

# Progress Report

# Link Light Rail Program

---



*Long Span Falsework Removal (East Link)*

May | 2019





**SOUNDTRANSIT**

---

---



## TABLE of CONTENTS

|                                                                 |            |
|-----------------------------------------------------------------|------------|
| <b>Program Overview .....</b>                                   | <b>1</b>   |
| <b>University Link Extension .....</b>                          | <b>5</b>   |
| <b>Northgate Link Extension .....</b>                           | <b>9</b>   |
| <b>Lynnwood Link Extension .....</b>                            | <b>29</b>  |
| <b>I-90 Two-Way Transit &amp; HOV Operations (Stage 3).....</b> | <b>41</b>  |
| <b>East Link Extension.....</b>                                 | <b>45</b>  |
| <b>Downtown Redmond Link Extension .....</b>                    | <b>69</b>  |
| <b>W. Seattle &amp; Ballard Link Extensions.....</b>            | <b>73</b>  |
| <b>Federal Way Transit Extension.....</b>                       | <b>77</b>  |
| <b>Hilltop Tacoma Link Extension .....</b>                      | <b>85</b>  |
| <b>Tacoma Dome Link Extension .....</b>                         | <b>95</b>  |
| <b>Link Operations &amp; Maintenance Facility: East .....</b>   | <b>99</b>  |
| <b>LRV Fleet Expansion .....</b>                                | <b>107</b> |
| <b>Staffing .....</b>                                           | <b>112</b> |
| <b>Acronyms .....</b>                                           | <b>114</b> |

## SOUND TRANSIT LINK LIGHT RAIL CURRENT SERVICE AND FUTURE EXTENSIONS

**Link Light Rail**

**Future service:**

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

**In service:**

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

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





# Link Light Rail Program Overview



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

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

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

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

**Downtown Redmond Link Extension:** This project builds a new light rail from the Redmond Technology Station to downtown Redmond by 2024. Light rail will travel along SR-520 with two new stations in southeast Redmond, at Marymoor Park, and downtown Redmond. The ST Board adopted the baseline capital budget of \$1.53B on October 25, 2018.

**West Seattle and Ballard Link Extensions:** The West Seattle & Ballard Link Extensions are voter-approved projects under the ST3 Plan. West Seattle segment includes 4.7 miles of light rail from downtown Seattle to West Seattle's Junction neighborhood. It includes five light rail stations. The route will run primarily on elevated guideway with a new rail-only bridge over Duwamish River. The Ballard segment includes 7.1 miles of light rail from downtown Seattle to Ballard's

Market Street area. It includes nine light rail stations. The route will run through a new downtown Seattle rail-only tunnel, elevated guideway, and a rail-only bridge over Salmon Bay. The current budget for these projects through completion of Preliminary Engineering is \$286M.

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

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

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

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

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

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



# Link Light Rail Program Overview

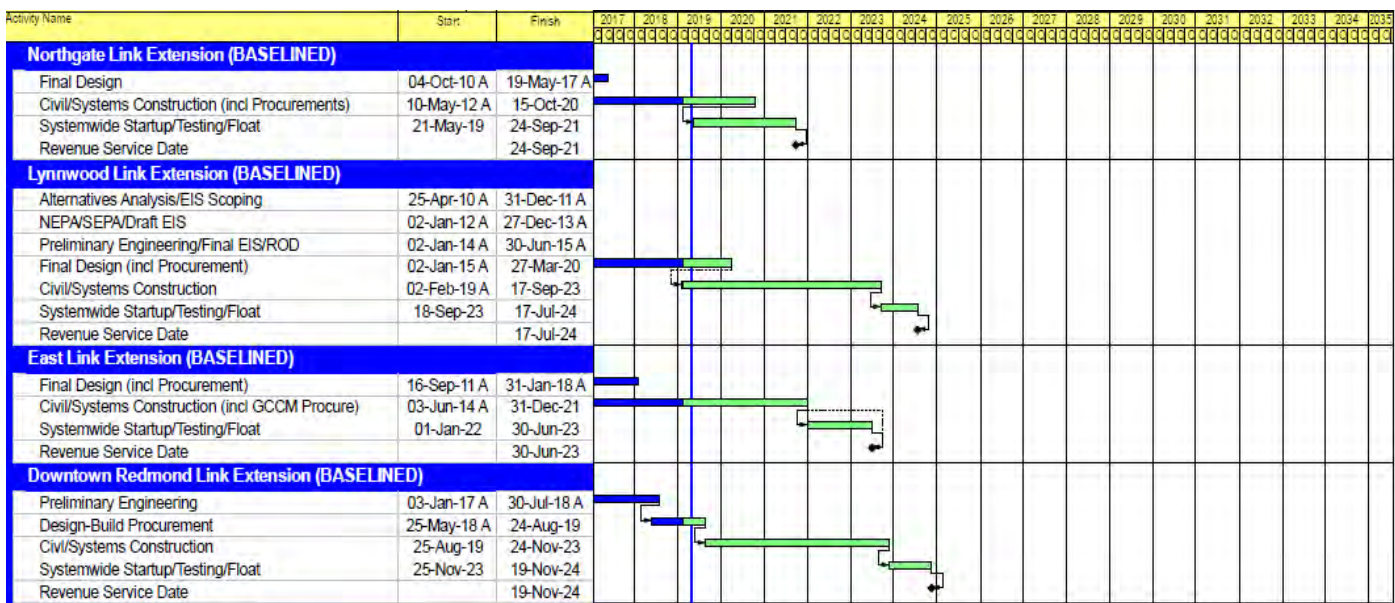
## Program Budget

Project figures for active projects are represented in millions below.

| project                            | Authorized Project Allocation | Commitment to Date | Incurred to Date | Forecast to Complete | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|------------------------------------|-------------------------------|--------------------|------------------|----------------------|----------------------------|-------------------------------|
| University Link Extension          | \$1,756.0                     | \$1,519.0          | \$1,510.5        | \$35.1               | \$1,554.1                  | \$201.9                       |
| Northgate Link Extension           | \$1,899.8                     | \$1,655.5          | \$1,433.1        | \$191.8              | \$1,847.3                  | \$52.5                        |
| Lynnwood Link Extension            | \$2,771.6                     | \$630.4            | \$364.6          | \$2,141.2            | \$2,771.6                  | 0                             |
| East Link Extension                | \$3,677.2                     | \$3,047.4          | \$1,891.0        | \$629.8              | \$3,677.1                  | 0                             |
| Downtown Redmond Link Ext.         | \$1,530.0                     | \$42.2             | \$30.5           | \$1,487.8            | \$1,530.0                  | 0                             |
| West Seattle and Ballard Link Ext. | \$285.9                       | \$36.0             | \$33.4           | \$249.8              | \$285.9                    | 0                             |
| South 200th Link Extension         | \$383.2                       | \$332.0            | \$329.1          | \$0.4                | \$332.4                    | \$50.8                        |
| Federal Way Link Extension         | \$2,451.5                     | \$141.2            | \$122.1          | \$2,310.3            | \$2,451.5                  | 0                             |
| Hilltop Tacoma Link Extension      | \$217.3                       | \$184.6            | \$65.0           | \$32.7               | \$217.3                    | 0                             |
| Tacoma Dome Link Extension         | \$125.7                       | \$15.1             | \$11.5           | \$110.6              | \$125.7                    | 0                             |
| Link O & M Facility: East          | \$449.2                       | \$358.2            | \$224.3          | \$91.0               | \$449.2                    | 0                             |
| LRV Fleet Expansion                | \$740.7                       | \$656.0            | \$91.7           | \$84.7               | \$740.7                    | 0                             |
| <b>Total Link</b>                  | <b>\$16,288.2</b>             | <b>\$8,596.3</b>   | <b>\$5,997.6</b> | <b>\$7,387.6</b>     | <b>\$15,983.0</b>          | <b>\$305.2</b>                |

## Program Schedule

Schedules for active projects are summarized below.

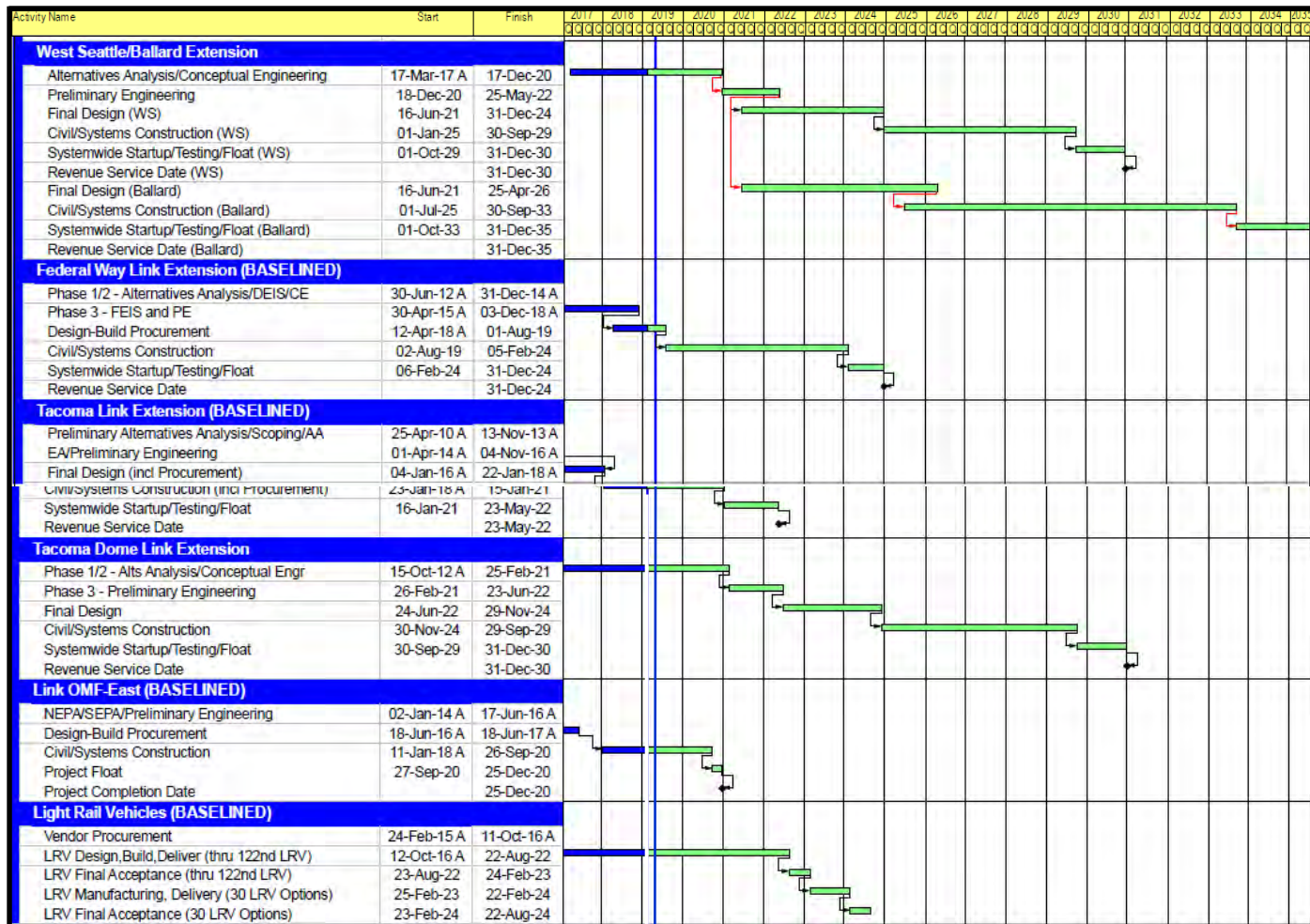


# Link Light Rail Program Overview



## Program Schedule

Schedules for active projects are summarized below.



This page left blank intentionally.



# Link Light Rail University Link Extension

## Project Summary

### Scope

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

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

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

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

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

**Schedule** Revenue Service began March 19, 2016



Map of Project Alignment

## Key Project Activities

- Certificate of Occupancy (C of O): University Link continues to operate under a temporary certificate of occupancy until all permit requirements are fully met. All C of O for stations has been issued. The request for system/tunnel C of O for the University Link has been submitted and continues to wait for Seattle Fire Department's determination.
- Continue negotiation with Capitol Hill Station Contractor on commercial issues.
- Miscellaneous follow-on commitments and restoration work remains including but not limited to the following: Additional UW escalator work, decommissioning of monitoring wells, restoration of the systems staging area on Pine Street, power reliability and vibration monitoring and other follow up on various minor commitments from the Record of Decisions.
- Before and After Study continues to progress. FTA's recommended "on to off" data collection to expand the survey data to more accurately reflect total ridership were incorporated. Study to complete by Summer 2019.

## Project Cost Summary

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

University Link’s projected Estimated Final Cost (EFC) including Finance Cost remains at about \$1.75B. As the project inches closer to close out, the timing for expenditure becomes less predictable. This period, the project expenditure was negligible where the total project expenditure remain at \$1.51B (Finance Cost excluded). Current activities continues to pertain to close out and miscellaneous follow on work. The construction EFC continues to be approximately \$1.02B. This trend continues to hold as the project is substantially complete with only miscellaneous follow on scope and commercial issues remaining. The Total Incurred to Date for the Construction Phase is approximately \$992M and LRV is at about \$99.2M. Cost of LRV repairs were excluded from this project and tracked independently.

### Cost Summary by Phase

| Project Phase           | Baseline Budget   | Authorized Project Allocation | Commitment to Date | Incurred to Date  | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|-------------------|-------------------------------|--------------------|-------------------|----------------------------|-------------------------------|
| Administration          | \$115.23          | \$113.55                      | \$83.67            | \$83.52           | \$88.20                    | \$25.35                       |
| Preliminary Engineering | \$24.39           | \$24.26                       | \$24.26            | \$24.26           | \$24.26                    | \$0.00                        |
| Final Design            | \$77.94           | \$90.31                       | \$87.96            | \$86.77           | \$89.17                    | \$1.14                        |
| Construction Services   | \$68.53           | \$94.81                       | \$86.88            | \$86.57           | \$88.71                    | \$6.11                        |
| 3rd Party Agreements    | \$18.65           | \$18.65                       | \$11.65            | \$11.31           | \$13.23                    | \$5.42                        |
| Construction            | \$1,180.00        | \$1,158.18                    | \$998.91           | \$992.43          | \$1,021.84                 | \$136.34                      |
| Vehicles                | \$103.91          | \$103.91                      | \$99.19            | \$99.19           | \$101.91                   | \$2.00                        |
| ROW                     | \$167.33          | \$152.33                      | \$126.43           | \$126.43          | \$126.79                   | \$25.54                       |
| <b>Capital Total</b>    | <b>\$1,755.97</b> | <b>\$1,756.01</b>             | <b>\$1,518.96</b>  | <b>\$1,510.48</b> | <b>\$1,554.10</b>          | <b>\$201.90</b>               |
| Finance Cost            | \$191.71          | \$191.71                      | \$191.71           | \$174.87          | \$191.71                   | \$0.00                        |
| <b>Project Total</b>    | <b>\$1,947.68</b> | <b>\$1,947.72</b>             | <b>\$1,710.66</b>  | <b>\$1,685.36</b> | <b>\$1,745.81</b>          | <b>\$201.90</b>               |

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

Construction commitment under the SCC format remains relatively unchanged at about \$985.6M. Construction SCC expenditures to date is approximately \$980M this period, mostly attributed to other miscellaneous follow on work project level commitments prior to close out. Total capital cost incurred to date including non-construction cost (SCC 60 thru 90) is now just over \$1.51B or about 86% of total project budgeted scoped (Finance Cost excluded). Total project cost incurred to date at the end of this period including Finance Cost is at \$1.68B. The financing cost Incurred to Date is about \$175M. University Link EFC continues to be projected to close out with at least \$200M under budget excluding financing cost.

