers during this period. Agency Administrative activities are primarily staffing cost, while expenditures related to 3rd Parties are for coordination and fees.

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	\$77.0	\$77.0	\$5.8	\$5.6	\$77.0	\$0.0
Preliminary Engineering	\$23.0	\$23.0	\$18.6	\$17.6	\$23.0	\$0.0
Final Design	\$4.5	\$4.5	\$0.1	\$0.0	\$4.5	\$0.0
Construction Services	\$58.0	\$58.0	\$1.7	\$1.0	\$58.0	\$0.0
3rd Party Agreements	\$17.0	\$17.0	\$6.2	\$1.3	\$17.0	\$0.0
Construction	\$1,151.5	\$1,151.5	\$0.0	\$0.0	\$1,151.5	\$0.0
ROW	\$199.0	\$199.0	\$9.4	\$3.9	\$199.0	\$0.0
Total	\$1,530.0	\$1,530.0	\$41.8	\$29.5	\$1,530.0	\$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	\$332.4	\$332.4	\$0.0	\$0.0	\$332.4	\$0.0
20 Stations	\$261.9	\$261.9	\$0.0	\$0.0	\$261.9	\$0.0
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$287.1	\$287.1	\$0.0	\$0.0	\$287.1	\$0.0
50 Systems	\$108.6	\$108.6	\$0.0	\$0.0	\$108.6	\$0.0
Construction Subtotal (10 - 50)	\$990.0	\$990.0	\$0.0	\$0.0	\$990.0	\$0.0
60 Row, Land	\$168.5	\$168.5	\$9.4	\$3.9	\$168.5	\$0.0
70 Vehicles (Non-Revenue)	\$4.1	\$4.1	\$0.0	\$0.0	\$4.1	\$0.0
80 Professional Services	\$289.3	\$289.3	\$32.4	\$25.6	\$289.3	\$0.0
90 Unallocated Contingency	\$78.2	\$78.2	\$0.0	\$0.0	\$78.2	\$0.0
Total (10 - 90)	\$1,530.0	\$1,530.0	\$41.8	\$29.5	\$1,530.0	\$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 project baseline in Q4 2018. The quantitative risk assessment report is completed and finalized with good probability that supported the DRLE baseline cost and schedule assumptions. The externality conditions remains the same this period and may have reduced in some instances, therefore, the project's risk profile remains unchanged. The following continues to be the current top project risk areas:

- 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; storm water 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. Final proposals from shortlisted firms were submitted in April. They are currently under review by ST and stakeholders from the City of Redmond, King County, and WSDOT. Rankings should be complete by June. Property acquisition is underway and environmental permitting is ongoing. Project is currently forecast for completion near the end of 2024.

Activity Name	Start	Finish	2019	2020	2021	2022	2023	2024
Downtown Redmond Link Extension - Preliminary Engineering	15-Dec-16 A	12-Feb-20	■	■				
Downtown Redmond Link Extension - Workshops and Phase Gate	15-Dec-16 A	25-Oct-18 A	■	■				
Downtown Redmond Link Extension - Preliminary Engineering & Bridging Documents	15-Dec-16 A	12-Feb-20	■	■				
Downtown Redmond Link Extension - Right of Way	27-Dec-17 A	14-Dec-20		■	■			
Downtown Redmond Link Extension - Permits & Third Party Agreements	01-Jun-18 A	09-Jun-20		■	■			
Downtown Redmond Link Extension - Construction	05-Oct-17 A	31-Dec-24		■	■	■	■	■
Downtown Redmond Link Extension - DBPM Procurement	05-Oct-17 A	11-Jun-18 A		■				
Downtown Redmond Link Extension - Design-Build Procurement	01-Jun-18 A	19-Sep-19		■				
Downtown Redmond Link Extension - Design-Build Contract	20-Sep-19	31-May-24			■	■	■	■
Downtown Redmond Link Extension - Rail Activation/Close out	28-Dec-23	31-Dec-24					■	■
Systems Integration & Testing	28-Dec-23	01-Apr-24					■	■
Safety and Security Certification	28-Dec-23	18-Mar-24					■	■
Pre-Revenue Service	01-Jun-24	31-Jul-24						■
Pre-Revenue Operations	01-Jun-24	31-Jul-24						■
Revenue Service/Project Float	01-Aug-24	31-Dec-24						■
Project Float	01-Aug-24	31-Dec-24						■
Revenue Service		31-Dec-24						■

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
93	87	26	0	1526	144
* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.					

•Total Relocations—additional eligible relocates discovered.

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.
- Engaged with the community on a variety of concerns including schedule, property acquisition and station access.
- Commenced preparation for neighborhood-focused open house scheduled for second half of May.

Sound Transit Board Actions

Board Action	Description	Date
	None This Period	

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

- EIS Scoping concluded on April 2, 2019. Summaries of key comment themes were shared with the Interagency Group, Stakeholders Advisory Group (SAG) and Elected Leadership Group (ELG).
- SAG and ELG made recommendations on preferred alternatives to study in the EIS. This concludes the groups' formal involvement in the project development process.
- Continued engagement with City of Seattle, WSDOT, Port of Seattle, King County and other regulatory and partner agencies regarding the alternatives development process and design, permitting, construction and operational considerations.
- Finalized consultant scope of work and budget negotiations on contract amendment for Phase 2 (Draft EIS / Conceptual Engineering).
- Began second-round evaluation of improvements, including cost estimation and traffic simulation, for RapidRide C and D improvements.

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, the project is authorized and planned to incur approximately \$31M in 2019 for completing alternatives development and evaluation; EIS Scoping; Draft EIS; conceptual engineering work; 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	\$6.8	\$6.2	\$63.1	\$0.0
Preliminary Engineering	\$205.4	\$25.8	\$24.5	\$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	\$0.3	\$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	\$0.5	\$0.2	\$6.0	\$0.0
Total	\$285.9	\$34.2	\$31.2	\$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	\$0.5	\$0.2	\$5.0	\$0.0
80 Professional Services	\$263.4	\$33.7	\$31.0	\$263.4	\$0.0
90 Unallocated Contingency	\$17.5	\$0.0	\$0.0	\$17.5	\$0.0
Total (10 - 90)	\$285.9	\$34.2	\$31.2	\$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.

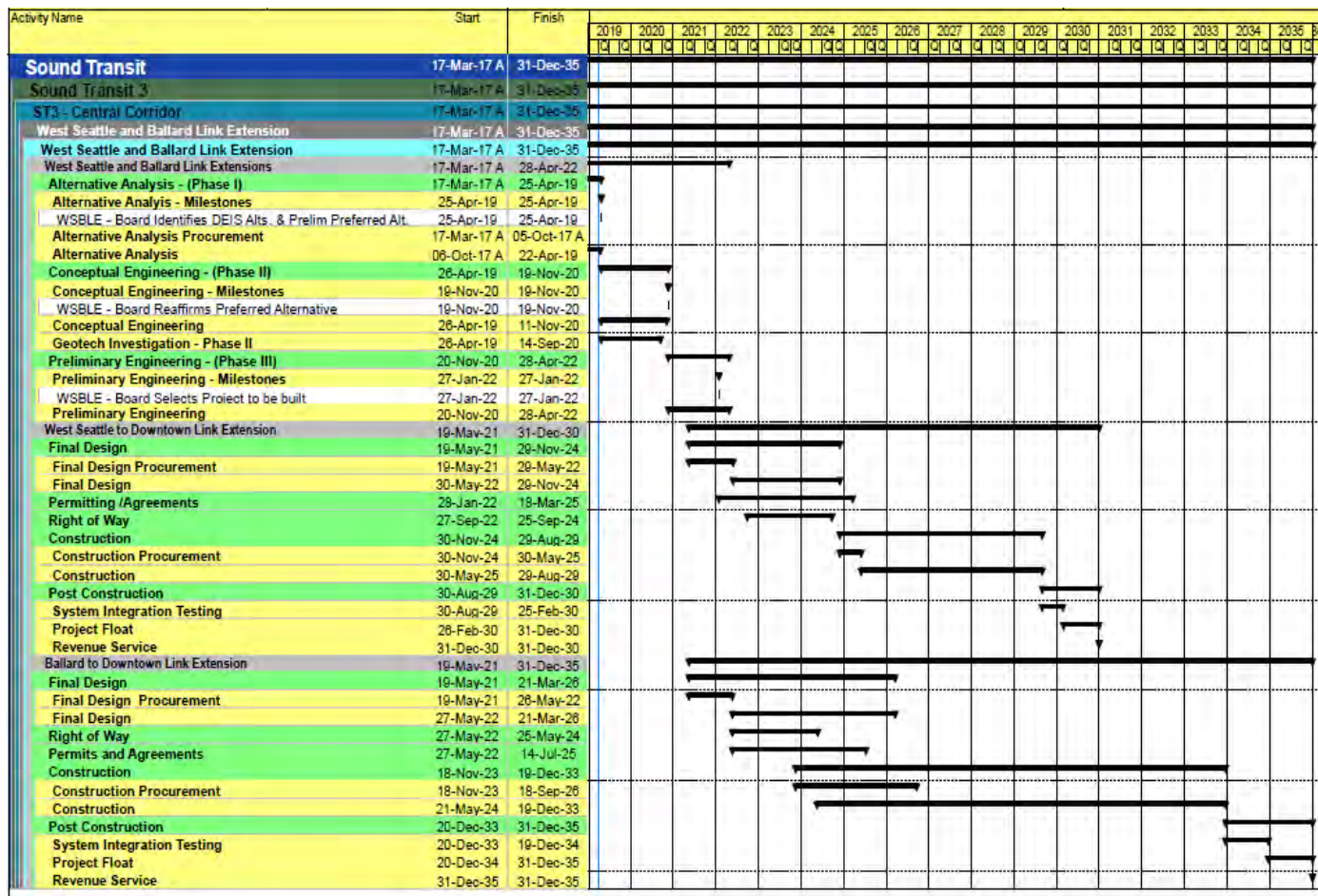
Project issues and risks identified at this stage include:

- 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 can be found below. ST Board identifies preliminary preferred alternatives in 2nd Qtr 2019. FTA issuance of ROD and Final Design are 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.



Community Outreach

- Continued outreach to neighborhood and stakeholder groups throughout the project corridor.
- Continued collecting public and interagency comments for ESI Scoping.

Sound Transit Board Actions

Board Action	Description	Date
	None to Report	

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

- FTA approved Entry to Engineering (EIE).
- Full Funding Grant Agreement (FFGA) application was submitted to FTA.
- Design Build (DB) procurement: The high scoring firm was selected and Notice of Intent to Award was issued; Board action is scheduled for next month.
- Negotiations continues for Design Build Project Management Services Phase 2 contract.
- Substantial Completion was issued for Advanced Demolition work.
- Project team continues to work with City of Federal Way to finalize Development Agreement.
- Project team continues to work with City of Kent, Federal Way and Des Moines for additional city services thru end of construction which includes construction permitting.
- Continue preparing task order scope of work for advanced utility relocation with Century Link.
- Slow progress continues with Puget Sound Energy (PSE) to establish a master agreement for utility relocation early work, although scope of work for task orders continue. PSE advises they will not meet early work completion by Aug 2019.
- Continued right-of-way acquisition and relocation activities this period.

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 approximately \$14.2M was incurred for April 2019, of which \$13M incurred was for Right-Of-Way; \$0.5M incurred for Administration; \$0.4M for Construction Services. Remaining major expenditures of \$0.3M were for Preliminary Engineering, Third Party services and minor demolition construction work. Overall the project Estimate at Completion continues to reflect \$2.45B.

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	\$16.3	\$16.3	\$96.5	\$0.0
Preliminary Engineering	\$46.5	\$45.5	\$44.0	\$46.5	\$0.0
Final Design	\$3.1	\$1.0	\$0.8	\$3.1	\$0.0
Construction Services	\$107.0	\$4.6	\$3.0	\$107.0	\$0.0
3rd Party Agreements	\$27.7	\$6.3	\$3.2	\$27.7	(\$0.0)
Construction	\$1,831.9	\$1.0	\$0.1	\$1,831.9	\$0.0
ROW	\$338.8	\$60.2	\$47.4	\$338.8	(\$0.0)
Total	\$2,451.5	\$134.9	\$114.8	\$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	\$517.7	\$0.0	\$0.0	\$523.0	(\$5.2)
20 Stations	\$316.1	\$0.0	\$0.0	\$318.9	(\$2.8)
30 Support Facilities	\$5.3	\$0.0	\$0.0	\$5.3	(\$0.0)
40 Sitework & Special Conditions	\$557.7	\$0.1	\$0.1	\$558.3	(\$0.6)
50 Systems	\$153.0	\$0.0	\$0.0	\$153.8	(\$0.8)
Construction Subtotal (10 - 50)	\$1,549.9	\$0.1	\$0.1	\$1,559.3	(\$9.4)
60 Row, Land	\$338.8	\$60.2	\$47.4	\$338.8	(\$0.0)
70 Vehicles	\$1.8	\$0.0	\$0.0	\$1.8	\$0.0
80 Professional Services	\$383.0	\$74.5	\$67.3	\$373.6	\$9.4
90 Unallocated Contingency	\$178.1	\$0.0	\$0.0	\$178.1	\$0.0
Total (10 - 90)	\$2,451.5	\$134.9	\$114.8	\$2,451.5	\$0.0

