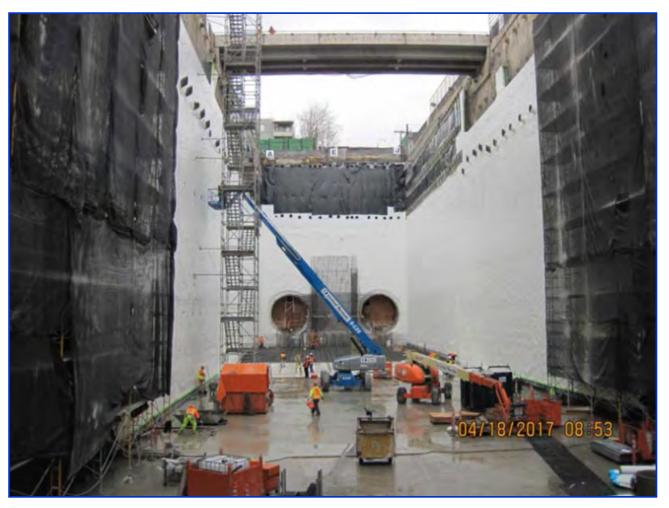
Progress Report Link Light Rail Program



Northgate Link - Waterproofing activities at the Roosevelt Station

April | 2017



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





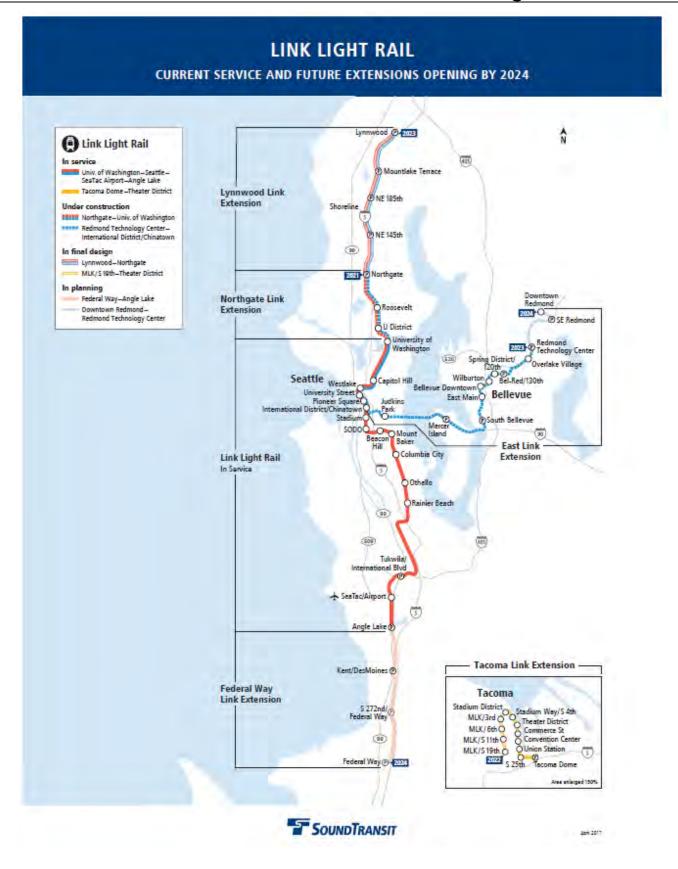


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Link Light Rail Program Overview



Map of Sound Transit's current and future light rail projects.



Projects

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. The project is in Final Design and Construction. 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 proposed budget for this project is \$488.4M.

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 Center is forecast for early 2023 with a tunnel route in Downtown Bellevue. The Sound Transit Board adopted the baseline capital budget of \$3.67B in April 2015.

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 (DB) delivery strategy. The Sound Transit Board adopted the baseline capital budget of \$383M 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 proposed budget for this project is \$412.6M.

Tacoma Link Expansion: The Tacoma Link Expansion 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 Final Design budget is \$34.6M.

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 pays, a LRV wash facility and storage for up to 96 light rail vehicles. The ST Board adopted the baseline capital budget of \$449M in July 2016.

Light Rail Vehicle (LRV) Fleet Expansion: This project includes the design, manufacturing, inspection, testing and delivery of 122 low floor LRVs for service requirements of Northgate, East Link and Lynnwood Link Extensions. The Sound Transit Board adopted the baseline capital budget of \$740.7M in September 2015.

Downtown Redmond Link Extension: This project adds two new light rail stations beyond the future Redmond Technology Center Station being build as part of the East Link Extension. Preliminary Engineering for the Redmond light rail extension resumed in 2016 with a budget of \$28.6M.



Program Budget

Project	Adopted Budget	Committed to Date	Incurred to Date	Forecast to Complete	Estimated Final Cost	Adopted Budget vs. EFC
University Link	\$1,756.0	\$1,514.8	\$1,501.2	\$39.8	\$1,554.6	\$201.4
Northgate Link Extension	\$1,899.8	\$1,459.8	\$855.5	\$439.9	\$1,899.8	\$0.0
Lynnwood Link Extension	\$488.4	\$202.9	\$126.5	\$285.5	\$488.4	\$0.0
East Link Extension	\$3,677.2	\$1,545.3	\$668.5	\$2,131.9	\$3,677.1	\$0.0
South 200th Link Extension	\$383.2	\$329.7	\$324.1	\$11.5	\$341.2	\$42.0
Federal Way Extension	\$412.6	\$41.3	\$40.6	\$371.3	\$412.6	\$0.0
Tacoma Link Expansion	\$34.6	\$21.0	\$15.2	\$13.6	\$34.6	\$0.0
Link O & M Facility: East	\$449.2	\$51.4	\$49.8	\$397.8	\$449.2	\$0.0
ST2 LRV Expansion	\$740.7	\$529.1	\$10.0	\$211.6	\$740.7	\$0.0
Downtown Redmond Link Ext.	\$28.6	\$13.7	\$2.1	\$15.0	\$28.6	\$0.0
Total Link	\$9,870.3	\$5,709.1	\$3,593.6	\$3,917.8	\$9,626.9	\$243.4

Table in millions.

Program Schedule

wity Name	Start	Finish	2010	2011	2012	2013	2014	2015	2016	2017	304 01 02 03	2019	101102103102	2021	2022	01102103104	401
University Link											101 01 02 00				4.102/05/04		1
Final Design	29-Dec-06A	31-Oct-11 A															
Civil/Systems Construction		31-Jan-16 A															
Systemwide Startup/Testing		24-Jan-16 A						_	-								
Revenue Service Date (Window)		19-Mar-16A						1 7									
Revenue Service Date (FFGA)		24-Apr-17 A								•							
South 200th Link Extension					<u> </u>						<u> </u>						+
Design Refinements/Board Approval	24-Apr-09A	31-Mar-11 A															
Design/Build Procurement		14-Oct-12 A															
Civil/Systems Final Design/Construction		24-Sep-16A			L C												
Systemwide Startup/Testing/Float		24-Sep-16A															
Revenue Service Date		24-Sep-16A															
Northgate Link Extension					<u> </u>						<u> </u>	+					+
Final Design	04-Oct-10A	19-May-17															
Civil/Systems Construction (incl Procurements)		15-Oct-20						1					<u> </u>				
Systemwide Startup/Testing/Float		24-Sep-21										L L					
Revenue Service Date	21110910	24-Sep-21												↓			
East Link Extension					<u> </u>						<u> </u>		<u> </u>				+
Preliminary Engineering	24-Apr-09A	31-Mar-11 A															
FEIS/Board Adopt/ROD/ST PhaseGate	24-Apr-09A							1									
Final Design (incl Procurement)	16-Sep-11 A			Ļ													
Civil/Systems Construction (incl GCCM Procurements)	03-Jun-14A																
Systemwide Startup/Testing/Float	01-Jan-22	30-Jun-23												G			
Revenue Service Date		30-Jun-23															
Lynnwood Link Extension																	+
Alternatives Analysis/EIS Scoping	25-Apr-10A	31-Dec-11 A															
NEPA/SEPA/Draft EIS		27-Dec-13A		<u>ا</u> (
Preliminary Engineering/Final EIS/ROD		30-Jun-15 A				L C											
Final Design (incl Procurement)	02-Jan-15A	30-Jun-18					L C										
Construction/Startup/Test/Float (incl Procurement)	01-Jul-18	31-Dec-23															-
Federal Way Link Extension					<u> </u>												+
Phase 1/2 - Alternatives Analysis/DEIS/CE	30-Jun-12A	31-Dec-14 A															
Phase 3 - FEIS and PE	30-Apr-15A	17-Nov-17															
Final Design; S.200th to KDM (incl Procurement)	22-May-17	16-Aug-20															
Construction/Startup/Test/Float; S.200th to KDM (incl Pro-	22-Jul-19	07-Nov-24										- <u>-</u>					+
Tacoma Link Expansion																	+
Preliminary Alternatives Analysis' Scoping	25-Apr-10A	16-Mar-11 A															
RFQ/Consultant Selection for AA		31-Jan-12 A		<u>ل</u>													
Alternatives Analysis		13-Nov-13 A			¢												1
EA/Preliminary Engineering		01-Oct-15 A				`	₽										1
Final Design (incl Procurement)	02-Oct-15A							4									1
OMF-East Light Rail					<u> </u>												+
NEPA/SEPA/Preliminary Engineering	02-Jan-14A	17-Jun-16 A															1
Final Design (incl D/B Procurement)	18-Jun-16A								4								
Construction/Startup/Test/Float	11-Jan-18	23-Dec-20															1
	11-948-10					<u>.</u>			<u> </u>					1			4
Remaining Level of Effort		Actual			Critic	al	Pag	ge 1 of 1									
Actual Level of Effort		Domo	ining Wo	- A	 Miles 	tono										Systems,	



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: 2 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.
- System: 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 on March 19, 2016.



Key Project Issues

- Revenue Service commenced on March 19, 2016. Coordination between the Construction teams and the Operations group are ongoing to adjust the System for optimum operations. Contractors continue to perform punch list items but access to these activities poses to be challenging as they now have to work under Operations' rules and not Construction protocols.
- *U830 Systems*: Contractor is currently focusing on punch list on U-Link and systems refinement to achieve optimal operation status. U-Link Systems has encountered some issues related to this infancy period and is working for resolutions.
- *Certification of Occupancy*: University Link continues to operate under a temporary certification of occupancy until all permit requirements are fully met. The final items remaining are the utilities as-built to be submitted to City of Seat-tle (SPU) and a final review of the emergency ventilation systems by the Seattle Fire Department.
- Commercial issues with all prime Civil contractors (with the exception of Capitol Hill Station Contractor) have been negotiated as the project proceeds through the close-out process.
- Miscellaneous follow-on commitments and restoration work remain.



Project Cost Summary

The U-Link project cost is summarized in two types of cost classifications. In the first table, cost is classified in accordance with Sound Transit's Work Breakdown Structure (WBS); and in the second table, cost is summarized in accordance to the FTA's Standard Cost Categories (SCC) format. (Both tables' figures in millions.)

WBS Phase Elements	Baseline Budget	Ad	Current opted Budget	 ommitment to Date*	In	curred to Date	E	st. Final Cost (EFC)	Ad	opted Budget vs. EFC
ADMINISTRATION	\$ 115.23	\$	113.55	\$ 81.82	\$	81.00	\$	88.17	\$	25.38
PRELIMINARY ENGINEERING	\$ 24.39	\$	24.26	\$ 24.26	\$	5 24.26	\$	24.26	\$	-
FINAL DESIGN	\$ 77.94	\$	90.31	\$ 87.98	\$	86.07	\$	88.66	\$	1.65
CONSTRUCTION SERVICES	\$ 68.53	\$	94.81	\$ 86.87	\$	86.36	\$	88.72	\$	6.10
3rd PARTY AGREEMENTS	\$ 18.65	\$	18.65	\$ 11.94	\$	5 11.30	\$	13.51	\$	5.13
CONSTRUCTION	\$ 1,180.00	\$	1,158.18	\$ 996.33	\$	986.62	\$	1,022.58	\$	135.60
VEHICLES	\$ 103.91	\$	103.91	\$ 99.20	\$	99.19	\$	101.91	\$	2.00
ROW	\$ 167.33	\$	152.33	\$ 126.43	\$	5 126.43	\$	126.79	\$	25.54
Capital Total	\$ 1,755.97	\$	1,756.01	\$ 1,514.83	\$	5 1,501.22	\$	1,554.60	\$	201.41
FINANCE COST	\$ 191.71	\$	191.71	\$ 191.71	\$	5 174.87	\$	191.71	\$	-
Project Total	\$ 1,947.68	\$	1,947.72	\$ 1,706.54	\$	1,676.09	\$	1,746.31	\$	201.41

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

In April, the 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, after some cost adjustments the project expenditure net approximately \$420K and continues to inch the project's Incurred to Date amount above to \$1.5B (Finance Cost excluded). Direct construction activities pertain to close out and miscellaneous follow on work. The construction EFC continues to be approximately \$1B. The trend continues to hold as the project is essentially completed with only miscellaneous follow on scope and commercial issues remaining. Systems (U830) continues optimization process with some operational equipment purchases trailing. The Total Incurred to Date for the Construction Phase is about \$986M and LRV is at about \$99.2M. Cost of repairs are excluded from this project and tracked independently.

Construction EFC under the SCC format remains relatively unchanged at about \$1B. Construction SCC expenditures to date at about \$975M an increase of about \$0.27M—mostly attributed to Station punch lists and Systems' continuing optimization and resolutions to change order work and miscellaneous follow on work. Total capital cost incurred to date including non-construction cost (SCC 60 thru 90) now at \$1.5B or about 85% of total project budget scoped (excluding Finance Cost). Total project cost incurred to date at the end of April 2017 close including Finance Cost is at \$1.67B. 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.

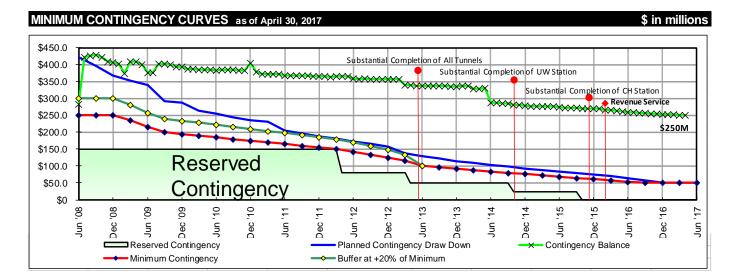
Project Elements by SCC	Base	line Budget	Ado	Current opted Budget	 ommitment to Date*	Inc	curred to Date	timated Final Cost (EFC)	Ado	opted Budget vs. EFC
10 Guideway & Track Elements	\$	626.83	\$	450.46	\$ 456.22	\$	455.82	\$ 461.23	\$	(10.77)
20 Stations	\$	366.33	\$	350.75	\$ 344.88	\$	343.04	\$ 353.09	\$	(2.34)
30 Support Facilities: Yards, Shops	\$	7.01	\$	24.83	\$ 23.42	\$	23.28	\$ 24.50	\$	0.33
40 Sitework & Special Conditions	\$	59.03	\$	67.39	\$ 57.09	\$	54.73	\$ 56.92	\$	10.47
50 Systems	\$	69.63	\$	116.42	\$ 101.72	\$	97.85	\$ 102.90	\$	13.52
Construction Subtotal (SCC 10-50)	\$	1,128.82	\$	1,009.85	\$ 983.33	\$	974.73	\$ 998.64	\$	11.21
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	\$ 305.20	\$	300.20	\$ 318.55	\$	28.04
90 Unallocated Contingency	\$	53.65	\$	172.81	\$ -	\$	-	\$ 11.48	\$	161.33
Capital Cost Total (SCC 10-90)	\$	1,755.97	\$	1,756.01	\$ 1,514.83	\$	1,501.22	\$ 1,554.60	\$	201.41
100 Finance Cost	\$	191.71	\$	191.71	\$ 191.71	\$	174.87	\$ 191.71	\$	-
Project Total	\$	1,947.68	\$	1,947.72	\$ 1,706.54	\$	1,676.09	\$ 1,746.31	\$	201.41

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



Cost Contingency Management

Project contingencies remain at healthy at approximately \$250M due to the favorable construction bidding climate, ROW acquisition cost trends, diligent project risk management practices, and excellent tunneling conditions. April's overall contingencies notched down by a little under \$1M due to a global resolution to the U250 UW Station construction contract, miscellaneous change orders and follow on project commitments. While major construction activities are now done, there are still considerable follow-on scope to complete (pertaining to close-out of the project, systems adjustments to optimize the operating systems as well as settlement of commercial issues). Barring any catastrophic event, the likelihood that this contingency stays on trend is high. The forecast indicates that approximately 80% of these contingencies will be remain unused; thereby, generating at least \$200M of budget savings excluding financing cost.





U240 Contract – Capitol Hill Station

Close-out

The U240 Contractor achieved Substantial Completion on December 31, 2015.

Close-out Activities

Current Period

• Continued negotiating and finalizing outstanding commercial issues. The latest round of mediation was successful in resolving some subcontractor claims, but a final settlement with the general contractor has not been reached.

Next Period

• Continue negotiating and finalizing commercial issues.

Closely Monitored Issues

• Multiple commercial issues remain open including various notice of intents to claim and actual claims. These claims continue to be reviewed and assessed by Sound Transit and the Contractor.

U250 Contract – University of Washington Sta.

Close-out

Milestone #7, Substantial Completion, was granted in November 2014. U250 achieved acceptance on April 26, 2016.

Close-out Activities

Current Period

• Continued closing out of all remaining commercial issues.

Next Period

• Continue closing out of all remaining commercial issues.

Closely Monitored Issues

• All outstanding claims have been verbally settled and will continue moving through the formal execution phase. A final settlement change order will be issued to the Contractor.

Cost Summary

Present Financial Status	Amount
U240 Contractor - Turner Construction	
Co	
Original Contract Value	\$104,850,276
Change Order Value	\$11,254,629
Current Contract Value	\$116,104,905
Total Actual Cost (Incurred to date)	\$113,926,440
Financial Percent Complete:	9 8%
Physical Percent Complete:	99%
Authorized Contingency	\$11,742,514
Contingency Drawdown	\$11,254,629
Contingency Index	1.02

Present Financial Status	Amount
U250 Contractor - Hoffman Construction Co.	
Original Contract Value	141,745,898
Change Order Value	8,568,882
Current Contract Value	150,314,781
Total Actual Cost (Incurred to date)	150,254,810
Financial Percent Complete:	99 %
Physical Percent Complete:	99 %
Authorized Contingency	9,152,295
Contingency Drawdown	8,568,882
Contingency Index	1.06



U810 Contract – Maintenance of Way

Close-out

Processing outstanding commercial issues.

Close-out Activities

Current Period

• Continued processing outstanding commercial issues.

Next Period

• Continue processing outstanding commercial issues and contract close-out.

Closely Monitored Issues

• ST and contractor have settled on a final contract amount. A final change order to the contract is pending formal processing.

Close-out Activities

Power and Communications

Current Period

out work continue.

Close-out

• Ongoing work on Systems punch list items; delivery of spare parts; and finalizing O&M Manuals, As-built drawings, and other final project documentation.

U830 Contract – Track, Signal, Traction

Revenue Service on March 19, 2016. Punchlist and close-

• Ongoing work on commercial closure of the U830 project. ST working closely with the GC/CM and the EC/ CMs to ensure rapid and fair commercial settlement of claims.

Next Period

- Continue Systems punch list, spare parts delivery, and finalizing O&M Manuals and documentation.
- Continue work on commercial closure of the project.

Closely Monitored Issues

• ST working closely with the GC/CM and the EC/CMs to ensure rapid and fair commercial settlement of claims.

Cost Summary

Present Financial Status	Amount
U810– Forma Construction (Design/ Build)	
Original Contract Value	\$11,998,725
Change Order Value	\$501,013
Current Contract Value	\$12,499,738
Total Actual Cost (Incurred to date)	\$12,438,547
Financial Percent Complete	99%
Physical Percent Complete:	99%
Authorized Contingency	\$959,898
Contingency Drawdown	\$501,013
Contingency Index	1.9

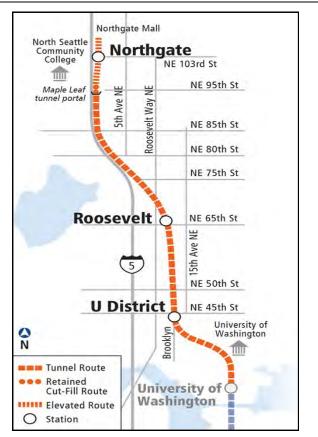
Present Financial Status	Amount
U830 GC/CM Contractor - Stacy &	
Witbeck	
Original Contract Value	\$119,167,433
Change Order Value	\$5,425,700
Current Contract Value	\$124,593,133
Total Actual Cost (Incurred to date)	\$121,323,510
Financial Percent Complete	97.4%
Physical Percent Complete:	99.0%
Authorized Contingency	\$5,958,373
Contingency Drawdown	\$5,425,700
Contingency Index	1.1



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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 the UW Station, boring tunnels under campus then continues north to a portal located north of NE 94 th Street on the east side of I-5, then transition- ing to an aerial structure running north to the Northgate Mall.
Stations:	The <i>U District Station</i> is an underground sta- tion located on the west side of the UW campus near Brooklyn Ave. and NE 45 th St. The <i>Roosevelt Station</i> is an underground station located near NE 65 th St. and 12 th Ave NE. The <i>Northgate Station</i> is an elevated station located at the southwest edge of the Northgate Mall property.
Systems:	Include Signals, track electrification, and SCADA communications.
Budget:	\$1.899 Billion
Service:	September 2021
Phase:	Final Design and Construction



SoundTransit

Map of Northgate Link Extension route and stations.

Key Project Activities

- Notice to Proceed was issued to the N140 U District Station Contractor, Hoffman Construction.
- ST Board awarded the N830 Systems contract to Mass Electric.
- *For N125 TBM Tunnels,* Contractor completed concrete work on UW Plaza and began demobilizing from University District Station area; final walkthrough with UW to be scheduled prior to handover. Continued formwork, rebar and concrete placement at remaining cross passages.
- *For N140 University District Station*, Issued NTP and held pre-construction meeting with N140 Contractor Hoffman Construction; Contractor placed field offices at 45th and Roosevelt (completion expected in June).
- *For N150 Roosevelt Station,* N150 Contractor, Hoffman Construction, continued shotcreting and waterproofing the station walls and finishing installation of temporary utilities.
- *For N160 Northgate Station*, Northgate Station Contractor, Absher Construction continued column work at lines C2-C5, continued excavation for the garage and continued girder and steel fabrication off-site.
- For N180 Trackwork, Change Order was executed for procurement of Ultra-Straight Rail.

Closely Monitored Issues

• Design changes on the Lynnwood Link Extension tail track may result in additional costs incurred on the N160 Northgate Station contract.



Project Cost Summary

The Northgate Link project cost is summarized below by two cost categories. In the first table, the cost is summarized in accordance with Sound Transit's 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.

Project Phase	Baseline Budget	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
ADMINISTRATION	\$147.9	\$147.9	\$46.6	\$46.5	\$147.9	\$0.0
PRELIMINARY ENGINEERING	\$15.1	\$15.1	\$15.1	\$15.1	\$15.1	\$0.0
FINAL DESIGN	\$129.2	\$129.2	\$116.6	\$103.7	\$129.2	\$0.0
CONSTRUCTION SERVICES	\$118.3	\$118.3	\$84.8	\$50.7	\$118.3	\$0.0
3rd PARTY AGREEMENTS	\$11.8	\$11.8	\$10.0	\$6.2	\$11.8	\$0.0
CONSTRUCTION	\$1,343.0	\$1,343.0	\$1,093.0	\$539.9	\$1,343.0	\$0.0
ROW	\$112.3	\$112.3	\$93.8	\$93.3	\$112.3	\$0.0
PROJECT CONTINGENCY	\$22.2	\$22.2	\$0.0	\$0.0	\$22.2	\$0.0
Total	\$1,899.8	\$1,899.8	\$1,459.8	\$855.5	\$1,899.8	\$0.0

The Estimated Final Cost (EFC) for the project as of this reporting period is \$1,899.8M, which is equal to the current project budget. This period approximately \$19.5M was incurred, of which \$16.0M was for the N125 tunneling contract, the N150 Roosevelt Station Finishes contract, the N160 Northgate Station and Elevated Guideway contract, the N180 Trackwork contract and other miscellaneous construction; \$0.8M was incurred for Civil and Systems Final Design and design support during construction; and \$2.0M was for construction management. The remaining expenditures were for third party coordination, permits, staff, legal, right-of-way and other direct charges.