# Link Light Rail University Link Extension



## Cost Summary by SCC

| SCC Element                            | Baseline Budget   | Authorized Project Allocation | Commitment to Date | Incurred to Date  | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|-------------------|-------------------------------|--------------------|-------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$626.83          | \$450.46                      | \$456.48           | \$456.38          | \$461.61                   | (\$11.15)                     |
| 20 Stations                            | \$366.33          | \$350.75                      | \$346.16           | \$343.74          | \$353.10                   | (\$2.34)                      |
| 30 Support Facilities: Yards, Shops    | \$7.01            | \$24.83                       | \$23.55            | \$23.54           | \$24.80                    | \$0.03                        |
| 40 Sitework & Special Conditions       | \$59.03           | \$67.39                       | \$57.47            | \$55.09           | \$56.80                    | \$10.59                       |
| 50 Systems                             | \$69.63           | \$116.42                      | \$102.19           | \$101.90          | \$102.40                   | \$14.02                       |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$1,128.82</b> | <b>\$1,009.85</b>             | <b>\$985.85</b>    | <b>\$980.65</b>   | <b>\$998.70</b>            | <b>\$11.15</b>                |
| 60 Row, Land, Existing Improvements    | \$167.33          | \$126.60                      | \$126.43           | \$126.43          | \$125.77                   | \$0.83                        |
| 70 Vehicles                            | \$99.76           | \$100.16                      | \$99.87            | \$99.87           | \$100.16                   | \$0.00                        |
| 80 Professional Services               | \$306.41          | \$346.58                      | \$306.81           | \$303.54          | \$317.99                   | \$28.60                       |
| 90 Unallocated Contingency             | \$53.65           | \$172.81                      | \$0.00             | \$0.00            | \$11.48                    | \$161.33                      |
| <b>Capital Total (10 - 90)</b>         | <b>\$1,755.97</b> | <b>\$1,756.01</b>             | <b>\$1,518.96</b>  | <b>\$1,510.48</b> | <b>\$1,554.10</b>          | <b>\$201.90</b>               |
| 100 Finance Cost                       | \$191.71          | \$191.71                      | \$191.71           | \$174.87          | \$191.71                   | \$0.00                        |
| <b>Project Total</b>                   | <b>\$1,947.68</b> | <b>\$1,947.72</b>             | <b>\$1,710.66</b>  | <b>\$1,685.36</b> | <b>\$1,745.81</b>          | <b>\$201.90</b>               |

This page left blank intentionally.



# Link Light Rail Northgate Link Extension

## Project Summary

### Scope

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

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

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

**Systems** Signals, track electrification, and SCADA communications

**Phase** Construction

**Budget** \$1.899 Billion

**Schedule** Revenue Service: September 2021



Map of Project Alignment

## Key Project Activities

- **U District Station/UW Campus (N140):** In the north area crews continued assembling fan attenuators on basement level 2, continued mechanical installation of escalators 1 through 4 in the central area and commenced electrical layout and installation of the Comm Distribution Closet and Fire Command.
- **Roosevelt Station (N150):** Crews continued fire alarm installation throughout the station. At the north head house, crews continued installing stair 4 and also continued buildout of elevator 2 at the north platform.
- **Northgate Station (N160): Guideway Substructure/Superstructure:** Punchlist is 78% complete. **Station:** The contractor continues installation of wiring and controls for escalators in the main station. **Garage:** Completed access card reader testing.
- **Trackwork (N180):** Crews continued installing fasteners, and performing final line and grade on rails between the U District Station and Roosevelt Station.
- **Environmental:** Continuing environmental compliance weekly inspections. Awaiting formalized plan for water management throughout N180's occupation of guideway. Environmental and Safety site walks conducted on all Northgate projects.

## Closely Monitored Issues

- **N150 Emergency Fan 02:** To finalize the revised hub/impeller pre-production testing, a heat test is required for the 450hp revised hub/impeller configuration. Final test date is TBD.

## Project Cost Summary

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

The Estimated Final Cost (EFC) for the project as of this reporting period is \$1,847.3M, which is \$52.5M below the current project budget, unchanged since last period. This period approximately \$22.3M was incurred, bringing the total project expenditures from \$1.41B to \$1.43B. Project commitments are at \$1.66B with all major construction projects well underway.

### Cost Summary by Phase

| Project Phase           | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$144.9          | \$144.9                       | \$71.7             | \$71.8           | \$136.5                    | \$8.4                         |
| Preliminary Engineering | \$15.1           | \$15.1                        | \$15.1             | \$15.1           | \$15.1                     | \$0.0                         |
| Final Design            | \$132.2          | \$132.2                       | \$120.5            | \$118.0          | \$133.6                    | \$(1.5)                       |
| Construction Services   | \$118.3          | \$118.3                       | \$103.1            | \$81.8           | \$110.4                    | \$7.9                         |
| 3rd Party Agreements    | \$11.8           | \$11.8                        | \$9.8              | \$6.9            | \$11.4                     | \$0.4                         |
| Construction            | \$1,343.0        | \$1,343.0                     | \$1,234.5          | \$1,038.7        | \$1,334.4                  | \$8.7                         |
| ROW                     | \$112.3          | \$112.3                       | \$100.8            | \$100.8          | \$106.0                    | \$6.3                         |
| Project Contingency     | \$22.2           | \$22.2                        | \$0.0              | \$0.0            | \$0.0                      | \$22.2                        |
| <b>Total</b>            | <b>\$1,899.8</b> | <b>\$1,899.8</b>              | <b>\$1,655.5</b>   | <b>\$1,433.1</b> | <b>\$1,847.3</b>           | <b>\$52.5</b>                 |

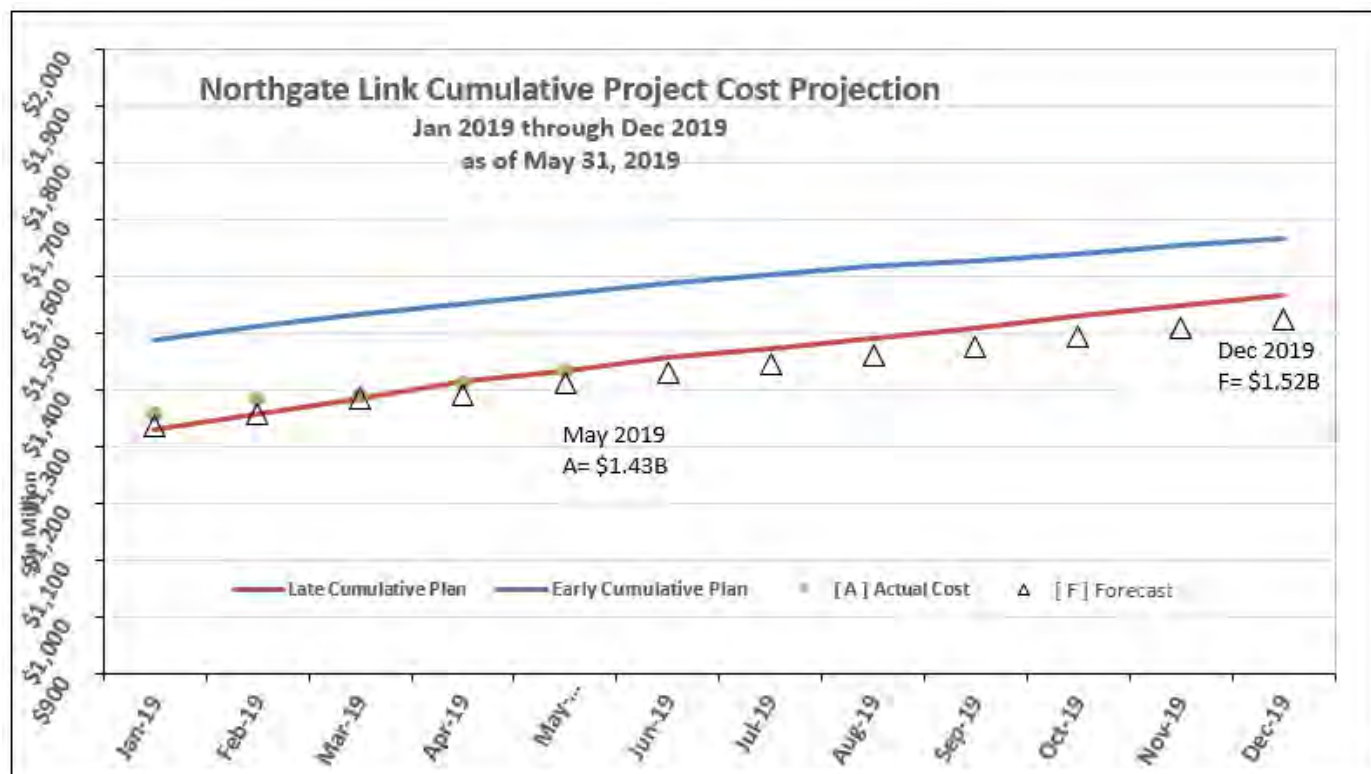
### Cost Summary by SCC

| SCC Element                            | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$595.6          | \$548.2                       | \$516.7            | \$496.2          | \$533.9                    | \$14.3                        |
| 20 Stations                            | \$376.1          | \$425.1                       | \$424.8            | \$340.8          | \$449.1                    | \$(24.1)                      |
| 30 Support Facilities: Yard, Shop      | \$5.3            | \$6.1                         | \$6.5              | \$6.3            | \$6.5                      | \$(0.3)                       |
| 40 Sitework & Special Conditions       | \$140.8          | \$230.7                       | \$168.5            | \$151.7          | \$200.0                    | \$30.7                        |
| 50 Systems                             | \$110.9          | \$98.5                        | \$107.5            | \$34.8           | \$119.5                    | \$(21.0)                      |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$1,228.7</b> | <b>\$1,308.6</b>              | <b>\$1,224.0</b>   | <b>\$1,029.9</b> | <b>\$1,309.0</b>           | <b>\$(0.5)</b>                |
| 60 Row, Land, Existing Improvements    | \$119.9          | \$110.9                       | \$100.8            | \$100.8          | \$105.5                    | \$5.4                         |
| 80 Professional Services               | \$420.7          | \$435.2                       | \$330.7            | \$302.4          | \$427.4                    | \$7.8                         |
| 90 Contingency                         | \$130.4          | \$45.1                        | \$0.0              | \$0.0            | \$5.4                      | \$39.7                        |
| <b>Total (10 - 90)</b>                 | <b>\$1,899.8</b> | <b>\$1,899.8</b>              | <b>\$1,655.5</b>   | <b>\$1,433.1</b> | <b>\$1,847.3</b>           | <b>\$52.5</b>                 |

## Project Cash Flow Projection

The Northgate Link cost projection continues to progress within the planned expenditures as construction activities continue. This period's expenditure of \$22.3M included \$19.6M for the ongoing major construction contracts including the N140, N150, and N160 Station Finishes contracts, the N180 Trackwork contract, the N830 Systems contract, and other miscellaneous construction; \$0.8M was incurred for civil and systems final design and design support during construction; and \$1.0M was for construction management. The remaining expenditures were for third party coordination, permits, staff, legal, start-up planning, right-of-way and other direct charges.

Total project cost incurred to date reached \$1.43B of which about \$1.04B (72%) is attributed to the Construction Phase. The project cost is currently predicted to increase to approximately \$1.52B by December 2019, reflecting continued active construction activities.



## Risk Management

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

- New stairwell at N140 – cost and schedule risk.
- Coordination with third parties (City of Seattle, WSDOT, UW etc.).
- Coordination of system installation, integration, and testing.
- Potential shortage of O&M support during startup and integration testing.
- Multiple contract interfaces/loss of interface float.

## Contingency Management

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

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

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

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

The current contingency drawdown is trending slightly below the planned project drawdown with an increase of \$3.1M this period following receipt of Board approval for additional allocated contingency for the Civil Design Services During Construction work (\$4.7M), which was offset by execution of change orders on the N150 and N160 Station contracts, and the N180 Track-work contract (\$1.6M). The overall UAC balance remains well above both the minimum contingency and the buffered (minimum plus 20%) contingency levels.

### Contingency Status (Monthly)

| Type                    | Baseline       |                   | Current Status   |                     |
|-------------------------|----------------|-------------------|------------------|---------------------|
|                         | Amount         | % of Total Budget | Remaining Amount | % of Work Remaining |
| Design Allowance        | \$113.9        | 6.0%              | \$0.0            | 0.0%                |
| Allocated Contingency   | \$184.0        | 9.7%              | \$142.6          | 34.4%               |
| Unallocated Contingency | \$98.3         | 5.2%              | \$22.9           | 5.5%                |
| <b>Total:</b>           | <b>\$396.2</b> | <b>20.9%</b>      | <b>\$165.5</b>   | <b>40.0%</b>        |

### Contingency by Type

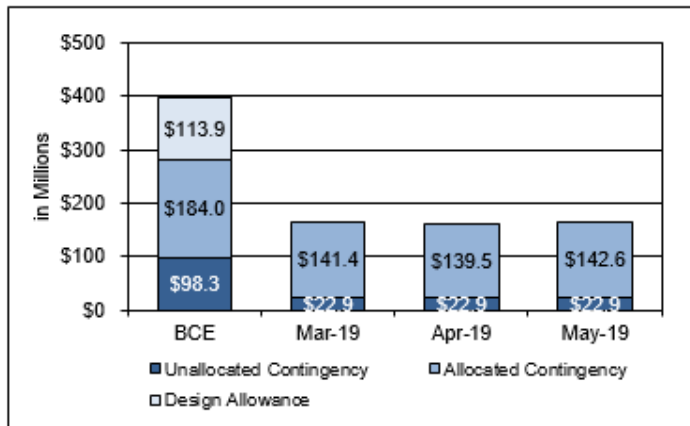
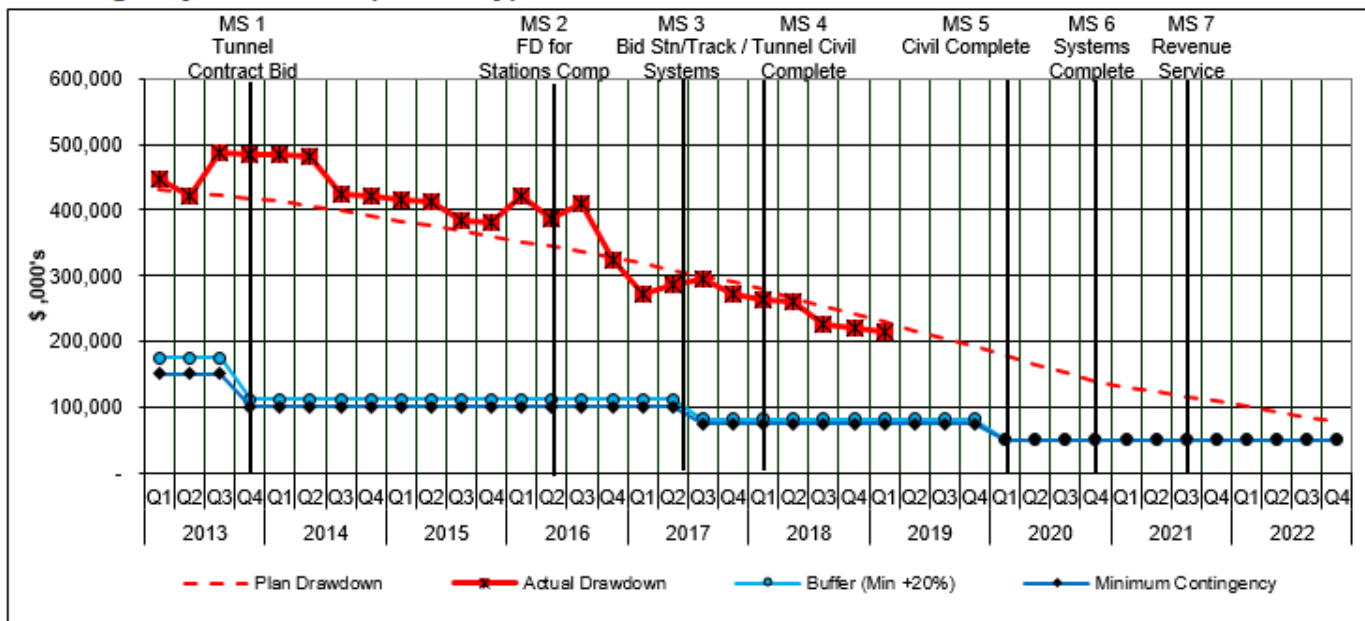


Table figures are shown in millions.