Link Light Rail Federal Way Link Extension



Risk Management

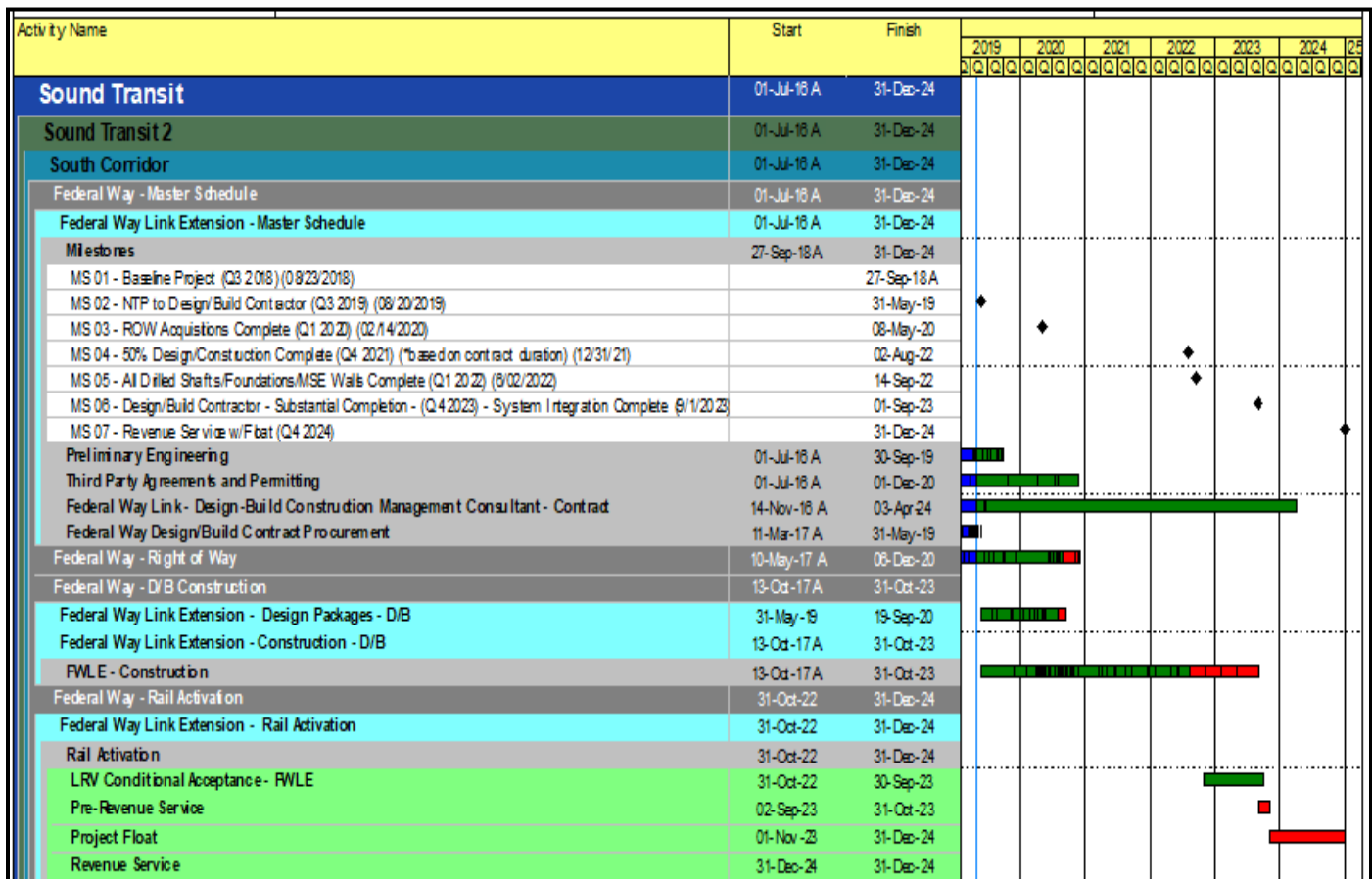
The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit's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

The most recent Quarterly Risk Register review update was held March 2019. Below are the top project risks:

- Jurisdictional reviews of design packages not completed in time, thus delaying DB progress.
- Midway Landfill waste removal limits.
- Availability of federal funding remains uncertain and may impact schedule and funding resources.
- Property acquisition and relocations completed in time for construction.
- Volume of residential relocations continues to be a concern due to limited housing availability.

Project Schedule

The project schedule is presented below. Right-of-Way acquisitions and relocations continue and additional detail has been added to the master schedule to monitor any impacts to the project. Final Entry to Engineering was submitted and approved in April, followed by the submittal of FFGA application. Board Approval of the DB Contract and a limited Notice-to-Proceed to the DB contractor is expected in May 2019. Revenue Service on schedule for 4th QTR 2024.



Contingency Management

The Federal Way Link Extension project budget was baselined in September 2018 with a total contingency of \$549.9M. The current contingency balance is \$549.9M.

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 the design build construction contract package is executed.

Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. During this period a minor drawdown from AC (\$0.05M) for City of SeaTac Services agreement.

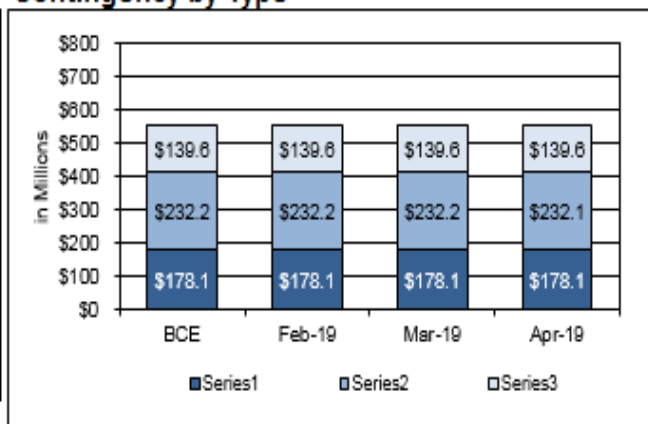
Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. During this period no drawdown to UAC occurred.

Contingency Status (Monthly)

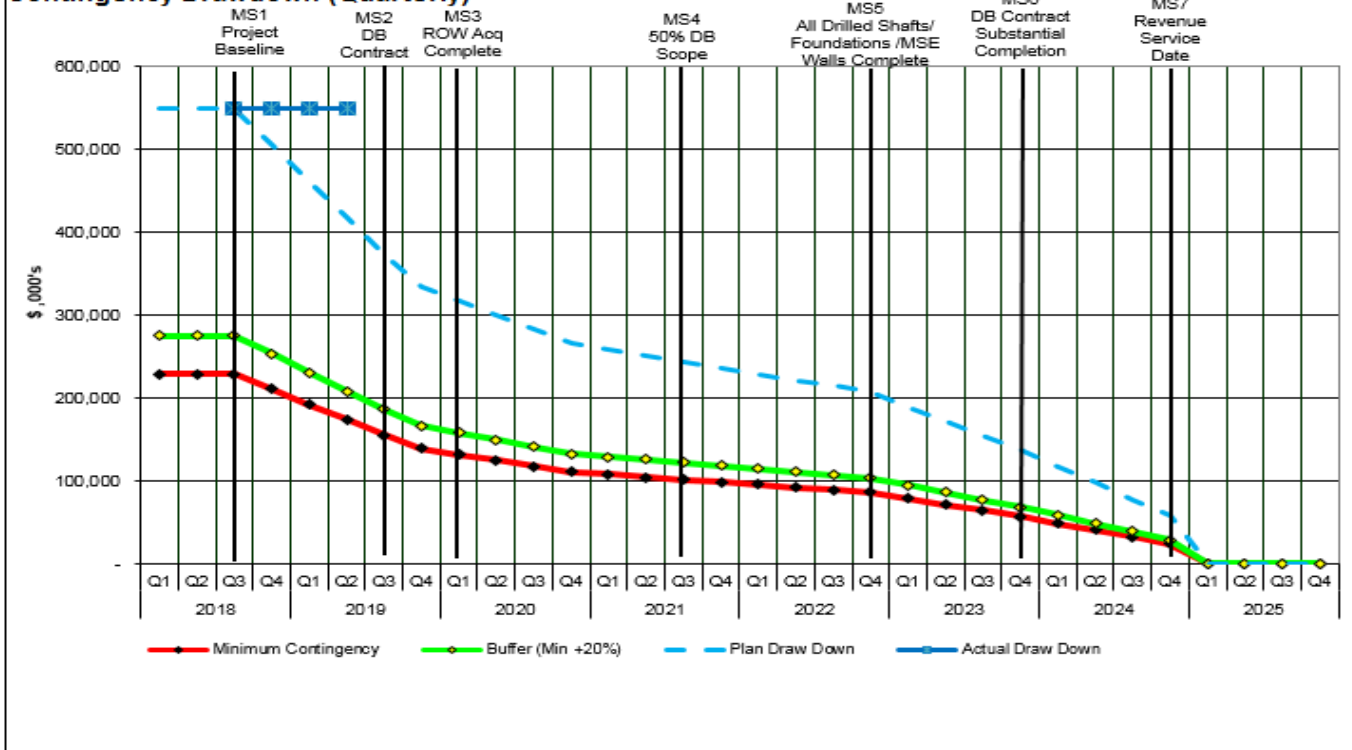
Type	Baseline		Current Status	
	Amount	% of Total Budget	Remaining Amount	% of Work Remaining
Design Allowance	\$139.6	5.7%	\$139.6	5.9%
Allocated Contingency	\$232.2	9.5%	\$232.1	9.8%
Unallocated Contingency	\$178.1	7.3%	\$178.1	7.5%
Total:	\$549.9	22.4%	\$549.8	23.3%

Table figures are shown in millions.

Contingency by Type



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.

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
255	259	226	40	429	151
<i>* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.</i>					

- Relocations required was reduced due to information gathered that determined that a motel was not an extended stay, therefore no displacements.

Community Outreach

- Communication with property owners regarding FWLE route, profile, station areas, acquisition and relocation is ongoing.
- Provided project updates at various outreach events:
 - Mill Creek Neighborhood Association on April 11
- Staffed FWLE informational table at Tacoma Dome Link Extension Public Meetings
 - TDLE Open House: Federal Way on April 23

Sound Transit Board Actions

Board Action	Description	Date
	None to report	

Phase 3 Preliminary Engineering (PE)

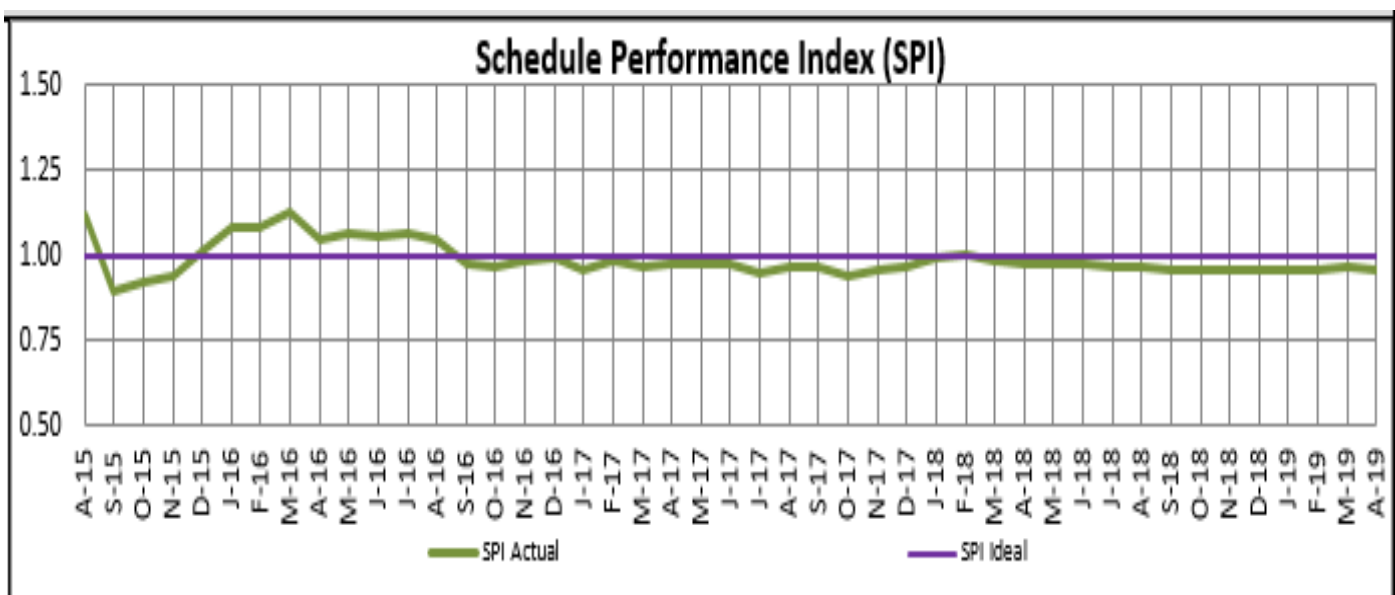
In July 2015, Sound Transit executed an amendment to the professional services agreement with HDR Engineering, Inc. for Phase 3 professional services, including completion of a Final Environmental Impact Statement (FEIS) using the preferred alternative and the other alternatives in the Draft EIS, preliminary 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

- Focused on conforming RFP documents and WSDOT Channelization plans,
- Efforts continued to finalizing the Development Agreements with one remaining Authorities Having Jurisdiction (AHJ's).
- Continued environmental permitting efforts including Critical Areas Reports and Area and Flood Plain Information Tracking (SAFIT) sheets.
- Property acquisition support continued including ESA Phase 2 reports, Hazardous Building Materials Surveys, and ALTA maps.

Schedule Performance Index

The cumulative Schedule Performance Index (SPI) is 0.97 through March 2019, indicating the overall amount of work accomplished is as planned. The consultant is fully engaged on the scope, to assist in DB procurement RFI and WSDOT Design Approval, environmental permit support and in right-of-way acquisition support.