Cost Summary by SCC

SCC Element	Baseline Budget	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 GUIDEWAY & TRACK	\$595.6	\$547.6	\$493.0	\$362.3	\$548.7	(\$1.1)
20 STATIONS	\$376.1	\$429.1	\$414.3	\$61.7	\$430.3	(\$1.3)
30 SUPPORT FACILITIES: YARD, SHOP	\$5.3	\$5.3	\$6.4	\$5.3	\$6.4	(\$1.1)
40 SITEWORK & SPECIAL CONDITIONS	\$140.8	\$225.0	\$165.1	\$101.3	\$219.2	\$5.8
50 SYSTEMS	\$110.9	\$95.1	\$4.0	\$1.1	\$97.4	(\$2.3)
Construction Subtotal (SCC 10 - 50)	\$1,228.7	\$1,302.1	\$1,082.9	\$531.8	\$1,302.1	\$0.0
60 ROW, LAND, EXISTING IMPROVEMENTS	\$119.9	\$110.9	\$93.8	\$93.3	\$110.9	\$0.0
80 PROFESSIONAL SERVICES	\$420.7	\$429.1	\$283.2	\$230.4	\$429.0	\$0.1
90 CONTINGENCY	\$130.4	\$57.8	\$0.0	\$0.0	\$57.8	(\$0.1)
Capital Total (SCC 10 - 90)	\$1,899.8	\$1,899.8	\$1,459.8	\$855.5	\$1,899.8	\$0.0

Cost Contingency Management

Compared to the baseline amount of \$396.2M, the Total Contingency has decreased by \$167.9M to \$228.3M, which is 21.9% of project work remaining. During this reporting period, an increase of \$6.9M in the overall project contingency occurred. Detailed information is provided below.

Design Allowance (DA) – The baseline Design Allowance of \$113.9M has been fully depleted following the receipt of updated construction cost estimates on the N140, N150, and N160 Station Finishes contracts. DA has been utilized as the N140, N150 and N160 contracts have been awarded. No changes to DA occurred during this period.

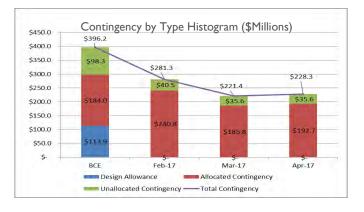


Cost Contingency Management, continued

Allocated Contingency (AC)– Compared to the baseline amount of \$184.0M, Allocated Contingency has increased by \$8.7M to \$192.7M. During this reporting period, a net increase of \$6.9M occurred in the AC following award of the N140 contract which established contract AC in the amount of \$7.9M, and the reconciliation of Provisional Sums on N113 which added \$119K back to AC on that contract. These increases were offset by the execution of construction change orders on the N125 and N180 construction contracts which totaled \$1.1M.

Unallocated Contingency (UAC) – Compared to the baseline amount of \$98.3M, Unallocated Contingency has decreased by \$62.7M to \$35.6M. No changes to UAC occurred during this period.

	Base	eline	Cur	rent
Contingency Status	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$ 113.9	5.3%	\$	0.0%
Allocated Contingency	\$ 184.0	8.6%	\$ 192.7	18.5%
Unallocated Contingency	\$ 98.3	4.6%	\$ 35.6	3.4%
Total	\$ 396.2	18.6%	\$ 228.3	21.9%



Project Schedule

The N113 SCL 115kV Relocation scope of work has been completed. However, WSDOT has requested a fence be erected along the MSE wall as an additional safety measure. ST has requested a proposal from Potelco.

The N125 Tunneling Contractor (JCM) is continuing work on cross passages and tunnel finishes. JCM has yet to submit a schedule update for April 2017. ST is working with JCM to get a commitment to a July 5th turn-over of the UDS Station box. Turn-over on this date would push back all of the N140 U District Station milestones and absorb all of the contract interface float between N125 and N140, as well as the interface float between N140 and N180 Track work. JCM will likely continue to forecast negative float in achievement of the following milestones: Milestone 5 -UDS Turnover (due to Cross Passage 23 and claimed post-UDS Turnover access issues) and Milestone 6 - Substantial Completion.

The N140 U District Station contractor Hoffman Construction is mobilizing and setting up the construction offices at the Key Bank site. Review of submittals and the Preliminary Construction Schedule are underway. ST working with Hoffman to deal with the consequences of a July site access.

The N150 Roosevelt Station contractor, Hoffman Construction, is completing the shotcreting the station walls, Waterproofing, and installation of wall and Invert slab embeds. Invert pours will start in May 2017. At this point Hoffman remains on schedule.

The N160 Northgate Station and Garage Contractor, is continuing with the "C" series columns and mezzanine level cross-beams. At the Parking Garage site the Contractor is performing mass excavation, installation of soil nails and timber lagging. ST is providing revised plans for the north end realignment as they become available. Absher has been granted three days for weather related delays that occurred in January and February 2017.

The N180 Trackwork contract continues with submittal processing, and receipt of material samples. The material order for the isolations pads has been placed, and Columbia Precast is casting the first test slabs. The contractor is finalizing the order with British Steel for the Ultra-Straight Rail.

The N830/E750 Systems contract was approved by the ST board. NTP is expected in early June.

Revenue Service date for Northgate Link Extension is scheduled in September 2021. See schedule in the following pages.



Project Schedule, continued

ctivity Name	Start	Finish	2011	2012	2013	2014	2015	2018	2017	2018	2019	2020	2021
Northgate Link Extension Master Sch	edule - \	/12c											
Final Design							-						
Construction									-				
	_	_	-			-	_		-				_
N105 - Advanced Demolition & Site Prep - DBB N105 Construction Summary	04-Aug-14-A	28-Nov-16 A	21.011		11.000.0	-	1.000			11.0			
N105 - Contract Procurement		06-Jun-16 A			1		-	-				i inni	
N110 - Construction Advanced Utility Relocation - DI			-						-				
N110 - Construction Advanced Utility Relocation Construction		28-May-13 A			-			-					
N111 Advance Utility Relocation, Northgate Area - DB	A LABOR.		-		110			-	-		· · · · ·		-
N111 - Ad, Bid & Award		16-Jan-15 A				-						1.1001	
N111 Advance Utility Relocation Construction	19-Jan-15 A	22-Jun-16 A				1	-	-					
N112 Advanced Demolition & Site Prep, U District &	Roosevelt - I	088											
N112 Roosevelt Station Site Prep	01-Aug-12 A			-	-							1	
N112 U District Station Site Prep	08-Apr-13 A	31-Aug-13 A		1.1	-			_					
N113 115kV Relocation at Northgate - DBB			-							-			
N113 SCL 115kV Relocation Construction	31-May-16 A	21-Feb-17 A							-				
N125 TBM Tunnels (UW Station to Maple Leaf Portal) - DBB											-	
N125 Tunnel & Station Shell Construction	30-Sep-13 A	25-Feb-18			-	2			+	-		1.000	
Cross Passages - RVS-UDS	01-Jul-15 A	09-Dec-16 A				1.1	-	-					
Cross Passages - MLP-RVS	28-Sep-15 A	11-Jul-16 A					-	-					
Cross Passages - UDS-UW	07-Jun-16 A	22-Aug-17*						-	-				
Maple Leaf Portal - Post-Tunneling	01-Nov-16 A	24-Jan-18*							-	-	121	a 1994.	
N140 U District Station Finishes - GC/CM											-		
N140 Prepare Bid Packages, Negotiate MACC	08-Feb-16 A	17-Jan-17 A					1.1.1						
N140 Bid Work Packages, Negotiate MACC, Contract Execut	08-Feb-16 A	06-Apr-17 A							-				
N140 U District Station Construction	07-Apr-17 A	02-Feb-20		1.000	It impl		1	6 m	••	-	-	D .	
N150 Roosevelt Station Finishes - GC/CM					-			1					
N150 Bid Work Packages, Negotiate MACC, Contract Execut	18-Apr-16 A	02-Dec-16 A											
N150 Roosevelt Station Construction	05-Dec-16 A	12-Sep-19							-	1	-	June 1	
N160 Northgate Station and Elevated Guideway - DB	B		11000				1.0	· · · · · ·		1			
N160 MACC Negotiations & Construction Contract Approval	17-Jul-15 A	12-Feb-16 A			1.1.1.1		-	•				1.1	
N160 Advertise, Bid & Award	14-Mar-16 A	02-Sep-16 A						-			_		
N160 Northgate Station & Guideway Construction	02-Sep-16 A	31-Jan-20						-	-			9	
N180 Trackwork - DBB													1.1
N180 Advertise, Bid & Award	23-Feb-16 A							-			-		
N180 Construction	06-Jun-16 A	31-Oct-19						-	Y-		~		
N180 Northgate Trackwork Construction	25-Aug-16 A	31-Oct-19								9	V	1	
N830 Traction Electrification, Signal & Communication													
N830 Systems GC/CM Contract Procurement		19-Jan-16 A					-	*					
N830 Systems Precon Services/Submittals/Procurement	19-Jan-16 A							-	1	~			
N830 Systems Installation	11-Oct-18	17-Dec-20							1			-	_
Testing & Startup			1		11		1	-	1.	11.000		1	
Testing & Commissioning		-									1		1
Northgate Link Testing, Commissioning, Start-up	23-Jan-19	14-Apr-21									2		-ò-
Program Float									-				
Project Reserve & Completion					1				1	1	1		
Northgate Link Project Float (CD)	15-Apr-21	28-Sep-21					_			_		1	



Critical Path Analysis

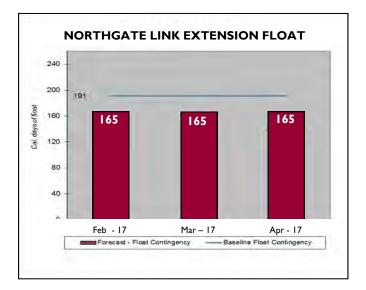
The longest path through the Northgate projects remains unchanged this period and continues to be driven by the N125 contract and turnover of the UDS box to N140, N140 turnover to N180 for trackwork, and subsequently to the N830 Systems contract. The revised schedule update from the Contractor indicates turnover of the U District Station at the beginning of June 2017 instead of the required May 2017 date. Turnover at the beginning of June 2017 will absorb the Contract Interface Float programmed in the Master Schedule between N125 and N140.

tivity ID Activity Name	Start	Finish	20	17			2	018			2	019			2	020			2)21	
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	(
Northgate Link Extension Master Schedule - V12c	30-Sep-13	A 26-Sep-21																			
Construction	30-Sep-13)	A 17-Dec-20																			
N125 TBM Tunnels (UW Station to Maple Leaf Portal) - DBB	30-Sep-13	A 11-Feb-18																			
N125 Construction	30-Sep-13	A 11-Feb-18	•			•															
N140 U District Station Finishes - GC/CM	01-Jun-17	01-Nov-18																			
N140 U- District Station Construction	01-Jun-17	01-Nov-18	-				· · · · · · ·	+	i	-+-+-		+-+-+-	+-+-+-	+++++	++++		+-+-+				
N180 Trackwork - DBB	28-Nov-17	27-Sep-19																			
N180 Construction	28-Nov-17	27-Sep-19				٠				<u>ii</u>											
N830 Traction Electrification, Signal & Communications - GC/CM	11-Oct-18	17-Dec-20																			
Construction - Systems Installation	11-Oct-18	17-Dec-20															╘╧				
Testing & Startup	23-Jan-19	14-Apr-21		++	-+-+-		+++		++++		++		╬╌┼╌┼╴	· · · · · ·	+++		-+		-+-+-	$\left + + \right $	
Testing & Commissioning	23-Jan-19	14-Apr-21																			
Program Float	15-Apr-21	26-Sep-21																			
Project Reserve & Completion	15-Apr-21	26-Sep-21																			
N125 Status Schedule Mar-17	01-Mar-16/	A 12-Mar-18																			
N125		A 12-Mar-18		++-	+++	+++	+++		+++		+++		╋	+	┿┿┿	++++	┝╍╬╌┥╌	-+	+++	+++	
Construction		A 12-Mar-18																			
Payment Triggers - Project Demobilization		12-Mar-18																			
Submittals - Propare	03-Apr-17	28-Apr-17																			
Submittals - Review & Approve		A 28-May-17																			
Station Work UW	03-Apr-17	18-Apr-17				111	111		\dagger	t t t	111	111	<u>+-</u> +-+-	+++++	+++	+++++	$\uparrow\uparrow\uparrow\uparrow$				
Tunneling	27-Sep-16	A 17-Jan-18																			
Cross Passages - MLP - RVS	30-Mar-17	A 29-Jun-17	, ni de																		
Cross Passages - RVS - UDS	21-Dec-16	A 05-May-17	i																		
Cross Passages - UDS - UW	25-Oct-16/	A 22-Aug-17		.																	
Cross Passages - Additional SEM Measures	01-Mar-16	A 03-Apr-17				$\uparrow\uparrow\uparrow$	\square	ttt	111	t t t t	111	111	111		***		111-		1-1-1-	t t t	
MLP Final Work	02-Feb-17	A 09-Feb-18		uir in		i i				111											

Critical Path Float

The Northgate Link Project currently retains 165 days of unallocated project float.

The Revenue Service date for the Northgate Link Extension remains September 2021.





Construction Safety

Data/ Measure	April 2017	Year to Date	Project to Date
Recordable Injury/Illness Cases	2	8	62
Days Away From Work Cases	0	0	4
Total Days Away From Work	0	0	219
Restricted or Modified Work Cases	1	2	25
Total Days Restricted or Modified Work	32	58	955
First Aid Cases	1	4	55
Reported Near Mishaps	2	3	57
Average Number of Employees on Worksite	440	-	-
Total # of Hours (GC & Subs)	101,420	307,752	2,280,624
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	3.94	5.20	5.44
DART Rate	1.97	1.30	2.54
Recordable National Average	3.50	3.50	3.50
DART National Average	2.00	2.00	2.00
Recordable WA State Average	7.00	7.00	7.00
DART WA State Average	3.90	3.90	3.90

Right of Way

The U District and Roosevelt stations required the acquisition of a range of property interests including fee takings for stations and staging areas; tunnel easements are required for the running tunnel. These acquisitions resulted in owner and tenant, residential and commercial relocations.

Roosevelt Station – All parcels have been acquired. One parcel de-certified.

U District Station – All parcels have been acquired. One parcel de-certified.

Northgate Station - All parcels have been acquired.

Tunnel Easements:

RVS to North Portal - Two parcels are still in court.

UWS to U District Station - All parcels have been acquired.

Line Section	Total Parcels Certified	Offers Made	Signed Agree- ments	Admin. Settle- ments	Posses- sion and Use (P&U)	Closings to date	Baseline Relocations Required	Relocations Completed
U District Station	15	15	0	0	0	15	3	3
Roosevelt Station	19	19	0	0	0	19	26	26
Tunnel Easements	190	188	0	0	0	188	0	0
Northgate Station	П	11	0	0	0	9	13	13
Total	235	233	0	0	0	231	42	42

Community Outreach

- Distributed various construction alerts which includes the following:
 - Decommissioning of observation wells.
 - Final restoration around cross passage surface site.
 - Nighttime sewer installation in 1st Avenue NE.
 - Closure of 12th Avenue NE.
- Sent monthly newsletter to the Northgate Link distribution list.

Sound Transit Board Actions

Board Action	Description	Date
M2017-49	Execute a construction contract with Mass Electric Construction Company to provide Heavy Civil General Contractor/ Construction Manager services for the Northgate Link and East Link Extensions systems construction in the amount of \$360,428,571 with a 5% contingency of \$18,021,429 for a total authorized con- tract amount not to exceed \$378,450,000.	Apr 27

Environmental

• None to report.



Major Construction Contract Packages

Below are the major construction contract packages for the Northgate Link Extension 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)

N110 Utility Relocation at Roosevelt Station Area - Relocation of electrical and communication facilities at the Roosevelt Station site. (Complete)

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

N112 U District and Roosevelt Station Site Preparation - Demolition of existing structures, grading and paving at the U District and Roosevelt Station sites. (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. **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.

Package	Bid Advertisement	NTP	Substantial Completion
N105-Advance Demolition & Site Prep	Mar 2016A	May 2016A	Nov 2016A
NIII-Advanced Utility Relocation	Sept 2014A	Jan 2015A	Apr 2016A
N113-SCL 115kV Relocate	Feb 2016A	June 2016A	Feb 2017A
N125-Station Box Exc. & TBM Tunnels	Jan 2013A	Sep 2013A	Jan 2018
N140-U District Station Finishes	Oct 2013A (GC/CM-Precon)	Jul 2017 (construction site access)	Dec 2019
N150-Roosevelt Station Finishes	Apr 2013A (GC/CM-Precon)	Dec 2016A (construction)	Sep 2019
N160-Northgate Station & Guideway & Parking Garage	Apr 2016A	Sept 2016A	Jan 2020
N180-Trackwork to Northgate Station	Apr 2016A	Sept 2016A	Oct 2019
N830-Traction Power, Signals & Com	May 2015A (GC/CM-RFQ)	Jan 2018 (construction)	Dec 2020

Construction Schedule Highlights

A = Actual



Contract N113-115kv Relocation at Northgate Station

Current Progress

The N113 Contractor has completed the work. Substantial Completion has been was issued on February 21, 2017.

WSDOT has requested Sound Transit to design and install a protective fence along the MSE wall near Poles 1 and 2. ST has requested a proposal from Potelco.

Schedule Summary

The N113 contractor, Potelco, completed all work and achieved Substantial Completion on February 21. The team is currently working to complete the last punchlist item with WSDOT and begin the project close-out.

Key Activities

Current Period

- Completed change order to reconcile unspent provisional sums resulting in a net credit to the project.
- Continued review of WSDOT requested fence change at the MSE wall

Next Period

- Complete review of WSDOT change order request.
- Begin project closeout.

Closely Monitored Issues

• WSDOT has expressed concern at the MSE wall indicating the lack of fence creates a potential fall hazard for maintenance crews at the top leading edge of the wall. ST currently reviewing the design and contract for determining merit.

Present Financial Status	Amount
N113 Contractor - Potelco, Inc	
Original Contract Value	\$2,811,926
Change Order Value	\$ 55,943
Current Contract Value	\$2,755,983
Total Actual Cost (Incurred to date)	\$2,755,983
Financial Percent Complete:	100%,
Physical Percent Complete:	100%
Authorized Contingency	\$281,194
Contingency Drawdown	\$ 55,943
Contingency Index	5.03



Contract N125 – TBM Tunnels

Current Progress

JCM is continuing work on the Cross Passages (CP), tunnel inverts, and troughs. Restoration of Husky Stadium Plaza is complete.

Tunnel Finishes – Installation of the sidewalk, cable trough, drainage pipe, and conduit is continuing in both tunnels.

Cross Passage Construction—Work in progress at the end of this period: completion of ground freezing, continuation of in -tunnel freezing cross passage 23; and block-out pours, firestand pipe installation, and electrical installation.

Schedule Summary

Below is the March 2017 schedule for N125. As of mid-May Sound Transit has not yet received the schedule update for April 2017.

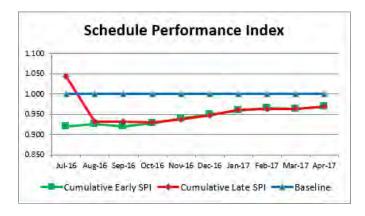
JCM has proposed a turnover of the UDS station box in late July. ST is working with JCM to a target date of July 5, 2017.

Activity ID	Activity Name	Start	Finish	2017												
			V.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
N125 Schedu	le Update Mar-17	26-Aug-13 A	26-Feb-18													,
N125		26-Aug-13 A	26-Feb-18	-												,
Construction		26-Aug-13 A	26-Feb-18	-												r
Payment Trigge	ers - Project Mobilization	26-Aug-13 A	30-Apr-14 A													
Payment Trigge	ers - TBM #1 TBM Mobilization	07-Apr-15 A	11-May-15 A													
Payment Trigge	ers - TBM #2 TBM Mobilization	13-May-15 A	16-Jun-15 A													
Payment Trigge	ers - TBM #3 TBM Mobilization	01-Mar-16 A	31-Mar-16 A													
Payment Trigge	ers - Project Demobilization	26-Jan-18	26-Feb-18											•		,
Submittals - Pro	epare	26-Aug-13 A	28-Apr-17			•										
Submittals - Re	view & Approve	28-Aug-13 A	28-May-17	<u> </u>		•										
Procurement Ta	asks	26-Aug-13 A	12-Aug-16 A		1											
Construction / S	Sound Wall - Construction	31-0ct-13 A	12-Feb-15 A													
Station Work M	LP	30-Sep-13 A	07-Apr-17		-											
Station Work R	oosevelt	07-0ct-13 A	30-Nov-16 A													
Station Work U	DS	10-Dec-13 A	21-Apr-17													
Station Work U	w	15-Dec-16 A	18-Apr-17													
UW Campus EM	Al System	01-Sep-15 A	31-Oct-15 A													
Tunneling		06-Mar-14 A	25-Jan-18													
Cross Passage	s - MLP - RVS	13Jan-15 A	10-Jul-17					-								
Cross Passage	s - RVS - UDS	19-Jun-15 A	05-May-17			-										
Cross Passage	s - UDS - UW	24-Nov-15 A	22-Aug-17	-												
Cross Passage	s - Additional SEM Measures	01-Mar-16 A	03-Apr-17		•											
MLP Final Work	(01-Jul-15 A	24-Jan-18											—		
Trench Safety S	Systems	01-Apr-14 A	30-Jun-14 A													



Schedule Performance Index

The early SPI for this period remains at 0.9. The SPI continues to lag due to the pace of the cross passage work in comparison to the target dates for this work.



Key Activities

Current Period

- Began decommissioning ground freeze at completed cross passages; continued formwork, rebar, and concrete pours at remaining cross passages.
- Continued installation of fire standpipes in tunnels and cross passages.
- Continued forming and pouring cable troughs.
- Continued tunnel walkway pours.
- Continued installation of overhead electrical equipment and lighting in tunnel.
- Continued decommissioning dewatering wells, removal of discharge piping, and temporary street and surface restoration at cross passage locations.
- Completed UW Plaza restoration at Husky Stadium.
- Continued preparation of formwork for the MSE wall moment slab barrier.
- Continued CCTV surveys along tunnel alignment.
- Continued tunnel finishes (i.e. door frames, handrails, etc.).

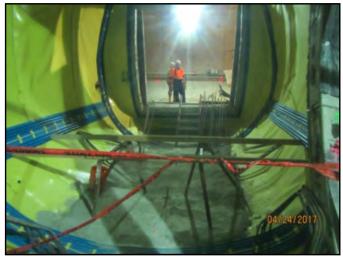
Next Period

- Continue CCTV surveys along tunnel alignment.
- Continue cross passage finishes.
- Continue installation of fire standpipes and electrical.
- Continue pouring cable troughs and tunnel walkways.
- Begin preparation for MLP structural concrete work.
- Continue preparing UDS station box for handover to follow-on contractor.
- Continue proof-grouting at tunnel areas.

Closely Monitored Issues

• Sound Transit has expressed concern to JCM regarding resourcing levels for ongoing concrete work south of UDS. JCM's schedules indicate that post-tunneling concrete works would be carried out simultaneously in each tunnel, however, JCM's current resource levels do not permit this. Limited work is taking place in the NB tunnel and the critical UDS-UWS section has been deprived of much needed manpower.

Present Financial Status	Amount
N125 Contractor - JCM Northlink	
Original Contract Value	\$440,321,000
Change Order Value	\$ 48,139,231
Current Contract Value	\$488,460,231
Total Actual Cost (Incurred to date)	\$455,400,437
Financial Percent Complete:	93.2%
Physical Percent Complete:	93.8%
Authorized Contingency	\$66,048,150
Contingency Drawdown	\$48,139,231
Contingency Index	1.29



Completed waterproofing and invert protection slab.