### Contingency Drawdown (Quarterly)





# Link Light Rail Northgate Link Extension

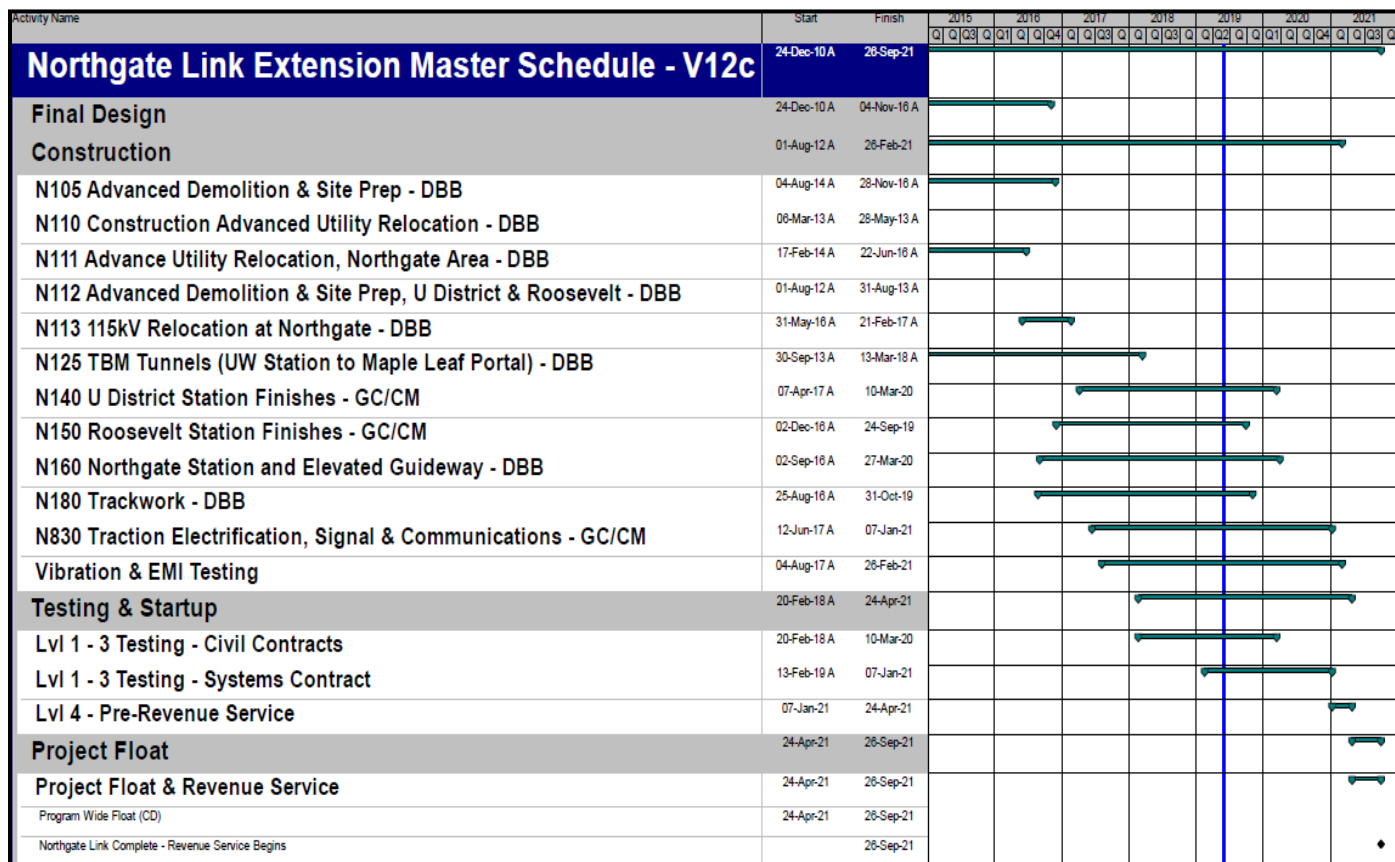


## Project Schedule

As of May 2019, the physical percent complete for all Northgate Link Extension construction contracts increased from 81.6% to 83.0%.

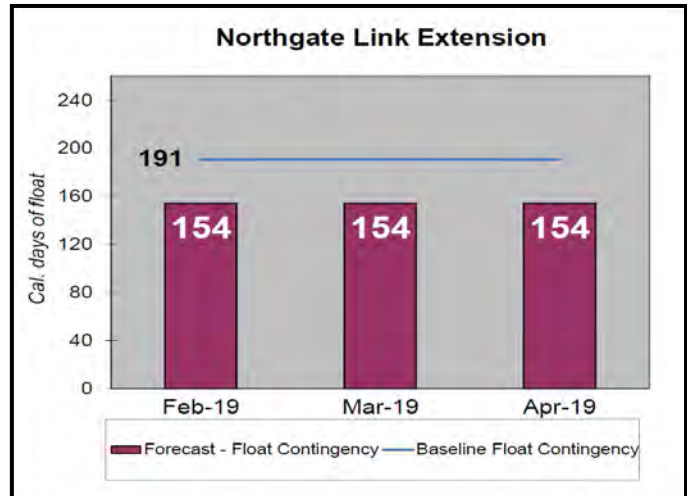
The Northgate Link Extension projects are continuing to maintain schedule and project float remains 154 days. At Roosevelt Station the exterior enclosure is moving forward and energizing of station mechanical and electrical equipment is underway. Headhouse construction and MEP installation is ongoing at UDS. At Northgate Station (NGS) MEP installations and Platform enclosure work continues, as does TPSS and Signal Bungalow site construction. The N830 Systems contractor is currently working at RVS to support power distribution efforts and preparing for the start of OCS installation in the Tunnels starting in September. Completion of the civil construction remains in late 3rd QTR of 2020, with Systems construction & testing currently forecast to be complete in late 4th QTR 2020 as planned.

The Revenue Service date remains late September 2021.



## Project Float

The Northgate Link Project currently retains 154 days of un-allocated project float. The next significant re-evaluation of Project Float will likely occur as the Rail Activation Plan continues to develop. Currently the project remains on schedule.



## Critical Path Analysis

The critical path for the Northgate Link Extension is unchanged, running through the N830 Systems installations, then into the Testing & Commissioning proceeding the Pre-Revenue Service period. Procurement, manufacture, and installation of the Train Control systems continues to be the driver of the critical path.

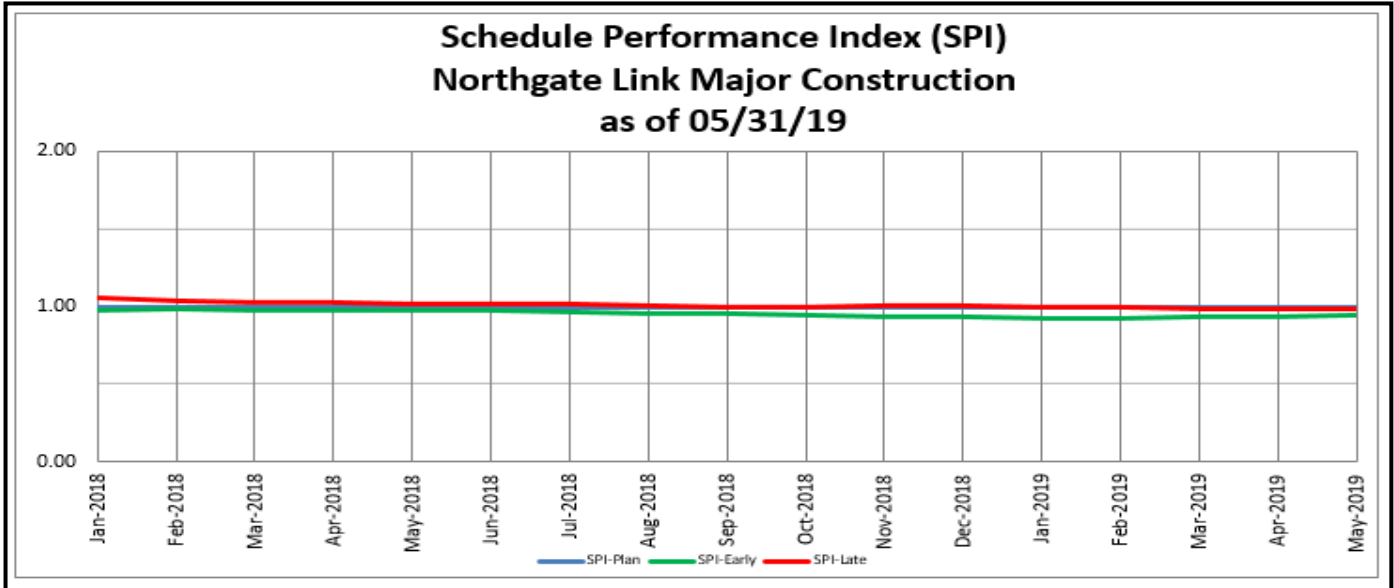
| Activity ID                                                    | Activity Name                                    | Start     | Finish    | 2019        |             |     |     |     |     |     |     |     |     |     |     | 2020 |     |     |     |     |     |     |     |     |     |     |     | 2021 |     |     |     |     |     |     |     |  |  |  |  |  |  |
|----------------------------------------------------------------|--------------------------------------------------|-----------|-----------|-------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|
|                                                                |                                                  |           |           | May         | Jun         | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May  | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May  | Jun | Jul | Aug | Sep | Oct | Nov | Dec |  |  |  |  |  |  |
| <b>Northgate Link Extension Master Schedule - V12c</b>         |                                                  |           |           | 20-Feb-18 A | 26-Sep-21   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| <b>Construction</b>                                            |                                                  |           |           | 03-Jun-19   | 26-Feb-20   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| N830 Traction Electrification, Signal & Communications - GC/CM |                                                  |           |           | 03-Jun-19   | 26-Feb-20   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| <b>Testing &amp; Startup</b>                                   |                                                  |           |           | 20-Feb-18 A | 24-Apr-21   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| Lvl 1 - 3 Testing - Civil Contracts                            |                                                  |           |           | 20-Feb-18 A | 10-Mar-20   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| Lvl 1 - 3 Testing - Systems Contract                           |                                                  |           |           | 13-Feb-19 A | 07-Jan-21   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| Lvl 4 - Pre-Revenue Service                                    |                                                  |           |           | 07-Jan-21   | 24-Apr-21   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| <b>Project Float</b>                                           |                                                  |           |           | 24-Apr-21   | 26-Sep-21   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| Project Float & Revenue Service                                |                                                  |           |           | 24-Apr-21   | 26-Sep-21   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| NGLSUM9010                                                     | Northgate Link Project Float (CD)                | 24-Apr-21 | 26-Sep-21 |             |             |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| NGLPWF1000                                                     | Program Wide Float (CD)                          | 24-Apr-21 | 26-Sep-21 |             |             |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| NGLMS9000                                                      | Northgate Link Complete - Revenue Service Begins |           | 26-Sep-21 |             |             |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| <b>N830/E750 - Systems</b>                                     |                                                  |           |           | 12-Jun-17 A | 15-Jan-22   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| <b>General</b>                                                 |                                                  |           |           | 12-Jun-17 A | 15-Jan-22   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| Key Dates                                                      |                                                  |           |           | 12-Jun-17 A | 15-Jan-22   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| Procurement                                                    |                                                  |           |           | 12-Jun-17 A | 20-Aug-18 A |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| Engineering                                                    |                                                  |           |           | 19-Aug-17 A | 22-Sep-17 A |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| <b>N830 Project</b>                                            |                                                  |           |           | 12-Jun-17 A | 29-Apr-20   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| N830 Engineering                                               |                                                  |           |           | 18-Sep-17 A | 11-May-18 A |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| N830 Construction                                              |                                                  |           |           | 15-Aug-18 A | 29-Apr-20   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| <b>N830 Signals</b>                                            |                                                  |           |           | 15-Aug-18 A | 29-Apr-20   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| N830 Indirects                                                 |                                                  |           |           | 12-Jun-17 A | 10-Jul-17 A |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |
| N830 Change Orders / Provisional Sums                          |                                                  |           |           | 07-Sep-17 A | 08-Dec-17 A |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |  |  |  |  |  |  |