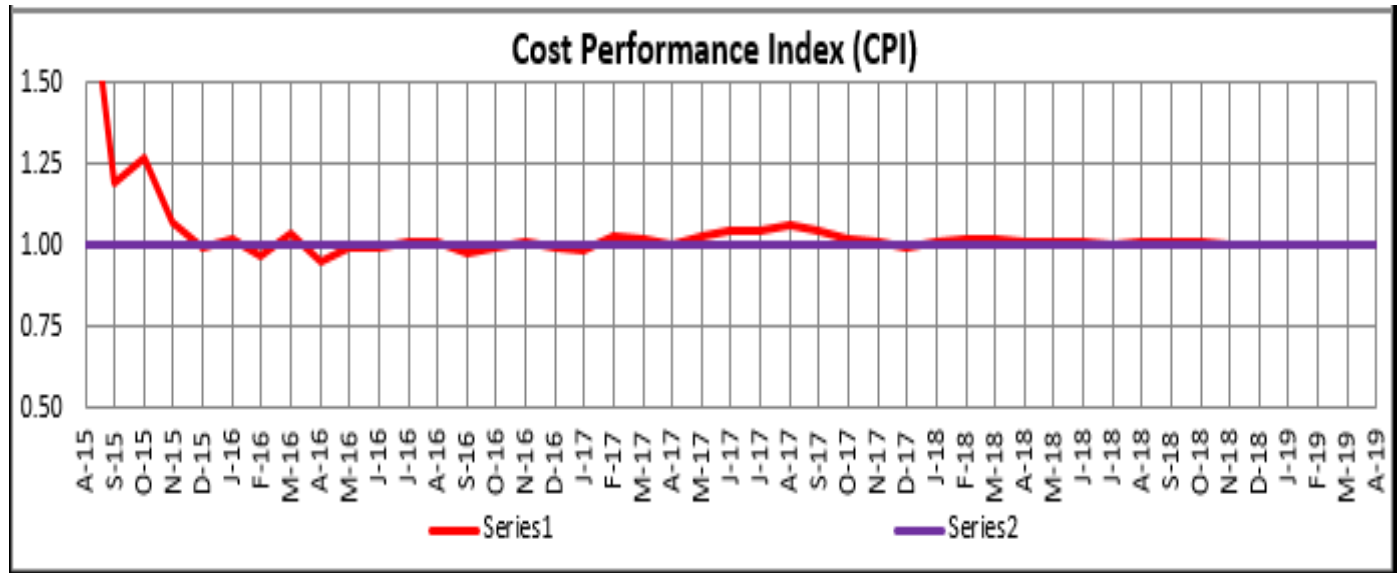


Link Light Rail Federal Way Link Extension



Cost Performance Index

Phase 3 expenditures through April 2019 totaled \$35.6M, approximately 95.8% of the amended total contract. The Phase 3 percent complete is reported at 96%, with an earned value of \$35.7M. The cumulative Cost Performance Index (CPI) is 1.00 showing costs are on track with work accomplished. The Consultant is engaged in conforming RFP documents and WSDOT channelization plans, Development Agreements support, environmental permits support and in ROW acquisition support.



Cost Summary

Contract (Phase 3 portion)	Cumulative To-date
Amount Invoiced	\$35.6M
% Spent	95.8%
Earned Value	\$35.7M
% Complete	96%
SPI	0.97
CPI	1.00

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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 Construction

Budget \$217.3 Million (Baselined September 2017)

Schedule Revenue Service: May 2022



Map of Hilltop Tacoma Link Extension.

Key Project Activities

Final Design

- Design consultant continued design services during construction scope including review of construction contractor submittals and responded to requests for information.

Construction:

- Jack and Bore Work in Heading 3 Division ST and MLK continues.
- Heading 1 Completed underground ELB raceways ,vaults and handholes at Stadium Way & 4th Street.
- Completed clear and grub and installation of crane mat for TPSS 1.
- Installation of ELB Storm Drain at Heading 1, Heading 2 and Heading 3 continues.
- Completed excavate Grade Beams at OMF.
- Completed FRP of truing pit walls and elevator pit walls at OMF.

Right-of-Way: Acquisition of all required parcels and temporary construction easements is complete.

Vehicles: Held monthly progress meeting with representatives from Brookville Equipment Corporation on LRVs. Sound Transit (ST) staff and vehicle consultant reviewed vehicle subsystem design submittals. ST vehicle engineering and consultant staff attended preliminary design review (PDR) in Brookville, PA .

Project Cost Summary

In September 2017, Sound Transit Board adopted the Hilltop Tacoma Link Extension (HTLE) 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.

The T100 construction contract was executed in August 2018.

In the March 2019 period approximately \$4.2M was incurred, with most expenditures occurring in the Construction Phase related to the T100 construction contract. ST continues to anticipate majority of expenditures in the construction phase for the next month.

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	\$8.4	\$8.3	\$16.9	\$0.0
Preliminary Engineering	\$5.6	\$5.6	\$5.6	\$5.6	\$5.6	(\$0.0)
Final Design	\$10.8	\$11.3	\$10.4	\$9.8	\$11.3	\$0.0
Construction Services	\$9.9	\$10.3	\$8.9	\$1.7	\$10.3	\$0.0
3rd Party Agreements	\$1.5	\$1.5	\$1.4	\$1.1	\$1.5	(\$0.0)
Construction	\$127.2	\$130.1	\$116.7	\$26.2	\$130.1	(\$0.0)
Vehicles	\$35.4	\$32.8	\$30.3	\$0.1	\$32.8	\$0.0
ROW	\$3.6	\$2.3	\$2.2	\$1.9	\$2.3	\$0.0
Contingency	\$6.6	\$6.6	\$0.0	\$0.0	\$6.6	\$0.0
Total	\$217.3	\$217.3	\$183.9	\$54.7	\$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	\$24.9	\$22.3	\$5.0	\$24.9	(\$0.0)
20 Stations	\$1.8	\$2.8	\$2.5	\$0.6	\$2.8	\$0.0
30 Support Facilities	\$26.6	\$33.1	\$29.6	\$6.7	\$33.1	\$0.0
40 Sitework & Special Conditions	\$40.0	\$41.6	\$37.3	\$8.4	\$41.6	\$0.0
50 Systems	\$25.0	\$27.8	\$24.9	\$5.6	\$27.8	\$0.0
Construction Subtotal (10 - 50)	\$115.4	\$130.12	\$116.7	\$26.2	\$130.1	(\$0.0)
60 Row, Land	\$3.4	\$2.3	\$2.2	\$1.9	\$2.3	(\$0.0)
70 Vehicles (non-revenue)	\$34.1	\$32.8	\$30.3	\$0.1	\$32.8	(\$0.0)
80 Professional Services	\$48.4	\$45.6	\$34.8	\$26.5	\$45.6	\$0.0
90 Unallocated Contingency	\$16.1	\$6.6	\$0.0	\$0.0	\$6.6	\$0.0
Total (10 - 90)	\$217.3	\$217.3	\$183.9	\$54.7	\$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 4th QTR 2018 was held on December 12, 2018. The 1st QTR 2019 Risk Register Review was held in February 2019. A Quantitative Risk Review is tentatively Planned for May 2019.

The Baseline Risk Assessment was conducted in May 2017 and we anticipate an Quantitative Risk Assessment in 2nd QTR 2019. Per the 1st QTR 2019 Register Review the current top project risks include:

- Unidentified utility conditions under the proposed alignment lead to schedule delays and increased cost.
- Roadway improvements and modifications along MLK are greater than anticipated, creating additional scope.
- Utility (Sanitary Sewer and Storm) relocations associated with the MLK Pedestrian undercrossing.
- Requested or additional work from public feedback, City of Tacoma, or Inspectors.
- Unknown subsurface conditions under the proposed alignment. (example: Old Track Ties/Thicker Slab)



OMF-Mason subcontractor pumping concrete to elevator, service pit and truing pit slabs.

Contingency Management

Hilltop Tacoma Link Extension was baselined on September 2017 with a total contingency of \$33.8M. 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.

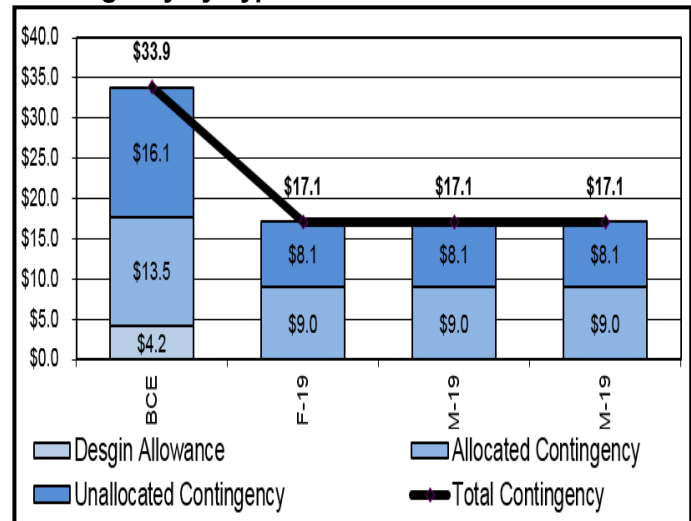
Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. The UAC balance remained the same in October with a net amount of \$8.1M.

Contingency Status (Monthly)

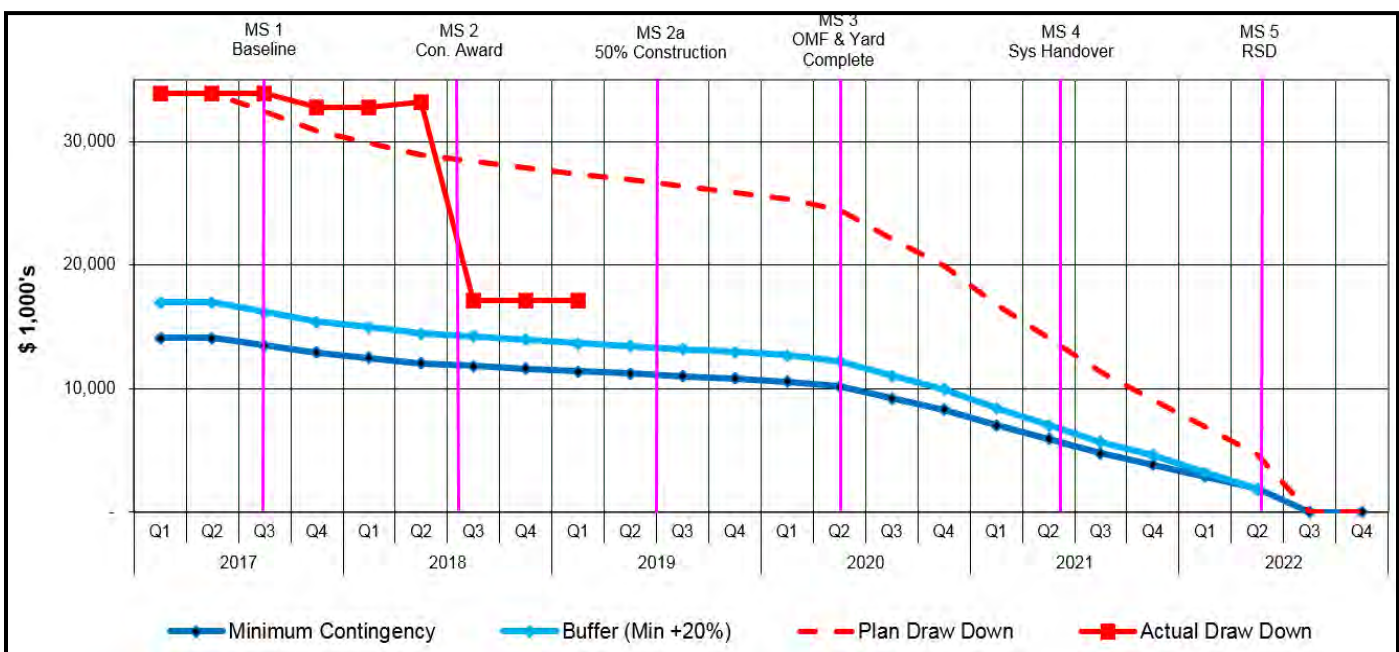
Type	Baseline		Current	
	Amount	% of Total	Amount	% of Work
Design Allowance	\$4.2	2.2%	\$0.0	0.0%
Allocated Contingency	\$13.5	6.8%	\$9.0	5.7%
Unallocated Contingency	\$16.1	8.2%	\$8.1	5.2%
Total	\$33.8	17.2%	\$17.1	10.9%

Table figures are shown in millions.