Contract N150 – Roosevelt Station Finishes

Current Progress

Hoffman Construction is continuing to shotcrete the station walls and installing the waterproofing system. Wall and invert slab rebar installation is underway. Invert pours will begin in May 2017.

Schedule

See latest schedule below.

Activity ID Activity N	ame	Start	Finish		2	017			20	18		2019			
			v	Jan Feb Mar	Apr May Jur	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	
N150 SOUND TRANS	SITROOSEVELT	01-0ct-13 A	30-Aug-19												
- PRECONSTRUCTION	N	01-0ct-13 A	13-May-19												
EARLY BID PACKAGES		19-May-16 A	11-Nov-16 A												
AWARD EARLY BID PAC	CKAGES	14-Nov-16 A	22-May-17												
PROCURE EARLY BID F	ACKAGES	26-May-16 A	13-May-19		-										
 CONSTRUCTION 		13-Feb-17 A	30-Aug-19												
MOBILIZATION		13-Feb-17 A	16-May-19	· · · · ·	-										
STRUCTURE		13-Feb-17 A	14Jun-19												
INTERIORS		22-Feb-18	27-Dec-18								,				
HEADHOUSE		05-Mar-18	29-Apr-19					-							
BUS SHELTER		20-Dec-18	01-Feb-19								-	-			
BIKE CAGE		05-0ct-18	23-0ct-18												
		13-Sep-18	15-May-19							-					
ESCALATORS		27-Apr-18	30-0ct-18						-		-				
STAIRS		26-Apr-18	04-Oct-18						-		7				
CP-31		20-Dec-17	27-Mar-18				-	,	1						
CONSTRUCTION ACCE	SS INFILL	17-May-19	22-Aug-19												
START-UP & COMMISS	IONING	23-Aug-18	30-Aug-19												
		14-May-18	22-Mar-19												
ARTWORK		30-May-18	04-Jan-19									7			
CLOSEOUT		02-May-19	30-May-19												
MILESTONES		19-Dec-17	30-Aug-19												
N830 TRACTION ELECT			15-0ct-18							· ·	-				
GC SITE COSTS		05-Dec-16 A	27-Aug-19												



Key Activities

Current Period

- Continued preparing and processing submittals and RFIs.
- Continued placing shotcrete on the west and south walls.
- Shotcrete fill was completed on the east and west wall of the station box and nearly complete on the south wall.
- Waterproofing was installed on the face of the shotcrete surface.
- In slabs conduits and drain piping were installed in the slab.
- Began installation of east and west wall rebar grids.

Next Period

- Continue to prepare, review and respond to submittals and RFIs.
- Complete shotcrete placement at south wall.
- Complete installation of waterproofing on west side walls.
- Continue installation of bottom rebar mats at invert slab.
- Continue dismantling scaffolding behind waterproofing.

Closely Monitored Issues

• Continued coordination between ST and Hoffman on the N140/N150 Vertical Transportation procurement.

Present Financial Status	Amount
N150 Contractor - Hoffman Construction	
Original Contract Value	\$152,291,184
Change Order Value	\$ 26,359
Current Contract Value	\$152,317,543
Total Actual Cost (Incurred to date)	\$13,852,558
Financial Percent Complete:	9.1%
Physical Percent Complete:	7.6%
Authorized Contingency	\$7,614,559
Contingency Drawdown	\$26,359
Contingency Index	21.95



View of the installed system conduits of invert slab pour 1.



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

Current Progress

The N160 Contractor continues to make progress on the drilled shafts for Unit 4 and the columns at the station. Piles for the Parking garage are nearing completion, tie-backs are in progress. Off-site Girder fabrication is underway.

Piles for the Parking garage are nearing completion, tie-backs are in progress. Off-site girder fabrication is underway.

Schedule

The N160 Contractor's April schedule update forecasts an on time completion of the work. The update shows a recovery of time from the early February completion date forecast in the March update. A 3-day non-compensable time extension for weather related delays is currently in progress. The contract completion date will change from January 30, 2020 to February 2, 2020.

Activity ID	Activity Name	OD	RD Start	Finish	2017	2018	2019	2020	2021	
					AMJJASOND	JFMAMJJASON	D J F M A M J J A S O N [JFMAMJJASONI	J F M A M J J A S O	ND
N160 - Nor	thgate Station - 05/01/17 - Pay Ap 007 Apr 201	800	698 17-Oct-16 A	30-Jan-20						
3.10.1000	MOT 1 - Advance Notification Devices, Pedestrian Detour, Traffic Control, survey, sweeper (3%/month-36K)	57	698 17-Oct-16 A	30-Jan-20				MOT 1 - Advance Notification	Devices, Pedestrian Detour, Tra	affid C
3.10.1010	MOT 2 - Setup Outside NB Closure/Lane Shift (A10-B8) (2NB/1SB)	327	244 24-Oct-16A	16-Apr-18		MOT 2 - Setup Outsid	le NB Closure/Lahe Shift (A10-B8) (2	NB/1SB)		
3.10.1040	MOT 5 - Setup for A1-A9/Shoulder Closure-Lane Shift (1NB/1SB)	423	324 28-Oct-16 A	08-Aug-18		MCT 5-S	etup for A1-A9/Shoulder Closure-Lan	e Shift (1NB/1SB)		
3.10.1001	Construction Fencing & TESC Maintenance	5	698 07-Dec-16 A	30-Jan-20				Construction Fencing & TESC	Maintenance	
1.05.1070	Parking Garage	401	328 03-Jan-17 A	14-Aug-18		Parking G	arage			
4.70.1015	WA 4.3 - Dewatering (Summary Duration period)	128	74 04-Jan-17 A	14-Aug-17	WA43 - De	watering (Summary Duration peric	d			
1.05.1047	Station Unit - Concrete Structure	297	225 12-Jan-17 A	20-Mar-18		Station Unit - Concrete S	structure			
1.05.1040	Unit 3 - Concrete Structure	214	181 21-Mar-17 A	17-Jan-18		 Unit 3 - Concrete Structure 				
1.05.1030	Unit 2 - Concrete Structure	346	324 30-Mar-17 A	08-Aug-18		Unit 2 - Co	oncrete Structure			
1.05.1060	Unit 5 - Concrete Structure	181	168 12-Apr-17A	28-Dec-17		Unit 5 Concrete Structure				[
1.05.1050	Unit 4 - Concrete Structure	246	244 25-Apr-17 A	16-Apr-18		Unit 4 - Concrete Stri				
3.10.1030.01	MOT 4 - Setup for 1st Avenue Utilities (1SB)	490	490 01-May-17	04-Apr-19			MOT 4 - Setup for 1stA	venue Utilities (1SB)		
3.10.1050	MOT 6 - Setup for Nighttime Girder Setting (Temp Closures/Detours)	229	229 08-Jun-17	02-May-18		MOT 6 - Setup for N	lighttime Girder Setting (Temp Closur	es/Detdurs)		
3.10.1020	MOT 3 - Setup for Span C3 Over 103rd (Closure & Signal Mods)	249	249 09-Jun-17	01-Jun-18			r Span C3 Over 103rd (Closure & Sig			
1.30.1190	Affected by HPA In-Water Calendar (2017 Season) - WA 1.1 Impacted Elevated Guideway: Bents A04-A07W Substructure	163	163 16-Jun-17	07-Feb-18		Affected by HPA In-Water Ca	ilendar (2017 Season) - WA1.1 Impa	cted Elevated Guideway, Bents A04	AD7W Substructure	1
1.05.1020	Unit 1 - Concrete Structure	211	211 20-Jun-17	18-Apr-18		Uhit 1 - Concrete Stru	icture			
1.05.1120	Utilities, BMP/Fence maintenance, Misc to closeout activities	397	397 20-Sep-17	12-Apr-19			Utilities, BMP/Fence m	ainteinance, Misc to closebut activitie	s	
1.05.1065	Unit 5 - Guideway Finishes	148	148 29-Dec-17	27-Jul-18		Unit 5 - IGui	dewaly Finishels			
1.05.1044	Unit 3 - Guideway Finishes	67	67 25-Jan-18	27-Apr-18		Unit 3 - Guideway Fi	nishels			
1.05.1090	North Signal Bungalow	127	127 30-Jan-18	27-Jul-18		North Signa	(Bungalow			
3.10.1030	MOT 8 - Setup for 1st Avenue Utilities (1NB)	131	131 08-Mar-18	11-Sep-18		MOT 8	- Setup for 1st Avenue Utilities (INB)			
1.05.1048	Station Unit - Guideway Finishes	23	23 21-Mar-18	20-Apr-18		💼 : Station Unit - Guidew	ay Fiùishes			
1.05.1067	Station Finishes	399	399 21-Mar-18	14-Oct-19			Stati	on Finishes		
1.05.1055	Unit 4 - Guideway Finishes	72	72 17-Apr-18	27-Jul-18	7					
1.05.1025	Unit 1 - Guideway Finishes	79	79 19-Apr-18	09-Aug-18						ŀ
1.30.1200	Affected by HPA In-Water Calendar (2018 Season) - WA 1.1 Impacted At-Grade Work: Utilities. Foundations/Retaining Walls	59	59 09-Aug-18	31-Oct-18		▲	fected by HP4 In-Water Calendar (20	18 Season) - WA 1.1 Implacted At-G	rade Work; Utilities, Foundation	s/Ret
1.05.1035	Unit 2 - Guideway Finishes	71	71 09-Aug-18	16-Nov-18			Jnit 2 - Guideway Finishes			
1.05.1080	North TPSS & Signal Bungalow	157	157 02-Oct-18	14-May-19			North TRSS & Sight	Il Bungalow		
1.05.1110	Maple Leaf Portal North	87	87 01-Mar-19	02-Jul-19			Maple Leaf Po	tal North		
1.05.1100	Maple Leaf Portal South	83	83 01-Apr-19	26-Jul-19			Maple Ceat 1	ortal South		ŀ
1.30.1210	Affected by HPA In-Water Calendar (2019 Season) - WA 1.1 Impacted At-Grade Work: JD & WC Habitat Restoration	53	53 20-Jun-19	04-Sep-19			Affected	by HPA In Wateł Calendar (2019 Se	eason) WA1.1 Impacted At Gr	ade \
3.10.1060	MOT 7 - WSDOT Shoulder Closures for Landscaping	50	50 02-Oct-19	12-Dec-19	1			MOT 7 - WSDOT Shoulder Closur	es for Landscaping	



Key Activities

Current Period

- *Guideway:* Continued planning and submittals for the north end design changes; continued column form, pour and stripping at lines C2-C5; continued drilling, rebar cages and concrete placement for drilled shafts at A and B lines; continued falsework, rebar installation, post tensioning (PT) and concrete placement for the mezzanine beams at line C.
- *Parking Garage:* Completed hillside removal of material in Work Area 4.2 for soldier pile construction; maintained dewatering for shoring and excavation; continued soldier pile installation and began lagging for excavation shoring; completed secant piles for the drive approach; and began installation for first row of tiebacks.
- *Offsite Fabrication:* Continued girder and structural steel fabrication.

Next Period

- Continue shaft activities and continue formwork set up for columns.
- Continue soldier pile installation.
- Complete installation of secant piles.
- Continue mass excavation within the building footprint.

Closely Monitored Issues

- Interface coordination associated with the Lynnwood Link track re-alignment design changes continue.
- Elevator supply and installation subcontract remains under review.

Present Financial Status	Amount
N160 Contractor - Absher Construction	
Original Contract Value	\$174,000,000
Change Order Value	\$ 688,249
Current Contract Value	\$174,688,249
Total Actual Cost (Incurred to date)	\$24,297,096
Financial Percent Complete:	13.9%
Physical Percent Complete:	13.1%
Authorized Contingency	\$17,400,000
Contingency Drawdown	\$ 688,249
Contingency Index	3.29



Drilling tiebacks for parking garage shoring.



Contract N180 – Trackwork UWS to Northgate Station

Current Progress

The N180 Contractor continues to focus on procurement, submittals, and manufacturing of the pre-cast floating slabs. The Contractor is finalizing procurement with a British supplier for the Ultra-Straight Rail. The Pre-Cast yard in Woodland, WA has been inspected and has cast the first test slabs. Isolation pad manufacturing is underway.

Schedule Summary

Below is the latest schedule for N180.

Activity ID	Activity Name	Start	Finish			20	17			20	18			20	19	
			V I	Jan Feb Mar	Apr N	lay 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
N180 - Trackv	vork	25-Aug-16 A	27-0ct-19													-
Milestones		04Jun-18	27-0ct-19							-						-
Access Dates		01-0ct-17	01Jan-19				,						1			
 Construction 		25-Aug-16 A	27-Oct-19													
Mobilization		25:Aug-16 A	27-Oct-19													
Submittals		25-Aug-16 A	01-Sep-19													
Procurement		07-Oct-16 A	18-May-19													
🗄 Work Area 1 (N	106 - UWS to UDSTunnels)	19-0ct-17	07-Mar-19													
∃ Work Area 2.1	and 2.2 (N07 - U-District Static	02-0ct-17	15-Mar-19													
∃ Work Area 3 (N	108 - UDS to RVS Tunnels)	11 Jan 18	17-Sep-18						v							
∃ Work Area 4 (N	109 - Roosevelt Station)	12-Mar-18	27-Sep-18									'				
🗄 Work Area 5 (N	V10 - RVS to MLP Tunnels)	22-Mar-18	21-May-19						-							
🗄 Work Area 6 (N	MLP and At Grade Guideway)	12-Mar-18	28Jun-19						-						,	
🗄 Work Area 7 (E	Elevated Guideway South of I	03-Dec-18	30-Jul-19									-			-	
Work Area 7.1	(N11 - Northgate Station)	02-Jan-19	29-May-19													
Work Area 7.2	(Elevated Gideway North of I	02Jan-19	11 Jul-19												7	
Final Trackwo	rk	28-Sep-18	27-Sep-19													<i>1</i> 1
Provisional S	ums	01-May-17	26-0ct-19													-



Key Activities

Current Period

- Finalized negotiations for procurement of Ultra-Straight Rail.
- *Scougal Facility* Continued fabrication of the Steel Side shim pads as well as testing of prototype production of the elastomer isolation pads; continued to setup their testing lab in Seattle and calibrate their equipment. SWI to perform site inspection.
- *Columbia Precast Products (CPP)* has their Ad-Tek concrete cylinder breaking machine setup and calibrated at their facility; continued to assemble the formwork within their facility in preparation to start production casting the 3' 10' floating slabs.
- Executed Change Order for procurement of Ultra-Straight Rail.

Next Period

- Continue review and processing of submittals and RFIs.
- CPP will begin slab production.
- Helser will continue fabrication of the 7'-10" forms.
- Scougal to begin production of 5Hz Elastomer Pads.
- SWI will work with their electrical contractor to get the 26kV cable product data submitted.

Closely Monitored Issues

• The thermite welding and electric flash-butt welding specifications do not account for welding Ultra-Straight Rail. ST Design is currently reviewing requirements.

Present Financial Status	Amount
N180 Contractor - Stacy and Witbeck, Inc.	
Original Contract Value	\$71,455,950
Change Order Value	\$0
Current Contract Value	\$71,455,950
Total Actual Cost (Incurred to date)	\$4,727,639
Financial Percent Complete:	6.6%
Physical Percent Complete:	6.5%
Authorized Contingency	\$10,718,393
Contingency Drawdown	\$0
Contingency Index	N/A



CPP workers assembling formwork in their facility.



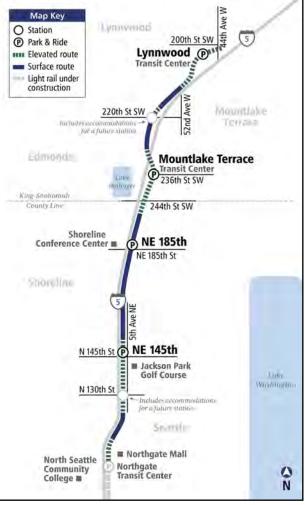
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Link Light Rail Lynnwood Link Extension



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 in- cludes at-grade, elevated, and retained cut/fill alignment.
Stations:	NE 145th (Shoreline), NE185th (Shoreline), Mountlake Terrace Transit Center, Lynnwood Transit Center
Systems:	Signals, traction power, and communica- tions (SCADA).
Budget:	\$488.4 Million Pre-baseline Budget; ex- cludes Construction (Year of Expenditure Dollars)
Phase:	Final Design
Const. Starts:	2018
Service:	Late 2023



Map of Lynnwood Link Extension Alignment.

Key Project Activities

- L200 60% civil design submitted in February 2017; reviews completed in March 2017.
- L300 60% civil design submitted in March 2017.
- L800 60% systems design submittal expected in June 2017.
- Anticipated NTP in July 2017 for the L800 Systems Construction Management Consultant.
- Continuing right-of-way acquisition and pre-construction planning.



Project Cost Summary

The Lynnwood Link 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.

Commitment and Actuals under Construction Phase is related to Construction Permits for early demolition work associated with ROW Property Acquisitions.

Cost Summary by Phase

Project Phase	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
Administration	\$88.3	\$14.9	\$14.8	\$88.3	\$0.0
Preliminary Engineering	\$42.0	\$39.9	\$39.1	\$42.0	\$0.0
Final Design	\$111.5	\$82.4	\$31.5	\$111.5	\$0.0
Construction Services	\$104.9	\$18.0	\$4.3	\$104.9	\$0.0
3rd Party Agreements	\$17.4	\$7.0	\$1.7	\$17.4	\$0.0
Construction	\$0.5	\$0.1	\$0.0	\$0.5	\$0.0
Light Rail Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$123.8	\$40.5	\$35.0	\$123.8	\$0.0
Total	\$488.4	\$202.9	\$126.5	\$488.4	\$0.0

Cost Summary by SCC

SCC Element	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget 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	\$0.5	\$0.1	\$0.0	\$0.5	\$0.0
50 Systems	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction Subtotal (10 - 50)	\$0.5	\$0.1	\$0.0	\$0.5	\$0.0
60 Row, Land	\$123.8	\$40.5	\$35.0	\$123.8	\$0.0
80 Professional Services	\$364.1	\$162.3	\$91.5	\$364.1	\$0.0
90 Unallocated Contingency	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total (10 - 90)	\$488.4	\$202.9	\$126.6	\$488.4	\$0.0



Risk Management

The Lynnwood Link 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, 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 most recent Lynnwood Link Quarterly Risk Review Workshop was an FTA/PMOC led risk assessment workshop in February 2017.

Project Schedule

The project schedule is shown below. The schedule is at high risk; delays to permitting, right-of-way acquisition, or final design completion could push the anticipated revenue service date into 2024.

Activity I D	ActivityN ame	Remaining Duration	Start	Finish	04	2017 2018 Q1 Q2 Q3 Q4 Q1 Q2 Q3	04	2019	2020	2021		2023	202
Sound 1	Transit	1778 :	20-May-10 A	24-Dec-23									ſ
Sound T	ransit 2	1778	20-May-10 A	24-Dec-23									4
North Co	prridor	1778	20-May-10 A	24-Dec-23									4
LRT Exte	n sion - North	2490	20-May-10 A	24-Dec-23									4
Lynnwo	od Link	2490	20-May-10 A	24-Dec-23									1
Lynnvo	od Link - Master Schedule	2269	20-May-10 A	04-Jul-23									
LLEPr	oject Administration/Milestones	2269	20-May-10 A	04-Jul-23									
Lynnvo	od Link - Preliminary Engineering	0	02-Dec-13 A	31-May-16 A									
Lynnvo	od Link - Fina I Design	1933	09-Apr-15 A	15-Jun-22									
Lynnv	cod Link - Final Design - Procurement	1933	01-Sep-15 A	15-Jun-22							-		
Lynnv	cod Link - Final Design	559	09-Apr-15 A	22-Apr-19								1	Τ
L200FC) - Lynnwood Link South Civil - Final Design	380	09-Apr-15 A	27-Aug-18									
) - Lynnwood Link North Civil - Final Design		11-Apr-16 A	19-Sep-18									
) - Lynnwood Link Systems - Final De sign		08-Jul-16 A	22-Apr-19									
	nod Link - Right of Way		17-Dec-15 A	08-Jun-19									
	od Link - Permits and Agreements		07-Jan-15 A	26-Jul-19									
· · ·	cod Link - Permits		07-Jan-15 A	26-Jul-18									
	ood Link - Agreements		02-May-16 A	28-Jul-19			_						
	od Link - Construction		01-Nov-15 A	24-Dec-23			_						1
	VP - Lynnwood Link South Civil - Pre-Construction		01-Nov-15 A	02-Jan-19									
L200CI	V - Lynnwood Link South Civil - GC/CM - Construction		18-Jun-18	17-Nov-21									
	NP - Lynnwood Link North Civil - Pre-Construction		30-Mar-16 A	21-Sep-18									
L300CI	V - Lynnwood Link North Civil - GC/CM - Construction	1021	29-Aug-18	14-Jun-21			_						
L800CI	VP -Lynnwood Link Systems - Pre-Construction	745	15-Dec-16 A	15-Mar-19									
L800CI	V - Lynnwood Link Systems - GC/CM - Construction	1031	11-Mar-19	21-Feb-23									
LRACT	- Lynnv ood Link Rail Activation/System Integration/Pro	518	25-Jul-22	24-Dec-23	[i
Lynnwo	od Link - Rall Activation - Cleaned for Risk	518	25-Jul-22	24-Dec-23									ł
CN1	5 L800 - Testing/Commissioning for OCS/Signals/Communi	128	25-Jul-22	29-Nov-22									
CN16	Systems Integration Testing	120	30-Nov-22	29-Mar-23									
CN16	0(Pre-Revenue Service	90	30-Mar-23	27-Jun-23	1								
CN16	ST Controlled Float	180	28-Jun-23	24-Dec-23	†								i
MSST	1 Lynnwood Link Revenue Service Date	0		24-Dec-23	1								ŧ



Right-of-Way

The Right-of Way project for Lynnwood Link 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									
Line Section Board Ap- proved Nade/In Negotia- tions Signed Agree- ments Posses- Signed Agree- ments Use Admin Use Admin Settle- ment Closings Reloca- tions Required Vacated									
L200– South Segment	80	30	L	0	0	27	156	39	
L300—North Segment	16	12	I	0	3	3	25	I	
Total*	96	42	2	0	3	30	181	40	

*Note- number of totals may differ from other reports due to the timing of reporting periods.

L200 -Northgate to NE 200th Street Parcels

One parcel closed; ten additional offers made; one more relocation required; four relocations vacated

L300- NE 200th Street to Lynnwood Transit Center

One additional offer signed.

Sound Transit Board Actions

Board Action	Description	Date
	None to report.	



Plant salvage event

Community Outreach

- Held a community salvage event in Shoreline and was attended by 35 neighborhood residents who claimed numerous plants.
- Continued planning and coordination for the upcoming 60% Station Design Open Houses in Shoreline (May 24) and Mountlake Terrace (June 28); draft postcard and display materials are being reviewed.
- Preparations continue for the community meeting for Ridgecrest Park scheduled May 9. Notices were posted in the park.
- Held a public meeting with City of Shoreline Parks Dept regarding proposed wetland mitigation site at Ronald Bog Park and approximately 60 people attended.



Civil Final Design Overview

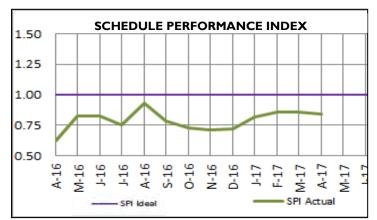
Sound Transit executed a professional services contract with HNTB Jacobs in April 2016 to perform Civil Final Design Services.

Civil Final Design Activities

- L200 60% design deliverable submitted in February; completed reviews in March.
- L200 60% design deliverable submitted in March.
- Continuing design refinements to 185th garage and Lynnwood Transit Center area, and advancing design to 90%.