# Link Light Rail Northgate Link Extension



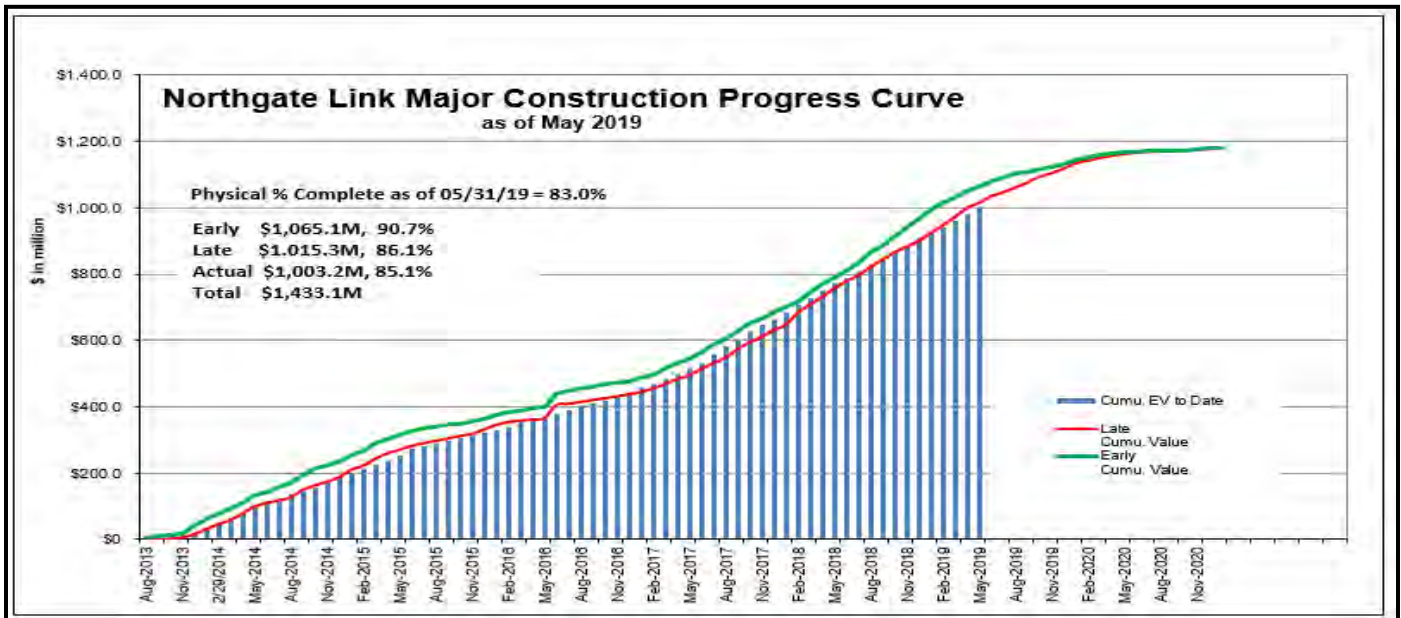
## Schedule Performance Index

The early Schedule Performance Index (SPI) for the project is at 0.94 for this period, up from 0.93 last period, and the late SPI is at 0.99, unchanged from last period, showing that in general, performance continues to be satisfactory, with an increase in performance in the last month. Both the early and late numbers have been trending within a range of 0.04 above or below the current period numbers for several months.



## Cost Progress Analysis

Overall Northgate Link Major Construction percent complete analysis is based on a weighted measurement among the six major construction contracts' schedules, durations and costs. The graph below shows the aggregate cost progression for these construction contracts is trending toward the late projection as drawn from the master schedule. The overall physical percent complete for Northgate Link construction is approximately 83.0% as compared to approximately 81.6% of contractual duration expended.



## Community Outreach

### University District Station (N140)

- Launched “Win a tour” at U District Station, business mitigation promotion for restaurants affected.
- Distributed construction alerts for restoration of alleyway between NE 43<sup>rd</sup> St and NE 45<sup>th</sup> Street.
- Organized and tabled at annual U District Street Fair (5/18).

### Roosevelt Station (N150)

- Distributed construction alert for SPU utility work to affected properties.
- Distributed construction alert for temporary pedestrian and bicycle path installation on NE 65<sup>th</sup> St and 12<sup>th</sup> Ave NE.
- Distributed construction alert for early morning concrete pour at Roosevelt Station.

### Northgate Station (N160)

- Distributed construction alert to 3<sup>rd</sup> party entities, on the gov delivery listserv, and thru the project update page for Night-time closure of NE 103<sup>rd</sup> Street from 5/6 – 5/31.
- Completed community briefing for the International Society of Automation (5/7); collaborated presentation with project controls.

### Track Alignment (N180)

- Distributed alert providing follow-up on geotechnical work along 12<sup>th</sup> Ave NE.

## Sound Transit Board Actions

| Board Action | Description                 | Date |
|--------------|-----------------------------|------|
|              | None to report this period. |      |

## Construction Safety

| Data/ Measure                           | May 2019        | Year to Date | Project to Date |
|-----------------------------------------|-----------------|--------------|-----------------|
| Recordable Injury/Illness Cases         | 1               | 4            | 108             |
| Days Away From Work Cases               | 0               | 0            | 6               |
| Total Days Away From Work               | 0               | 0            | 397             |
| First Aid Cases                         | 2               | 12           | 164             |
| Reported Near Mishaps                   | 2               | 13           | 134             |
| Average Number of Employees on Worksite | 559             | -            | -               |
| <b>Total # of Hours (GC &amp; Subs)</b> | 94,563          | 477,198      | 4,517,226       |
| OSHA Incident Rates                     | Monthly Average | Year to Date | Project to Date |
| Recordable Injury Rate                  | 2.11            | 1.68         | 4.78            |
| Lost Time Injury (LTI) Rate             | 0.00            | 0.00         | 0.27            |
| Recordable National Average             | 3.10            | 3.10         | 3.10            |
| LTI National Average                    | 1.20            | 1.20         | 1.20            |
| Recordable WA State Average             | 5.70            | 5.70         | 5.70            |
| LTI WA State Average                    | 2.30            | 2.30         | 2.30            |

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



## Major Construction Contract Packages

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

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

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

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

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

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

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

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

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

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



*N140 - Crews Lowering Coupler for Ventilation Fan to Noise Attenuator at North Headhouse.*

## Contract N140—U District Station Finishes

### Current Progress

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

- Completed work related to CNWD #44.
- Continued placing CMU for room walls on BL1.
- Continued alley way restoration.
- Commenced electrical layout and installation of the Comm Distribution Closet and Fire Command Center in preparation for Milestone 3A, Systems Room Access (Above Grade).
- Continued installation of sheathing on exterior of headhouse.

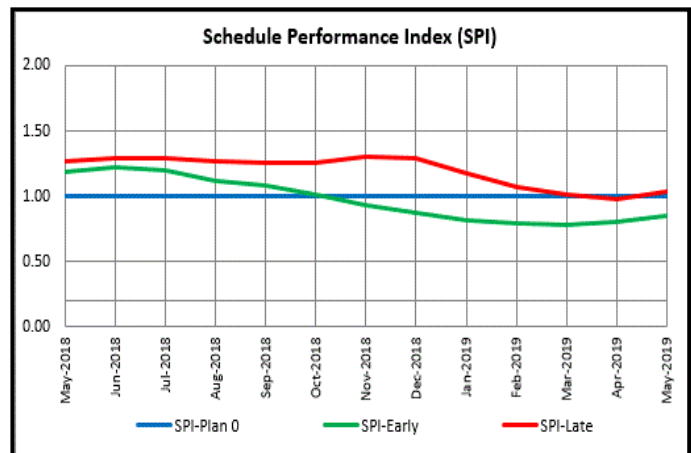
### Schedule Summary

Time extensions for Weather Delays and the Stem walls will extend the Substantial Completion date to May 6, 2020. The addition of the Platform Level Public Stair will add new milestones to the schedule. The current forecast completion date is May 10, 2020, 4 days late. Hoffman Construction is currently forecasting achievement of Milestone 2A—Basic Structure Completion (Above Grade) in early June 2019.

| Activity Name                                   | OD         | RD         | Start              | Finish           | 2017 |    |    |    | 2018 |    |    |    | 2019 |    |    |    | 2020 |  |  |  |
|-------------------------------------------------|------------|------------|--------------------|------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|--|--|--|
|                                                 |            |            |                    |                  | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   |  |  |  |
| <b>N140 - U-District Station Finishes</b>       | <b>772</b> | <b>196</b> | <b>10-Feb-17 A</b> | <b>10-Mar-20</b> |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| <b>MILESTONES</b>                               | 0          | 0          | 10-Mar-20          | 10-Mar-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| Milestone 4 - Substantial Completion            | 0          | 0          |                    | 10-Mar-20*       |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| <b>PRECONSTRUCTION</b>                          | 0          | 0          | 17-Jul-17 A        | 17-Jul-17 A      |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| Precon - Site Access Granted (Construction NTP) | 0          | 0          | 17-Jul-17 A        |                  |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| <b>CONSTRUCTION</b>                             | 772        | 196        | 10-Feb-17 A        | 10-Mar-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| Structure                                       | 757        | 176        | 10-Feb-17 A        | 18-Feb-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| EXTERIOR SHELL / SKIN                           | 229        | 121        | 28-Dec-18 A        | 20-Nov-19        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| INTERIORS                                       | 376        | 157        | 23-Jul-18 A        | 15-Jan-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| ELEVATORS                                       | 155        | 155        | 17-Jun-19          | 27-Jan-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| ESCALATORS                                      | 439        | 196        | 18-Jun-18 A        | 10-Mar-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| STAIRS                                          | 394        | 4          | 10-May-18 A        | 26-Nov-19        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| SITWORK                                         | 414        | 171        | 18-Jun-18 A        | 04-Feb-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |
| START-UP & COMMISSIONING                        | 163        | 163        | 19-Jul-19          | 10-Mar-20        |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |  |

### Schedule Performance Index

This period, the SPI early is at 0.86 and the SPI late is 1.04. The early index indicates that the contractor continues to perform slightly behind plan when compared to the baseline schedule and cash flow and is expected to trend the same way next period.



## Next Period's Activities

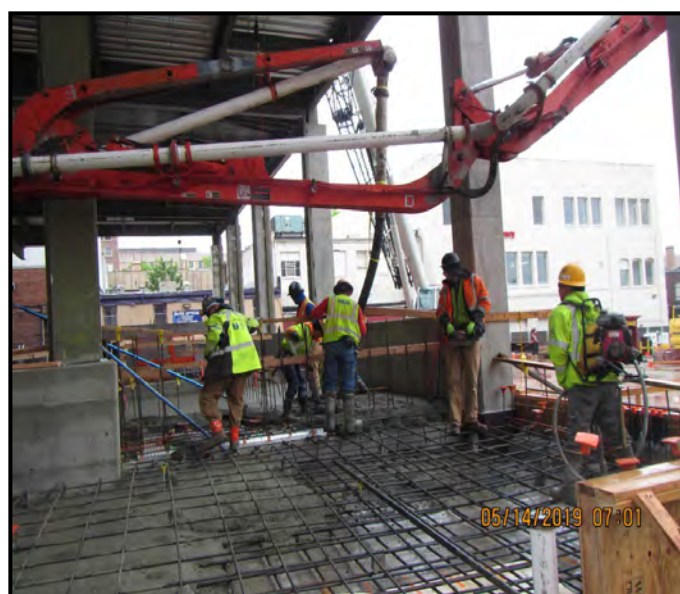
- Continue installation of fire protection heads.
- Continue setting sound attenuators.
- Continue installation of CMU around the stairs 3 and 4 at basement level 1.
- Continue installation of roofing.
- Continue Alleyway Restoration.
- Commence installation of acoustical plaster on south shroud.
- Commence installation of CMU for stair 8 at basement level 2.
- Commence panel installation on the east wall at basement level 2.
- Commence setting fire protection heads at platform level.
- Continue setting doors and hardware on BL3.
- Continue installation of emergency ventilation fans on BL2.
- Commence interior buildout at headhouse.
- Continue installation of roofing insulation and membrane.

## Closely Monitored Issues

- **Additional stairs from intermediate level to the platform:** The Construction Management Team submitted the Contractor's offer for cost and schedule. The shop drawings are being reviewed and Work Directives for critical work activities have been issued to expedite work on the critical path.
- **Lid Level Stem Walls & 0053 North Plenum Insulation & Doors:** The time impact analysis has been finalized for Work Directive 044A and a change order to update the affected milestones is forthcoming. The work for this change is almost complete and it is anticipated that the cost will be submitted by the Contractor by the end of the month.
- **Roof Deck Composition for System Supports:** Sound Transit has requested the Contractor to consider this RFC as an RCA issue and the Contractor has agreed. This item will remain open until a formal response has been received.
- **Emergency Response Matrix (ERM) Revisions:** The Contractor completed work this month to update the FACP at UWS. The Contractor has also submitted another track access permit today for work to be performed by the end of May.

## Cost Summary

| Present Financial Status                    | Amount         |
|---------------------------------------------|----------------|
| <b>N140 Contractor—Hoffman Construction</b> |                |
| Original Contract Value                     | \$ 159,836,688 |
| Change Order Value                          | \$ (327,036)   |
| Current Contract Value                      | \$ 159,509,652 |
| Total Actual Cost (Incurred to Date)        | \$ 116,129,658 |
| Financial Percent Complete                  | 72.8%          |
| Physical Percent Complete                   | 72.7%          |
| Authorized Contingency                      | \$ 7,991,834   |
| Contingency Drawdown                        | \$ (327,036)   |
| Contingency Index                           | -17.8          |



UDS – Placement of Concrete Slab at Bike Parking Area—N.

## Contract N150—Roosevelt Station Finishes

### Current Progress

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

- Completed EMFN-02 repair work.
- Continued buildout of elevator 2 at north platform.
- Continued equipment install in main electrical room.
- Continued pulling BMS wire and terminations at north and south areas and level 1 commissioning.
- Continued terminating branch circuits to electrical and mechanical equipment and lighting throughout the station.
- Continued fire sprinkler rough-in at south basement level 2.