Contingency by Type



Contingency Drawdown (Quarterly)

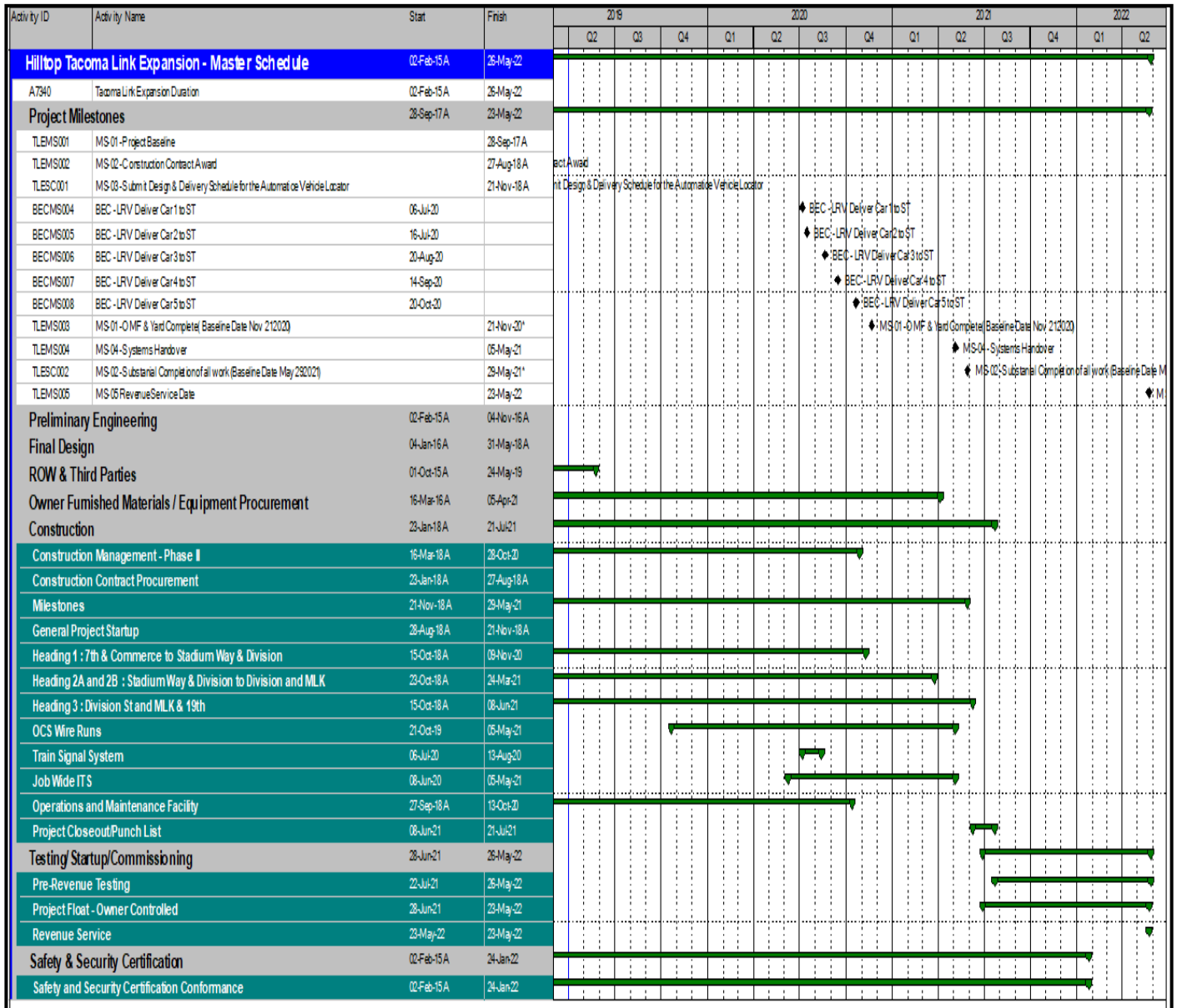


Link Light Rail Hilltop Tacoma Link Extension



Project Schedule

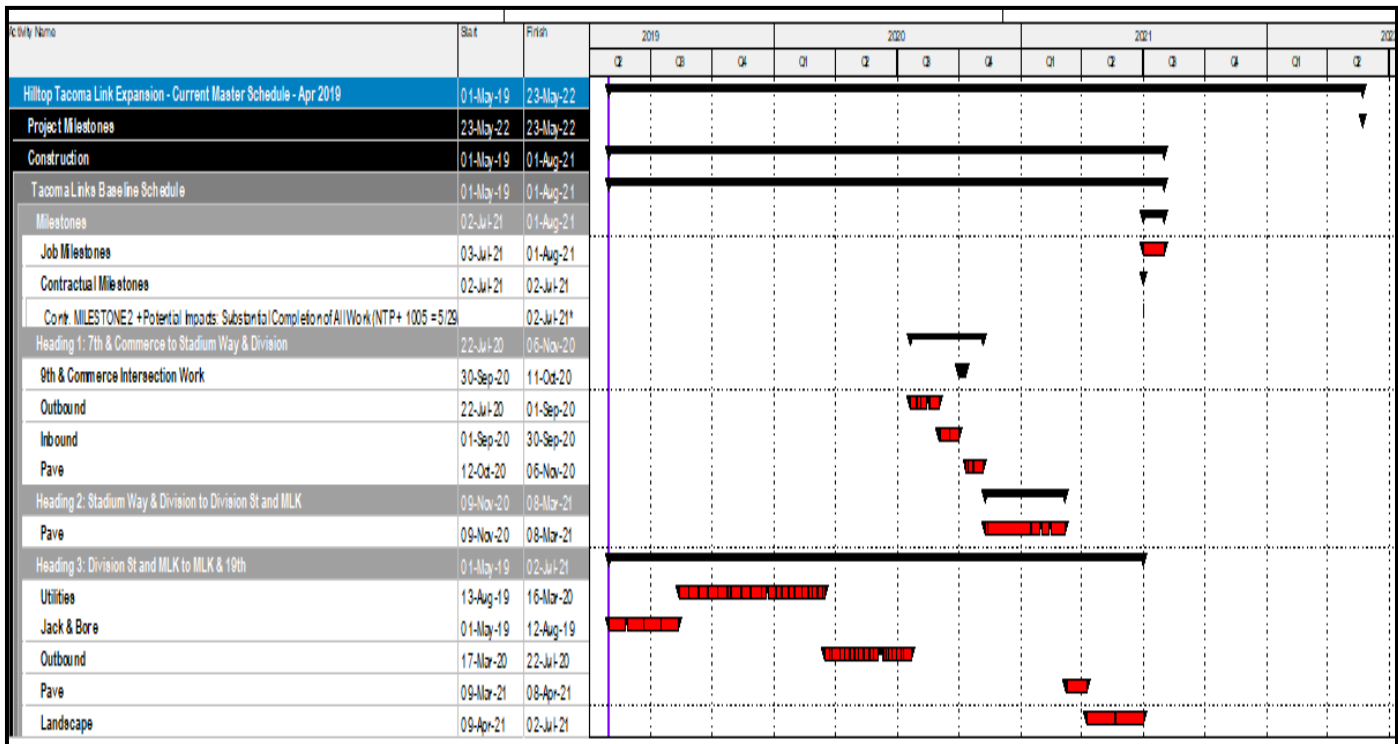
The Master Schedule has been updated through the end of April 2019. The LRV procurement contractor is still on track to Preliminary Design Review #2 in 2nd QTR 2019 and Final Design Review (FDR) completion in late 3rd QTR 2019. Forecast delivery of the LRVs forecasts the first car arriving in 3rd QTR 2020 and last car in 4th QTR 2020.



Critical Path Analysis

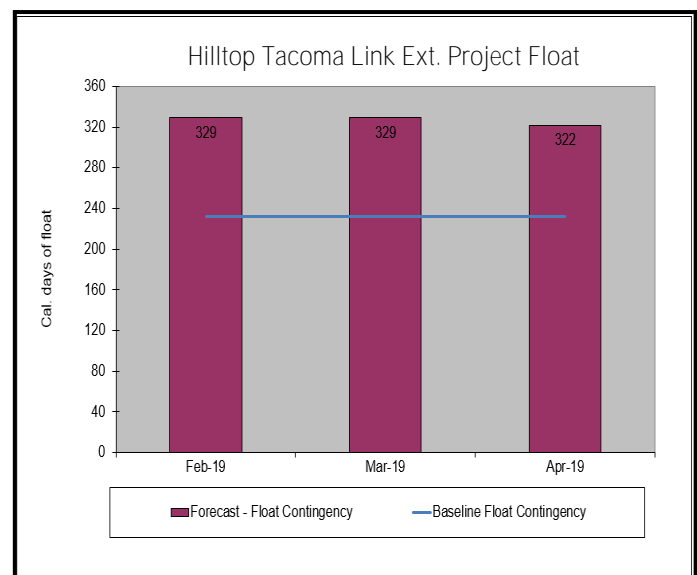
The Hilltop Tacoma Link Extension project critical path analysis for April 2019 .

T100 Construction critical path is the completion of the Utilities in Heading 1 through Heading 3 , and the installation of track both inbound and outbound for all headings to the completion paving and landscaping required for MS 02 Substantial Completion of Work to be completed in late 2nd Quarter 2021. Contractor resequencing work at 9th and Commerce to recovery time lost due to design issues and differing site conditions that currently affect utility work.



Project Float

The Tacoma Link Extension project currently forecasts 322 days of unallocated project float. 7 days of project float have been used for weather delays .



Link Light Rail Hilltop Tacoma Link Extension



Right-of-Way

The Hilltop Tacoma Link Operations and Maintenance Facility will expand to the east and five new vehicles will be purchased. The Right-of-Way effort for this project involved 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 resulted in owner and tenant residential and commercial relocations. The following table summarizes the Right-of-Way program status for this period. Design efforts reduced the total acquisitions required from 140 to 22 parcels. All project property acquisitions are complete.

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	20	20	20	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

- Met and walked with MultiCare several times to discuss the water line work in front of the hospitals and answer their questions. Provided additional signage to help traffic flow on 5th Street during water line work. Also met with Kaiser Permanente to discuss the water line work in front of their medical center, April 3.
- Met with the McMenamins Elks Temple project members to discuss stormwater work on Commerce St. and coordinate on their grand opening on April 24.
- Gave an update on construction at the Stadium Historic Business District's quarterly meeting, April 10, at the Hilltop Business Association's monthly meeting, April 18, and at the Hilltop Action Coalition's monthly meeting, April 15.
- Gave a presentation on the HTLE project to Downtown on the Go's Board, April 11, and to the Tacoma Area Commission on Disabilities, April 12.
- Held drop-in meetings at the Hilltop Action Coalition's office, April 16, and at TCF Architecture, April 30.
- Met with the Stadium Thriftway weekly to provide updates.
- Produced and distributed construction alerts about MLK Jr. Way & 11th St. utility work, rail welding on Stadium Way, TPSS 1 on Stadium Way, stormwater work and road closure on E. 25th St., and stormwater work on N. 1st St.
- Produced and distributed weekly traffic updates to the project listserv (4,000 + emails).
- Continued producing signage for businesses, including "Emergency Department Entrance" signs for Tacoma General.
- Continued coordinating access with businesses, including working around some funeral services on Hilltop and move-ins at condos on Stadium Way.
- Coordinated with Communications staff to take photos of the rail welding on Stadium Way.
- Conducted more interviews with businesses along the route as part of the Loyal to the Local program.
- Responded to various concerns.

Sound Transit Board Actions

Board Action	Description	Date
N/A	None to report this period.	

Construction Safety

Data/ Measure	April 2019	Year to Date	Project to Date
Recordable Injury/Illness Cases	0	0	1
Days Away From Work Cases	0	0	0
Total Days Away From Work	0	0	0
First Aid Cases	0	3	4
Reported Near Mishaps	0	1	8
Average Number of Employees on Worksite	98	-	-
Total # of Hours (GC & Subs)	5,195	25,675	37,488
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	0.00	0.00	5.34
LTI Rate	0.00	0.00	0.00
Recordable National Average	3.10	3.10	3.10
LTI National Average	1.20	1.20	1.20
Recordable WA State Average	5.70	5.70	5.70
LTI WA State Average	2.30	2.30	2.30

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

Link Light Rail Hilltop Tacoma Link Extension



Contract T100 — Hilltop Tacoma Link Extension

Current Progress

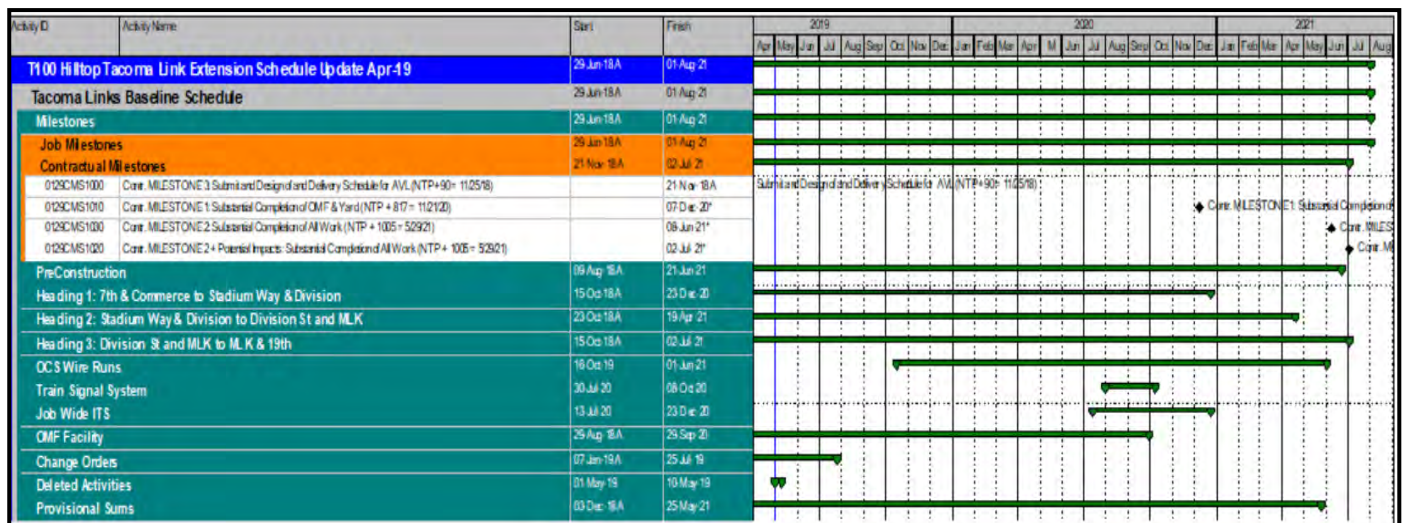
The T100 Contractor, Walsh Construction Company II, LLC, is continuing OMF and Mainline work at grade.