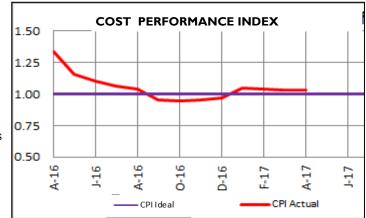
Civil Final Design SPI

The cumulative Schedule Performance Index (SPI) trends at 0.84 through April 2017, which means that cumulative work accomplished is less than work originally planned. Currently the civil final design is behind schedule due to modifications to the design between 30% and 60%, and delay in finalizing configuration at 185th and Lynnwood Transit Center.



Civil Final Design Cost Performance

\$28.5M of the total contract amount, 39%, has been spent through April 2017. The Civil Final Design percent complete is 41%, with an earned value of \$29.4M. The cumulative Cost Performance Index (CPI) through April is 1.03 indicating that expenditures are slightly less than the earned value of work performed.



Final Design Performance	Cumulative To-date
Amount Invoiced	\$28.5M
% Spent	39%
Earned Value	\$29.4M
% Complete	41%
SPI	0.84
СРІ	1.03



Systems Final Design Overview

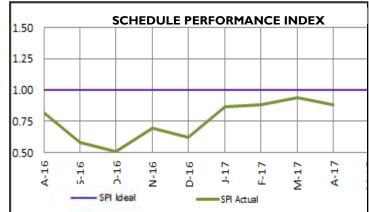
Sound Transit executed a professional services contract with LTK Engineering in July 2016 to perform Systems Final Design Services.

Systems Final Design Activities

- Working on 60% design deliverable based on civil 60% design.
- L800 60% final design submitted expected in June 2017.

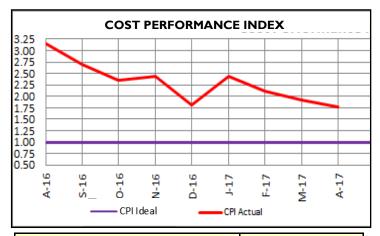
Systems Final Design SPI

The cumulative Schedule Performance Index (SPI) trends at 0.88 through April 2017, which means that cumulative work accomplished is less than work planned. The monthly SPI for April was 0.57, indicating falling behind to the original plan.



Systems Final Design Cost Performance

\$1.6M of the total contract amount, 17%, has been spent through April 2017. The Systems Final Design percent complete is 29%, with an earned value of \$2.7M. The cumulative Cost Performance Index (CPI) through April is 1.76 indicating that expenditures are significantly lower than the earned value of work performed.



Final Design Performance	Cumulative To Date
Amount Invoiced	\$1.6M
% Spent	١7%
Earned Value	\$2.7M
% Complete	29%
SPI	0.88
СРІ	1.76



Civil Construction Management Overview

Sound Transit executed a professional services contract with PGH Wong in May 2016 to perform Civil Construction Management (CMC) Services

Civil Construction Management Activities

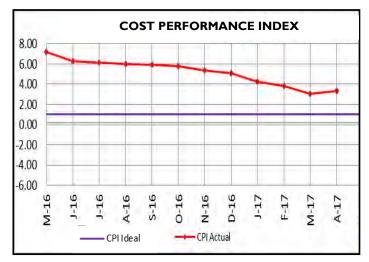
- Coordinating meetings with design, GC/CM, and ST teams.
- Coordination on various preconstruction activities including cost estimates, schedule, and constructability.
- Coordinating GC/CM review of 60% civil plans.

Civil Construction Management SPI

Work by the CMC is on a level-of-effort basis to support Sound Transit during the final design/pre-construction period. Earned value for level-of-effort is calculated as equal to the planned value, so SPI = 1.00.

Civil CM Cost Performance

\$1.4M of the total contract amount, 19%, is spent through April 2017, with an earned value of \$3.5 M. The cumulative Cost Performance Index (CPI) through April is 2.58; indicating significantly lower costs than expected on the contract. The consultant assumed more support staff would be required early in the schedule and that has not been the case, leading to a high CPI. Staffing has increased with the 60% deliverables, and CPI is trending closer to an expected value of 1.0.



Civil CM Performance	Cumulative To-date
Amount Invoiced	\$1.4M
% Spent	19%
Earned Value	\$3.5M
СРІ	2.58



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

Sound Transit executed a professional services contract with Stacy & Witbeck Kiewit Hoffman in June 2016 to perform GC/CM Pre-Construction Services for the L200 segment.

L200 GC/CM Pre-Con Activities

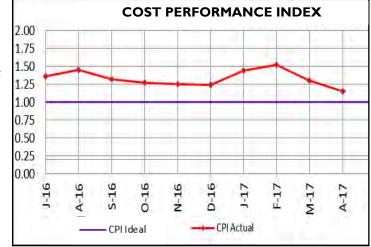
- Coordinating meetings with design, CM, and ST teams.
- Progress on various preconstruction activities including cost estimates, schedule, and constructability.
- Review of 60% civil plans.

L200 GC/CM Pre-Con Schedule Performance

Driving the L200 GC/CM Contract is the LLE Final Design contract; GC/CM Pre-Construction work is on a level-of-effort basis to support Sound Transit during the final design/pre-construction period. Earned value for level-of-effort is calculated as equal to the planned value, so SPI = 1.00.

L200 GC/CM Pre-Con Cost Performance

\$1.9M of the total contract amount, 38%, is spent through April 2017, with an earned value of \$2.3M. The cumulative Cost Performance Index (CPI) through April is 1.16; indicating actual costs are lower than planned.



L200 GC/CM Performance	Cumulative To-date
Amount Invoiced	\$1.9M
% Spent	38%
Earned Value	\$2.3M
СРІ	1.16



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

Sound Transit executed a professional services contract with Skanska in October 2016 to perform GC/CM Pre-Construction Services for the L300 segment.

L300 GC/CM Pre-Con Activities

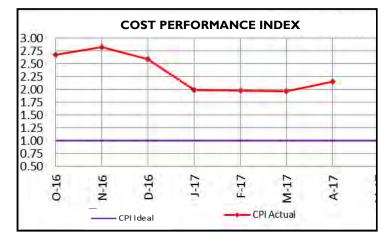
- Coordinating meetings with design, CM, and ST teams.
- Progress on various preconstruction activities including cost estimates, schedule, and constructability.
- Review of 60% civil plans.

L300 GC/CM Pre-Con Schedule Performance

Driving the L300 GC/CM Contract is the LLE Final Design contract; GC/CM Pre-Construction work is on a level-of-effort basis to support Sound Transit during the final design/pre-construction period. Earned value for level-of-effort is calculated as equal to the planned value, so SPI = 1.00.

L300 GC/CM Pre-Con Cost Performance

\$1.2M of the total contract amount, 22%, has been spent through April 2017, with an earned value of \$2.2M. The cumulative Cost Performance Index (CPI) through April is 2.16; indicating actual costs are significantly lower than planned.



L300 GC/CM Performance	Cumulative To-date
Amount Invoiced	\$1.2M
% Spent	22%
Earned Value	\$2.2M
СРІ	2.16



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



Scope: The I-90 Two-Way Transit and HOV Operations (Stage 3) project will provide approximately four miles of the 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, the installation of screening on the shared-use pathway on the I-90 floating bridge. Following completion of this project, the center roadway will be closed to allow the construction and operation of East Link Extension.

Budget:	\$225.6 Million
Phase:	Construction
Construction Start:	January 2015
Construction Completes:	June 2017



The project, when completed, will enable 24/7 HOV access on I-90 between Seattle, Mercer Island and Bellevue.

Major Contracts

	Scope	Agreement/Contract Amount
WSDOT	Final Design	\$ 20,942,000
WSDOT	CM Services	\$ 16,358,000
IMCO	Construction	\$122,021,000

Key Project Activities

- *Work outside the tunnels* Continued construction on Island Crest Way interchange; center roadway closure scheduled for weekend of June 3rd and turnover to ST schedule on June 14. I-90 EB HOV lane striping in the four- lane configuration has been completed; lane will remain closed until closure of the center roadway; WB Striping nearly complete.
- *Mercer Island Tunnel (MIT)* Eastbound live fire tests conducted on weekend of April 8th.
- SCADA & Simplex Implementation Preparing for resolution of punch list items on SCADA and Simplex. Ongoing discussions between WSDOT and Contractor continue regarding issuance of Substantial Completion.

Closely Monitored Issues

- *High Temperature Fabric* Material has been accepted, could be a cost issue; researching what information was available at time of bid (ongoing).
- *Weekend closure scheduling* Proactively working to prioritize Spring/Summer closures and schedule within limitations of other major area projects.



Project Cost Summary

Total Project Cost expended this period is \$7M. The following tables summarize the cost information for the I-90 Twoway Transit and HOV Operations (Stage 3) project. Tables in millions.

Cost Summary by Phase

Project Elements by Phase	Baseline Budget	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
Administration	\$3.6	\$3.6	\$1.6	\$1.6	\$3.6	\$0.0
Preliminary Engineering	\$1.5	\$1.5	\$1.5	\$1.5	\$1.5	\$0.0
Final Design	\$22.I	\$22.I	\$18.8	\$17.9	\$22.1	\$0.0
Construction Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3rd Party Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction	\$198.3	\$198.3	\$170.8	\$155.4	\$198.3	\$0.0
Total	\$225.6	\$225.6	\$192.8	\$176.5	\$225.6	\$0.0

Cost Summary by SCC

Project Elements by SCC	Baseline Budget	Current Adopted Budget	dopted to Incurre		Estimated Final Cost (EFC)	Adopted Budget vs. EFC
40 Sitework & Special Conditions	\$180.6	\$180.6	\$170.8	\$155.4	\$180.6	\$0.0
80 Professional Services	\$26.3	\$26.3	\$22.0	\$21.1	\$26.3	\$0.0
90 Unallocated Contingency	\$18.7	\$18.7	\$0.0	\$0.0	\$18.7	\$0.0
Project Total (SCC 10-90)	\$225.6	\$225.6	\$192.8	\$176.5	\$225.6	\$0.0



Cost Contingency Management

In the table below, the Allocated Contingency includes both WSDOT-controlled construction contingency & the total ST-controlled allocated contingencies. Changes to the contingency level since last period are due to WSDOT executing change orders to the construction contract.

	Bas	eline	Current		
Contingency Status	Amount	% of Total	Amount	% of Work Remaining	
Design Allowance	\$.0.0	0.0%	\$0.0	0.0%	
Allocated Contingency	\$17.0	7.5%	\$8.6	17.6%	
Unallocated Contingency	\$18.7	8.3%	\$18.7	38.1%	
Total	\$35.7	15.8%	\$27.3	55.7%	

Note: Table in millions. Contract does not carry Design Allowance.

Contingency % of Work Remaining based on Contingency Remaining as a % Budget Remaining. Allocated contingency includes WSDOT-controlled contingency & ST-controlled Contingency.

Project Schedule

WSDOT executed a change order implementing a schedule recovery plan that preserves the commitment to turn over the center roadway to Sound Transit in June. Although Physical Completion is anticipated July 13, 2017, the Center Roadway will be closed to automobile traffic June 3rd and turnover to Sound Transit is scheduled for June 14th; this timeline to access the Center Roadway will not impact the E130 Construction contractor's anticipated completion of the East Link I-90 Segment as it was contemplated as part of the GC/CM negotiations.

The Substantial Completion date of May 31st is tentative; negotiations are currently under way between WSDOT and the Prime Contractor to finalize a date.

Contract	Final Tunnel Commissioning Complete		Substantial	Completion		Roadway lover	Physical C	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	7/13/2017	2/20/2017	5/31/2017	5/31/2017	6/14/2017	5/31/2017	7/13/2017

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



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Scope

Limits/Alig	nment: Fourteen-mile extension from Downtown Seattle to Mercer Island, Belle- vue and the Overlake area of Redmond. The extension includes 10 stations along the alignment that includes at-grade, ele- vated, bridges, new and retrofitted tunnels.
Stations:	Judkins Park (formerly Rainier), Mercer Island, South Bellevue, East Main, Belle- vue Downtown, Wilburton (formerly Hos- pital), Spring District/120th, Bel- Red/130th, Overlake Village and Red- mond Technology Center (RTC).
Systems:	Signals, traction electrification, and com- munications (SCADA).
Budget:	\$3.677 Billion Year of Expenditure Dollars
Schedule:	Revenue Service - June 2023



Map of East Link Extension Alignment.

Key Project Activities

Seattle to South Bellevue

- Continued coordination with City and WSDOT on encampment clean up around the Dearborn staging area.
- Final Change Order preparation prior to the execution of the scope for E130 Seattle to South Bellevue segment.
- I-90 ASL being reviewed by WSDOT and FHWA. Approval is anticipated in May.

South Bellevue to Redmond

- *E320 South Bellevue:* I-90 Air Space Lease being reviewed by WSDOT and FHWA pending approval in May; preparations for the closure of the South Bellevue Park-Ride May 30; reviewing construction readiness.
- *E330 Downtown Bellevue Tunnel:* Tunneling continues with refined spiling installation criteria; continue set up of concrete batch plant and new robotic shotcrete arm; Stage 3 (final) work on the Skyline Bldg.
- E335 Downtown Bellevue to Spring Dist.: Bellevue issued ROW use permit; Spring District demolition coordination agreement submitted to Wright Runstad; I-405 TCAL undergoing final review by WSDOT.
- *E340 Bel-Red*: Coordinating utility disconnects; construction mobilization activities and staging area setup; wetland boundaries surveyed and staked.
- *E360 SR520 to Redmond Technology Center:* Continued development of 60% and 100% design packages; planning for May 1 OTC parking closure; contractor continues permits applications with Redmond and Bellevue.

Closely Monitored Issues

- Meeting Civil and Systems construction procurement schedules
- Timely property acquisitions including execution of Air Space Leases.
- Timely submissions and issuance of permits (City of Bellevue and City of Redmond) and resolution of appeals.
- Resolutions of issues related to Mercer Island.
- E330 Downtown Bellevue Tunnel slower than anticipated tunneling production rates .



Project Cost Summary

The East Link project cost is summarized below in two cost categories. In the first table, the cost is summarized in accordance with Sound Transit's 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) continues to be projected at approximately \$3,677M in year of expenditure dollars.

This period, approximately \$28.8M was incurred over a commitment amount of \$1,545.3M. Commitments increased by approximately \$9.3M.

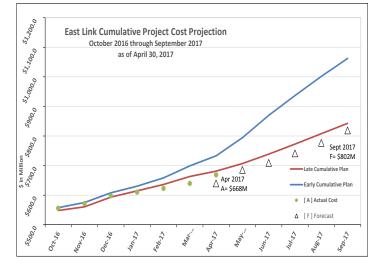
Cost Summary by Phase

Project Phase	Baseline Budget	Current Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Current Budget vs. EFC
Administration	\$186.2	\$186.2	\$57.7	\$57.1	\$186.2	\$0.0
Preliminary Engineering	\$55.9	\$55.9	\$54.8	\$54.7	\$55.9	\$0.0
Final Design	\$283.0	\$283.0	\$231.8	\$191.6	\$283.0	\$0.0
Construction Services	\$257.5	\$257.5	\$137.5	\$27.6	\$257.5	\$0.0
3rd Party Agreements	\$52.2	\$52.2	\$34.7	\$10.8	\$52.2	\$0.0
Construction	\$2,544.3	\$2,544.3	\$805.4	\$106.6	\$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	\$223.3	\$220.2	\$298.2	\$0.0
Total	\$3,677.2	\$3,677.2	\$1,545.3	\$668.5	\$3,677.2	\$0.0

Cost Summary by SCC

SCC Element	Baseline Budget	Current Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Current Budget vs. EFC
10 Guideway & Track	\$744.6	\$936.2	\$356.9	\$46.4	\$885.7	(\$141.1)
20 Stations	\$397.7	\$418.5	\$157.2	\$10.2	\$421.9	(\$24.2)
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$808.5	\$621.8	\$249.0	\$45.5	\$664.1	\$144.4
50 Systems	\$353.8	\$339.4	\$21.1	\$1.0	\$343.7	\$10.1
Construction Subtotal (10 - 50)	\$2,304.6	\$2,315.9	\$784.2	\$103.1	\$2,315.4	(\$10.8)
60 Row, Land	\$288.5	\$288.5	\$223.3	\$220.2	\$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	\$888.7	\$537.8	\$345.2	\$889.3	\$9.1
90 Unallocated Contingency	\$182.9	\$181.2	\$0.0	\$0.0	\$181.2	\$1.6
Total (10 - 90)	\$3,677.2	\$3,677.2	\$1,545.3	\$668.5	\$3,677.3	(\$0.0)

The East Link cost projection on the right continues to lag because planned construction activities have been slower than anticipated. While actual cost this period (\$28.8M) showed signs of picking up ahead of the forecast, it was primarily due to ROW cost (\$10.5M). Total cost incurred to date is at \$668M of which about \$106.6M were within the Construction Phase. East Link continues to transition into Construction. E330 tunneling; E360 design build progressing between 60% and 100% submittals. E320 and E340 commenced mobilization. E130 contract awarded. E335 contract executed with NTP issued. E750/N830 MACC negotiated, combined system contract with Northgate Link Extension.





Risk and Contingency Management

Risk Management

The RCMP established 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. Sound Transit (ST) continuously monitors 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.

This period, Sound Transit began the quantitative risks update and risk assessment workshops. ST included participation of construction management consultants and construction contractors who are already under contract (E130, E330, E335, E360 and E750) in its risks management program.

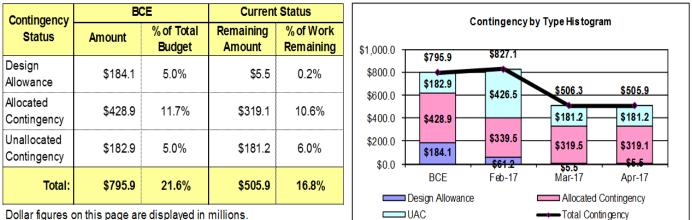
Contingency Status

When the project's baseline budget was approved by the Sound Transit Board in April 2015, it contained a total of \$795.9M contingency. Currently, the total contingency balance is \$505.9M, which is slightly above the planned contingency drawdown.

Design Allowance (DA) was set up to account for unquantified scope at the time of the cost estimate. This period, DA balance remained the same as the previous period at \$5.5M. DA balance is expected to be fully drawn when all construction scope are executed.

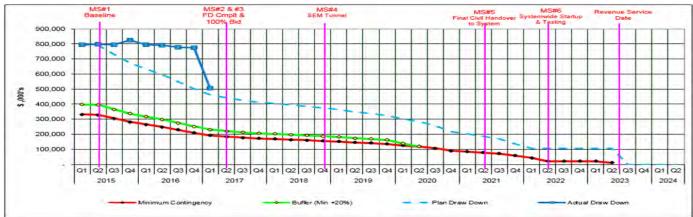
Allocated Contingency (AC) is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. The total AC remains relatively stable at \$319.1M. This period some AC was drawn down to mitigate change orders in the last stage of final design and in E330 construction contract.

Unallocated Contingency (UAC) is used to address general project-wide cost risks and uncertainties. The UAC balance of \$181.2M continues to be stable compared to the initiation balance of \$182.9M at Baseline Cost Estimate (BCE).



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Project Schedule

All GC/CM contracts have been authorized by the Sound Transit Board. NTP for E335 Downtown Bellevue to Spring Dist. was issued this month, while the stations work is still being re-packaged for future procurement. NTP for E130 I-90 is anticipated for early May. The Contractor is already proceeding with a limited scope to prepare critical submittals and work plans and to design and fabricate steel frames for the floating bridge post-tensioning retrofit. NTP for E750 is expected in June.

The E320 and E340 contractors continue preparing key submittals and work plans. Construction is anticipated to start in early June for both contracts.

E330 Downtown Bellevue Tunnel Contractor continued tunneling. Work continued on the Skyline building retrofit.

E360 SR 520 to RTC design is progressing toward 100%. The first construction tasks are anticipated in late Spring 2017 with the removal of trees. Civil construction is scheduled to start in earnest later in the Summer.

ivity Name	Start	Finish	2017	2018	2019	2020	2021	2022	2023
Sound Transit	04-Sep-12 A	22-Jun-23						ဝါဝိုင်ရ	
	· · · ·								
Sound Transit 2	04-Sep-12 A	22-Jun-23							T
East Corrido r	04-Sep-12 A	22-Jun-23							T V
LRT Extension - East	04-Sep-12 A	22-Jun-23							
East Link	04-Sep-12 A	22-Jun-23							V
East Link Final Design	04-Sep-12 A	11-Apr-18			1				
East Link Final Design	04-Sep-12 A	11-Apr-18		7					
East Link Final Design - Bel-Red	21-Sep-12 A	21-Nov-16 A							
East Link Final Design - 1-90 Corridor	05-Nov-12 A	31-Jan-17							
East Link Final Design - Systems	04-Sep-12 A	11-Apr-18 09-Nov-18							
Right of Way	20-Aug-13 A 24-Apr-14 A	09-Nov-18		Ň					
Property Acquisition Sound Transit - E 335 Acquisitions	24-Apr-14 A 24-Apr-14 A	03-Nov-18 07-Nov-17							
Sound Transit - E 340 Acquisitions	18-Dec-14 A	01-Jul-17	_ `						
Sound Transit - City of Bellevue RO/V - Updated	13-Sep-16 A	09-Nov-18	<u> </u>	v					
Sound Transit - E 320 Acquisitions	30-Apr-14 A	01-Apr- 17	7		1				1
Sound Transit - E 360 Acquisitions	27-Feb-15 A	23-Mar-17							
Airspace Leases/Temporary Construction Airspace Leases		31-May-17	-7						
EL Airs pace Leases/Temp on ry Construction Airspace Leases	20-Aug-13 A	31-May-17	_						
Seattevi-90A SL/TCAL Bei-Red ASL/TCAL	01-Oct-14 A	31-May-17	<u></u>						
Permits/3rd Party	20-Aug-13 A 15-Jul-13 A	04-May-17 16-Apr-17	ž						
East Link Construction	18-Jan-15 A	22-Jun-23	Ľ						<u> </u>
EL Early Utilities Construction	04-Mar-15 A		- 7						[*]
EL Early Utility Relocations	04-Mar-15 A	30-May-17	⇒						
EL 130 - Seattle to I-90 Overpass (GC/CM)	04-Jan-16 A	14-Dec-20							
EL 130 - Pre - Construction	04-Jan-16 A	02-May-17	₽			`			
EL 130 - Construction	01-Feb-17	14-Dec-20	<u> </u>		1				
EL 320 - I-90 Overpass to S. Bellevue (DBB)	29-Jan-16 A	14-Oct-20			1	V			
EL 320 - Bid/Solicitation	29-Jan-16 A	10-Nov-16 A							
EL 320 - Construction	05-Dec-16 A	14-Oct-20				V.		1	1
EL 330 - Downtown Bellevue Tunnel (DBB)	18-Jan-15 A	20-Jul-20							
EL330 - Bid/ Solicitation EL330 - Construction	19-Aug-15 A	15-Dec-15 A							
	18-Jan-15 A	20-Jul-20							
EL 335 - Downtown Bellevue to Spring District (GC/CM) EL 335 - Pe-Construction	01-Apr-16 A	16-Apr-21					·····		
EL 335 - Construction	01-Apr-16 A 01-Feb-17	15-Jun-17 16-Apr-21							
EL 340 - Spring District to SR 520 (DBB)	24-May-16 A	01-May-20					Ĩ		
EL 340 - Bid/Solicitation	24-May-16 A	16-Feb-17 A							
EL 340 - Construction	28-Feb-17	01-May-20				<u> </u>			
EL 360 - SR 520 to Overlake TransitC enter (DB)	13-Jul-16 A	10-Jun-20							1
E360 Construction	13-Jul-16 A	10-Jun-20							
EL 750 - Systems	01-Feb-16 A	12-Jan-22						Ŷ	
EL750 - Pre-Construction	01-Feb-16 A	13-Jul-17	<u> </u>					L	
EL750 - Construction East Link Master Schedule - Construction Interfaces	20-Mar-17	12-Jan-22						<u>γ</u>	
	01-Mar-17	23-Mar-22	_					Γ	
ELRACT - East Link Rail Activation/System Integration/Proj East Link Rail Activation/System Integration/Project Closeout		22-Jun-23						×	Ľ
Pre-Revenue Testing & Start Up	23-Mar-22 23-Mar-22	22-Jun-23 22-Sep-22							T
East Link System Integration Testing (3 Mo)	23-Mar-22	22-Sep-22 22-Jun-22							
East Link Pre Revenue Operations (3 Mo)	23-Wai-22 22-Jun-22	22-Sep-22							
Revenue Service Window	22-5 un-22 22-Sep-22	22-Sep-22 22-Jun-23							
East Link Program Float - 9 Months	22-Sep-22	22-Jun-23							Ľ,
East Link Revenue Service Date (Target 30-Jun-23)		22-Jun-23*							•



Critical Path Analysis

The East Link critical path is currently running through the handover of the I-90 corridor from the E130 contractor to the E750 Systems contractor. The critical path for E130 is driven by the pontoon post-tensioning retrofit due to the restricted work seasons on the floating bridge.