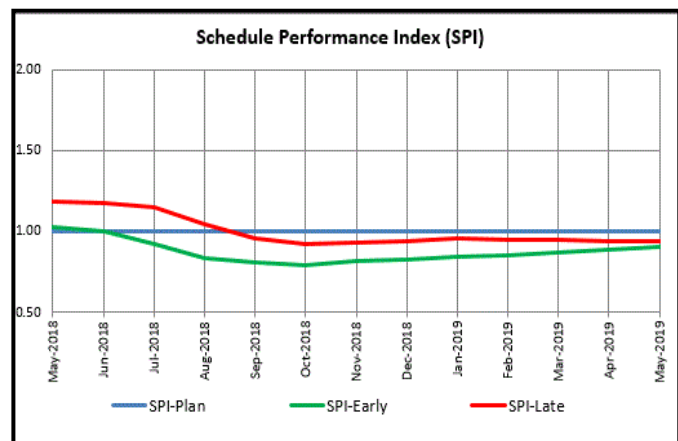
### Schedule Summary

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

| Activity Name                                   | OD         | RD         | Start              | Finish           | 2017          |    |    |    | 2018 |    |    |    | 2019 |    |    |    |
|-------------------------------------------------|------------|------------|--------------------|------------------|---------------|----|----|----|------|----|----|----|------|----|----|----|
|                                                 |            |            |                    |                  | Q4            | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 |
| <b>N150 - Roosevelt Station Finishes</b>        | <b>753</b> | <b>120</b> | <b>02-Dec-16 A</b> | <b>19-Nov-19</b> | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| <b>MILESTONES</b>                               | 0          | 0          | 24-Sep-19          | 24-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| MILESTONE 3 - SUBSTANTIAL COMPLETION OF ALL WOR | 0          | 0          | 24-Sep-19*         | 24-Sep-19*       | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| <b>PRECONSTRUCTION</b>                          | 0          | 0          | 02-Dec-16 A        | 02-Dec-16 A      | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| ISSUE CONSTRUCTION NTP                          | 0          | 0          | 02-Dec-16 A        | 02-Dec-16 A      | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| <b>CONSTRUCTION</b>                             | 705        | 120        | 13-Feb-17 A        | 19-Nov-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| MOBILIZATION                                    | 609        | 11         | 13-Feb-17 A        | 05-Jul-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| STRUCTURE                                       | 623        | 20         | 13-Feb-17 A        | 25-Jul-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| INTERIORS                                       | 373        | 70         | 23-Mar-18 A        | 10-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| HEADHOUSE                                       | 371        | 66         | 21-Mar-18 A        | 04-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| BUS SHELTER                                     | 69         | 30         | 08-Apr-19 A        | 15-Jul-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| BIKE CAGE                                       | 13         | 13         | 14-Jun-19          | 02-Jul-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| ELEVATORS                                       | 175        | 48         | 01-Nov-18 A        | 09-Aug-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| ESCALATORS                                      | 187        | 60         | 03-Dec-18 A        | 26-Aug-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| STAIRS                                          | 184        | 66         | 04-Sep-18 A        | 04-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| CP-31                                           | 447        | 55         | 19-Feb-18 A        | 19-Nov-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| CONSTRUCTION ACCESS INFILL                      | 62         | 62         | 27-Jun-19          | 24-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| START-UP & COMMISSIONING                        | 165        | 80         | 15-Feb-19 A        | 24-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| SITE RESTORATION                                | 320        | 70         | 07-Jun-18 A        | 10-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| ARTWORK                                         | 255        | 51         | 15-Aug-18 A        | 15-Aug-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| CLOSEOUT                                        | 55         | 55         | 01-Jul-19          | 17-Sep-19        | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |
| N830 TRACTION ELECTRIFICATION, SIGNALS, C       | 40         | 0          | 01-Nov-18 A        | 28-Dec-18 A      | [Gantt Chart] |    |    |    |      |    |    |    |      |    |    |    |

### Schedule Performance Index

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





## Next Period's Activities

- Continue interior sheathing at south head house.
- Continue BMS level 1 commissioning and continue pulling wire for BMS equipment throughout the station.
- Continue terminating branch circuits to electrical and mechanical equipment and lighting throughout the station.
- Continue work on all 4 vent shafts north and south.
- Continue leak remediation in station..
- Continue framing walls, rough-in MEP in walls, hanging drywall, mud, taping and painting throughout the station.
- Continue buildout of elevator 2 at north platform.
- Continue fire alarm installation throughout the station..
- Install precast treads on stair 9 and metal panels along stair 9.
- Continue equipment installation in Main Electrical room and installation of curtain wall.
- Complete fire sprinkler installation at south platform elevator pit.
- Commence level 1 commissioning for mechanical and electrical equipment on basement level 3.

## Closely Monitored Issues

- The Contractor is gathering all test data and information for resubmittal and closure of the NCR related to EMFN-02 fan repair.
- In order to finalize the revised hub/impeller pre-production testing, a heat test is required for the 450hp revised hub/impeller configuration. The Contractor is working to obtain a revised heat test plan and dates from their sub as the motor assembly will not be ready for testing in mid-May and has pushed to mid/end of June. The final test date has not been scheduled yet.

## Cost Summary

| Present Financial Status                      | Amount         |
|-----------------------------------------------|----------------|
| <b>N150 Contractor - Hoffman Construction</b> |                |
| Original Contract Value                       | \$ 152,291,184 |
| Change Order Value                            | \$ 7,762,578   |
| Current Contract Value                        | \$ 160,053,762 |
| Total Actual Cost (Incurred to Date)          | \$ 138,448,000 |
| Financial Percent Complete                    | 86.5%          |
| Physical Percent Complete                     | 87.4%          |
| Authorized Contingency                        | \$ 14,614,559  |
| Contingency Drawdown                          | \$ 7,762,578   |
| Contingency Index                             | 1.6            |



RVS— Installation of Skylights at North Entrance.



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

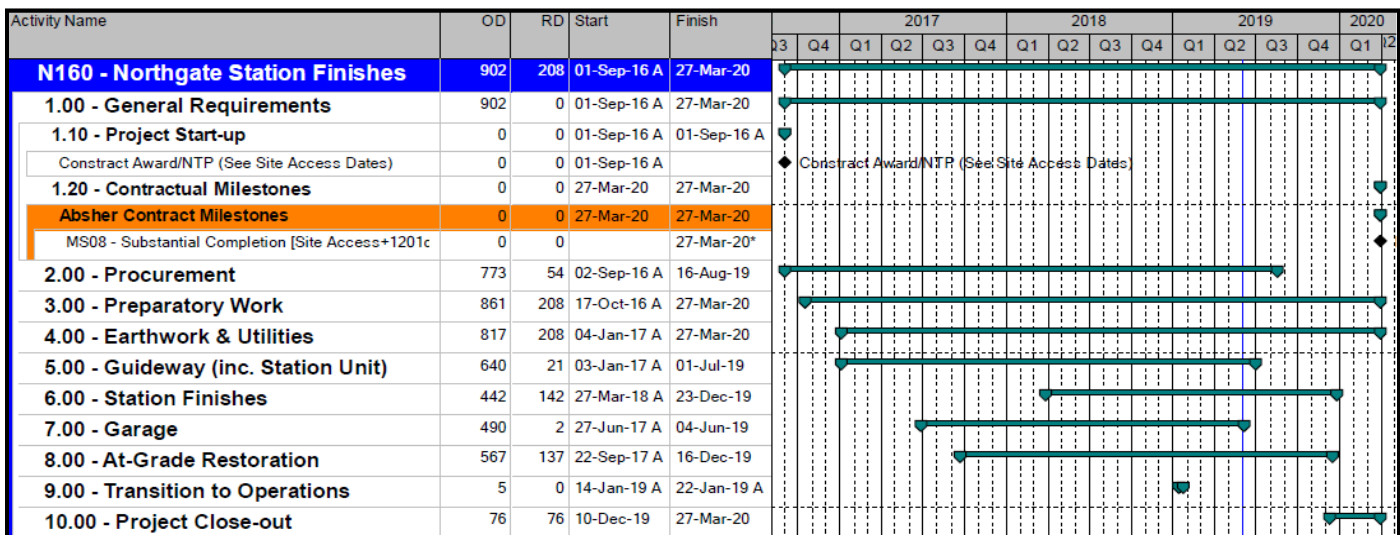
### Current Progress

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

- Elcon and Sigma six tested the ground resistance from the embedded copper cable stubs in the housekeeping pad at the North Signal Bungalow.
- Absher set the Pedestrian Bridge into position on 5/30/19.
- RBI received and began installing rebar for the North Ancillary Building entrance lobby slab-on-grade.
- Mid-American continued adjustments for rails, treads, wiring, and controls of Escalator #01, #04, and #05.

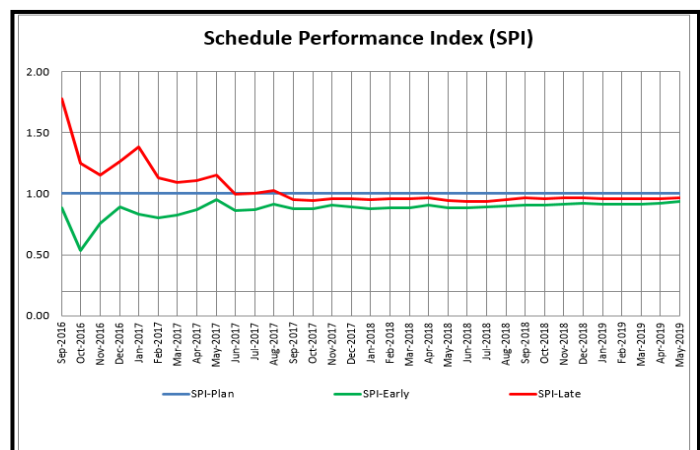
### Schedule Summary

The project schedule for May retains the Substantial Completion date of March 25, 2020, with 12 days of negative float. The schedule forecast the achievement of Milestones 5b—N. TPSS & Signal Bungalow, and 5d—N. Signal Bungalow in June, giving the N830 Systems contractor access to these facilities. The critical path for the project now lies in the S. Ancillary Bldg.



### Schedule Performance Index

This period, the SPI early is 0.94 (up from 0.92 last period) and the SPI late is 0.97 (up from 0.96 last period), indicating an upward trend in performance since last month. However, the indices indicate that the contractor continues performing slightly behind plan when compared to the baseline schedule. Overall work progress has remained within 0.03 of its current trend over the last year.



# Link Light Rail Northgate Link Extension

## Next Period's Activities

- **General Project Progress:** Environmental and Safety site walks.
- **Guideway Substructure/Superstructure:** Retest switchgear to satisfy NCR.
- **Station:** Continue painting of structural steel. Continue installation of roof assembly at Mezzanine and curtain wall glass. Continue installation of electrical, plumbing, and HVAC. Install FRP footings for bio-retention structure, and construct KCM Building CMU walls.
- **MLP North and South:** Continue barrier wall and gate foundations. Continue electrical rough-in at head-wall. Fabricate and deliver structural steel screen wall and gate. Continue footing excavation at the south. Install fire standpipe and suppression piping.
- **North TPSS and Signal Bungalow:** Continue electrical rough-in. Take delivery on switchboard panels.
- **Ancillary Buildings/Bungalows:** Install interior metal stud framing and door frames. Continue fire and plumbing rough-in, and installation of metal panels. Prime and paint north communications closet.
- **Utility & Drainage Work:** Install foundations and light poles in parking lot. Install raid garden subgrade and planter footings.

## Closely Monitored Issues

- Milestones impacted by schedule slippage on the elevated structure and station have been updated and a change order issued to extend substantial completion without impact to follow-on contracts.
- Underground Utility Conflicts identified during water line work are being mitigated on the night shift to lessen impacts.

## Cost Summary

| Present Financial Status                     | Amount         |
|----------------------------------------------|----------------|
| <b>N160 Contractor - Absher Construction</b> |                |
| Original Contract Value                      | \$ 174,000,000 |
| Change Order Value                           | \$ 9,382,996   |
| Current Contract Value                       | \$ 183,382,996 |
| Total Actual Cost (Incurred to Date)         | \$ 150,741,142 |
| Financial Percent Complete                   | 82.2%          |
| Physical Percent Complete                    | 74.1%          |
| Authorized Contingency                       | \$ 17,400,000  |
| Contingency Drawdown                         | \$ 9,382,996   |
| Contingency Index                            | 1.4            |



American Ironworkers crew installing railing at Station Maintenance Stair.

## Contract N180 – Trackwork UWS to Northgate Station

### Current Progress

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

- Welding for the pocket track is ongoing.
- Thermitite welding is complete in WA 3 and 4 in the Southbound Tunnel (SBT).
- Crews have started installing Insulated Joints (IJ) in the Northbound Tunnel (NBT) this week.
- Thermitite welding in ongoing at the platform level in Roosevelt Station.
- Crews continue constructing DF trackwork in both tunnels between Roosevelt and Maple Leaf.
- The import and distribution of track ballast continues at the Maple Leaf Track Slab.

### Schedule Summary

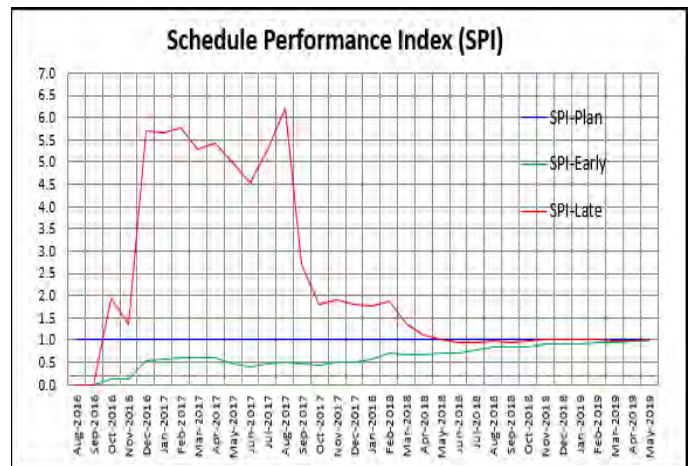
The N180 schedule for May continues to forecast an on-time completion of work. The critical path is driven by trackwork construction on the elevated guideway (Work Area 7).

| Activity Name                                                             | OD          | RD        | Start              | Finish           | 16                                           | 2017 |    |    |    | 2018 |    |    |    | 2019 |    |    |    |    |  |  |
|---------------------------------------------------------------------------|-------------|-----------|--------------------|------------------|----------------------------------------------|------|----|----|----|------|----|----|----|------|----|----|----|----|--|--|
|                                                                           |             |           |                    |                  | Q3                                           | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4 |  |  |
| <b>N180 - Trackwork</b>                                                   | <b>792</b>  | <b>98</b> | <b>25-Aug-16 A</b> | <b>20-Oct-19</b> | [Gantt chart bars for N180 - Trackwork]      |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| <b>Milestones</b>                                                         | <b>0</b>    | <b>0</b>  | <b>20-Oct-19</b>   | <b>20-Oct-19</b> | [Gantt chart bars for Milestones]            |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Milestone 7d - Substantial Completion of Work Area 7, 7.1, 7.2 (10/31/19) | 0           | 0         |                    | 20-Oct-19*       | [Gantt chart bars for Milestone 7d]          |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| <b>Construction</b>                                                       | <b>767</b>  | <b>86</b> | <b>25-Aug-16 A</b> | <b>02-Oct-19</b> | [Gantt chart bars for Construction]          |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| <b>Mobilization</b>                                                       | <b>658</b>  | <b>86</b> | <b>25-Aug-16 A</b> | <b>02-Oct-19</b> | [Gantt chart bars for Mobilization]          |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| <b>Submittals</b>                                                         | <b>1045</b> | <b>10</b> | <b>25-Aug-16 A</b> | <b>06-Jul-19</b> | [Gantt chart bars for Submittals]            |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| <b>Procurement</b>                                                        | <b>553</b>  | <b>45</b> | <b>07-Oct-16 A</b> | <b>05-Aug-19</b> | [Gantt chart bars for Procurement]           |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 1 (N06 - UWS to UDS Tunnels)                                    | 230         | 0         | 13-Nov-17 A        | 09-Oct-18 A      | [Gantt chart bars for Work Area 1]           |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 2.1 and 2.2 (N07 - U-District Station)                          | 321         | 0         | 15-Dec-17 A        | 27-Feb-19 A      | [Gantt chart bars for Work Area 2.1 and 2.2] |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 3 (N08 - UDS to RVS Tunnels)                                    | 222         | 0         | 05-Feb-18 A        | 18-Feb-19 A      | [Gantt chart bars for Work Area 3]           |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 4 (N09 - Roosevelt Station)                                     | 186         | 0         | 19-Mar-18 A        | 11-Jan-19 A      | [Gantt chart bars for Work Area 4]           |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 5 (N10 - RVS to MLP Tunnels)                                    | 316         | 23        | 28-Feb-18 A        | 03-Jul-19        | [Gantt chart bars for Work Area 5]           |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 6 (MLP and At Grade Guideway)                                   | 340         | 47        | 19-Mar-18 A        | 07-Aug-19        | [Gantt chart bars for Work Area 6]           |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 7 (Elevated Guideway South of NGS)                              | 154         | 49        | 12-Dec-18 A        | 09-Aug-19        | [Gantt chart bars for Work Area 7]           |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 7.1 (N11 - Northgate Station)                                   | 89          | 0         | 07-Jan-19 A        | 29-May-19 A      | [Gantt chart bars for Work Area 7.1]         |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |
| Work Area 7.2 (Elevated Guideway North of NGS)                            | 152         | 60        | 08-Jan-19 A        | 26-Aug-19        | [Gantt chart bars for Work Area 7.2]         |      |    |    |    |      |    |    |    |      |    |    |    |    |  |  |

### Schedule Performance Index

This period, the SPI early is at 0.99 (slightly up from 0.97 last month), and the SPI late is at 1.02. The expected performance is between early and late.