- Jack and Bore Work in Heading 3 Division ST and MLK continues.
- Heading 1 Completed underground ELB raceways, vaults and handholes at Stadium Way & 4th Street.
- Completed clear and grub and installation of crane mat for TPSS 1.
- Installation of ELB Storm Drain at Heading 1, Heading 2 and Heading 3 continues.
- Completed excavate Grade Beams at OMF.
- Completed FRP of truing pit walls and elevator pit walls at OMF.

Schedule Summary

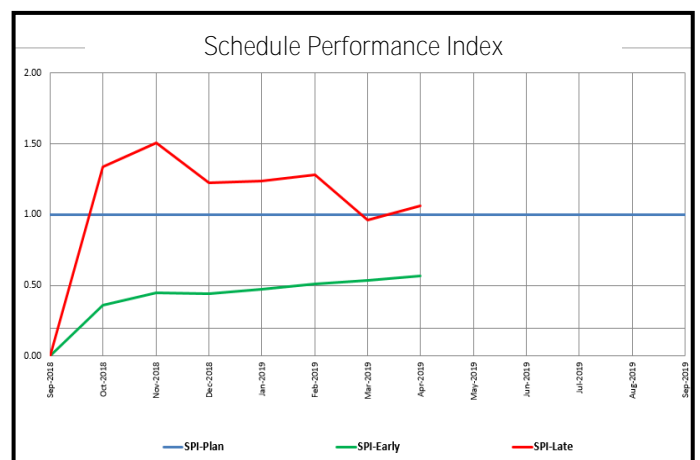
The schedule update for Apr 2019 indicates a target completion date for the OMF Substantial Completion in late November 2020 and MS#2 Substantial Completion of all Work is completing in 2nd Quarter 2022.

The critical path has changed from last months submittal from the heavy utility work located in the mainline to installation of piles in the OMF Facility structures. Weighted Percent Complete is currently 25%.



Schedule Performance Index

This period, the SPI-early improved slightly to .56 and the SPI-late improved to 1.06. The early index indicates that the contractor continues to perform behind the plan when compared to the baseline schedule. The SPI-late did increase to above 1 this month.



Next Period's Activities

- **Heading 1:** Continuation of storm drain work, installation of raceway road crossing at the intersection of Commerce & 7th, drill shaft and piling for TPSS 1.
- **Heading 2:** Continuation of storm drain and sewer work.
- **Heading 3:** Resume jack and bore work and storm drain sewer work, continue installation of OCS poles.
- **OMF:** Complete installation of underground water line and sanitary sewer.

Closely Monitored Issues

- The third party utility relocations (Tacoma Public Utility, CenturyLink and PSE) appear to have little impact on the T100 contract schedule and the HTLE Contractor has shown flexibility in accommodating the remaining third party work through coordinated sequencing. ST CM continue to monitor for potential cost and schedule impacts.
- Notifications to the community are critical in providing advance notice of upcoming construction activities. Community Outreach staff are managing this effort with the support of Contractor, City of Tacoma and ST field staff.

Cost Summary

Present Financial Status	Amount
T100 Contractor— Walsh Construction Company	
Original Contract Value	\$ 108,295,000
Change Order Value	\$ 7,606
Current Contract Value	\$ 108,302,606
Total Actual Cost (Incurred to Date)	\$ 25,186,405
Percent Complete	2%
Authorized Contingency	\$ 5,414,750
Contingency Drawdown	\$ 0
Contingency Index	N/A



Sewer crew breaking roadway at intersection of 11th and MLK.

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

- OMF South Scoping concluded April 1, Scoping Summary Report released May 3.
- April and May Board briefings to prepare for SEC review of the OMF South on May 9 and Board Action to select the sites for further evaluation in the EIS on May 23.
- Finalizing OMF South consultant scope of work and budget for Phase 2 contract amendment.
- TDLE scoping initiated April 1 and concluded May 1. Open Houses held in Fife 4/16, Tacoma 4/17 & Federal Way 4/23.
- Continued engagement with partner and regulatory agencies, tribes, stakeholder groups and property owners regarding TDLE alternatives development process and scoping.
- ST Board Briefing on TDLE Level 2 Alternatives held on April 25.
- Developing TDLE consultant scope of work and budget for Phase 2 contract amendment.
- Continued monthly coordination meetings with the Cities of Federal Way, Fife, Milton and Tacoma.

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 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	\$3.9	\$3.6	\$26.8	\$0.0
Preliminary Engineering	\$87.1	\$10.5	\$6.8	\$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	\$0.2	\$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	\$14.6	\$10.6	\$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	\$14.6	\$10.6	\$110.9	\$0.0
90 Unallocated Contingency	\$9.8	\$0.0	\$0.0	\$9.8	\$0.0
Total (10 - 90)	\$125.7	\$14.6	\$10.6	\$125.7	\$0.0

Link Light Rail Tacoma Dome Link Extension



Risk Management

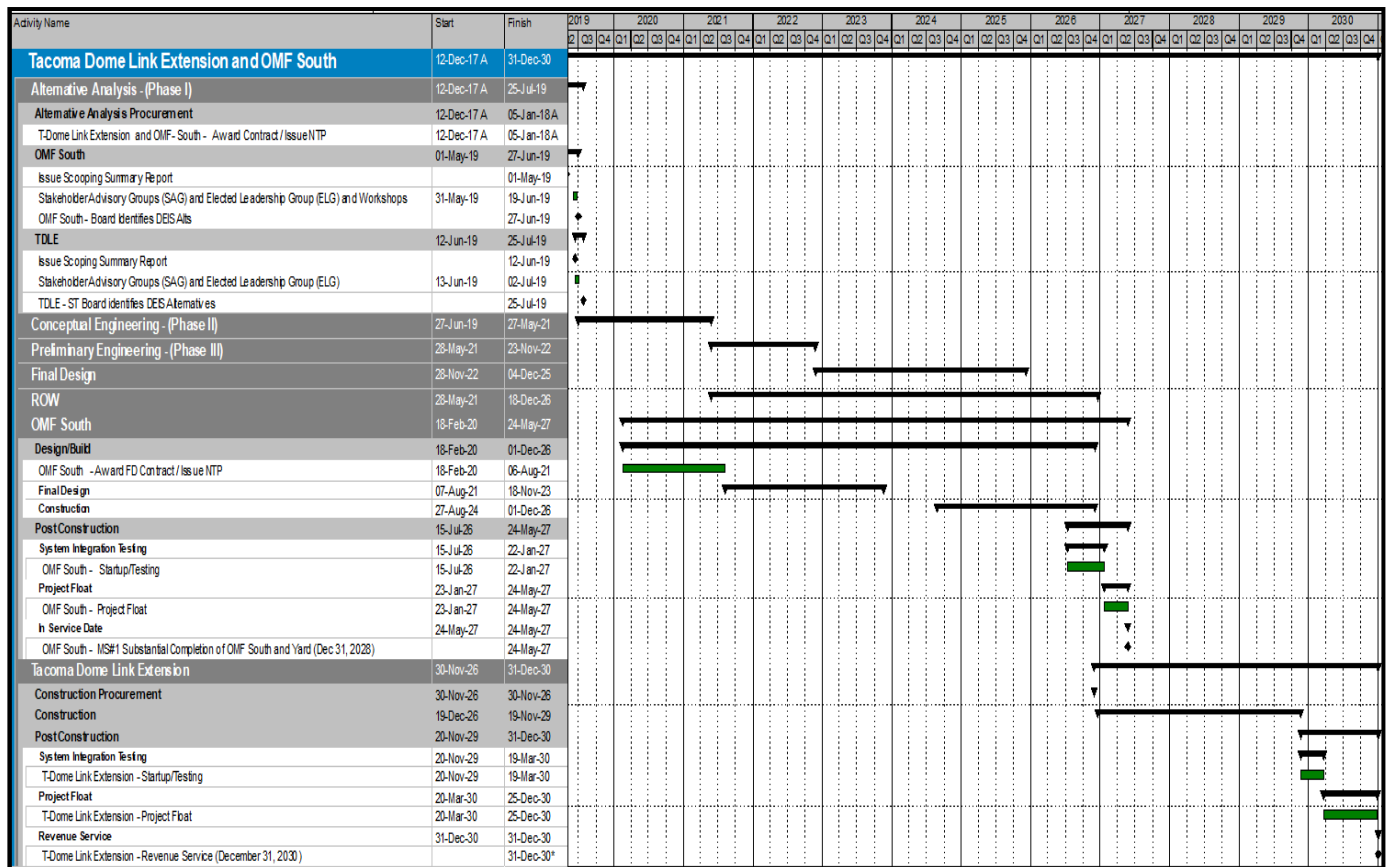
The Tacoma Dome Link Extension and OMF South Risk and Contingency Management Plan (RCMP) will establish a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It will provide a tool for the project team to proactively manage 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 1st QTR 2019 risk review workshop was held in March. The following are the top project wide risks:

- Preferred alignment cost is greater than the ST3 budgeted project cost may cause the project to delay.
- OMF South cost is greater than the ST3 budgeted project cost may cause the project to delay.
- OMF South can't be built in time for ST3 vehicle schedule.
- ST funding authorization reduced by voters or legislation may result in insufficient local funds.

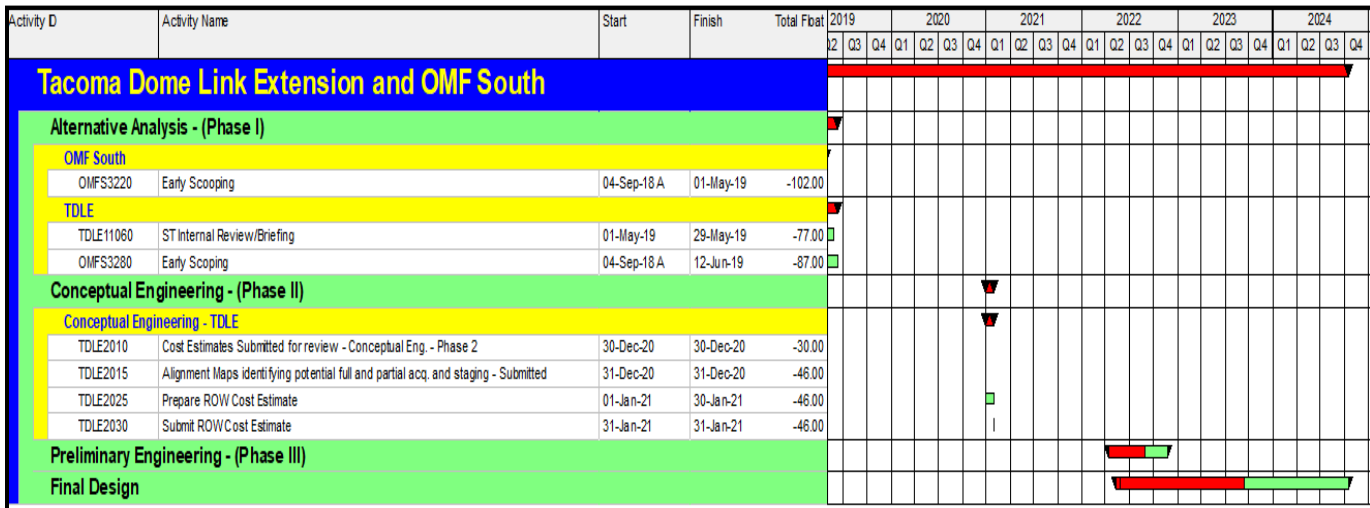
Project Schedule

Phase I Alternative Analysis —The HDR detailed schedule as of April 30, 2019 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 OMF South and early 3rd QTR 2019 for TDLE.



Critical Path Analysis

Utilizing the criteria of Critical Path equals Total Float less than 5 Days , current critical path runs through Phase 1 early scoping through Sound Transit Board Action to select DEIS alternatives for OMF South and Tacoma Dome Link Extension, into conceptual and preliminary design .



Critical Path Schedule - Apr 2019

Community Outreach

- Met with Janice McNeal of the Dome District Association to recap the last Stakeholder Group Meeting.
- Provided briefing and set up table at the Fife Chamber Monthly Luncheon.
- Provided briefing to the New Tacoma Neighborhood Council.
- Provided briefing to the Kent Mill Creek Neighborhood Association.
- Provided briefing to the Dome District Association.
- Provided briefing to the Eastside Neighborhood Council.
- Hosted TDLE Open House in Fife.
- Hosted TDLE Open House in Tacoma.
- Hosted TDLE Open House in Federal Way.
- Provided briefing to Federal Way Chamber Roundtable.
- Conducted field visits to potentially affected businesses.
- Hosted an open house at the Federal Way Performing Arts and Events Center.
- Continued conversations with potentially affected property owners regarding the OMFS project.

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 DP3A - review IFC Rev 02 resubmittal.
- North vault work continues.
- OCS pole foundation work is in progress.
- OMF East Building topped out structural steel with decking and welding continues.
- OMF East Building continues with Slab on Metal Deck (SOMD) and wall placement pours.
- MOW Building finished foundation concrete pours and started steel erection.
- Utility vault installation continues.
- Installation of ballast has begun for track work.

Closely Monitored Issues

- Elements of DB Contractor's proposal (shear wall elimination for future development) may require MOU amendment with City of Bellevue (CoB). CoB Council action may be required.
- 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 \$8.7M. The total project cost incurred from \$204.7M to \$213.4M. The primary cost drivers during this period on the OMF East project comes from the design build (construction) phase at \$8.2M or roughly 94% of the total monthly expenditures. The next cost driver this period are the Construction Services and Administrative Phase expenditures at about \$400K and \$100K respectively.