Activity Name			2017 2018 2019 Q Q Q Q Q Q Q Q Q Q Q Q			2020 2021			2022 2023							
			QQ	aa	0	aa	QQ		0	aa	aa	a a	aa	QQ	aa	000
EL 1 30 - Seattle to I-90 Over pass (GC /C M)	03-Apr- 17	14-Dec-20														
E130 Construction	03-Apr- 17	14-Dec-20						11		11						
Milestones	03-Apr- 17	14-Dec-20								11						
Project Management	03-Apr- 17	12-Dec-20	💻 🤅		11			11	1	11	: •	-				
Construction	03-Apr- 17	12-Nov-20			1.1								L.J		i	1.1.1
Preliminary Activities	08-Jun-17	07-Jul-17			1.1		- T			111				1		
Access/BMP	08-Jun-17	07-Jul-17						11	1	11	1				11	
Structures Retrofit	03-Apr- 17	08-Aug-18						11		11						
Pontoon Post Tensioning	03-Apr- 17	08-Aug-18			11			11	1	11	1					
Pontoon Tendons	02-Apr-18	08-Aug-18						11		11					11	
Pontoon Reaction Fames	03-Apr- 17	23-Oct-17			1 7		· · · ·							1.1		
Trac kwork	09-Aug-18				1 :			1 1	.	11	:				11	
Direct Fixation	09-Aug-18	06-Aug-20						i i i	÷	- in the second s	• • •					
Special Track	07-Aug-20	01-Sep-20			11			11	1	11	• 1					
Misc Trackwork & Appurtenances	24-Aug-20	12-Nov-20						11		11	<u> </u>					
EL 7 50 - Systems	13-Jan-21	23-Dec-21			111									1.1.		1.1.1
Sound Transit N830 - E750 PreConstruction Build Sch R-0	13-Jan-21	23-Dec-21						11		11						
E750 Project	13-Jan-21	23-Dec-21							- I							
E750 Engineering	01-Nov-21	23-Dec-21	1 : :		11			11	1		1					
E750 Construction	13-Jan-21	23-Dec-21				11		11		11		-				
E750 Milestones	13-Jan-21	23-Dec-21			111									1		1.1.1.1
E750 Signals	13-Jan-21	27-May-21						11		11		<u> </u>				
E750 Testing and Commissioning	27-May-21	01-Nov-21			1 :	1.1		11	÷ 1	11						
East Link Master Schedule - Construction Interfaces	14-Dec-20															
East Link Project Interfaces		23-Mar-22						11		11		1				
E130 (Seattle to South Bellevue) Contract Interface Windows	14-Dec-20												• • • • • • •	+	<u></u> {}	h
E130 - Civil/Systems Interface Win dow (East Approach to IDS) (1 Mo)	14-Dec-20	12-Jan-21	1 6 6							11	- i 1					
Systems Program Roat	23-Dec-21							11			- i T			<u> </u>		
EL RACT - East Link Rail Activation / System Integration/Project Float	23-Mar-22	22-Jun-23						11		11						
East Link Rail Activation/System Integration/Project Closeout	23-Mar-22	22-Jun-23								11						
Pre-Revenue Testing & Start Up	23-Mar-22	22-Sep-22	l	• • • • • •	++++								•{	····	<u>∲</u> }	l de la composition de la comp
East Link System Integration Testing (3 Mo)	23-Mar-22	22-Jun-22	1 1 1		11	1		11	1	11		1	1 I.		11	
East Link Sys em integration lesting (3 Mo) East Link Pre Revenue Operations (3 Mo)	22-Jun-22	22-Sep-22			11			11		11					<u> </u>	
Revenue Service Window	22-Sep-22	22-Jun-23						11	11	11	1			111		
East Link Program Float - 9 Months	22-Sep-22	22-Jun-23	1 1 1		11			11					1 I.	11	: i	أنسف
East Link Revenue Service Date (Tamet 30, Jun 23)	22-3ep-22	22-Jun-23*	h		4	!!								+		

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 will result in owner and tenant residential and commercial relocations. Market value trends in both residential and commercial properties are exhibiting strong upward pressure. The overall impact on the Right-of-Way (ROW) budget is being closely monitored. Efforts are also underway to prioritize acquisitions by contract package to help ensure timely availability of property. Property acquisition is recognized as a high priority and the management team has formed an ad hoc ROW team consisting of internally involved departments to prioritize and manage the process. See right-of-way program status in the table below.

Several of the remaining properties needed for construction are City of Bellevue Properties committed in the Memorandum of Understanding. The ST/City of Bellevue Steering Committee consisting of senior staff are collaborating to ensure timely transfer of these property rights consistent with the project schedule and priorities.

East Link Extension Property Acquisition Status												
Line Section	Board Ap- proved	Offers Made/In Negotia- tions	Signed Agree- ments	Posses- sion and Use	Admin Settle- ment	Closings to date	Reloca- tions Required	Parcels Vacated				
Total	242	232	3	30	2	175	243	198				

Note: Excluded from the table above are 9 parcels that were approved under a separate ST Board authorized agreement. These parcels are tracked in a working file and will be added to the table above in future reports.

E130 Seattle to South Bellevue - No new activities. Air Space Lease discussions with WSDOT continue.

E335 Downtown Bellevue to Spring District - One parcel closed. *E340 Bel-Red* - Three parcels closed

E320 South Bellevue - Air Space Lease discussions with WSDOT continued. Two parcel closed. One parcel vacated.

E330 Downtown Bellevue - No new activities.

E360 SR 520 to Redmond Technology Center - Air Space Lease discussion with WSDOT continues with regards to the OTC pedestrian bridge modification.



Construction Safety

Data/ Measure	April 2017	Year to Date	Project to Date
Recordable Injury/Illness Cases	1	1	I
Days Away From Work Cases	0	0	0
Total Days Away From Work	0	0	0
Restricted or Modified Work Cases	1	I	1
Total Days Restricted or Modified Work	17	17	17
First Aid Cases	2	8	12
Reported Near Mishaps	1	7	20
Average Number of Employees on Worksite	82	-	-
Total # of Hours (GC & Subs)	11,750	43,400	83,981
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	17.02	4.61	2.38
DART Rate	17.02	4.61	2.38
Recordable National Average	3.50	3.50	3.50
DART National Average	2.00	2.00	2.00
Recordable WA State Average	7.00	7.00	7.00
DART WA State Average	3.90	3.90	3.90

Sound Transit Board Actions

Board Action	Description	Date
M2017-49	Execute a contract with Mass Electric Construction Company to provide Heavy Civil GC/CM services for the Northgate Link and East Link Extension Systems construction in the amount of \$360,428,571 with a 5% contingency for a total authorized contract amount not to exceed \$378,450,000.	Apr 27
M2017-48	Execute a contract amendment with Jacobs Project Management Company to provide CM consultant services for the construction phase of the Seattle to South Bellevue segment of East Link in the amount of \$37,106,157, with a 5% con- tingency totaling \$38,961,465, for a new total authorized contract amount not to exceed \$43,919,350.	Apr 27

Environmental

• Continued developing environmental permit application packages. Environmental commitments are being incorporated into the design, program, and specifications of the project.



Community Outreach

- To alert commuters of the closure of the South Bellevue Park And Ride, Transit Squads were onsite during the morning and evening commute.
- Briefed King County Metro customer service agents on East Link and park-and ride closure plan.
- Coordinated a plant salvage opportunity for City of Bellevue Parks (salvaged plants to be replanted in Bellevue Parks).
- Met with City of Mercer Island and discussed Mercer Island Boat Launch and mitigation measures.
- Distributed notification of properties within 1,000 feet of expanded exempt noise hour work-zone.
- Published an online newsletter to the East Link listserv announcing the Open house and provided information about the upcoming work in the central Bellevue area.
- Distributed various construction alerts to businesses and residents.



Website info on the park-and ride- closures scheduled in May.

Major East Link Construction Contract Packages

Below are the major construction contract packages for the East Link Extension with a brief scope description and status of each.

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

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: MACC negotiated. Proceed with the Contractor on long lead procurement and planning for early work. The balance of the scope was authorized by the ST Board. Execution of change order for balance of work is pending.

E160 Track Bridge System – Fabrication, delivery and installation of eight track bridges that will span over fixed structures and the floating bridge. [Furnish and Install]

Status: Incorporated as part of 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: Contractor commenced mobilization.

E330 Downtown Bellevue Tunnel – SEM Tunneling along 110th Ave. NE in Downtown Bellevue. [Design-bid-build] *Status: See following pages.*

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: Contract with the exception of the Station package scope awarded, pending execution. The station scope will be repackaged and procured later in the year.

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

Status: Contract Award in January 2017. NTP issued in March 2017.

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

Status: See following pages under Contract E360.

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

Status: MACC negotiated, Contract awarded in April and execution to follow in May.



Contract E330 – Downtown Bellevue Tunnel

Current Progress

South Portal: The Contractor continued tunneling throughout the month and completed excavation through station point 544+13, which is approximately 148 feet of excavation. Continued setting up facilities for the concrete batch plant and began testing the new shotcrete robot and preparing to train and certify the nozzle man for the robot. *North Portal:* Completed the Skyline Building scope of work, and began punchlist walk throughs.

Between Portals: Installed two water line insert valves on 112th Ave SE adjacent to Red Lion and repaved cut.

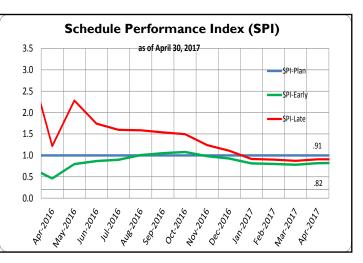
Schedule Summary

The critical path for this contract follows the tunnel excavation and the completion of the South Portal structure. The contractor has revised their production rate assumptions to a rate of 3.2 LF/day and by the end of April they achieved a rate of 3.1 LF/day. Additionally, they have re-sequenced the start of their tunnel lining operation in order to prevent slippage on the critical path. The contractor continues to look for ways to recover time, including a new batch plant onsite, a new shotcrete robot, and further evaluation of a reduction in spiling.

Activity Name	Start	Finish	20	17			20	18			20	19			20
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
E3 30 Construction	15-Dec-15 A	01-Jul-20													
CONSTRUCTION	15-Dec-15 A	01-Jul-20			:				:		:		:		
MILESTONESIC ON STRUCTION EASEMENTS	15-Dec-15 A	01-Jul-20									-				
MILESTONES	15-Dec-15 A	01-Jul-20						_			:				-
CALCULATED MILESTONES	15-Dec-15 A	01-Jul-20			:										
L-NTP	15-Dec-15 A				1										
	08-Feb-16 A												1		1
MLST 1 - Acceptance of the 110th Ave Controlled Low Strength Material Work		14-Oct-16 A													
MLST 2 - Acceptance of CO #00 6 Work		14-Oct-16 A													
MLST 3 - Substantial Completion of all Work from Statio nEB 542+84.52 to Station EB 582		10-Feb-20		<u>.</u>	1						l	<u>.</u>	1	•	l
MLST 4 - Substantial Completion Total Contract		01-Jul-20													
MOBILIZATION	08-Feb-16 A	03-May-19		:	:										
SITEWOR K	29-Feb-16 A	01-Jul-20			-						-				
PRECONSTRUCTION	21-Mar-16 A	24-Apr-20			-										÷.
TRAFFIC CONTROL	25-Mar-16 A	30-Dec-19			<u>.</u>								<u>.</u>	ł	
SUR VEY & M ONITO RING	29-Feb-16 A	24-Jul-18		:	:			-							
NORTH PORTAL AREA	13-Jun-16 A	14-Oct-16 A													
	08-Feb-17 A	08-Apr-17 A	7												
	29-Feb-16 A	01-Jul-20			:							:			:
TUNNELING	01-Feb-17 A	11-Jan-20												•	
Sound Transit Controlle d SEM Float - Tunnel Completion	31-Dec-19	07-Jan-20			1								1	•	
Atkinson Controlled SEM Float - Tunnel Completion	31-Dec-19	31-Dec-19											1		
EX CAVATION	01-Feb-17 A	05-Apr-19		:							Ŧ				
FINAL TUNNEL LINING	06-Apr- 19	08-Nov-19									<u> </u>		÷ •		
FINAL TUNNEL FINI SHES	13-Jul-19	11-Jan-20										-		7	
MID TUNNEL	19-Jun-18	19-Aug-19		[!		:	-	-		
DEMOBE	13-Mar-17 A	01-Jun-20			:										

Schedule Performance Index

This period, the SPI early is at 0.82 and the SPI late is at 0.91. Both the early and late indexes indicate that the Contractor continues to be behind schedule when compared to the baseline schedule, but has slightly improved this month. This trend is supported by the fact that the start of tunnel excavation began later than originally planned, and the Contractor experienced a much steeper learning curve than anticipated. The Contractor has stated that they expect to increase tunneling progression in the near future with the use of the onsite batch plant, an improved shotcrete robot being used, and the potential decrease in the number of rebar spiling required moving forward.





Next Period's Activities

- Continue batch plant installation and begin testing.
- Continue tunnel excavation. Continue improvements to shotcrete production, delivery and application.
- Continue Skyline Building work phase III shotcrete and rebar dowels.
- Complete 110th Avenue waterline replacement work and finalize street paving.
- Dewatering consultant to develop dewatering plan and identify additional test wells are required for northern-most end of tunnel.

Closely Monitored Issues

- Obtaining right of entry agreements and temporary construction easements for properties along alignment.
- Contractor has yet to meet their anticipated tunneling production rate.
- Contractor provided notification of added cost and time for additional shotcrete at face for work stoppages under 24 hours placed during the weekend. ST responded with direction to follow the specification requirement of applying 5" on the face when crews are not actively advancing the tunnel. Contractor has submitted a Notice of Intent to Claim

Cost Summary

Present Financial Status	Amount
E330 Contractor– Guy F Atkinson Construction, LLC.	
Original Contract Value	\$121,446,551
Change Order Value	\$1,950,406
Current Contract Value	\$123,396,957
Total Actual Cost (Incurred to date)	\$31,909,764
Financial Percent Complete:	25.9%
Physical Percent Complete:	25.9%
Authorized Contingency	\$12,144,655
Contingency Drawdown	\$1,950,406
Contingency Index	1.6



Tunneling advancing, excavation ongoing.



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

Current Progress

In April, the Design-Build Contractor (Kiewit-Hoffman East Link Constructors) submitted the 60% DP12 package for the OVS Station, and the 100% DP04B OTC Site work package. Contractor is advancing on the 60% DP13 package for the OTC Station and Garage, and a number of 100% design packages including guideway and walls. The Contractor prepared for early site clearing, demolition and OTC temporary bus loop configuration starting May 1st. Contractor continues to work on securing all necessary permits for work elements in the City of Redmond right-of-way.

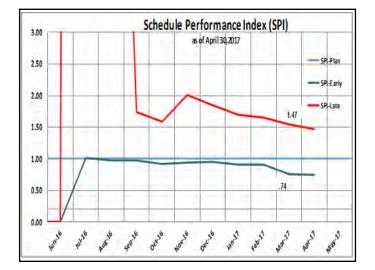
Schedule Summary

The contractor is between 60-100% on most design packages. Construction work is anticipated to start following the closure of the Overlake Transit Center Park & Ride on May 1st. Later in May, tree removal and demolition will begin at various points along the alignment. The critical path for this contract runs through the aerial guideway and direct fixation trackwork. The Contractor's current projected completion is two months ahead of Sound Transit's baseline milestone.

Activity Name	Start	Finish	2	017			20)18		2019			
· ·			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
E360 Construction	13-Jul-16 A	08-Dec-19											÷.
Base Contract	13-Jul-16 A	08-Dec-19		1	-						:		÷
Design	13-Jul-16 A	21-Mar-18		<u>.</u>	-								
Design Milestones	03-Oct-16 A	01-Nov-17		-	-								
Design Submittals Start		03-Oct-16 A											
30% Design Submittals Complete		28-Oct-16 A				1				1	;		
60% Design Submittals Complete		02-Jun-17	+										
100% Design Submittals Complete		05-Sep-17		•	•								
IFC Design Submittals Complete		01-Nov-17			•				1				1
Design Overhead	13-Jul-16 A	17-Jul-17		÷									
Design and Engineering	13-Jul-16 A	21-Mar-18		!	1		Ķ	1	1		1		1
Construction	14-Jul-16 A	08-Dec-19		:	+			:	<u>:</u>				÷
General	10-Apr- 17 A	08-Dec-19		-	-								÷
Project Milestones	10-Apr- 17 A	08-Dec-19	•	-	-				-		-		÷
Civil/Systems 100% Design Submittal (NTP+300d) (09-May-2017)		10-Apr-17 A	•										
Substantial Completion		11-Oct-19		1	1	1					1		٠
Actual Acceptance of al Work		08-Dec-19											•
WA #1 - Track Slab Guideway	16-Jun-17	20-Sep-19		-	-	<u> </u>							r,
WA #2 - Ae rial Guideway	29-Jun-17	27-Sep-19		÷—	-				:		-		•
WA #3 - Balba sted Guideway Block #1	30-May-17	17-Jul-19	-		:		:	:	:		:	7	1
WA #4 - Overlake Villa ge Station	14-Jul-16 A	12-Sep-19		;	;		;	;	;		;		1
WA #5 - Balla sted Guideway Block #2	09-Jun-17	25-Jul-19		:				:	:				
WA #6 - Overlake Transit Center	01-May-17	11-Oct-19	-	:									
WA #7 -O VS Pedestrian Bridge	16-Apr- 18	25-Jun-19						:	:				

Schedule Performance Index

This period, the SPI early is at 0.74 and SPI late is at 1.47. The SPI early continues to lag r0eflecting schedule slippage for an early finish; however, the SPI late index continues to maintain ahead of Contractor's baseline plan. Overall, the E360 segment is continuing to perform as anticipated. The early design packages such as site clearing, demolition and temporary bus loop configuration are near IFC and are anticipated to be approved and progressed into construction in May/June. 60% Station packages trending late and requires a higher level of completeness. The remaining packages are progressing toward 100% submittals.





Next Period's Activities

- 60% design package for the OTC Station and Garage is expected in May. This work is in the critical path.
- Work progress on 100% and IFC design packages.
- Submit final civil permit application packages to COR.
- Demolish OVS building and close the OTC Park and Ride for construction of temporary facilities.

Cost Summary

Present Financial Status	Amount
E360 Contractor— Kiewit-Hoffman	
Original Contract Value	\$225,336,088
Change Order Value	\$500,000
Current Contract Value	\$225,836,088
Total Actual Cost (Amount Billed)	\$28,676,775
Financial Percent Complete:	12.7%
Physical Percent Complete:	12.7%
Authorized Contingency	\$22,533,609
Contingency Drawdown	\$500,000
Contingency Index*	4.2

Closely Monitored Issues

- Alternative OTC Ped Bridge Contractor and Microsoft are working on 30% designs for an alternative OTC Ped Bridge. Once design, costs and schedule are developed, a decision will be made whether to retain this scope in E360. That decision will happen in early third-quarter of 2017.
- City of Redmond permitting process continues to lag.
- Contractor is continuing with design of soil nail wall (wall #14). Ongoing discussion with ST and Microsoft about soil nail walls.
- High Resilient Fasteners A design and construction change order is being considered for the high resilient fastener change.
- Contractor has numerous outstanding change proposals to submit. ST and the Contractor continue to discuss allowable mark ups on changes.



Aerial renderings of Overlake Village Station and Pedestrian Bridge



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Scope

- Limits: South 200th Link Extension consists of 1.6mile extension of light rail from the SeaTac/Airport Station to South 200th Street.
- Alignment: The extension continues in an aerial configuration heading south of the existing SeaTac/Airport Station, east of Air Cargo Road across South 188th Street, and continuing south along the east side of 28th Avenue South to the elevated Angle Lake Station located at South 200th Street. A passenger pickup/drop-off area, bus transfer, plaza, and a minimum 700-space structured park and ride facility will be located at Angle Lake Station. Up to 400 additional spaces may be developed for interim parking while Angle Lake Station is the interim southern terminus of the Link system. Guideway/Station and Parking Garage/ Plaza are being delivered under a Design Build contract. Station: Angle Lake Station is located at South 200th

	Street.
Systems:	Signals, track electrification, and SCADA communications
Budget:	\$383.2 Million
Schedule:	Revenue Service began on September 24, 2016



Map of S. 200th Link Extension.

Key Project Activities

- *Design Build Guideway and Station (S440):* The project team continued working with the Contractor and Operations to finalize remaining work to achieve Acceptance on the contract.
- *Design Build Parking Garage (S445)*: The project team continued working toward achieving Acceptance on the contract. The maintenance for garage was transitioned to Facilities, however exceptions of three items are being reviewed. Elevator claim was settled and the settlement agreement is being drafted.
- *Military Road / South 200th (S446):*) Construction work managed by WSDOT continues.
- Roadway Improvements (S447): Closeout was completed.
- *Project-wide*: Continued working toward goal to conclude all punchlist work and close-out by end of 2nd QTR 2017.

Closely Monitored Issues

- *S440*: Completion of Training, O&M Manuals corrective actions need to be completed.
- *S440, S445, S447*: Continue evaluation/negotiation of Contractor request for change.



Project Cost Summary

The South 200th Link Extension cost is summarized into two cost tables. The current Adopted Budget column reflects the 2016 Adopted Budget. 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.

Cost Summary by Phase

WBS Phase Elements	Baseline Budget	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Est. Final Cost (EFC)	Adopted Budget vs. EFC
Administration	\$16.1	\$17.1	\$15.9	\$15.8	\$17.1	\$0.0
Preliminary Engineering	\$5.9	\$5.7	\$5.7	\$5.7	\$5.7	\$0.0
Final Design	\$20.0	\$9.5	\$8.7	\$8.7	\$8.8	\$0.7
Construction Services	\$15.1	\$17.3	\$17.1	\$17.0	\$17.2	\$0.1
3rd Party Agreements	\$6.9	\$7.1	\$5.7	\$3.8	\$5.0	\$2.0
Construction	\$275.7	\$282.9	\$238.5	\$235.0	\$249.3	\$33.7
Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$43.5	\$43.5	\$38.1	\$38.0	\$38.1	\$5.4
Capital Total	\$383.2	\$383.2	\$329.7	\$324.1	\$341.2	\$42.0
Finance Cost	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Project Total	\$383.2	\$383.2	\$329.7	\$324.1	\$341.2	\$42.0

The overall project Estimated Final Cost (EFC) for this period reflects \$341M, a savings projection of \$42M. This period incurred cost increased by approximately \$0.7M, of this \$0.5M for several construction contracts (S440, S445, S446), and the remaining expenditures (less than \$0.1M) are administrative charges.

The EFC grouped by SCC is also reflecting \$341M, a savings projection of \$42M. The work remaining can be achieved under the adopted budget.