Due to late access to the tunnel, the contractor is behind the baselined schedule, but continues to meet their goals for early work such as material procurement and fabrications. Work performed in the field has met or exceeded forecasts.



## Next Period's Activities

- SWI to continue reviewing and processing submittals and RFIs.
- Continue thermite welding in Work Area (WA) 1 and 2 NB Tunnels.
- Continue to install Insulated Joints in WA 3 and WA 4 in the NB Tunnels.
- Highmark and Corona Steel to continue working on MLP stair tower.
- SWI to continue constructing DF plinths in WA 6, and WA 7.
- Continue constructing Special Trackwork in WA 7 and 7.2.
- Punchlist and final line and grade to continue in WA 1, WA 2, WA 3, WA 4 and WA 7.2.
- Continue tunnel cleaning.
- Continue to perform As-Built Survey of WA 1.

## Closely Monitored Issues

- The most notable monitored issue going forward appears to be the Direct Fixation track construction in work Area 5. Tracking to meet the substantial completion milestones, but it still needs to be monitored closely since it is the critical path for the project.
- Work Area 6 work is going to present difficulties due to the tightness of the work area and maintaining access to the tunnels during construction. Work Areas 7, 7.1 & 7.2 will present challenges of building track on a bridge deck constructed by another contract, with added complexity of staging concrete pours from below.
- Rail Grinding and Polishing -SWI has secured ARM (Advanced Rail Management) and Loram Rail Grinding to perform the rail profile grinding and polishing.

## Cost Summary

| Present Financial Status                        | Amount        |
|-------------------------------------------------|---------------|
| <b>N180 Contractor—Stacy &amp; Witbeck Inc.</b> |               |
| Original Contract Value                         | \$ 71,455,950 |
| Change Order Value                              | \$ 3,527,357  |
| Current Contract Value                          | \$ 74,983,307 |
| Total Actual Cost (Incurred to Date)            | \$ 67,253,323 |
| Financial Percent Complete                      | 89.7%         |
| Physical Percent Complete                       | 93.7%         |
| Authorized Contingency                          | \$ 10,718,393 |
| Contingency Drawdown                            | \$ 3,527,357  |
| Contingency Index                               | 2.7           |



SWI - A view (facing south) of the completed plinths.



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

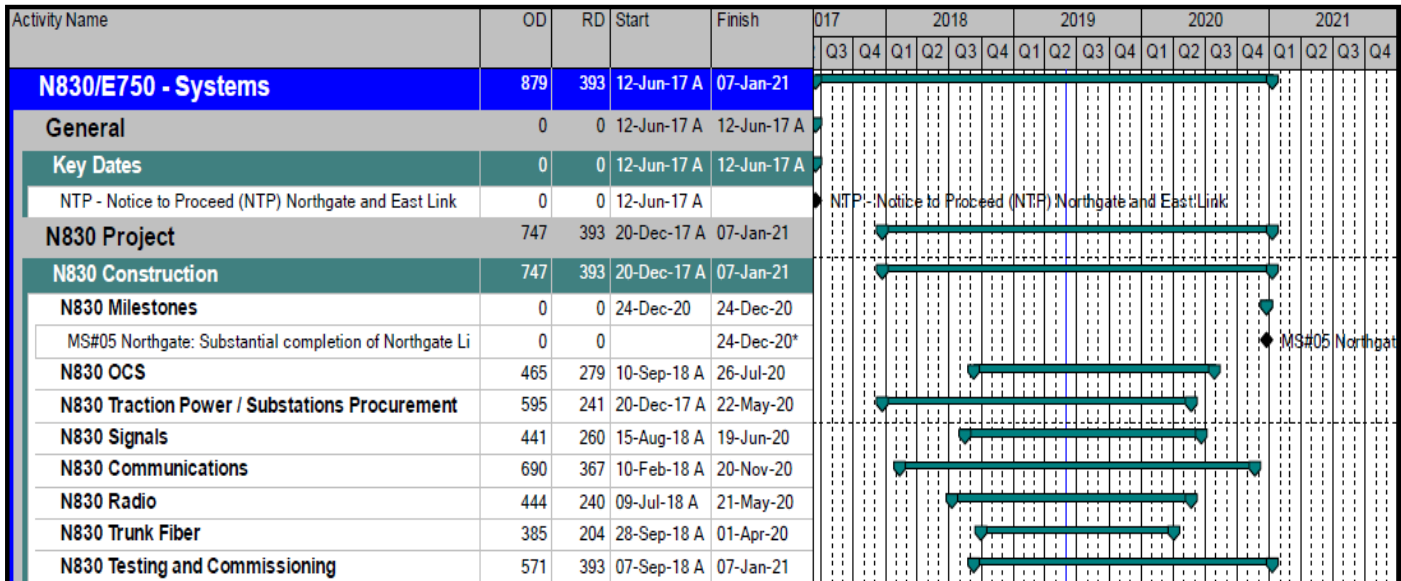
### Current Progress

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

- The contractor continues to work on resolving the issues associated with the 26kV energization at the MVSS room and the transformers in the Main Switchboard Room in the Roosevelt Station.
- Installation of the communication power panels (CPP's) has been ongoing during the week along with some conduit installation for various field end devices in the Roosevelt Station.

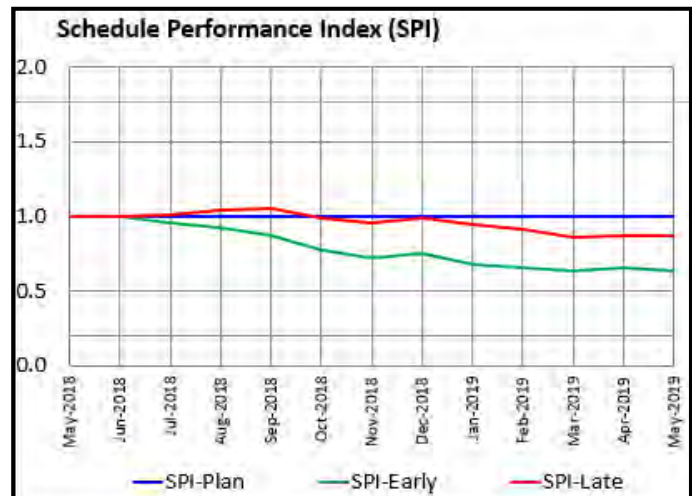
### Schedule Summary

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



### Schedule Performance Index

The Contractor performed slightly behind the late schedule (SPI 0.86) and behind the early schedule (SPI 0.64) in comparison to the baseline work plan.





## Next Period's Activities

- Continue development and reviews of engineering submittals covering all disciplines: Traction Power Substations, Overhead Catenary Systems, Train Control Systems/Signals and Communications.
- Ongoing meetings between Systems and Civil Contractors to discuss and coordinate interface/access points for respective contracts.
- Permanent Power at Roosevelt Station expected early June upon approval from City of Seattle Inspectors.
- Ongoing installation of the communication power panels and conduit installation for various field-end devices.
- Ongoing work related to MVSS switchgear at University District Station (UDS). Energization, originally scheduled for June 2019, will be delayed due to late access to N140. Energization likely to be in August 2019.

## Closely Monitored Issues

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

## Cost Summary

| Present Financial Status                                | Amount         |
|---------------------------------------------------------|----------------|
| <b>N830 Contractor - Mass Electric Construction Co.</b> |                |
| Original Contract Value                                 | \$ 104,660,444 |
| Change Order Value                                      | \$ 687,611     |
| Current Contract Value                                  | \$ 105,348,055 |
| Total Actual Cost (Incurred to Date)                    | \$ 32,664,496  |
| Financial Percent Complete                              | 31.0%          |
| Percent Complete                                        | 38.8%          |
| Authorized Contingency                                  | \$ 5,233,022   |
| Contingency Drawdown                                    | \$ 687,611     |
| Contingency Index                                       | 3.0            |

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



*Pulling Fiber Cable from UDS to RVS, May 2, 2019*

This page left blank intentionally.

# Link Light Rail Lynnwood Link Extension

## Project Summary

### Scope

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

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

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

**Systems** Signals, traction power, and communications (SCADA)

**Phase** Final Design

**Budget** \$2.772 Billion (Baseline May 2018)

**Schedule** Revenue Service: July 2024



Map of Lynnwood Link Extension Alignment.

## Key Project Activities

- City of Seattle published Master Use Permit (MUP) decisions on May 23rd and 30th initiating the 14-day comment period for the key land use decisions.
- City of Shoreline issued the Master Site Development Permit and Master Right of Way Permit on May 22nd, and the Hearing Examiner issued Special Use Permit (SUP) decision on May 31st.
- City of Mountlake Terrace delivered draft conditions of approval for the Conditional Use Permit (CUP) on May 17th. Continuing to work with city staff to prepare for the CUP hearing on Jun. 27th.
- Commenced quantitative risk assessment of the L300 contract package on May 22nd.
- Received price proposal and independent cost estimates for the L300 guideways and stations package and commenced negotiations.
- Commenced clearing, grading, and tree removals within the L200 package limits.

## Project Cost Summary

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

In May 2019, \$10.7 M was incurred. The major project expenditures were for civil early work construction, property acquisition, and advancing civil & systems final design.

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

### Cost Summary by Phase

| Project Phase           | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$98.2           | \$98.2                        | \$31.2             | \$31.2           | \$98.2                     | \$0.0                         |
| Preliminary Engineering | \$39.1           | \$39.1                        | \$39.1             | \$39.1           | \$39.1                     | \$0.0                         |
| Final Design            | \$164.2          | \$164.2                       | \$134.9            | \$104.9          | \$164.2                    | \$0.0                         |
| Construction Services   | \$128.4          | \$128.4                       | \$92.3             | \$21.9           | \$128.4                    | \$0.0                         |
| 3rd Party Agreements    | \$14.6           | \$14.6                        | \$10.5             | \$6.6            | \$14.6                     | \$0.0                         |
| Construction            | \$1,921.4        | \$1,921.4                     | \$172.7            | \$28.2           | \$1,921.4                  | \$0.0                         |
| Light Rail Vehicles     | \$0.0            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| ROW                     | \$235.7          | \$235.7                       | \$149.7            | \$132.7          | \$235.7                    | \$0.0                         |
| Project Contingency     | \$170.2          | \$170.2                       | \$0.0              | \$0.0            | \$170.2                    | \$0.0                         |
| <b>Total</b>            | <b>\$2,771.6</b> | <b>\$2,771.6</b>              | <b>\$630.4</b>     | <b>\$364.6</b>   | <b>\$2,771.6</b>           | <b>\$0.0</b>                  |

### Cost Summary by SCC

| SCC Element                            | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$791.8          | \$791.8                       | \$0.0              | \$0.0            | \$703.1                    | \$88.6                        |
| 20 Stations                            | \$333.8          | \$333.8                       | \$0.0              | \$0.0            | \$333.8                    | \$0.0                         |
| 30 Support Facilities                  | \$2.0            | \$2.0                         | \$0.0              | \$0.0            | \$2.0                      | \$0.0                         |
| 40 Sitework & Special Conditions       | \$421.1          | \$421.1                       | \$165.6            | \$27.7           | \$509.7                    | -\$88.6                       |
| 50 Systems                             | \$244.4          | \$244.4                       | \$0.0              | \$0.0            | \$244.4                    | \$0.0                         |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$1,793.0</b> | <b>\$1,793.0</b>              | <b>\$165.6</b>     | <b>\$27.7</b>    | <b>\$1,793.0</b>           | <b>\$0.0</b>                  |
| 60 Row, Land                           | \$235.7          | \$235.7                       | \$149.7            | \$132.7          | \$235.7                    | \$0.0                         |
| 70 Vehicles (Non-Revenue)              | \$1.4            | \$1.4                         | \$0.0              | \$0.0            | \$1.4                      | \$0.0                         |
| 80 Professional Services               | \$449.3          | \$449.3                       | \$315.1            | \$204.2          | \$449.3                    | \$0.0                         |
| 90 Unallocated Contingency             | \$292.2          | \$292.2                       | \$0.0              | \$0.0            | \$292.2                    | \$0.0                         |
| <b>Total (10 - 90)</b>                 | <b>\$2,771.6</b> | <b>\$2,771.6</b>              | <b>\$630.4</b>     | <b>\$364.6</b>   | <b>\$2,771.6</b>           | <b>\$0.0</b>                  |

## Risk Management

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

ST conducted risk workshops in April and May 2019 to evaluate remaining risk and contingency following award of the L200 and L300 early work construction contracts. ST includes participation of construction management consultants and construction contractors in its risk management program.

The following are the top project risks:

- Uncertainty in final major construction contract costs / construction market conditions.
- Obtaining final permits for construction.
- Timely completion of right-of-way acquisition and utility relocation.
- Differing site conditions encountered during construction.