Cost Summary by Phase

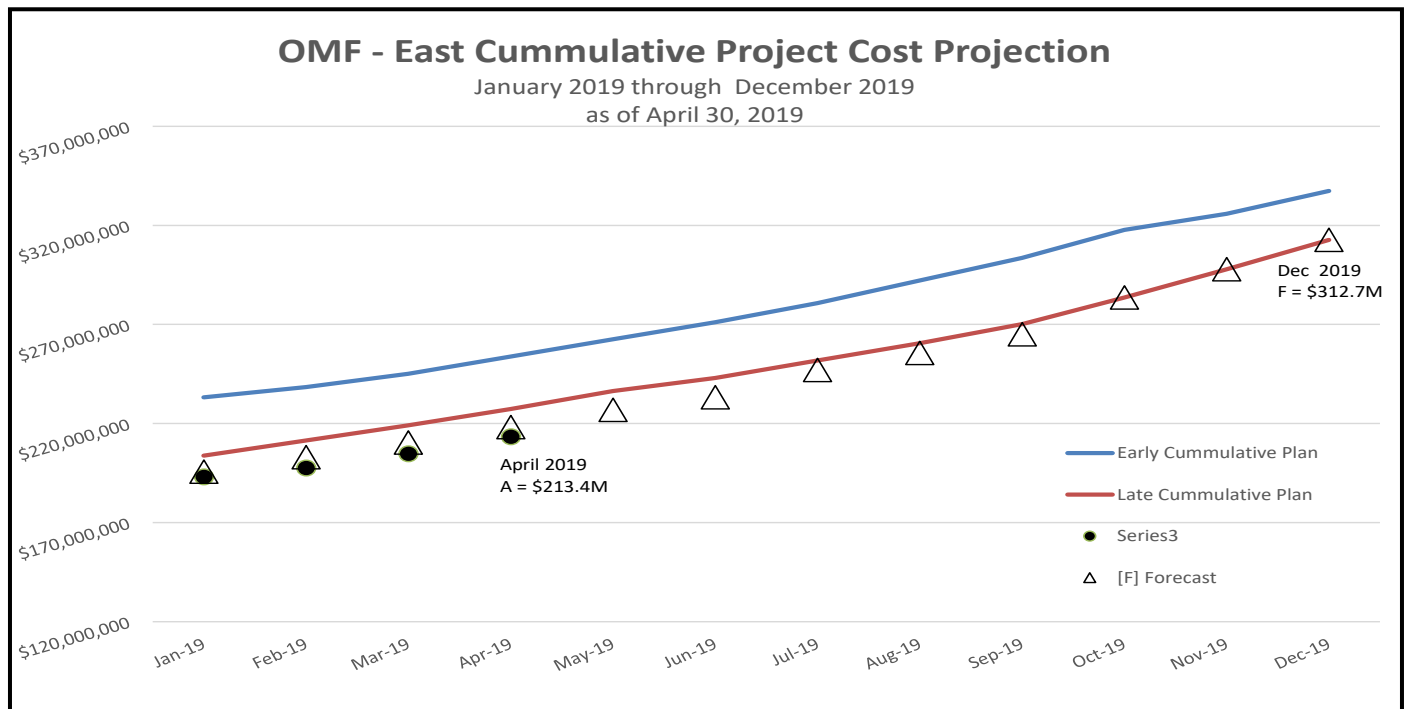
Project Phase	Baseline Budget	Authorized Project Allocation	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Authorized Allocation vs. EFC
Administration	\$17.6	\$17.6	\$5.6	\$5.6	\$17.6	\$0.0
Preliminary Engineering	\$9.5	\$9.5	\$9.0	\$8.7	\$9.5	\$0.0
Final Design	\$0.4	\$0.4	\$0.0	\$0.0	\$0.4	\$0.0
Construction Services	\$19.3	\$19.3	\$17.5	\$6.4	\$19.3	\$0.0
3rd Party Agreements	\$3.1	\$3.1	\$0.3	\$0.1	\$3.1	\$0.0
Construction	\$264.8	\$264.8	\$223.1	\$91.0	\$264.8	\$0.0
ROW	\$134.5	\$134.5	\$102.0	\$101.6	\$134.5	\$0.0
Total	\$449.2	\$449.2	\$357.5	\$213.4	\$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	\$1.2	\$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	\$136.1	\$124.3	\$51.3	\$145.5	-\$9.4
40 Sitework & Special Conditions	\$43.6	\$48.5	\$39.7	\$12.7	\$42.7	\$5.8
50 Systems	\$43.0	\$41.6	\$38.6	\$11.4	\$38.6	\$3.0
Construction Subtotal (10 - 50)	\$229.3	\$230.6	\$206.6	\$76.7	\$230.8	-\$0.3
60 ROW, Land, Improvements	\$134.5	\$134.5	\$102.0	\$101.6	\$134.5	\$0.0
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services	\$71.6	\$70.3	\$49.0	\$35.1	\$70.1	\$0.3
90 Unallocated Contingency	\$13.8	\$13.8	\$0.0	\$0.0	\$13.8	\$0.0
Total (10 - 90)	\$449.2	\$449.2	\$357.5	\$213.4	\$449.2	\$0.0

Project Cash Flow Projection

The OMF East cost projection is trending late this period but anticipates to pick up through the following summer. Total project expenditure incurred to date approximated \$213.4M with Right-of-Way (ROW) phase cost being the largest driver at 47.6% and Construction Phase at about 42.7%. The projected cash flow was revised this period for the next nine months to reflect some current trends. While the Design Builder's (DB) design completion slipped and impacted specifically on Systems where some anticipated procurements did not occur as planned, construction has certainly picked up the slack with the show of structural steel installations. The revised project expenditure continues to trend a projection to reach \$312.7M by December of 2019 which is at the lower bounds of the late planned expenditures as shown in the graph below.



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 Quantitative Risk Assessment (QRA) assessed that with the current risk profile, the project would complete within the baseline schedule and budget. The current top actively managed risk areas remains similar to the previous quarter and are listed below:

- **Design:** As the project approaches the 100% design milestone, changes made to scope or design will have greater cost impact than during the earlier design stages.
- **Scope:** Scope interfaces with East Link (E335/E750) tracks, OCS, Signals, LRV vehicle envelop, Operations' requirement changes creates additional work impacts the project's schedule and budget.
- **Construction:** As the construction moves into full swing, normal and routine construction risks will be encountered and post-IFC change to design may also put drive cost growth to the project. Most underground work is now complete, limiting further risk from soils or contamination. Safety and environmental compliance is another area to monitor.

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. Reflecting the inclusion of the Design Allowance in the Design Builder contract amount. In this period, there change orders were negligible. The current contingency balance remains practically unchanged at approximately \$69.4M (previous quarter at \$69.5M).

Design Allowance (DA): N/A.

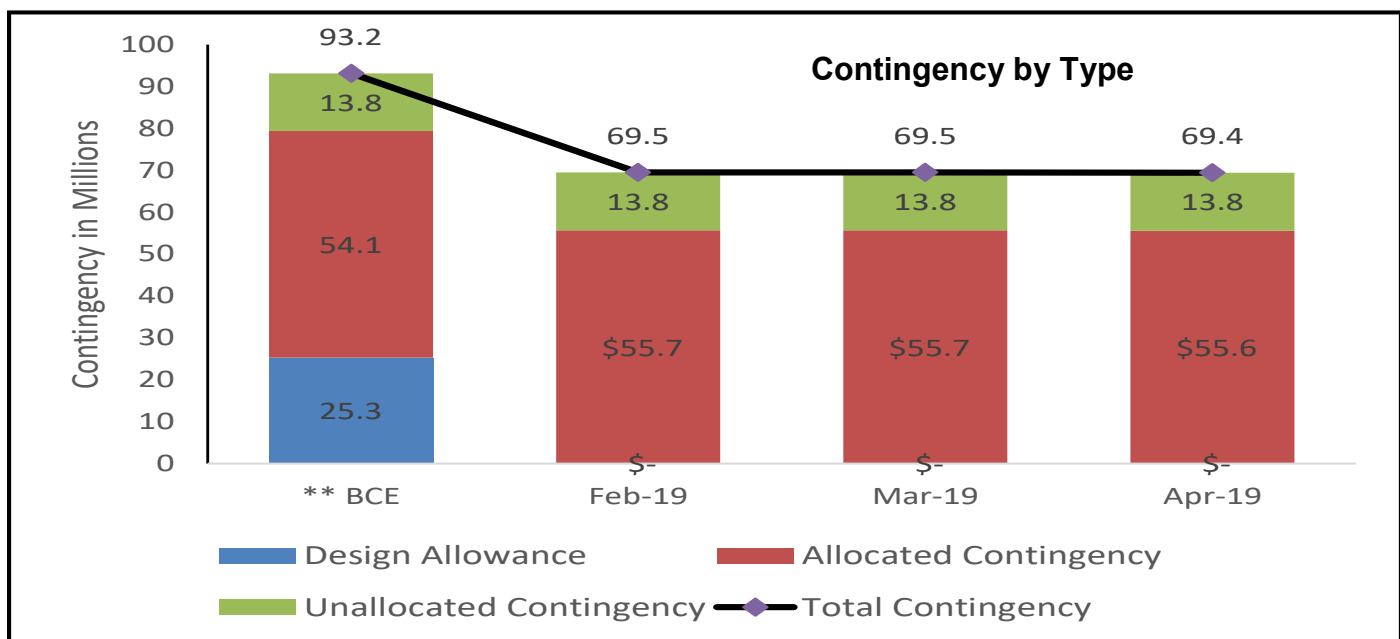
Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. Allocated contingency balance at the end of this period was reduced to \$55.6M from the previous month at \$55.7M due to normal construction changes.

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%	\$ 55.6	23.6%
Unallocated Contingency	\$ 13.8	3.1%	\$ 13.8	5.9%
Total	\$ 93.2	20.7%	\$ 69.4	29.4%

Table figures are shown in millions.