Cost Summary by SCC

Project Elements by SCC	Baseline Budget	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Est. Final Cost (EFC)	Adopted Budget vs. EFC
10 Guideway & Track Elements	\$144.8	\$133.0	\$100.1	\$100.4	\$110.2	\$22.8
20 Stations	\$46.4	\$51.7	\$40.0	\$40.1	\$40.5	\$11.3
30 Support Facilities: Yards, Shops	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$34.6	\$55.3	\$57.1	\$53.8	\$58.4	-\$3.1
50 Systems	\$30.8	\$19.9	\$20.1	\$19.8	\$20.1	-\$0.2
Construction Subtotal (SCC 10-50)	\$256.6	\$259.9	\$217.3	\$214.0	\$229.2	\$30.7
60 Row, Land, Existing Improve- ments	\$43.5	\$43.5	\$38.1	\$38.0	\$38.1	\$5.4
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services	\$64.1	\$72.5	\$74.3	\$72.2	\$68.2	\$4.2
90 Unallocated Contingency	\$19.0	\$7.3	\$0.0	\$0.0	\$5.7	\$1.6
Project Total (SCC 10-90)	\$383.2	\$383.2	\$329.7	\$324.1	\$341.2	\$42.0
100 Finance Cost	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Project Total (SCC 10-90)	\$383.2	\$383.2	\$329.7	\$324.1	\$341.2	\$42.0

Cost Contingency Management

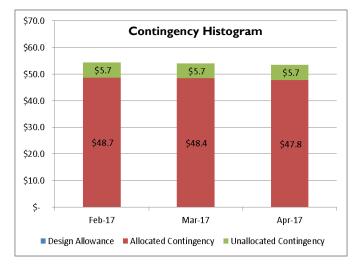
The overall project contingency balance as of this period is \$53.5M. Table (below) figures in millions.

Design Allowance (DA): N/A

Allocated Contingency (AC): This period the AC shows a current balance of \$47.8M, a decrease of \$0.6M from the previous period. This change is mostly due to a construction change order for \$440 contract and \$447 settlement payment both in the Construction phase.

Unallocated Contingency (UAC): This period the UAC balance is \$5.7M, same as last period.

	Base	eline	Cı	urrent
Contingency Status	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$26.7	7.0%	\$-	0.0%
Allocated Contingency	\$29.8	8.0%	\$47.8	279.2%
Unallocated Contingency	\$19.0	5.0%	\$ 5.7	33.3%
Total	\$75.5	20.0%	\$53.5	312.5%





S440 Contract—Design -Build (Guideway and Station)

Close-out

Revenue Service began on September 24, 2016. The S440 Contractor continues to work on closeout and punchlist items.

Close-out Activities

Current Period

- Completed O&Ms and punchlist activities.
- Continued post revenue work arounds, NCRs, and safety certification.
- Continued change order work and address contract closeout items (training, O&M Manuals, Commissioning Reports and As-Builts).

Next Period

• Complete closeout materials and work around work.

Closely Monitored Issues

• Need to complete Training and O&M Manuals, Safety Certification, and as-built to transfer maintenance responsibilities to Operations and Facilities.

S445 Contract—Design -Build Parking Garage

Close-out

The S445 parking garage is now open to the public. Substantial Completion issued on December 21, 2016.

Close-out Activities

Current Period

- Completed all outstanding change items.
- Continue closeout activities (As-builts).

Next Period

• Contract closeout.

Closely Monitored Issues

• Sound Transit has resolved the elevator claim with the Contractor. Settlement agreement in draft with ST Legal.

Cost Summary

Present Financial Status	Amount
S440 Contractor—PCL Civil Contractors, Inc.	
Original Contract Value	\$169,000,000
Change Order Value	\$6,809,462
Current Contract Value	\$175,809,462
Total Actual Cost (Amount Billed)	\$174,468,971
Financial Percent Complete:	99%
Physical Percent Complete:	99%
Authorized Contingency	\$13,520,000
Contingency Drawdown	\$6,809,462
Contingency Index*	2.0

Cost Summary

Present Financial Status	Amount
S445 Contractor—Harbor Pacific/Graham	
Original Contract Value	\$29,978,000
Change Order Value	\$2,604,606
Current Contract Value	\$32,582,606
Total Actual Cost (Amount Billed)	\$32,485,625
Financial Percent Complete:	99.7%
Physical Percent Complete:	99.7%
Authorized Contingency	\$2,798,240
Contingency Drawdown	\$2,604,606
Contingency Index*	1.1



S447 Contract – Station Area Roadway Improvements and Surface Parking

Current Progress

S447 Contractor continues punchlist work. Substantial Completion issued December 19, 2016.

Key Activities

Current Period

- Completed closeout activities.
- ST issued contract Acceptance.

Next Period

• Complete last NCR and punchlist item.

Closely Monitored Issues

• None to report.

Cost Summary

Present Financial Status	Amount							
S447 Contractor – Johansen Excavating,								
Inc								
Original Contract Value	\$8,426,400							
Change Order Value	\$2,642,328							
Current Contract Value	\$11,068,728							
Total Actual Cost (Amount Billed)	\$11,067,794							
Financial Percent Complete:	99%							
Physical Percent Complete:	99 %							
Authorized Contingency	\$2,642,640							
Contingency Drawdown	\$2,642,328							
Contingency Index*	1.0							



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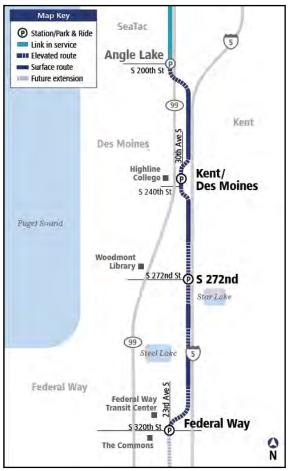


Scope

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 proposed budget for this project is \$412.6M.

Key Project Activities/Issues

- Board identified a Preferred Alternative and approved Phase 3 contract amendment on July 23, 2015.
- Executed Phase 3 contract amendment with HDR for Final EIS and Preliminary Engineering on July 24, 2015.
- ST Board approved contract amendment in February 2016 to extend Preliminary Engineering from Kent/ Des Moines to the Federal Way Transit Center.
- Final EIS was published in November 2016.
- Sound Transit Board has selected the alignment and stations for the project on January 26, 2017.
- Received Record of Decision from FTA in March 2017.
- Entered Final Design (Phase Gate 4) in March 2017.



Map of Federal Way Link Extension.

Project Cost Summary

In March 2017, the Sound Transit Board authorized the Federal Way Link Extension Project to advance through Gate 4 (Final Design), increasing the authorized project allocation from \$48.8M to \$412.6M. Table (below) figures in millions.

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	\$14.9	\$6.6	\$6.6	\$8.3	\$14.9	\$0.0
Preliminary Engineering	\$40.4	\$32.2	\$32.3	\$8.2	\$40.4	\$0.0
Final Design	\$2.4	\$0.0	\$0.0	\$2.3	\$2.4	\$0.0
Construction Services	\$45.7	\$0.0	\$0.0	\$45.7	\$45.7	\$0.0
Third Parties	\$18.6	\$1.4	\$0.8	\$17.3	\$18.6	\$0.0
Construction	\$25.5	\$0.0	\$0.0	\$25.5	\$25.5	\$0.0
Right of Way	\$265.1	\$1.1	\$1.0	\$264.0	\$265.1	\$0.0
Total	\$412.6	\$41.3	\$40.6	\$371.3	\$412.6	\$0.0



Project Schedule

The project schedule is presented below. ROD was received last period. ST has commenced acquiring real estate and will Baseline the project in 4th Qtr 2017 and may issue an RFQ for potential Design-Build contractors in 4th quarter 2017 or early 2018. Delays to Revenue Service below can be attributed to a proposed extended RFP preparation duration for proposers and are expected to be mitigated through a thorough review of the construction schedule by DECM.

tivity N ame	Remaining	Start	Finish	0047	2040	0010	0000	0004	2022	20.22	2024	-
	Duration			2017	2018	2019	2020	2021			2024	a
Sound Transit	2844d	01-Jul-16 A	11-Feb-25		<u> </u>							
Sound Transit 2	2844d	01-Jul-16 A	11-Feb-25									-
South Corridor	2844d	01-Jul-16 A	11-Feb-25									-
Federal Way - Master Schedule	2844d	01-Jul-16 A	11-Feb-25								<u> </u>	-
Federal Way Link Extension - Master Schedule	2844d	01-Jul-16 A	11-Feb-25	-							<u> </u>	-
Preliminary Engineering	325d	01-Jul-16 A	22-Mar-18			1	1					
ROW/Property Acquisition	910d	30-Sep-16 A	27-Oct-19			+						
TCAL/ASL	503d	17-Mar-17 A	15-Sep-18	-								
Property Acquisition	910d	30-Sep-16 A	27-Oct-19			—						
Third Party Agreements and Permitting	958d	01-Jul-16 A	14-Dec-19				.		L			
Federal Way Link - Design-Build Construction Management Consultar	2844d	14-Nov-16 A	11-Feb-25									
Federal Way Link - Construction Management Consultant - Bid/Solicit	270d	14-Nov-16 A	26-Jan-18		•						1	
Construction Management Consultant - Contract Duration	2574d	26-Jan-18	11-Feb-25									J
Federal Way Design/Build Contract	2514d	11-Mar-17 A	18-Mar-24	-							-	
Federal Way Link Extension - Design/Build Contract - Procurement	778d	11-Mar-17 A	18-Jun-19	-				[L			
Design	472d	18-Jun-19	01-Oct-20		1		-					
Construction	1576d	25-Nov-19	18-Mar-24			ا ا					-	
Rail Activation	330d	19-Mar-24	11-Feb-25								-	
Systems Integration & Testing	90d	19-Mar-24	16-Jun-24								T	
Pre-Revenue Service	60d	17-Jun-24	15-Aug-24]	1	l	[L		. .	
Revenue Service/Project Float	180d	16-Aug-24	11-Feb-25									•
ST-controlled Float	180d	16-Aug-24	11-Feb-25								•	1
Revenue Service (12/31/2024)	DO		11-Feb-25*								1	

Sound Transit Board Actions

Board motions and resolutions directly related to Federal Way Link Extension is summarized in the table below.

Motion Number	Description	Date
M2017-52	 \$10,187,488 with a 10% contingency, totaling \$11,206,2015 for a new total authorized contract amount not to exceed \$43,283,124. Execute a task order with the WSDOT for engineering review services for the Federal Way Link Extension in the 	
M2017-52	for engineering review services for the Federal Way Link Extension in the	April 27
R2017-16	Acquire certain real property interests, including acquisition by condemnation to the extent authorized by law, and to reimburse eligible relocation and reestablishment expenses incurred by affected owners and tenants as neces- sary for Federal Way.	April 27

Community Outreach

- Scheduled multiple property owner meetings. Updated property owners regarding Board decision on FWLE route, profile and station areas.
- Met with ownership group of Camelot Square Mobile Home Park.
- Attended the SWDOT 509 Expansion Open House to represent FWLE project.

Environmental

• None to report.



Phase 3 Preliminary Engineering (PE)

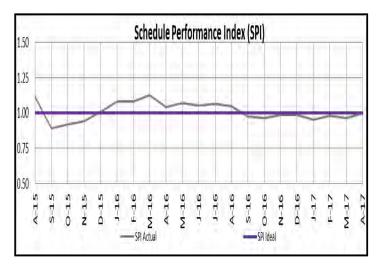
In July 2015, Sound Transit executed an amendment to the professional services agreement with HDR Engineering, Inc. for Phase 3 professional services, including completion of a Final Environmental Impact Statement (FEIS) using the preferred alternative and the other alternatives in the Draft EIS, preliminary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

Phase 3 Key Activities

- Record of Decision (ROD) from FTA received and moving toward Entry to Engineering.
- Resolution of Pre-Final PE submittal comments by third parties and initiation of development of project requirements associated with RFP development for design-build contract.
- Continued coordination with potentially affected property owners including neighborhood briefings and one-on-one meetings.
- Completion of term sheets with affected jurisdictions documenting concurrence on project improvements, impacts analysis and mitigation and initiation of future agreements.
- Continued discussion with FTA regarding New Starts requirements for Entry to Engineering.

Phase 3 Schedule Performance

The cumulative Schedule Performance Index (SPI) is 1.00 through April 2017, indicating the overall amount of work accomplished is planned. A new schedule is being developed to incorporate new scope change order to extend consultant contract for assistance in RFP process of DB contract and in ROW acquisition support.

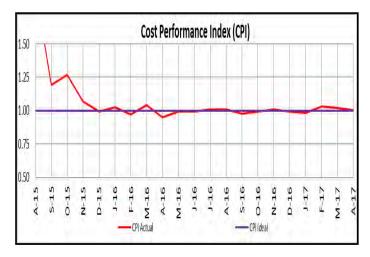




Phase 3 Cost Performance

Phase 3 expenditures totaled \$19.6M, approximately 99% of the Phase 3 contract total. The Phase 3 percent complete reported at 100%, with an earned value of \$19.7M. The cumulative Cost Performance Index (CPI) is 1.01, indicating costs are on track with work accomplished. Phase 3 cost is on budget.

A change order is being approved for contract extension for 1 year for assistance in RFP process of DB contract and in ROW acquisition support.

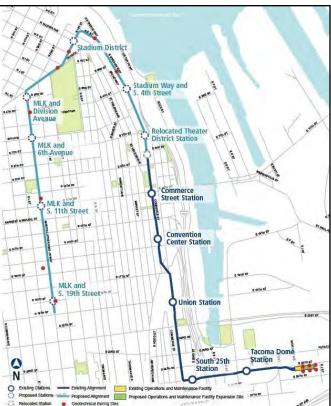


Phase 3 Performance	Cumulative To Date
Amount Invoiced	\$19.6M
% Spent	99%
Earned Value	\$19.7M
% Complete	100%
SPI	1.00
СРІ	1.01



Scope

Limits:	City of Tacoma	TH
Alignment:	The Tacoma Link Expansion is a 2.4- mile extension of the existing Tacoma Link system from the Theater District in downtown Tacoma to the Hilltop neigh- borhood. The Expansion will travel at- grade along Stadium Way, North 1st. Street, Division Avenue, and Martin Luther King Jr. Way.	
Stations:	Relocated Theater District Station, Sta- dium Way & 4th St, Stadium District, MLK Jr. Way and Division, MLK Jr. Way and 6TH Ave, MLK Jr. Way and S. 11th St., and MLK Jr. Way and S. 19th St.	a given
Systems:	Expansion of the Operations and Mainte- nance Facility; The at-grade alignment will include additional signals, OCS, trac- tion power, and communications infra- structure.	a som at a couperation
Budget:	\$34.6 Million Phase Gate 4 budget; ex- cludes Construction (Year of Expenditure Dollars)	Relocated
Phase:	Final Design	Map of
Const. Starts:	2018	



Map of Tacoma Link Expansion.

Key Project Activities

<u>Final Design</u>

• Staff and third party reviews were completed for 60% mainline design packages. Reviews continued for the 60% OMF design package. The cost estimate was submitted and ST has completed the review.

Pre-Construction Services

• Completed execution of contract for Phase I (Pre-Construction Services) Construction Management Consultant (CMC) procurement and issue NTP.

Third Parties

• Advancing formal agreements with City of Tacoma.

Right of Way

• Continued early right of way property acquisition activities as they relate to the expansion of the Operations and Maintenance.



Project Cost Summary

The Tacoma Link 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

WBS Phase Elements	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
Administration	\$10.6	\$3.7	\$3.7	\$10.6	\$0.0
Preliminary Engineering	\$5.9	\$5.6	\$5.6	\$5.9	\$0.0
Final Design	\$10.8	\$7.7	\$4.2	\$10.8	\$0.0
Construction Services	\$0.8	\$0.5	\$0.0	\$0.8	\$0.0
3rd Party Agreements	\$1.3	\$0.0	\$0.0	\$1.3	\$0.0
Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Vehicles	\$2.0	\$1.9	\$0.3	\$2.0	\$0.0
ROW	\$3.2	\$1.6	\$1.5	\$3.2	\$0.0
Total	\$34.6	\$21.0	\$15.2	\$34.6	\$0.0

Cost Summary by SCC

Project Elements by SCC	s by SCC Adopted Budget Commitment to Date Incurred to Date Final Cost (EFC) Budget \$0.0	Adopted Budget 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	\$3.2	\$1.6	\$1.5	\$3.2	\$0.0
70 Vehicles (non-revenue)	\$2.0	\$1.9	\$0.3	\$2.0	\$0.0
80 Professional Services	\$29.4	\$17.0	\$13.5	\$29.4	\$0.0
90 Unallocated Contingency	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total (10 - 90)	\$34.6	\$21.0	\$15.2	\$34.6	\$0.0

Risk Management

The Tacoma Link Risk and Contingency Management Plan (RCMP) will be completed in 2nd QTR 2017. 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 Tacoma Link Quarterly Risk Review Meeting was held in March 2017. The baseline risk assessment is planned for May 2017.



Project Schedule

ST has reviewed the 60% construction schedule and incorporated it into the Master Schedule, with some changes. These included: calendar revisions, and separation of the work near Stadium High School into two construction seasons. A review with DECM leadership also resulted in two key changes. One, the duration of Testing and Commissioning was reduced from 8 months to 5 months, in keeping with past experience. Two, the mainline construction start is no longer driven by acquisition of the TCEs (which included a lengthy legal process). As a result, the schedule was shortened from a July 2022 completion to a December 2021 completion. LRV proposals are due in May, with BAFOs scheduled for August. NTP for car manufacturing remains December 2017. The City of Tacoma is now expected to issue the Declaration of Public Works in June, notifying impacted utilities of the need to relocate. Project baselining is still scheduled for July.

tivity ID Activity Name	Start.	Finish	100		015			20		100	1		017		-	_	116	1	Sec. 1		119	-		-	020	-	1.000	20		
			01	Q2	Q3	Q4	01	02	Q3	04	01	Q2	Q3	Q4	01	Q2	03	Q4	Q1	Q2	03	Q4	101	Q2	03	Q4	Q1	Q2	Q3	Q
Tacoma Link Expansion - Master Scheduk	02-Feb-15A	19-Dec-21	-	·														111					2.5	1						
Preliminary Engineering	02-Feb-15A	04-Nov-16 A	-			-	-			-																				
Project Administration	01-Oct-15 A	31-Dec-15 A				-																								
Preliminary Engineering	02-Feb-15 A	27-May-16 A	-	-		-	-	-																						
Engineering Support	29-Apr-15A	27-May-16 A		-				-						_	_			-					1.4							
Project Planning & Reporting	27-Apr-15A	04-Nov-16 A		*						-		1																		
Final Design	04-Jan-16 A	17-Dec-21						-	-	-			-		-					-		1	-				-			-
Phase Gate Process	14-Mar-17 A	27-Jul-17											-																	
Project Funding	23-Mar-17 A	07-Nov-17										-	-	-																
Engineering Design Procurement	04-Jan-16 A	04-Aug-16 A					-		-					· · · · ·										1					100.00	
Construction Management	05-Aug-16 A	17-Dec-21							-																					
60% - 100% Design - Mainline & OMF	05-Aug-16 A	13-Sep-18											-		-			261	11	111	111									
Permitting	01-Nov-16 A	02-May-18							Ζ.							-	1.15		1.1	10.11	111									
ROW & Third Parties	01-Oct-15.A	18-Jan-19				-		-							_		1		7											
Property Acquisition	17-Dec-15 A	18-Jan-19	1.5		in c				1.21	141007/			50.00		10.0	500.0	10002	Sa. 5		and the	1.5.	1.00			-		5		10.7	
Third Party Agreements	01-Oct-15 A	23-Jul-18				-											-								1					
Owner Furnished Materials / Equipment Proc	16-Mar-16 A	18-Jan-21				1			-						-	-		-	-					-						
Owner Furnished Material	07-Aug-17	26-Jan-19					1.1			\leq			-		_		-	-	-	-			51	1.1	1.1		11			
Light Rail Vehicles	16-Mar-16 A	18-Jan-21						-	-	-	-	-	-	-		-			-		-	-		-		-				
Construction	10-Jan-18	08-Apr-21					1.1			1.00					-			-		-				-	-	-	-		1	
Construction Contract Procurement	10-Jan-18	13-Jul-18										t					7								1					
TXXX - Demolition - JOC	23-Mar-18	15-Jun-18		1.10														144	1.1		1.1	1.	1.1	1	1.1					
T100 - Mainline/OMF/Systems Construction - DBB	14-Jul-18	06-Apr-21															-	-		-				-			-		1.1	
Testing/Startup/Commissioning	28-Jan-21	19-Dec-21																									-	-		-
Systems Testing	28-Jan-21	06-Apr-21	1.1		100				1.1			117	0.5									10.00	6.5		1.0	1.1	-		1.1	
Systems Integration Testing	17-Feb-21	16-Jul-21	+									††	1								•••••			h			-			1
Safety & Security Certification	17-Feb-21	16-Jul-21																									-			
Pre-Revenue Testing	17-Jul-21	20-Aug-21																											-	
Project Float - Owner Controlled	21-Aug-21	19-Dec-21																												-

Sound Transit Board Actions

Motion Number	Description	Date
	None to report.	

Community Outreach

- Hosted Stakeholder Roundtable and Public Open House for the 60% Design Milestone with 64 community members in attendance. Organizing follow-up meetings requested by attendees after meeting.
- Collaborating with City of Tacoma Planning Department to address resident concerns regarding rent increases in the Hilltop neighborhood as a result of the project.
- Performed field work outreach to business owners regarding upcoming vibration testing.
- Provided ongoing outreach to residents and businesses regarding TCE letter from Real Property.
- Online survey for station naming closed on April 30th.



Final Design

In July 2016 Sound Transit executed a contract with HDR Engineering, Inc. to provide civil and systems final design services for Tacoma Link.

Final Design Key Activities

- Submitted the 60% mainline and OMF design packages for ST and stakeholder review. Review was completed by ST.
- Continued coordination meetings with the City of Tacoma regarding TPSS locations.
- Continued work order development with the City of Tacoma for construction services as identified in the Construction Services Agreement.

% Complete

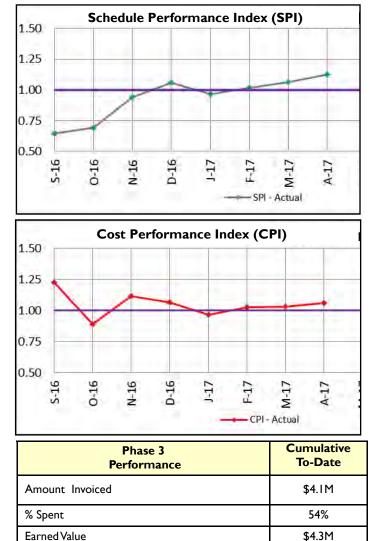
SPI

CPI

• Issued remaining addenda, including responses to Requests for Information, to interested LRV proposers.

Final Design Schedule Performance

The cumulative Schedule Performance Index (SPI) for the Final Design contract is 1.12 through April, indicating that the project Earned Value is slightly ahead of the original plan.



Final Design Cost Performance

Based on Accruals, the Contract expenditures through April totaled \$4.1M, approximately 54% of the Final Design contract total. The Final Design contract percent complete reported at the end of April is 57%, with an earned value of \$4.3M. The cumulative Cost Performance Index (CPI) through April is 1.06; indicating slightly lower expenditures than planned for work performed.

57%

1.12

1.06



Project Summary

- Scope: The Link Operations and Maintenance Facility: East (OMFE) 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.
- Budget: \$449.2 Million (Baselined July 2016)

Schedule: Project completion December 2020

Phase: Proceed to Construction

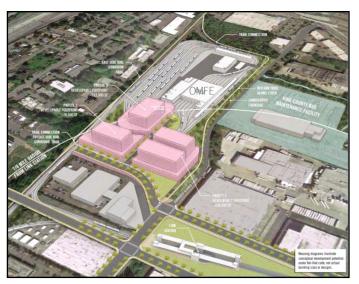


Illustration of OMFE site

Key Activities

- Continue negotiations with City of Bellevue (COB) regarding acquisition of spur property for construction staging.
- Proceeding to May 2017 ST Board for Design Build construction contract (M200) with Hensel Phelps followed by NTP June 2017.
- Meetings continue with Hensel Phelps regarding Commitments letter, MDP draft for COB, Energy Guarantee agr, Kalwall materials.
- Design Build PM contract with KBA was approved by ST Board in April and anticipates NTP in June 2017 followed by co-location office setup in July 2017.
- King County Sewer replacement agreement has been finalized and routing for signature. However received inquiry from KC about potential pipe up-size betterment.
- Await COB approval of critical areas permit application pending 14-day minimum Public Comment period.
- PMOC reviewing revised draft PMP and expect their comments shortly.