## Project Schedule

The May schedule update forecasts a delay in the Revenue Service date, from August 2024 to September 2024. The primary driver is completion of L300 contract Construction Work Plans, as shown in the In-Progress 90% schedule. The L300 contractor’s baseline construction schedule for early work is due in June, which will replace the In-Progress 90% schedule and provide updated information on L300 critical path. Permit receipt and Right-of-Way acquisition dates remain closely monitored, and are near-critical elements of work. Completion of negotiations and contract amendments for L200 and L300 civil, guideway, stations and garage scope are also near-critical. The L800 systems pre-construction contract is underway and Sound Transit will receive a schedule update this summer. The project retains 8 months of schedule float.

| Activity Name                           | Start              | Finish           | Total Float | 2018 |    | 2019 |    |    |    | 2020 |    |    |    | 2021 |    |    |    | 2022 |    |    |    | 2023 |    |    |    | 2024 |    |    |    |
|-----------------------------------------|--------------------|------------------|-------------|------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|
|                                         |                    |                  |             | Q2   | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 |
| <b>LLE Master Schedule</b>              | <b>20-May-10 A</b> | <b>25-Jan-24</b> | <b>160</b>  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Project Administration                  | 20-May-10 A        | 25-Jan-24        | 151         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Final Design/Preconstruction            | 01-Sep-15 A        | 28-Nov-22        | 463         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| LLE FD Procurement                      | 01-Sep-15 A        | 28-Nov-22        | 256         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L200 Final Design                       | 11-Apr-16 A        | 29-Oct-19        | 1216        |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L200 Preconstruction                    | 01-Nov-15 A        | 01-Nov-19        | 43          |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L300 Final Design                       | 11-Apr-16 A        | 27-Jan-20        | 913         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L300 Preconstruction                    | 30-Mar-16 A        | 23-Mar-20        | 875         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L800 Final Design - Systems             | 08-Jul-16 A        | 30-Apr-20        | 278         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L800 Preconstruction                    | 15-Dec-16 A        | 28-May-20        | 252         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Permitting & Agreements                 | 07-Jan-15 A        | 08-Jun-20        | 1050        |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Utilities                               | 02-May-16 A        | 31-Aug-22        | 511         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L200 ROW Acquisitions                   | 04-Jan-16 A        | 17-Feb-20        | 2280        |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L300 ROW Acquisitions                   | 14-Jan-18 A        | 06-Jul-20        | 1272        |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L200 Construction Baseline Schedule - E | 08-Dec-18 A        | 12-Sep-23        | 76          |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L300 Construction Schedule - IP90%      | 25-Sep-18 A        | 16-Mar-24        | 120         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| L800 Construction Schedule - 60%        | 28-Feb-21          | 16-Nov-23        | 0           |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| LLE Rail Activation                     | 01-Mar-21          | 04-Sep-24        | 0           |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Contracts                               | 31-Jul-23          | 22-Nov-23        | 202         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| RA Tasks                                | 01-Mar-21          | 03-Jan-24        | 245         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Pre-Revenue Service                     | 26-Sep-23          | 03-Jan-24        | 175         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Pre-Revenue Tasks                       | 26-Sep-23          | 03-Jan-24        | 175         |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Revenue Service                         | 03-Jan-24          | 04-Sep-24        | 0           |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Program Wide Float (CD)                 | 03-Jan-24          | 04-Sep-24        | 0           |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Revenue Service - 7/17/2024             |                    | 04-Sep-24        | 0           |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |



## Contingency Management

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

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

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

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

During this period AC decreased by a net amount of \$0.9 M, including a change order for L300 pre-construction contract extension, and a construction change order to allow interim payment of work directives.

No drawdown to DA or UAC occurred in this period.

### Contingency Status (Monthly)

| Type                    | Baseline       |                   | Current Status   |                     |
|-------------------------|----------------|-------------------|------------------|---------------------|
|                         | Amount         | % of Total Budget | Remaining Amount | % of Work Remaining |
| Design Allowance        | \$247.9        | 8.9%              | \$224.8          | 9.3%                |
| Allocated Contingency   | \$197.6        | 7.1%              | \$198.1          | 8.2%                |
| Unallocated Contingency | \$292.2        | 10.5%             | \$292.2          | 12.1%               |
| <b>Total:</b>           | <b>\$737.7</b> | <b>26.6%</b>      | <b>\$715.1</b>   | <b>29.7%</b>        |

### Contingency by Type

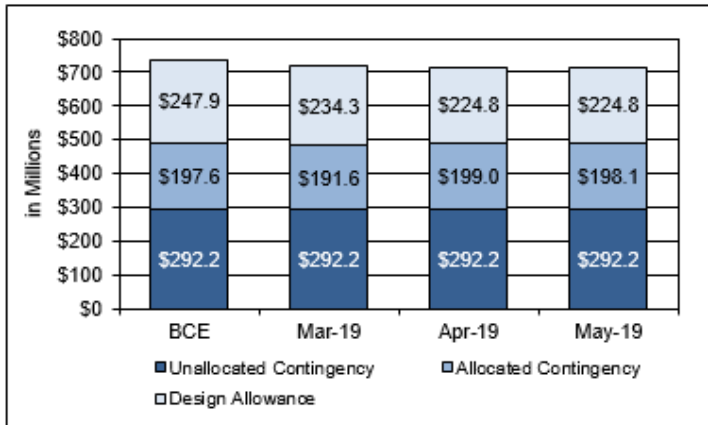
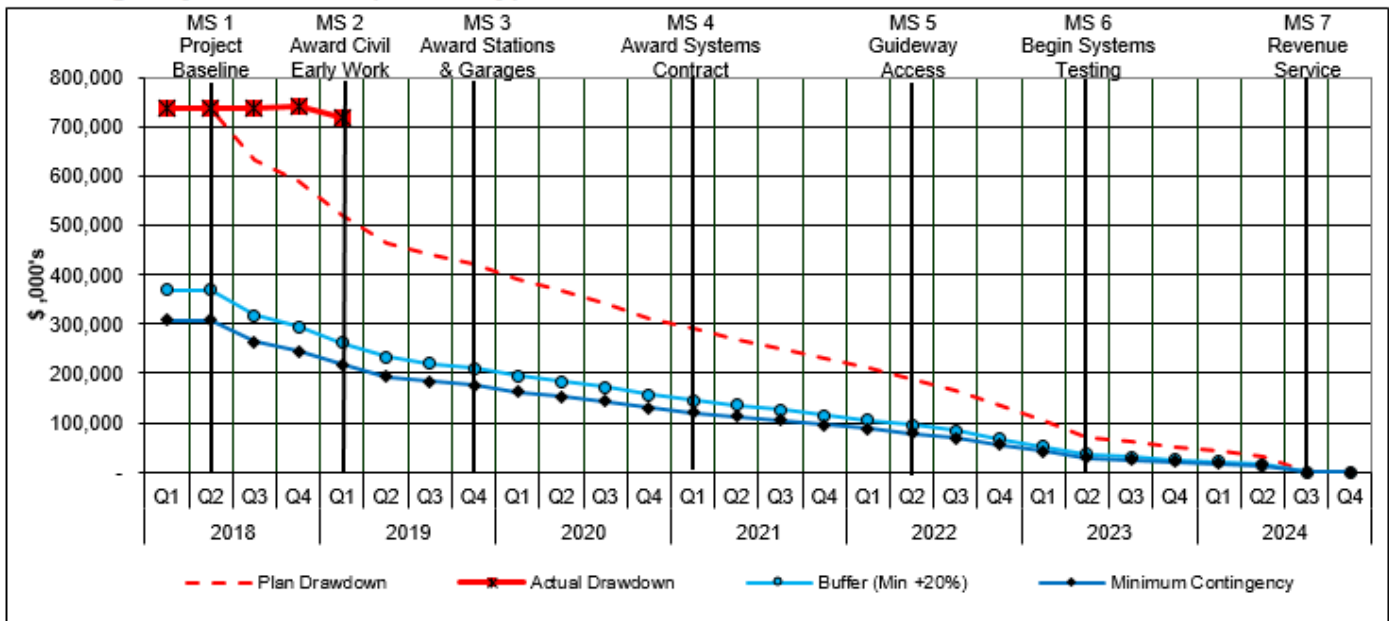


Table figures are shown in millions.

### Contingency Drawdown (Quarterly)



## Right-of-Way

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

| Lynnwood Link Extension Property Acquisition Status                                                                                                    |                |                     |                  |                      |                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------|------------------|----------------------|-------------------------------|
| ACQUISITION                                                                                                                                            |                |                     |                  | RELOCATION           |                               |
| Total Acquisitions                                                                                                                                     | Board Approved | Offers Made to date | Closings to date | Relocations Required | Relocations Completed to date |
| 370                                                                                                                                                    | 361            | 327                 | 195              | 308                  | 249                           |
| <i>* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.</i> |                |                     |                  |                      |                               |

- Relocations Required — 7 additional personal property moves being identified.

## Community Outreach

In May, the Lynnwood Link Community Outreach team:

- Met with the Meridian Park Neighborhood Association in Shoreline to provide a construction update.
- In coordination with Community Transit and the City of Lynnwood, developed a Lynnwood Transit Center communications and outreach plan in advance of Phase 1 construction.
- Participated in Covenants, Conditions, and Restrictions (CC&R) Public Hearings in the cities of Shoreline and Mountlake Terrace.
- Continued providing notifications to private property owners in advance of field work activities occurring.

## Sound Transit Board Actions

| Board Action | Description                                                                                                                                                                                                                                                                                                           | Date     |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| M2019-46     | Authorizes the CEO to execute a contract modification with LTK Engineering Services, LLC to provide systems design support during construction services in the amount of \$4,310,560 with a 10% contingency of \$431,060 totaling \$4,741,620, for a new total authorized contract amount not to exceed \$14,685,862. | 5/9/2019 |

## Civil Final Design Overview

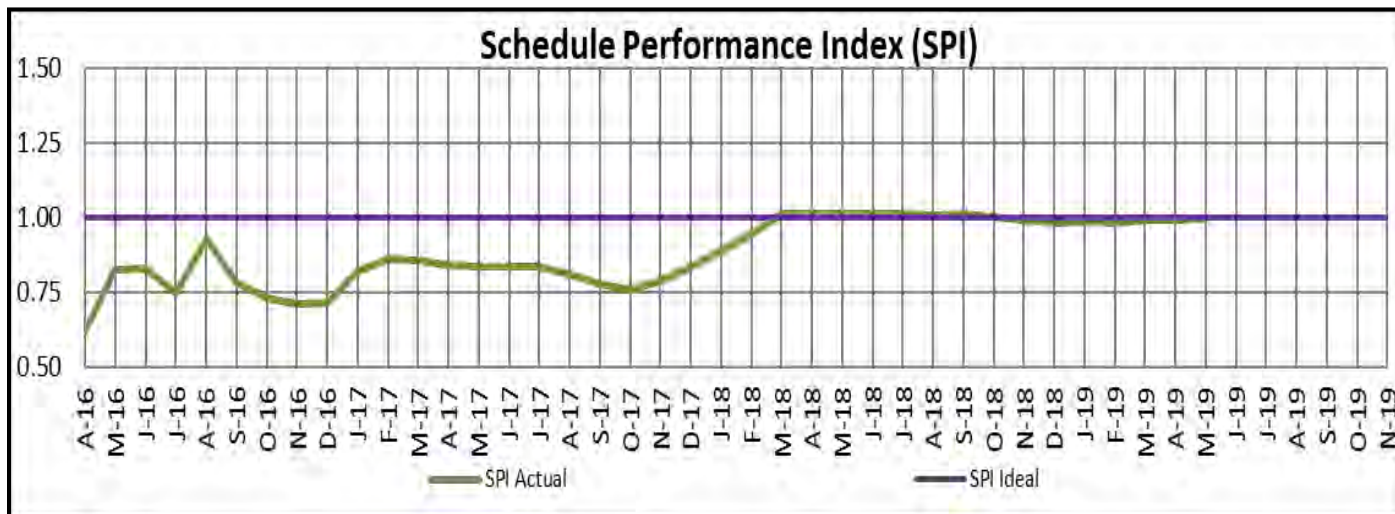
Sound Transit executed a professional services contract with HNTB Jacobs in April 2016 to perform civil final design along the entire Lynnwood Link alignment. Design services include preparation of comprehensive civil contract documents for construction, design coordination and cooperation with the GC/CM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

## Current Progress

- Completed L200 Issue For Construction (IFC) main package audit and submittal of plans, specs, and calculations.
- Completed L300 quality assurance process and signed drawings and specifications for the main package 100% submittal.
- Submitted IFC design for civil and guideway work, and 100% design for stations and garages, with the exception of the 185th garage, which was 90% at this submittal.
- Advancing design of the station and garages toward the IFC quality control lock.
- Work continued on the main package Project Development Approval (PDA) memorandums, and the Design Documentation Packages (DDPs) for work in WSDOT right-of-way.

## Schedule Performance Index

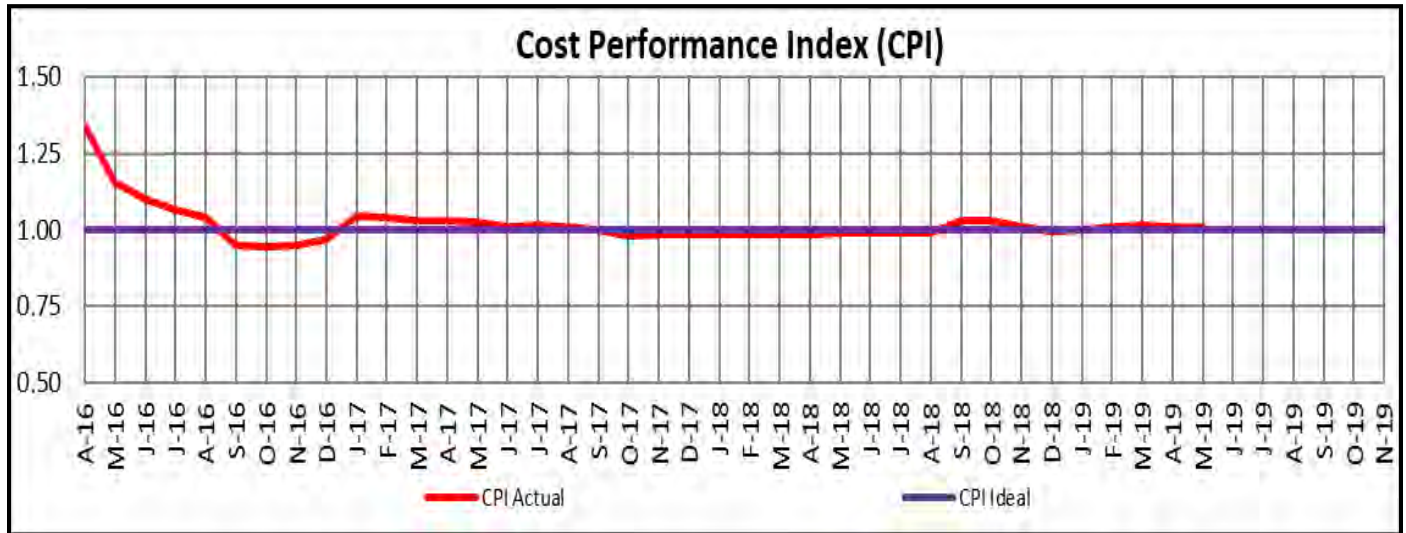
The cumulative Schedule Performance Index (SPI) trends at 1.00 through May 2019, which means that the cumulative amount of work accomplished is close to the value of work planned. As the work nears completion, the SPI will continue to be near 1.0.



# Link Light Rail Lynnwood Link Extension

## Cost Performance Index

\$95.3 M of the total contract amount, 95%, has been spent through May 2019. The civil final design percent complete is 96%, with an earned value of \$96.4 M. The cumulative Cost Performance Index (CPI) through May is 1.01 indicating that actual costs are close to the earned value of work performed.