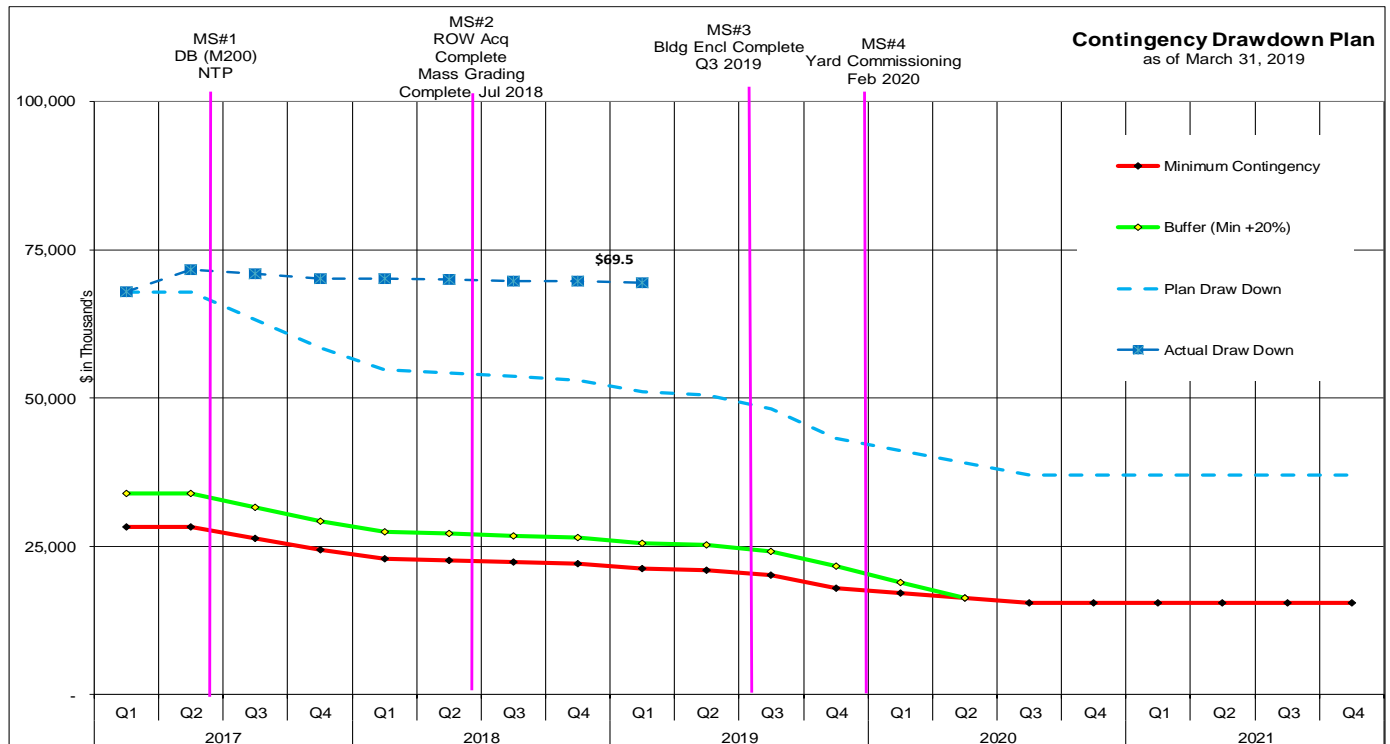


Link Light Rail

Link Operations & Maintenance Facility: East

Contingency Drawdown

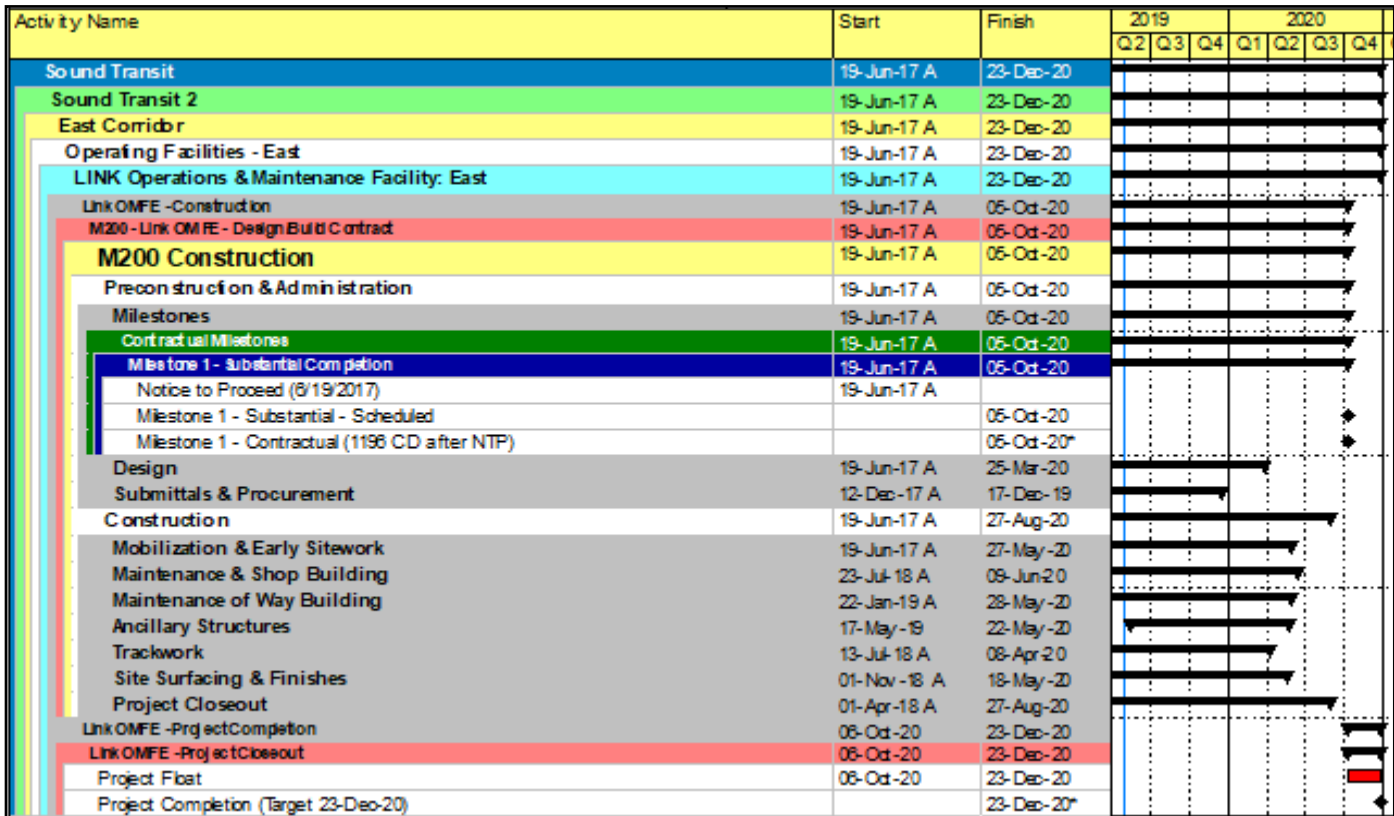
At the end of the 1st QTR 2019, OMF East Project's total contingency drawdown plan is trending positively. Total contingencies balance is at approximate \$69.5M (previously at \$69.7M) and remains above all the baseline draw down projection and well above both the minimum contingency and the buffered (minimum plus 20%) contingency levels. The next update will be at end of the 2nd QTR 2019. Risk Mitigation Milestone #3 has been revised to be met in 3rd QTR 2019.



OMF East looking north taking shape with yard scope and steel structure framing on April 30, 2019

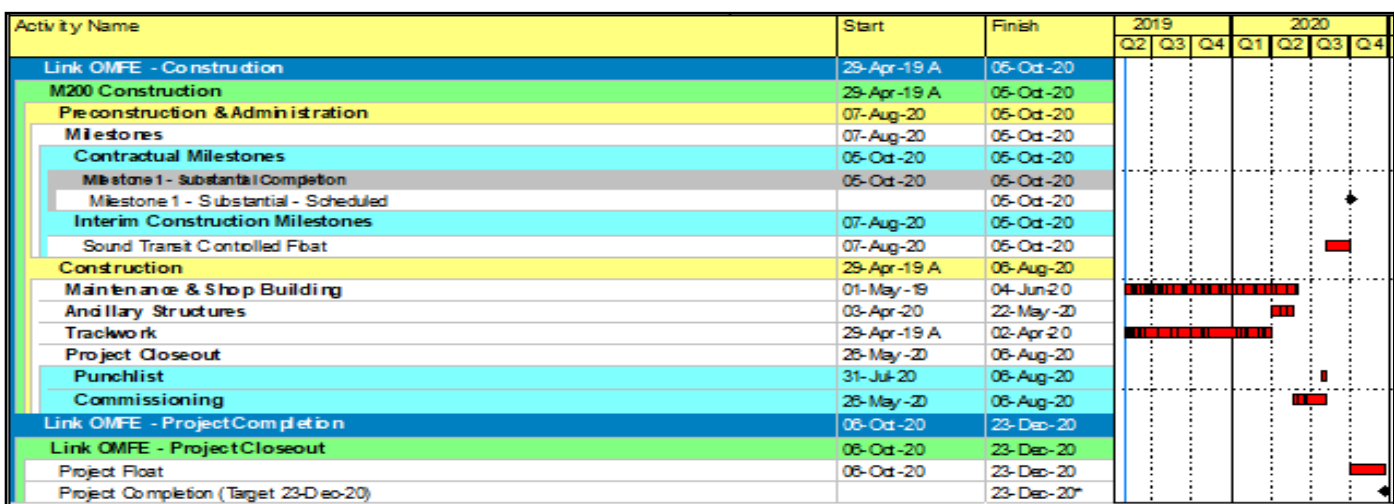
Project Schedule

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. Their schedule currently shows that they are 9 days behind the required Substantial Completion date; this is a result of weather impacts from February for which the contractor will be awarded a non-compensable time extension. The OMF East is expected to be available to begin receiving LRVs as needed in the Summer 2020.



Critical Path Analysis

The critical path is running concurrently through the trackwork in the storage yard and the shop area and equipment in the Maintenance & Shop Building, and then through commissioning and project closeout.



Community Outreach

- Ongoing engagement with the public on potential construction impacts to the neighborhood.

Sound Transit Board Actions

Board Action	Description	Date
	None to report this period.	

Construction Safety

Data/ Measure	April 2019	Year to Date	Project to Date
Recordable Injury/Illness Cases	0	1	2
Days Away From Work Cases	0	0	0
Total Days Away From Work	0	0	0
First Aid Cases	0	1	4
Reported Near Mishaps	0	2	5
Average Number of Employees on Worksite	95	-	-
Total # of Hours (GC & Subs)	15,342	61,414	154,418
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	0.00	3.26	2.59
LTI Rate	0.00	0.00	0.00
Recordable National Average	3.10	3.10	3.10
LTI National Average	1.20	1.20	1.20
Recordable WA State Average	5.70	5.70	5.70
LTI WA State Average	2.30	2.30	2.30

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.

Contract M200 - OMF East Design Build

Current Progress

Design: Hensel Phelps (HP) advanced design package (DP) for the following areas: Sound Transit's (ST) comments were incorporated in HP's resubmittal of DP 003A Issue for Construction (IFC). ST rejected the submission in March and HP resubmitted DP003A Rev 02 in April of 2019. ST is currently reviewing DP003A.

Construction: HP completed north vault installation and continued on the OCS foundations and the electrical / communications duct banks. Retaining wall installation continued at the north end of the project. Structural steel erection for the OMFE building topped out of structural steel followed by welding and decking with ongoing Slab on Metal Deck (SOMD) pours. MOW building finished with foundation concrete pours and perimeter wall activities and started structural steel erection. Completed backfill and fine grading for Artwork area. Installation of ballast has begun.

Next Period's Activities

- Approval of DP #003A Rev 2 IFC.
- Continue work at OMFE Building.
- Continue work at MOW Building.
- Continue OCS pole foundation work.
- Continue installation of ballast.

Closely Monitored Issues

- **Site infiltration issue:** Contractor has submitted an RFC stating differing site conditions on the soil infiltration rate. ST has rejected this RFC and currently working on partnering activities to resolve the issue. Mediation is ongoing.
- **North Vault Subgrade Condition:** Contractor has submitted an RFC stating that the subgrade was unsuitable for vault placement. Mediation has begun.

Cost Summary

Present Financial Status	Amount
M200 Contractor – Hensel Phelps	
Original Contract Value	\$218,912,000
Change Order Value	\$2,167,557
Current Contract Value	\$221,079,557
Total Actual Cost (Incurred to Date)	\$88,951,482
Percent Complete	44.6%
Authorized Contingency	\$21,891,200
Contingency Drawdown	\$2,167,557
Contingency Index	3.9

*Excludes Betterments



Structural Steel Erection at OMF East Building.

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



Artist rendering of the new light rail vehicles fleet.

Key Project Activities

- First Article Inspections (FAI) Open Items buy-backs by ST Operations and LTK's SMEs team held at Sacramento, CA.
- Completion of System Safety Certification field audit by Talson at Sacramento, CA and Seattle, WA.
- Siemens LRV supporting teams arrived at OMF Central for initial set up and preparation for the arrival of the first LRV.
- Siemens mobilized assigned near the OMF Central. Currently awaiting for City of Seattle permit and ST approval for operation and occupation.
- Cargo Preference analysis and Bill of Ladings for LRV components shipments document received for 1st QTR 2019.
- LRV 201 through 212 in final assembly stage.

Closely Monitored Issues

- Delayed in the completion of shop interface projects necessary to maintain the new LRVs.
- Cab mask design non-conformance issue pending Siemens response – schedule impact is a possibility.
- Final design packages not 100% complete: Of the 21 design reports, 4 approved, 13 conditionally approved, 4 disapproved packages are in final review.
- Siemens has completed majority of the items for “rework before ship” (525 of 740 items). 70% reviewed by inspector: approximately 50% appears acceptable and the other 50% requires further rework.



201 & 211 Stored on snap track



204 Test Pit

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.

The project expenditure incurred to date is approximately \$89.6M to which a majority of the cost is attributed to the vehicles phase. The current period expenditure is approximately \$0.8M, where the majority cost is associated to the engineering and inspect and cost related to the preparation in anticipation on the arrival of the first LRV. There were no cost incurred by the manufacturer this period due to design slippage as well as non-conformance issues

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	\$1.8	\$1.7	\$6.4	\$0.0
CONSTRUCTION SERVICES	\$18.0	\$18.0	\$4.8	\$4.2	\$18.0	\$0.0
VEHICLES	\$716.3	\$716.3	\$649.3	\$83.7	\$716.3	\$0.0
Total	\$740.7	\$740.7	\$655.9	\$89.6	\$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 (SCC 10 - 50)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
60 ROW, LAND, EXISTING IMPROVEMENTS	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
70 VEHICLES	\$702.8	\$702.8	\$654.1	\$87.5	\$702.8	\$0.0
80 PROFESSIONAL SERVICES	\$6.1	\$6.1	\$1.6	\$2.3	\$6.1	\$0.0
90 CONTINGENCY	\$31.7	\$31.7	\$0.0	\$0.0	\$31.7	\$0.0
Capital Total (SCC 10 - 90)	\$740.7	\$740.7	\$655.6	\$89.6	\$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 project's qualitative risk register reflects 4th Quarter of 2018. The 1st/2nd Quarter Risk will take place in June 2019.

The current top risk areas are listed below:

- Delay in Lift Beam design or other solution to Siemens' S70 vehicle jacking points impacts conditional acceptance.
- Commissioning of LRVs is impacted due to lack of sufficient space, lift access or other resources at OMF Central.
- Automatic Train Protection retrofit of existing fleet takes longer than expected due to difficulty defining interface of new system for final design.
- Limited storage capacity at Link OMF Central delays or increases costs on delivery of Siemens S70 vehicle spare parts.
- Quality and workmanship of the manufacturer is a growing concern.

Link Light Rail Light Rail Vehicle Fleet Expansion



Contingency Management

The project's budget was Baseline in September 2015 and was amended in April 2016 to exercise the option LRV contained a total of \$78.0M of Total Contingency. The project's Total Contingency is currently at \$69.0M or about 12.2 % of remaining work in the project.