Closely Monitored Issues

- Property acquisition and relocation schedule is on critical path. Condemnation process timeline closely followed.
- PMOC approval is required to secure FTA support of TIFIA supplemental loan application.



Project Cost Summary

The Adopted Capital Budget for the OMFE is \$449.2M. The OMFE 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.

Cost Summary by Phase

WBS Phase Elements	Baseline Budget	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
Administration	\$17.6	\$17.6	\$2.6	\$2.6	\$17.6	\$0.0
Preliminary Engineering	\$9.5	\$9.5	\$9.0	\$8.6	\$9.5	\$0.0
Final Design	\$0.4	\$0.4	\$0.0	\$0.0	\$0.4	\$0.0
Construction Services	\$19.3	\$19.3	\$0.1	\$0.0	\$19.3	\$0.0
3rd Party Agreements	\$3.1	\$3.1	\$0.2	\$0.0	\$3.1	\$0.0
Construction	\$264.8	\$264.8	\$0.0	\$0.0	\$264.8	\$0.0
ROW	\$134.5	\$134.5	\$39.5	\$38.6	\$134.5	\$0.0
Total	\$449.2	\$449.2	\$51.4	\$49.8	\$449.2	\$0.0

The Estimated Final Cost (EFC) for this reporting period is \$449.2M, which is equal to the current project budget. This period approximately \$0.3M was incurred, of which \$0.2M was ROW acquisitions and relocation, and remaining balances of \$0.2M from Administration and PE expenditures.

The Estimated Final Cost (EFC) reflects the current adopted budget values due to project baselined this period. ROW and Professional Services categories continue to show the only activity at this stage of the project.

Cost Summary by SCC

Project Elements by Phase	Baseline Budget	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 Guideway & Track Elements	\$2.6	\$2.6	\$0.0	\$0.0	\$2.6	\$0.0
20 Stations	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
30 Support Facilities: Yards, Shops	\$140.1	\$140.1	\$0.0	\$0.0	\$140.1	\$0.0
40 Sitework & Special Conditions	\$43.6	\$43.6	\$0.0	\$0.0	\$43.6	\$0.0
50 Systems	\$43.0	\$43.0	\$0.0	\$0.0	\$43.0	\$0.0
Construction Subtotal (SCC 10-50)	\$229.3	\$229.3	\$0.0	\$0.0	\$229.3	\$0.0
60 Row, Land, Improvements	\$134.5	\$134.5	\$39.5	\$38.6	\$134.5	\$0.0
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services	\$71.6	\$71.6	\$11.9	\$11.2	\$71.6	\$0.0
90 Unallocated Contingency	\$13.8	\$13.8	\$0.0	\$0.0	\$13.8	\$0.0
Project Total (SCC 10-90)	\$449.2	\$449.2	\$51.4	\$49.8	\$449.2	\$0.0



Cost Contingency Management

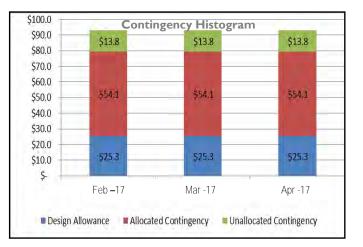
Compared to the Baseline amount of \$93.2M, the current Total Contingency remains the same at \$93.2M. Table (below) show figures in millions.

Design Allowance (DA) – The baseline DA of \$25.3M reflects no changes this period.

Allocated Contingency (AC) – Compared to the baseline amount of \$54.1M, AC reflects no changes this period.

Unallocated Contingency (UAC) – The baseline UAC amount of \$13.8M reflects no changes this period.

Contingency		Bas	seline	Cur	rent	
Status	An	nount	% of Total	A	mount	% of Work Remaining
Design Allowance	\$	25.3	5.6%	\$	25.3	6.1%
Allocated Contingency	\$	54.1	12.0%	\$	54.1	13.1%
Unallocated Contingency	\$	13.8	3.1%	\$	13.8	3.3%
Total	\$	93.2	20.7%	\$	93.2	22.5%



Risk Management

The Project has a Risk Register and is actively managing risks. The following are the top five risks:

- Volatility in property values around the Bel-Red area.
- Third Party requesting additional site improvements not included in the agreements.
- Authorities Having Jurisdiction not fully communicating all of their requirements to Sound Transit.
- Interface point of E335/OMFE and ST3 leads to change in track, systems, signals and utilities.
- Third Party not satisfied with progress on Master Development Plan causing reconsideration for use of a development agreement process and late permits.



Project Schedule

The project schedule is presented below and reflected in the baseline. Concept validation with Hensel Phelps concluded in April and the contract is being prepared for ST Board approval. Property acquisitions are trending ahead of schedule to be completed in late 2017, in time for construction to start as planned.

ivty Name	98 7	Firish	216	2017	221.8	2019	0.225
			2 23 24 21	22 23 24	91 92 93 94	21 22 23 24	01 22 23 24
LOMFE - Project Master Schedule	01-Dec-16A	23-Dec-20	1		1		
Procurement	23-Apr-17 A	15-Jun-17		-			
Design-Build Contract Procurement.	2340-17A	Second 17			£		
Design-Build Project Management Consultant	27-1p-17A	11-Max-17					
ROW/Property Acquisition	29-Nov-17	29-Nov-17		- 1	1		
Third Party Agreements and Permitting	01-Dec-16A	10-Jun-18	-				
D/B Contract	15-44-17	24-Oct-20		-			-
Final Design	15-Jun-17	13-Alas-18		-	-		
Construction	12-Nov-17	01-140-20					
Testing/Commissioning	03-08-19	26-14-20			1	-	
Contract Completion	28-41-20	24-04-20					-
Project Completion	24-Sep-20	23-Dec-20					-
Project Poat	24-Sep-20	23-Dec-20		3			-
Project Completion		23-Dec-20*		1 3			

Critical Path Analysis

The project critical path this period continues to follow the Letter of No Prejudice (LONP) to allow work to progress ahead of the Full Funding Grant Agreement for Lynnwood Link Extension. The contract will not be awarded without receipt of the LONP. The current conceptual construction plan shows a critical path through the foundation design and subsequently the construction of the LRV storage yard. The critical path of construction is subject to change upon award of the DB contract.

covty Name	San	Finish	2016		2017	2018	2019	202.0
			2 23 0	24 21	02 03 04	01 02 03 04	01 02 03 04	01 02 03 04
LOMFE - Project Master Schedule	01-Dec-16A	23-Dec-20		1				
Procurement	23-Apr-17 A	15-Jun-17		1				
Design-Build Contract Procurement	23-Apr-17 A	15-Jun-17		1			<u>}</u>	
Design-Build Project Management Consultant	27-Apr-17 A	11-May-17		1	•			
Third Party Agreements and Permitting	01-Dec-16A	24-May-17						
FTA	01-Dec-16A	24-May-17		1				
FTA ReviewApproval of LONP	01-Dec-16A	24-May-17		-	•			
D/B Contract	15-Jun-17	24-Sep-20		-				
Final Design	15-Jun-17	12-Nov-17		1				
Design-Build Contract Notice to Proceed	15-Jun-17	-			+		1	
Deelon Packagee	15-3-17			1	_		1	
Construction	12-Nov-17	03-Dd-19						
Limited Site Access - Mobilization	12-Nov-17	· · · · · · ·		÷	+		1	6. S
Mobilization and Sitework	12-90-11	10-14-12		1			1	
1.StV Storage (incl. Traction Power)	10-auto	03-06-19						2
Testing/Commissioning	03-0a-19	26-Jul-20					-	
Contract Completion	26-14+20	24-Sep-20		1				
Project Completion	24-Sep-20	23-Dec-20		1			1	
Project Float	24-Sep-20	23-Dec-20		1				-
Project Completion		23-Dec-20*		4			1	



Right of Way

Filed condemnations and requested Possession and Use of all properties. ST responded to second counter offer for one property. One parcel vacated. The right - of-way program status of the OMFE as of this period is summarized below:

Link OMFE Property Acquisition Status										
	Ap- Made/In Agree- sion and Settle- Closings ti						Reloca- tions Required	Parcels Vacated		
Total*	11	9	0	2	0	1	30	3		

*Number totals may differ from other reports due to the timing of reporting periods.

Sound Transit Board Actions

Board motions and resolutions directly related to OMFE is summarized in the table below.

Motion Number	Description	Date
M2017-46	Execute a contract with KBA Inc. to provide design-build project manage- ment services for the Link OMFE in the amount of \$17,512,000 with a contin- gency of approx. 7% for a total author- ized contract amount not to exceed \$18,800,000.	Apr 27

Environmental

• None to report.

Community Outreach

- OMFE public website updates still in progress.
- Scheduled a stakeholder meeting for mid-June and began planning for general outreach meeting the week of June 19th. Stakeholder agenda will include King County discussing third party agreement and presentation of Hensel Phelp's OMFE design build proposal.



Phase 2 Preliminary Engineering and FEIS

Sound Transit executed a professional services agreement with Huitt-Zollars, Inc. (HZ) for civil engineering and architectural design services and issued NTP for Phase 2, Preliminary Engineering and FEIS for the Link Operations and Maintenance Facility: East (OMFE) in September 2014.

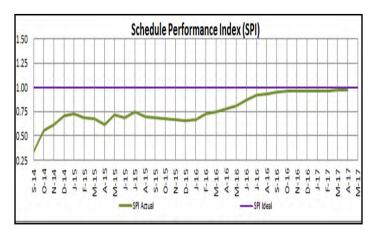
Phase 2 Key Activities

- Continued working on draft agreement with King County regarding mainline sewer replacement .
- JARPA approval received, awaiting City of Bellevue review of CAR prior to implementing fee in lieu program.
- Finalized conformed RFP documents.
- Final design build M200 proposals received and evaluated. Announcement of highest scoring team imminent.
- Received last Phase 2 environmental report from cooperating properties.
- Coordinated permit support services payment concurrence with the City of Bellevue.

Phase 2 Schedule Performance

The cumulative Schedule Performance Index (SPI) trends at 0.97 through April 2017, which means that cumulative work accomplished is slightly less than work planned.

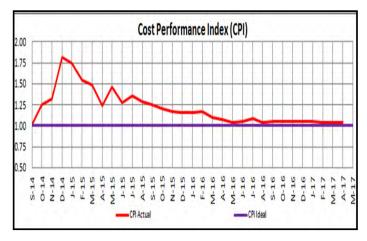
Change Order 008 incorporated Phase 2A of the project in February 2016. The remaining Phase 2 scope has been re-negotiated to reflect the recent Design Build Project Delivery decision. The consultant has been directed to focus efforts on delivering Design Build bridging documents to help inform the procurement of the final design build team starting February 2016 as Phase 2A.





Phase 2 Cost Performance

\$4.9M of the total Phase 2 contract amount, approximately 93%, was spent through April 2017. The Phase 2 percent complete is 97%, with an earned value of \$5.2M. The cumulative Cost Performance Index (CPI) is 1.04, indicating that expenditures are slightly less than the earned value.



Phase 2 Performance	Cumulative To Date
Amount Invoiced	\$4.9M
% Spent	93%
Earned Value	\$5.2M
% Complete	97%
SPI	0.97
СРІ	1.04



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Link Light Rail Light Rail Vehicle Fleet Expansion



Project Summary

- **Scope:** Design, manufacturing, assembly, inspection, testing and delivery of 122 low floor light rail vehicles for service requirements of Northgate, East Link and Lynnwood Link Extensions.
- Budget: \$733 Million (Baseline September 2015)
- Schedule: Project completion 3rd QTR 2024



Graphic rendering of the new light rail vehicles.

Key Activities

- Engineering has begun on car shells and systems. Preliminary Design Reviews are under way.
- ST is preparing to execute a Change Order to add 30 vehicles to this contract to support ST3 projects.

Project Cost Summary

The LRV Fleet Expansion project cost is summarized below by two cost categorizations. In the first table, the cost is summarized in accordance with Sound Transit's Work Breakdown Structure (WBS) at the Phase Level. The second table summarizes the project in accordance with the FTA's Standard Cost Category (SCC) format. Both tables below are shown in millions.

To date, approximately \$10M has been expended. This period LTK reviewed engineering submittals. Siemen's Industry prepared engineering submittals. Negotiation for the excising of option LRV was completed. The ST Board approved a Resolution to increase the project budget by \$7.7M for a new total budget of \$740.7M. Additionally, the ST Board also approve a contract change with Siemens Industry to exercise the option of 30 additional LRVs. This change order is pending execution.

Project Phase	Baseline Budget	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget Vs. EFC
Administration	\$6.4	\$6.4	\$0.4	\$0.4	\$6.4	\$0.0
Construction Services	\$18.0	\$18.0	\$4.7	\$2.0	\$18.0	\$0.0
Vehicles	\$716.3	\$716.3	\$524.0	\$7.7	\$716.3	\$0.0
Total	\$740.7	\$740.7	\$529.I	\$10.0	\$740.7	\$0.0

Cost Summary by SCC

SCC Element	Baseline Budget	Current Adopted Budget	Commit- ment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget 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	\$528.7	\$9.7	\$702.8	\$0.0
80 Professional Services	\$6.I	\$6.I	\$0.4	\$0.4	\$6.I	\$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	\$529.I	\$10.0	\$740.7	\$0.0

Cost Contingency Management

The project's baseline budget approved by the ST Board in September 2015 contained a total of \$78.0M of Total Contingency. The project's Total Contingency is currently at \$200.4M or about 38.6% of remaining work in the project primarily due to the successful procurement and a favorable pricing of the base LRV contract with Siemen Industry.

Design Allowance - This project contains \$0 design allowance.

Allocated Contingency – The project baseline's allocated contingency was \$46.3M. Due to a successful vehicle procurement and a lower than anticipated contract value the allocated contingency was realized at \$167.3M in October 2016. . The current available allocated contingency is \$168.7M after amending the project budget via R2017-15 in anticipation of the contract change order for 30 additional LRVs approved under M2017-50.

Unallocated Contingency - The project baseline's unallocated contingency remained unchanged at \$31.7M.

Contingency		Base	Baseline Current \$200.0 \$180.0 \$31.7		Current						
Status	An	n ount	% of Total	An	ount	% of W ork Rem aining	\$160.0 \$140.0	-	-		
Design Allowance	\$	-	0.0%	\$	-	0.0%	\$120.0 \$100.0 \$80.0	\$161.7	\$161.0	\$161.0	
Allocated Contingency	\$	46.3	6.4%	\$	168.7	32.5%	\$60.0 \$40.0				
Unallocated Contingency	\$	31.7	4.3%	\$	31.7	6.1%	\$20.0 \$-	Ş- Jan-17	5- Feb-17	Ş- Mar-17	1
Total	\$	78.0	10.7%	\$	200.4	38.6%	E Des	sign Allowance	Allocated Contingency	Unalloca	ted Co

Project Schedule

The ST2 LRV Expansion project schedule is shown below.

ctivity Name	Start	Finish	Baseline	Baseline	017	20	18	2019		2020	2021	2022	2023	2024
			Start	Finish	200	00	00	000	00	000	0000	0000	0000	00000
LRV Procurement Schedule	10-Oct-16 A	31-Mar-23	12-Sep-16	20-Sep-24				11				1		1
LRV Engineering and Manufacture	10-Oct-16 A	03-Apr-22	12-Sep-16	13-Mar-19				11						
LRV Design Reviews, Manufacturing, and System Tests LRV Delivery Schedule	10-Oct-16 A	the second se		13-Mar-19		1		11			111			
Delivery of 1st LRV	21-101-10	21-Nov-18	19-mail-19	13-Mar-19			•							
Delivery of 40th LRV - Northgate Link Vehicle Deliveries Complete	1	04-Mar-20	1	13-Dec-20		1			•				111	
Delivery of 42nd LRV - Max Capacity at Existing OMF at capacity (104 LRVs)		24-Mar-20		12-Jan-21	188	133		11		18	0111	144	1111	1133
Final Acceptance of Vehicles	04-Apr-22	31-Dec-22	25-Sep-23	22-Jun-24	11	1.	11	11	1 3	11	111		113	133
Delivery of 122nd LRV - Final ST2 Delivery	04-Apr-22			S		1.5		11			111		111	111
Project Closeout	01-Jan-23	31-Mar-23	23-1110-24	20-Sep-24		11		11			111		111	111
ST-Controlled Float	01-Jan-23	31-Mar-23	23-Jun-24	20-Sep-24		1				1 le	111			-
LRV Procurement Complete		31-Mar-23		20-Sep-24	11	1	1.1	11			1 1 1	111	1 1	1 0



Sound Transit Board Actions

Motion Number	Description	Date
M2017-50	Execute a contract amendment with Siemens Industry, Inc. to exercise options for 30 addi- tional LRVs and additional spare parts in the amount of \$124,326,840 with a 6% contin- gency totaling \$131,638,740 for a new total authorized contract amount not to exceed \$685, 491,565.	Apr 27
R2017-15	(1) Amending the ST2 LRV Fleet Expansion project baseline budget to allow for the pro- curement of 30 additional light rail vehicles by (a) increasing the baseline budget by \$7,712,000 to a new total of \$740,718,000 and (b) increasing the 2017 Annual Budget by \$12,400,000 to a new total of \$71,934,335; and (3) adopting Light Rail Vehicles Fleet Expansion as the new project name.	Apr 27



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Project Staffing – Link Light Rail Program – MARCH 2017

Staffing variance reported in the following section is relative to the April 2016 Agency Staffing Plan (Version 6). During this period, the following positions were filled to support the Link capital program:

Position	Project Assignment	Planned Hire Date
Civil Engineer	Right-of-Way	2016 Attrition*
Electrical Engineer	Systems Engin. and Integration	2016 Attrition*
Sr. Real Property Agent	Appraisals	2016 Attrition
Project Coordinator	Operations and Maintenance Facility: East	February 2017*
Executive Project Director	Federal Way Link Extension	February 2017*
Property Rights Assistant Mgr.	Real Property	February 2017*

*Attrition resulting from internal promotion.

Recruiting is on-going for the following design, engineering and construction management staff.

Position	Project Assignment	Planned Hire Date
Sr. Project Manager	Sounder Capital Program	2016 Attrition*
Civil Engineer	East Link Extension	2016 Attrition*
Design Technology Specialist	Civil and Structural Engineering	2016 Attrition*
Design Technology Specialist	Civil and Structural Engineering	2016 Attrition
Principal Architect	Federal Way Link Extension	2016 Attrition*
Corridor Design Manager	Systems	2016 Attrition*
Deputy Director	Construction Management	2016 Attrition*
Construction Contracts Claims Sp.	Construction Management	2016 Attrition*
Sr. Systems Engineer	LRV Procurement and Testing	2016 Attrition
Sr. Project Manager	Operations and Maintenance Facility: East	2016 Reclass
Executive Project Director	Executive Director's Office	2016 Reclass
Engineering Manager	Standard Specifications/Design Criteria	2017 Reclass
Director	Civil and Structural Engineering	2017 Attrition*
Sr. Leasing Property Coordinator	Property Management	2017 Attrition*
Community Outreach Specialist	South Corridor	2017 Attrition*
Construction Manager	Systems	2017 Attrition

*Attrition resulting from internal promotion

Project Staffing – Link Light Rail Program continued

Position	Project Assignment	Planned Hire Date
Chief of Staff	Executive Director's Office	2017 Attrition
Sr. Systems Engineer	Operations Technology	January 2017
Sr. Systems Engineer	Operations Technology	January 2017
Deputy Director	East Link Extension	February 2017
Sr. Civil Engineer	Non-Corridor Projects – Operations Supt.	February 2017
Project Control Supervisor	Tac./Fed. Way –Tac Link Extension	February 2017
Construction Manager	Systems	February 2017
Construction Manager	Lynnwood Link Extension	February 2017
Project Manager	Public Art (ST <i>art</i>)	February 2017
Project Coordinator	Tacoma/Federal Way Link Ext.	March 2017

There were 708.4 (113% of plan) consultant and internal staff full time equivalents (FTE) participating in the on-going planning, design and construction of Link light rail extensions in March. Staffing was within 10% of plan for the East Link Extension. Staffing for the Northgate, Tacoma, and Lynnwood Link Extensions was 135%, 124% and 126% respectively. Federal Way Link Extension staffing was 87% of plan while staffing for the Link Operations & Maintenance Facility: East was 34% of plan.

Staffing variance to plan for the month and year to date summary by project follows.

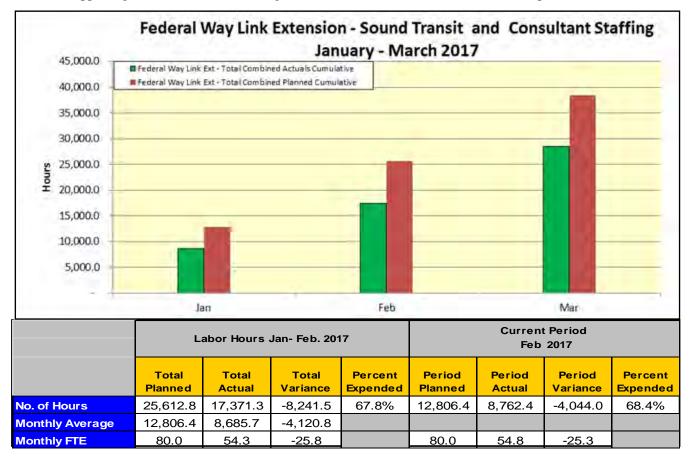
	March 2017 Staffing Plan Variance Summary											
	Consultant Staff				Sound Transit Staff				Total (AVG. YTD)			
	FTE		Variance		FTE		Variance		FTE		Variance	
Project	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan
Federal Way Link Extension	42.0	48.2	6.2	115%	37.9	21.1	-16.8	56%	79.9	59.3	-20.6	74%
Northgate Link Extension	71.1	109.1	38.0	153%	44.2	46.5	2.3	105%	115.3	131.2	16.0	114%
OMF East	6.6	0.1	-6.5	1%	16.7	7.8	-8.9	47%	23.3	7.9	-15.4	34%
East Link Extension	66.8	64.7	-2.1	97%	72.1	72.0	0.0	100%	138.8	143.0	4.2	103%
Lynnwood Link Extension	178.0	233.6	55.6	131%	51.9	52.2	0.2	100%	229.9	249.3	19.3	108%
Tcoma Link Expansion	24.0	32.7	8.7	136%	18.1	20.5	2.4	113%	42.1	47.6	5.5	113%
Total	388.5	488.4	99.9	126%	240.9	220.0	-20.8	91%	629.3	638.3	9.0	101%



Federal Way Link Extension Staffing

Total Internal and External Staffing - Federal Way Link Extension

There were 69.3 (87% of plan) consultant and internal staff on the Federal Way Link Extension in March including 48.2 consultant FTE (115% of plan) and 21.1 internal FTE (56% of plan). Average year-to-date (YTD) internal staffing (18.9 FTE) is 49.6% (19.2 FTE) below plan; YTD consultant staffing (40.4 FTE) is 3.8% (1.9 FTE) below plan. All consultant staff is supporting the validation of the Design-Build (D-B) contractor's construction concepts.



Operations & Maintenance Facility: East Staffing

Total Internal and External Staffing - OMFE

There were 7.8 internal and 0.1 consultant FTE participating in the Operations & Maintenance Facility: East project in March. This is 16% (1.5 FTE) below February staffing and 34% of plan Average year-to-date staffing (7.9 FTE/mo.) is 66% (15.4 FTE) below plan. All consultant staff are participating in concept validation of the selected DB contractor.

	Labor Hours to Date				Current Period Mar 2017			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	
No. of Hours	11,179.2	3,769.2	-7,410.0	33.7%	3,726.4	1,255.8	-2,470.6	
Monthly Average	3,726.4	1,256.4	-2,470.0					

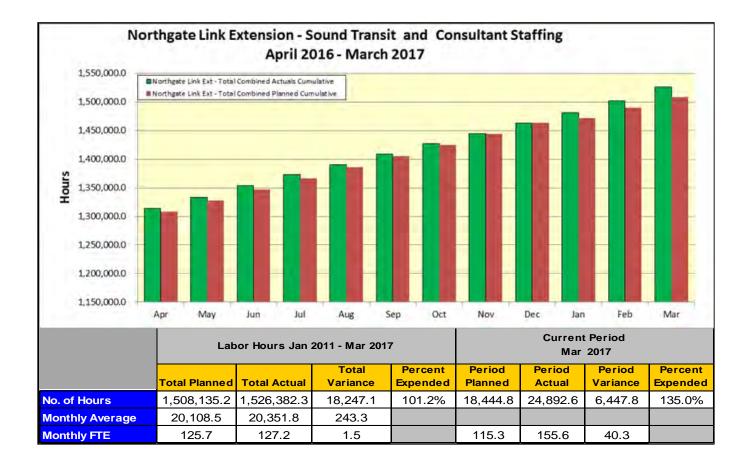


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Total Internal and External Staffing - Northgate Link Extension

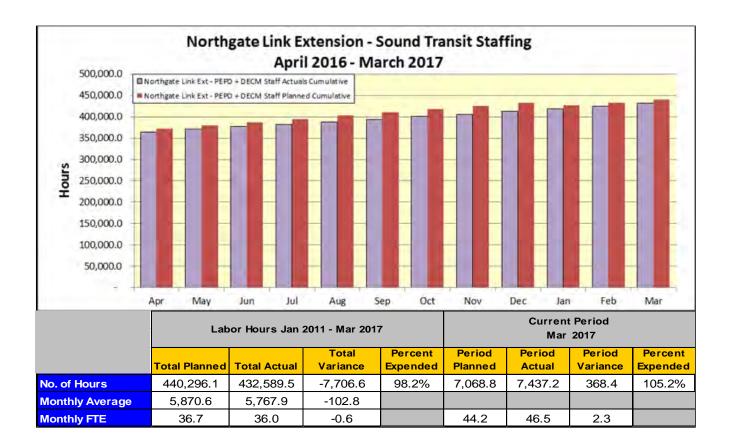
During March, 46.5 internal and 109.1 consultant FTE were assigned to the Northgate Link Extension. This is 23% (29.3 FTE) above February staffing and is 35% (40.3 FTE) above plan. Average year-to-date staffing (131.2 FTE/mo.) is 14% (16 FTE/mo.) above plan; cumulatively since January 2011 average monthly staffing is trending with plan.





Internal Resource Commitments to Northgate Link Extension

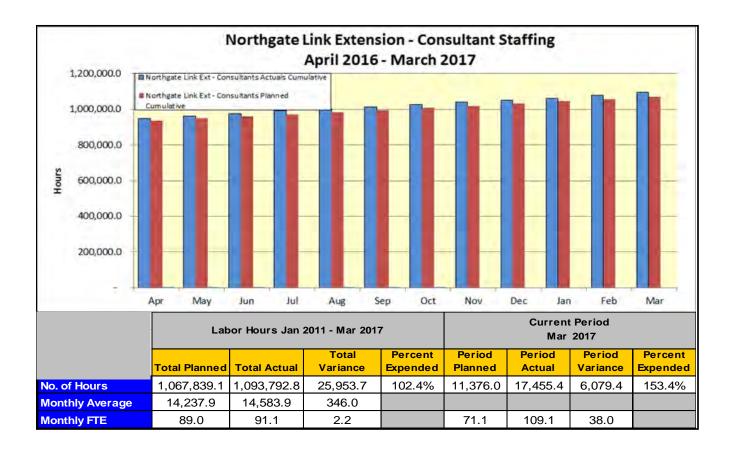
Internal staffing in March (46.5 FTE) increased 18% (8.6 FTE) from February and was 5% (2.3 FTE) above plan. Cumulatively, since January 2011, average monthly internal staffing (36 FTE/mo.) is 1.8% (0.6 FTE/mo.) below plan.



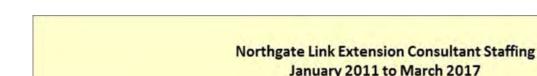


Consultant Resource Commitments to Northgate Link Extension

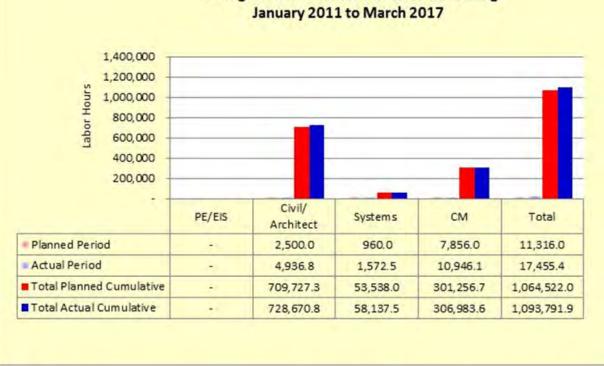
In March, 109.1 consultant FTE were assigned to the Northgate Link Extension; consultant staffing was 23% (20.7 FTE) above February staffing and was 53% (38 FTE) above plan. Cumulatively, since January 2011, average monthly consultant utilization (91.1 FTE/mo.) is trending 2.4% (2.2 FTE/mo.) above plan.







Consultant Resource Commitments to Northgate Link Extension



Consultant utilization by discipline follows:

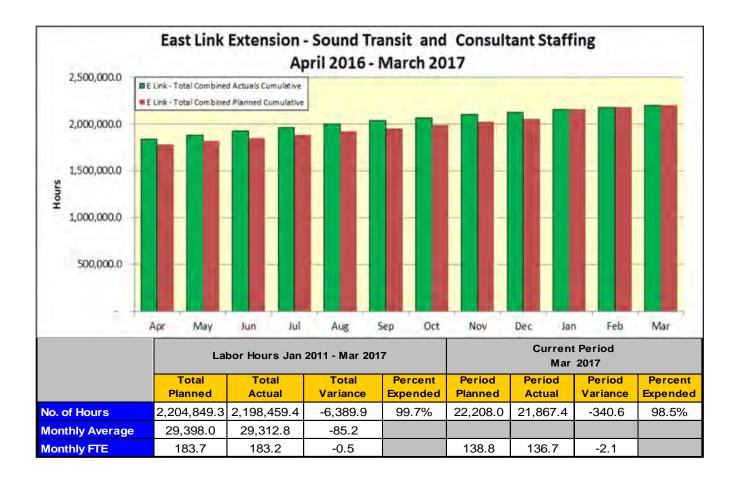
- Civil/architecture consultant utilization in March (30.9 FTE) was 26.9% (6.5 FTE) above February staffing and was 93% (14.9 FTE) above plan. Cumulatively since January 2011, average civil engineering/architecture consultant staffing of 60.7 FTE/mo. is trending within 3% of plan.
- Systems consultant utilization (9.8 FTE) was 9.8% (0.9 FTE) above February staffing and was 64% (3.8 FTE) above plan. Since January 2011, average monthly Systems consultant staffing (4.8 FTE/mo.) is trending with plan.
- CM consultant staffing in March (68.4 FTE) was 24% (13.3 FTE) above February staffing and was 39% (19.3 FTE) above plan. Cumulatively, since January 2011, average monthly CM consultant staffing (25.6 FTE/mo.) is trending with plan.



East Link Extension Staffing

Total Internal and External Staffing - East ink Extension

Staffing for the East Link Extension in March (136.7 FTE) increased 4% (5.9 FTE) from February and was 2% (2.1 FTE) below plan. Average year-to-date staffing of 143 FTE/mo. is 3% (4.2 FTE/mo.) above plan. Cumulatively since January 2011, average monthly staffing of 183.2 FTE/mo. is trending with plan.





East Link Extension Staffing

Internal Resource Commitments to East Link Extension

During March, internal staffing for the East Link Extension (72 FTE) was 17% (12 FTE) above February and was on plan. Cumulatively, since January 2011, average monthly internal staffing (51.4 FTE/mo.) is also trending with plan.

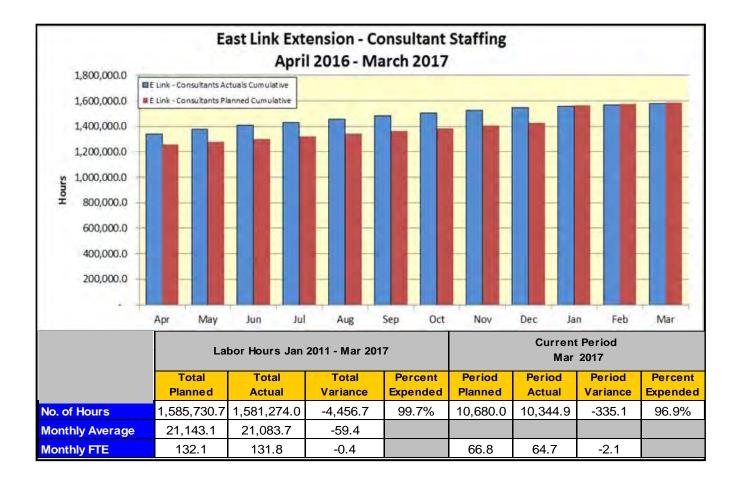




East Link Extension Staffing

Consultant Resource Commitments to East Link Extension

There were 64.7 consultant FTE assigned to the East Link Extension during March. Consultant staffing decreased 9% (6.2 FTE) from February and was 3% (2.1 FTE) below plan. Cumulatively since January 2011, average monthly consultant staffing (131.8 FTE/mo.) is trending with plan.

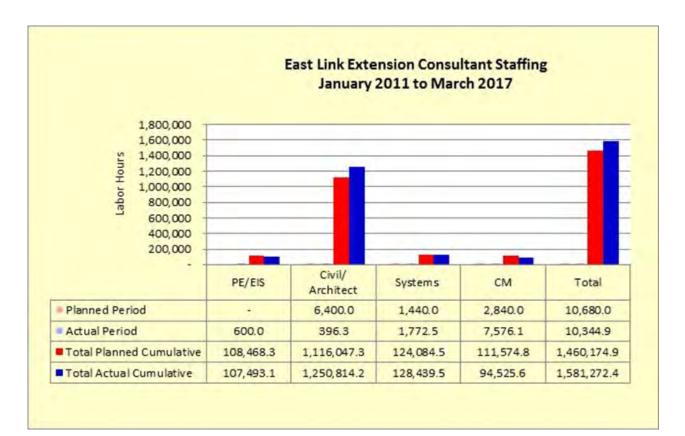




East Link Staffing

Consultant Resource Commitments to East Link, continued

In March, construction management consultant staffing (47.4 FTE) was 73% of consultant staffing and was 14.2% (7.8 FTE) below February construction management staffing. Civil engineering consultant staffing (2.5 FTE) comprised 4% of consultant staffing and was 27% below February staffing and 94% (56.4 FTE) below plan. Systems consultant staffing (11.1 FTE) was 23% (2.3 FTE) above plan and was 26% (2.3 FTE) below February staffing. There were 3.8 consultant FTE performing Preliminary Engineering (PE).

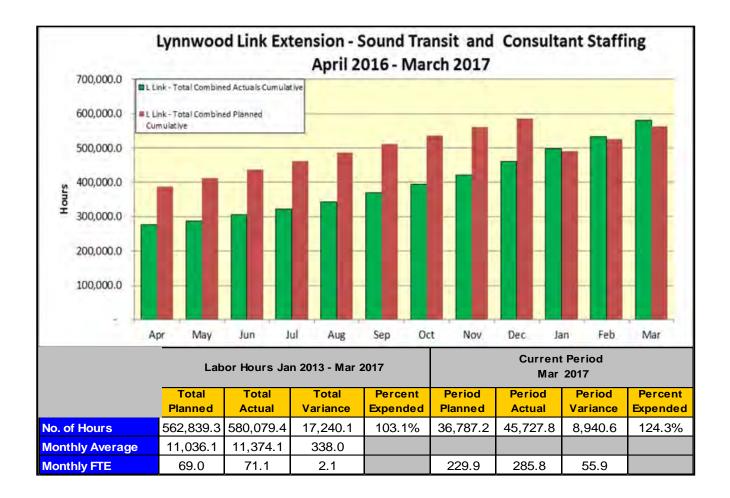




Lynnwood Link Extension Staffing

Total Internal and External Staffing - S. 200th Link Extension

During March, Lynnwood Link Extension staffing was 285.8 FTE (24% or 55.96 FTE above plan) and included 233.6 consultant FTE (31% above plan) and 52.2 internal FTE (100% of plan). Average year-to-date staffing of 249.3 FTE/mo is trending 8% (19.3 FTE/mo.) above plan; cumulatively since January 2013 staffing is averaging 71.1 FTE/mo. and is trending 3% above.

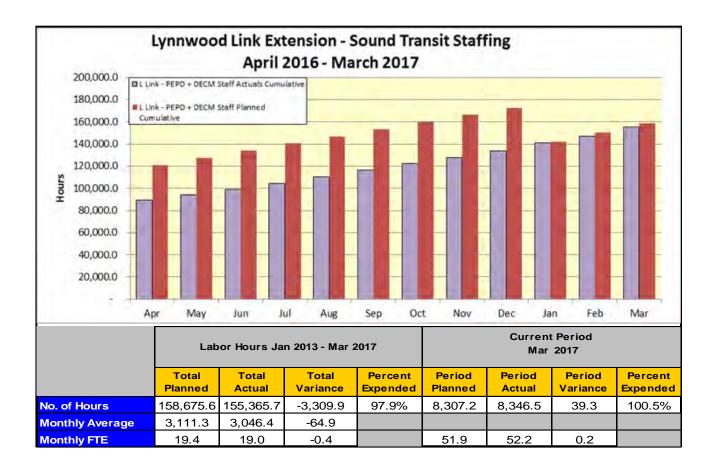




Lynnwood Link Extension Staffing

Internal Staffing—Lynnwood Link

During March internal staffing for the Lynnwood Link Extension (52.2 FTE) was 24% (12.7 FTE) above February staffing and was on plan. Cumulatively, since January 2013, average monthly internal staffing (19 FTE/mo.) is trending with plan.

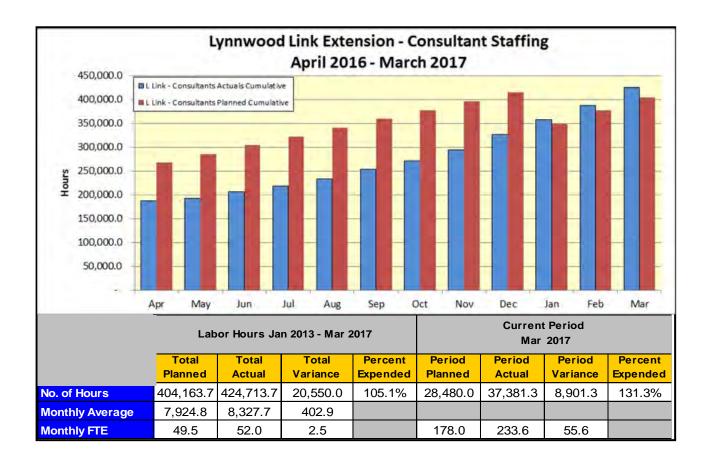




Lynnwood Link Expansion

Consultant Staffing—Lynnwood Link

There were 233.6 consultant FTE assigned to the Lynnwood Link Extension during March. Consultant staffing increased 24% (45.9 FTE) from February and was 31% (55.6 FTE) above plan. Cumulatively since January 2013, average monthly consultant staffing (52 FTE/mo.) is trending 5.1% (2.5 FTE/mo.) above plan.

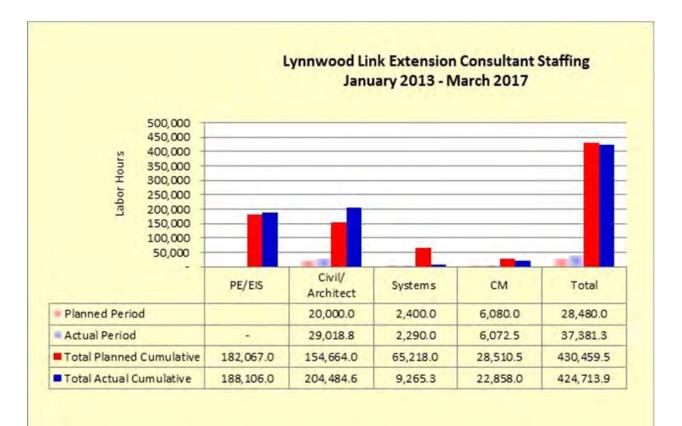




Lynnwood Link Extension Staffing

Consultant Resource Commitments to Lynnwood Link

77% of the Lynnwood Loink consultant staffing (181.4 FTE) were civil engineering consultants. Additional consultant staffing (38 FTE) provided construction management and systems design (14.3 FTE) support.

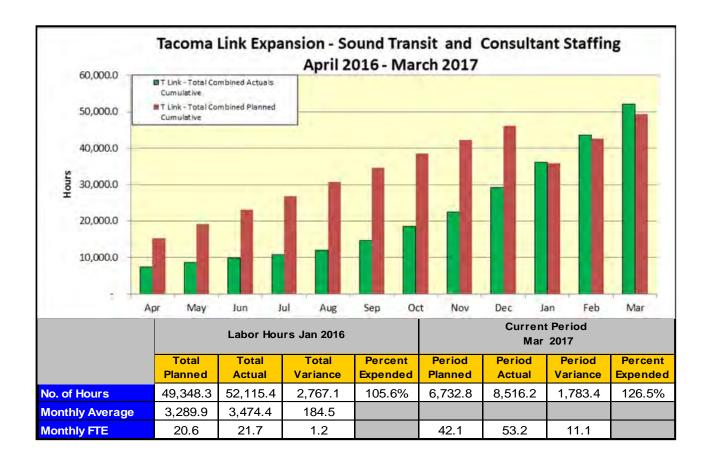




Tacoma Link Expansion

Total Internal and Consultant Staffing - Tacoma Link Expansion

During March there were 53.2 FTE (126% of plan) assigned to the Tacoma Link Expansion including 32.7 consultant FTE (36% above plan) and 20.5 internal FTE (13% above plan). Average year-to-date staffing (47.6 FTE/mo.) is 13% (5.5 FTE/mo.) above plan; cumulatively since January 2016 staffing is trending 5% (1.2 FTE) above plan.

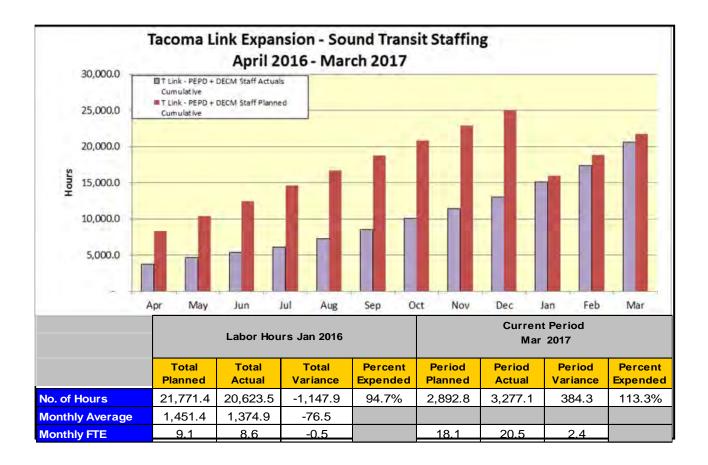




Tacoma Link Expansion

Internal – Tacoma Link Expansion

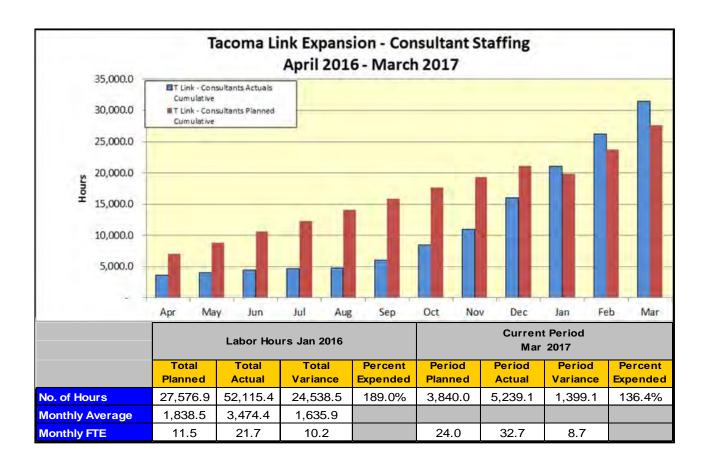
During March, internal staffing for the Tacoma Link Extension (20.5 FTE) was 32% (6.6 FTE) above February staffing and was 13% (2.4 FTE) above plan. Cumulatively, since January 2016, average monthly internal staffing (8.6 FTE/mo.) is trending 5.3% (0.5FTE/mo.) below plan.



Tacoma Link Expansion

Consultant Resource Commitments - Tacoma Link Expansion

There were 32.7 consultant FTE assigned to the Tacoma Link Extension during March. Consultant staffing was 36% (8.7 FTE) above plan. Cumulatively since January 2016, average monthly consultant staffing (21.7FTE/mo.) is trending 89% (10.2 FTE/mo.) above plan.





ACRONYMS	
AA	Alternative Analysis
APE	Area of Potential Impact
BCE	Baseline Cost Estimate
BCWS	Budgeted Cost of Work
BIM	Building Information Modeling
BNSF	Burlington Northern Santa Fe Railway
CCB	Change Control Board
CDF	Controlled Density Fill
CHS	Capitol Hill Station
СМ	Construction Management
CMU	Concrete Masonry Unit
CO	Change Order
СРІ	Cost Performance Index
СРМ	Critical Path Method
DAHP	Department of Archaeology & History Preservation
DART	Days Away, Restricted or Modified
DB	Design -Build
DECM	Design, Engineering and Construction Management
DEIS	Draft Environmental Impact Statement
DPD	Seattle Department of Planning and Development
DSC	Differing Site Conditions
DSDC	Design Support During Construction
DSTT	Downtown Seattle Transit Tunnel
EFC	Estimated Final Cost
EMI	Electro Magnetic Interference
FD	Final Design
FHWA	Federal Highway Administration
FSEIS	Final Supplemental Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FTE	Full Time Employee
GC/CM	General Contractor / Construction Management
HVAC	Heating, Ventilation and Air Conditioning
ICD	Integration Control Document
IRT	Independent Review Team
IWP	Industrial Waste Permit
JA	Jacobs Associates
JARPA	Joint Aquatic Resource Permit Application
KCM	King County Metro
LNTP	Limited Notice to Proceed

Link Light Rail Acronyms

ACRONYMS, continued



riencer (rino, commute	
LRRP	Light Rail Review Panel
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTK	LTK Engineering Services
MACC	Maximum Allowable Construction Cost
MDA	Major Discharge Authorization
MLK	Martin Luther King, Jr. Way
MOA	Memorandum of Agreement
MOS	Minimum Operable Segment
MOU	Memorandum of Understanding
MPPCV	Major Public Project Construction Variance
MRB	Material Review Board
MTP	Montlake Triangle Project
MUP	Master Use Permit
NB	Northbound
NCR	Notification of Change Report
NCTP	North Corridor Transit Partners
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NTP	Notice to Proceed
OCS	Overhead Catenary System
OMF	Operations and Maintenance Facility
OMSF	Operations and Maintenance Satellite Facility
PE	Preliminary Engineering
PEP	Project Execution Plan
PEPD	Planning, Environment and Project Development
РМОС	Project Management Oversight Consultant
PSST	Pine Street Stub Tunnel
QA	Quality Assurance
QC	Quality Control
QTR	Quarter
RE	Resident Engineer
RFC	Request for Change
RFD	Request for Deviation
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Qualifications
RIR	Recordable Injury Rates



ACRONYMS, continued

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 & 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
UAC	Unallocated Contingency
U-Link	University Link project
USFWS	U.S. Fish and Wildlife Service
UW	University Of Washington
UST	Underground Storage Tank
UWS	University of Washington Station
VE	Value Engineering
VECP	Value Engineering Cost Proposal
WBS	Work Breakdown Structure
WSDOT	Washington Department of Transportation