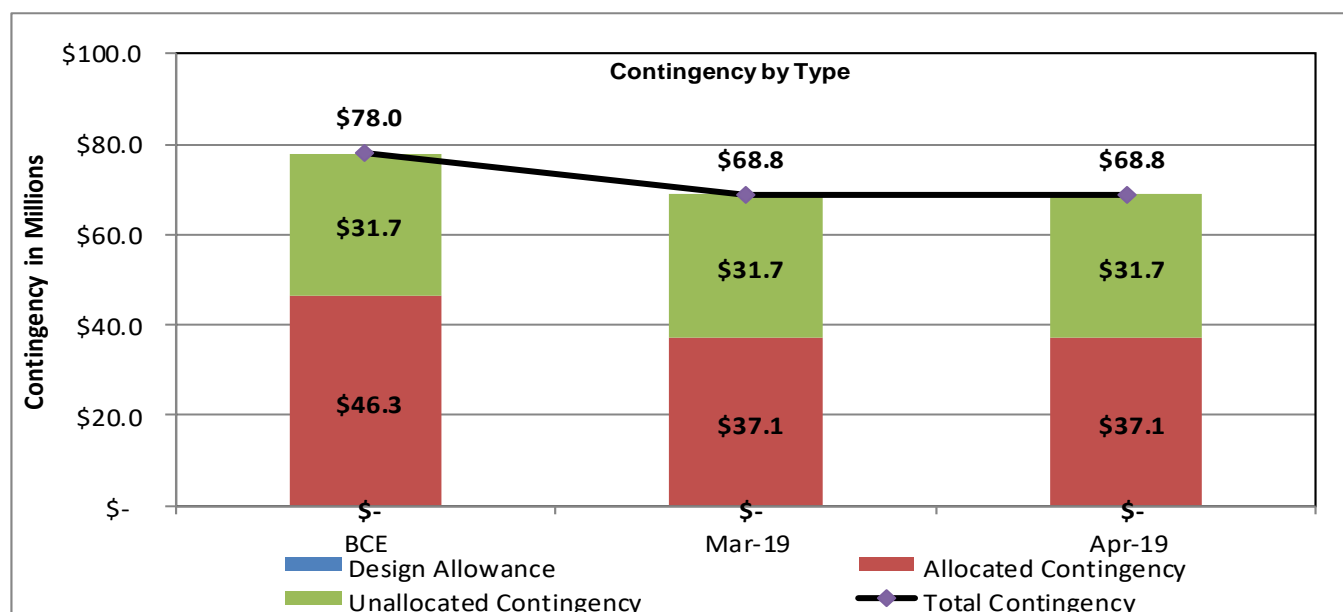
Design Allowance (DA) was established to account for unquantified scope at the time of the cost estimate. This project contains \$0 design allowance.

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 \$37.1M .

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

Contingency Status	Baseline		Current	
	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$ -	0.0%	\$ -	0.0%
Allocated Contingency	\$ 46.3	6.4%	\$ 31.7	6.6%
Unallocated Contingency	\$ 31.7	4.3%	\$ 31.7	0.0%
Total	\$ 78.0	10.7%	\$ 69.0	12.2%

Contingency by Type



Project Schedule

The LRV Fleet Expansion project schedule is shown below. The progress schedule 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.

As of April 2019, Siemens is projecting that LRV 1, 2 and 3 will be shipping in late 2nd QTR 2019 and Conditional Acceptance for these cars will be 4th QTR 2019. This projection is based on the assumption that the first Car will complete First Article Inspection by the end of May 2019. Subsequent cars deliveries for LRVs 4 - 152 will slip approx. two months from the contractual delivery ship dates but are expected to maintain schedule for Conditional Acceptance milestones. Siemens will be providing a recovery schedule in May showing an accelerated delivery schedule from three cars a month to four cars a month.

Activity Name	Start	Finish	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
ST2 Light Rail Vehicle Fleet Expansion	24-Feb-15 A	28-Dec-24										
ST2 Light Rail Vehicle Fleet Expansion	24-Feb-15 A	10-Oct-16 A										
LRV Engineering and Manufacture	11-Oct-16 A	30-Jun-19										
LRV Design Reviews, Manufacturing, and System Tests	11-Oct-16 A	30-Jun-19										
LRV Delivery Schedule	01-Jun-19	28-Oct-24										
LRV #1-122 (122 LRV Base Order)	01-Jun-19	13-Oct-22										
Delivery of 1st LRV (BL 27-Mar-19)		01-Jun-19*										
Delivery of 40th LRV - Northgate Link Vehicle Deliveries Complete (BL 26-Jun-20)		21-Aug-20										
Delivery of 42nd LRV - Existing OMF at capacity (104 LRVs) (BL 27-Jul-20)		21-Aug-20										
Final Acceptance of Vehicles (BL 28-Feb-23)		13-Oct-22										
Delivery of 122nd LRV - Final ST2 Delivery (BL 26-Aug-23)		13-Oct-22										
LRV #123 - 152 (30 LRV Options) - Change Order #4	18-Apr-24	28-Oct-24										
Delivery of 152nd LRV - Final Delivery (BL 26-Feb-24)		18-Apr-24										
Final Acceptance of Vehicles (BL 26-Aug-24)		28-Oct-24										
Project Closeout	13-Oct-22	28-Dec-24										

Link Light Rail Light Rail Vehicle Fleet Expansion

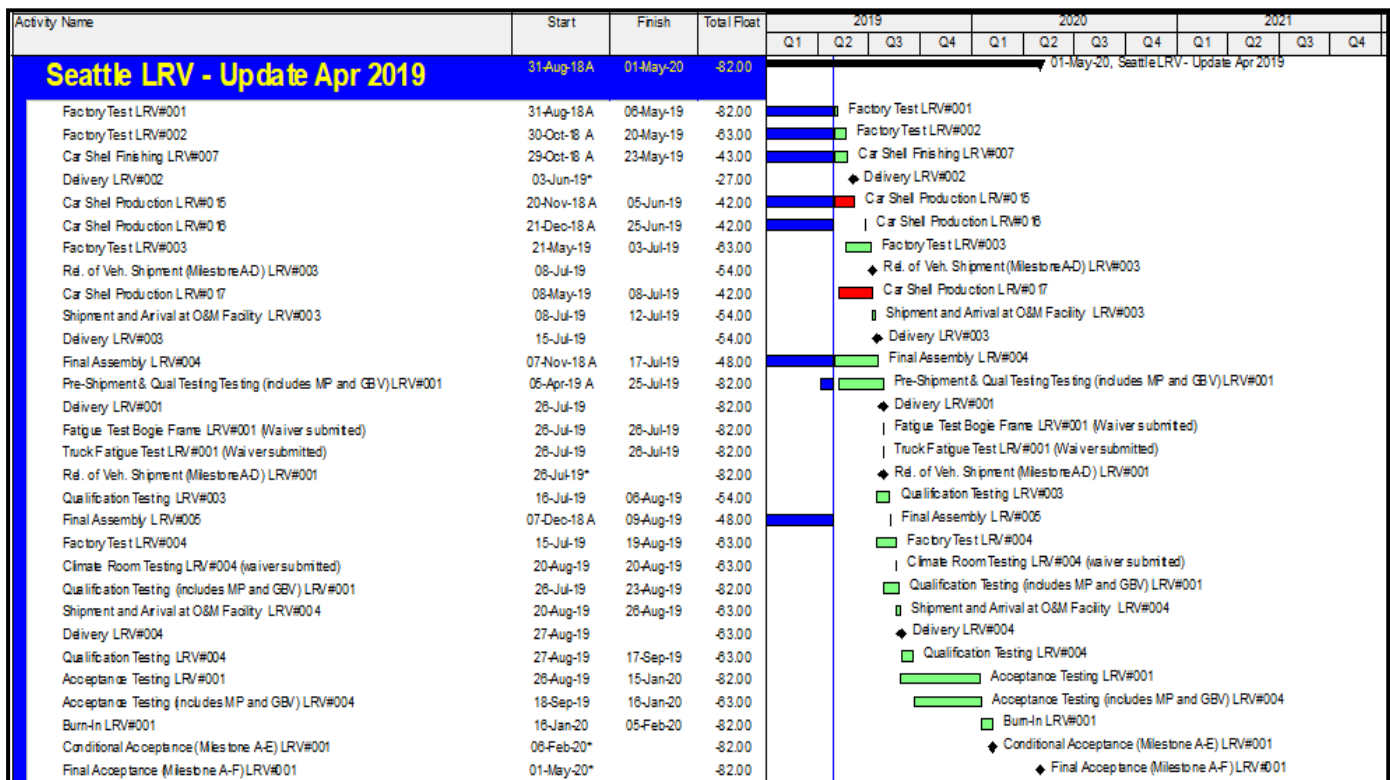


Critical Path Analysis

The critical path continues from LRV 20 through LRV 152 car shell production, final assembly, shipment and arrival at O&M Facility, to Final Acceptance Test milestone completion of LRV 152. Siemens will be providing a recovery schedule in May showing an accelerated delivery schedule from 3 cars a month to 4 cars a month.

Delivery of all 40 light rail vehicles required for Northgate Link Extension is currently anticipated approximately a year ahead of the start of revenue service. This is well within requirements 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



Link Capital Program Staffing January – March 2019 (updated quarterly)

Recruiting Status

The following positions were filled in 1st QTR 2019 to support the Link Capital Program:

Position	Position
DECM Executive Director	Sr. Scheduling Engr
Deputy Project Director, Lynnwood Link	Risk Engineer
Permit Administrator (2)	Principal Construction Manager (2)
Sr. Land Use Permitting	Deputy Construction Manager
Manager, Civil Engineering	Sr. Project Manager
Mechanical Engr, Fire Protection	Deputy Project Director, Vehicles
Sr. Systems Engr, Traction Electrification	Capital Signage Specialist
Sr. Systems Engr, Rail/Vehicle	Project Director, Environmental Affairs
Project Control Coordinator (2)	Sr. Environmental Planner
Sr. Project Control Specialist	Environmental Planner

As of the end of 1st QTR 2019, below is the current DECM and PEPD staffing levels:

Division	Total Positions	Open Positions	Filled Last Quarter
Executive, includes Project Directors	22	3	2
Project Management	34	2	3
Civil/Structural Engineering	60	13	1
System Engineering	40	2	2
Architecture & Art	18	0	1
Permitting	13	1	3
Construction Management	31	3	3
Project Control	62	3	5
Real Property	19	2	0
Capital Project Development	34	2	0
Environmentel Affairs & Sustainability	27	2	3
TOTAL	360	33	23

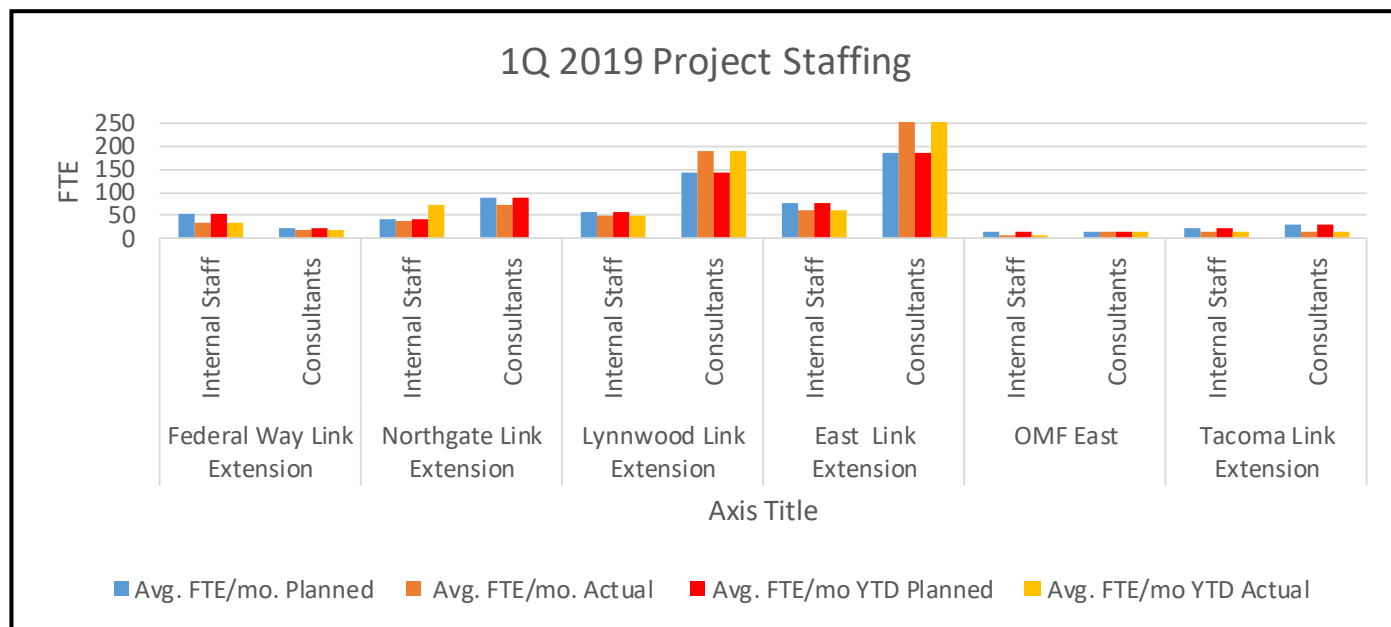
Link Light Rail Staffing Report



Staffing Variance relative to Plan

There were 207 internal and 657 consultant full time equivalents (FTE) supporting design and construction of Link light rail extensions (table below).

	1Q 2019 Project Staffing											
	Consultants				Sound Transit Staff				Total (AVG. YTD)			
	FTE		Variance		FTE		Variance		FTE		Variance	
	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan
Federal Way Link Extension	24	18	-6	76%	52	33	-18.6	64%	76	52	-24	68%
Northgate Link Extension	90	72	-18	80%	43	38	-4.5	90%	133	111	-22	83%
Lynnwood Link Extension	145	189	44	131%	59	50	-9.0	85%	204	239	35	117%
East Link Extension	187	348	161	186%	76	62	-14.2	81%	263	410	147	156%
OMF East	16	14	-2	86%	14	7	-6.8	52%	30	21	-9	70%
Tacoma Link Extension	30	15	-15	51%	22	15	-6.7	70%	52	31	-21	59%
Total	492	657	165	134%	267	207	-59.7	78%	759	864	105	114%



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

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		