## Cost Summary

| Contract        | Cumulative To-date |
|-----------------|--------------------|
| Amount Invoiced | \$95.3 M           |
| % Spent         | 95%                |
| Earned Value    | \$96.4 M           |
| % Complete      | 96%                |
| <b>SPI</b>      | <b>1.00</b>        |
| <b>CPI</b>      | <b>1.01</b>        |



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

## Systems Final Design Overview

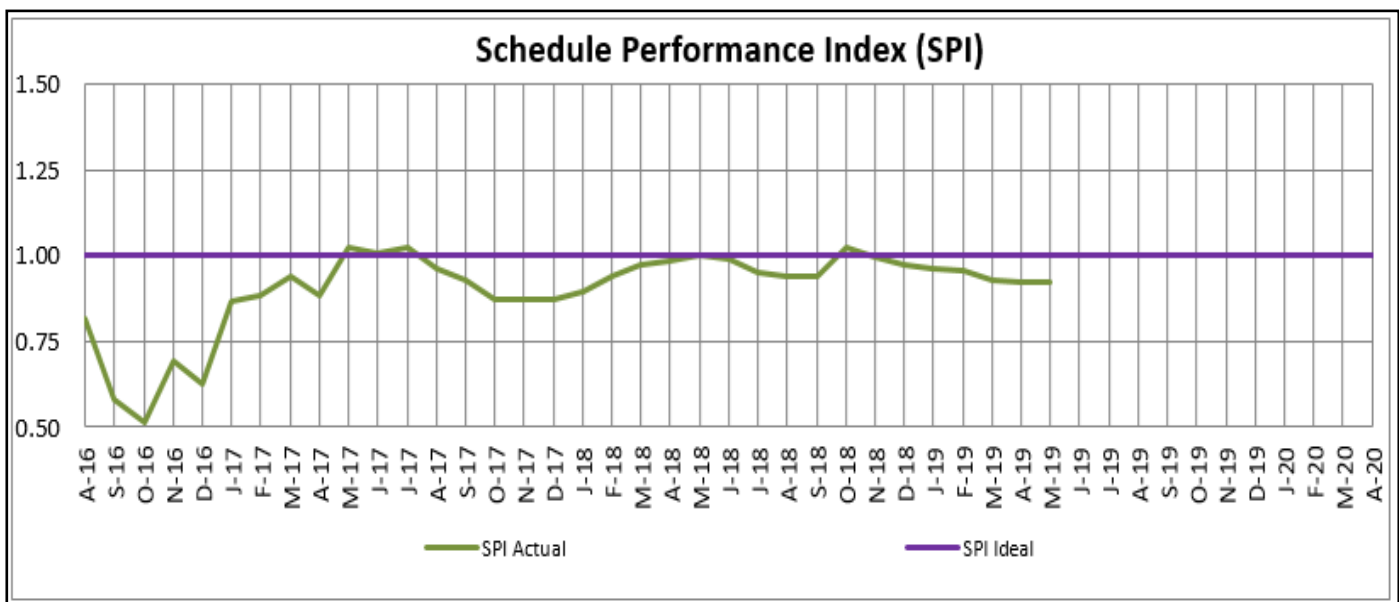
Sound Transit executed a professional services contract with LTK Engineering in July 2016 to perform systems final design along the entire Lynnwood Link alignment. Design services include preparation of comprehensive systems contract documents for construction, design coordination and cooperation with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

## Current Progress

- Responded to comments to the 90% design submittal.
- Worked on modifications to Traction Power Substation (TPSS) locations driven by civil design revisions. This includes ground grid redesign, System wide Electrical (SWE) conduit revisions, and re-running traction power load flow simulations.
- Revised drawings impacted by room renaming/renumbering at the Lynnwood garage.

## Schedule Performance Index

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



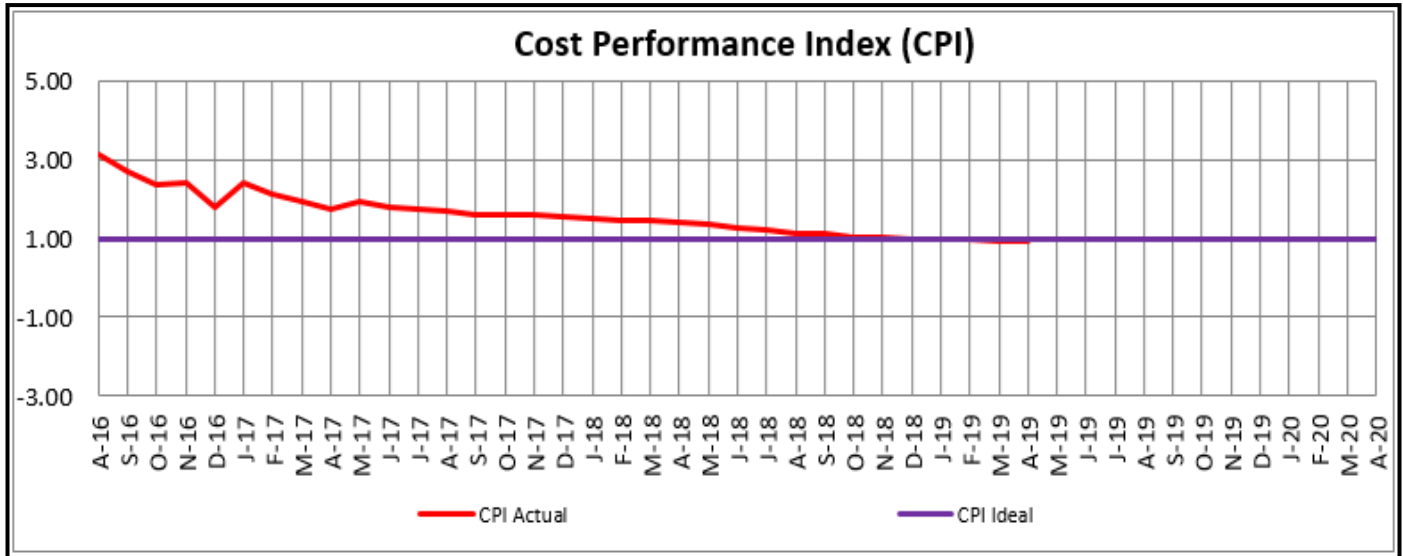


# Link Light Rail Lynnwood Link Extension



## Cost Performance Index

\$8.5 M of the total contract amount, which is 91%, has been spent through May 2019. The systems final design percent complete is 86%, with an earned value of \$8.0 M. The cumulative Cost Performance Index (CPI) 0.94 indicating that actual costs are more than earned value of work performed.



## Cost Summary

| Contract        | Cumulative To-date |
|-----------------|--------------------|
| Amount Invoiced | \$8.5 M            |
| % Spent         | 91%                |
| Earned Value    | \$8.0 M            |
| % Complete      | 86%                |
| <b>SPI</b>      | <b>0.92</b>        |
| <b>CPI</b>      | <b>0.94</b>        |

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

### Current Progress

The ST Board approved the L200 construction contract with Stacy & Witbeck– Kiewit– Hoffman JV (SKH) for early work scope in December 2018. In this period SKH performed the following work:

- **Work Zone (WZ) 1 (Northgate to NE 115th St):** Installed temporary fencing at the Northgate I-5 interchange, and continued preparation for stormwater Basin A.
- **WZ-3 (NE 130th St to NE 150th St):** Completed tree removal in WSDOT right-of-way south of 145th, and began tree removal north of 145th.
- **WZ-10 (Shoreline North/185th Station area):** Completed tree removal.

### Schedule Summary

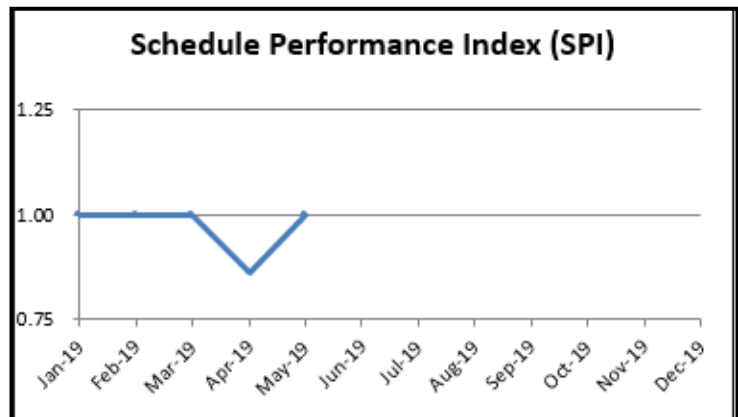
The May schedule update for L200 forecasts late completion of early work. The driving activity is completion of the Construction Work Plan (CWP) by SKH, for sewer relocations. The plan is needed to begin relocation of Ronald Sewer District lines. Near-critical is work at Ronald Bog, which is driven by issuance of the Special Use Permit from the City of Shoreline.

| Activity Name                             | Start       | Finish    | Total Float | 2019 |    |    |    | 2020 |    |    |    | 2021 |
|-------------------------------------------|-------------|-----------|-------------|------|----|----|----|------|----|----|----|------|
|                                           |             |           |             | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 |      |
| <b>L200 Schedule Update (DD 06/01/19)</b> | 08-Dec-18 A | 29-Dec-20 | 756         |      |    |    |    |      |    |    |    |      |
| <b>Milestones</b>                         | 08-Jan-19 A | 25-Apr-20 | 298         |      |    |    |    |      |    |    |    |      |
| <b>Right-of-Way</b>                       | 21-Mar-19 A | 20-Feb-20 | -42         |      |    |    |    |      |    |    |    |      |
| <b>Temporary Construction Easement</b>    | 01-Jun-19   | 01-Oct-19 | 1130        |      |    |    |    |      |    |    |    |      |
| <b>Wetland Impact</b>                     | 02-May-19 A | 22-Dec-20 | 378         |      |    |    |    |      |    |    |    |      |
| <b>Permits &amp; Agreements</b>           | 08-Jan-19 A | 06-Mar-20 | 401         |      |    |    |    |      |    |    |    |      |
| <b>Submittals</b>                         | 04-Jan-19 A | 10-Sep-20 | 344         |      |    |    |    |      |    |    |    |      |
| <b>Procurement</b>                        | 08-Jan-19 A | 03-Nov-20 | 83          |      |    |    |    |      |    |    |    |      |
| <b>Mobilization</b>                       | 07-Jan-19 A | 22-Dec-20 | 506         |      |    |    |    |      |    |    |    |      |
| <b>Civil</b>                              | 08-Apr-19 A | 23-Dec-20 | 574         |      |    |    |    |      |    |    |    |      |
| <b>Maintenance of Traffic</b>             | 01-Jul-19   | 22-Sep-20 | -105        |      |    |    |    |      |    |    |    |      |
| <b>Potholing &amp; Utility Locate</b>     | 01-Jul-19   | 24-Jul-20 | 75          |      |    |    |    |      |    |    |    |      |
| <b>TESC &amp; Site Water Discharge</b>    | 18-May-19 A | 11-Jun-20 | 559         |      |    |    |    |      |    |    |    |      |
| <b>Dewatering</b>                         | 08-Oct-19   | 10-Sep-20 | 310         |      |    |    |    |      |    |    |    |      |
| <b>Geotechnical</b>                       | 28-Sep-19   | 13-Apr-20 | -87         |      |    |    |    |      |    |    |    |      |
| <b>Structures</b>                         | 17-Dec-19   | 26-Dec-20 | 756         |      |    |    |    |      |    |    |    |      |
| <b>Track Work</b>                         | 03-Dec-19   | 08-Dec-20 | 132         |      |    |    |    |      |    |    |    |      |
| <b>Systems</b>                            | 13-Jul-20   | 11-Sep-20 | 197         |      |    |    |    |      |    |    |    |      |
| <b>Garage Work</b>                        | 24-Apr-20   | 18-Dec-20 | 24          |      |    |    |    |      |    |    |    |      |
| <b>Punchlist &amp; Commissioning</b>      | 09-Jun-20   | 21-Jul-20 | 703         |      |    |    |    |      |    |    |    |      |
| <b>Schedule of Values</b>                 | 08-Dec-18 A | 08-Jan-20 | 0           |      |    |    |    |      |    |    |    |      |

### Schedule Performance Index

This period the cumulative SPI is at 1.00 which means that cumulative amount of work accomplished is on target to the value of work planned.

SKH revised the plan values due to late permit issuance in Shoreline.



# Link Light Rail Lynnwood Link Extension



## Next Period Activities

- **Work Zone (WZ) 1 (Northgate to NE 115th St):** Continue setting up Basin A stormwater treatment system and start clearing and grubbing.
- **WZ-2 (NE 115th St to just south of NE 130th St):** Start Seattle City Light (SCL) steel pole drilled shaft foundation work.
- **WZ-3 (NE 130th St to NE 150th St):** Set up Basin B stormwater treatment system, continue clearing and grubbing between 130th and 145th, complete hazardous building materials abatement and start building demolition on 148th.
- **WZ-5 (NE150th St to NE 155th St) and WZ-7 (NE 155th to NE 174th St):** Begin tree removal.
- **WZ-6 (NE 155th St bridge):** Survey and install tree protection.
- **WZ-9 (NE 176th St to just north of NE 185th St):** Grading and setup of staging yard at SCL site.
- **WZ-10 (Shoreline North/185th Station area):** Complete clearing and grubbing.
- Install tree protection at Ronald Bog and close the site.

## Closely Monitored Issues:

- Monitoring timing of receipt of all permits necessary for early work construction.
- Evaluating cost impact of plan revisions between the early work pricing and Issue for Construction (IFC) sets.

## Cost Summary

| Financial Status                     | Amount        |
|--------------------------------------|---------------|
| <b>L200 Contractor - SKH</b>         |               |
| Original Contract Value              | \$ 88,147,258 |
| Change Order Value                   | \$ 500,000    |
| Current Contract Value               | \$ 88,647,258 |
| Total Actual Cost (Incurred to Date) | \$ 17,338,826 |
| Financial Percent Complete           | 19.6%         |
| Authorized Contingency               | \$ 6,170,342  |
| Contingency Drawdown                 | \$ 500,000    |
| Contingency Index                    | 2.4           |



## Contract L300 GC/CM—NE 200th Street to Lynnwood Transit Center

### Current Progress

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

- Preparing activity-specific construction work plans and submittals.
- Began tree survey at south limit of the contract.
- Set secondary survey control points along the I-5 alignment.

### Schedule Summary

Skanska is currently developing the contract baseline schedule, due to Sound Transit in June.

### Next Period Activities

- **Work Zone (WZ) 1 (200th Ave NE to 236th St SW):** Continue photographic documentation.
- **WZ-2 (236th St SW to 220th St SW):** Perform tree survey and survey limits of clearing and grubbing.
- **WZ-3 (220th St SW to 52nd Ave W):** Complete tree survey and survey limits of clearing and grubbing, begin Best Management Practices (BMP) installation and clearing and grubbing.

### Closely Monitored Issues:

- Monitoring timing of receipt of all land use approvals, permits, and property rights necessary for early work construction.
- Evaluating cost impact of plan revisions between the early work pricing and Issue for Construction (IFC) sets.
- Coordination with WSDOT’s northbound I-5 resurfacing project near the King-Snohomish county line.

### Cost Summary

| Financial Status                              | Amount        |
|-----------------------------------------------|---------------|
| <b>L300 Contractor - Skanska Constructors</b> |               |
| Original Contract Value                       | \$ 56,886,631 |
| Change Order Value                            | \$500,000     |
| Current Contract Value                        | \$ 56,886,631 |
| Total Actual Cost (Incurred to Date)          | \$ 0          |
| Financial Percent Complete                    | 0.0%          |
| Authorized Contingency                        | \$ 3,982,064  |
| Contingency Drawdown                          | \$500,000     |
| Contingency Index                             | N/A           |

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



## Project Summary

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



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

**Phase** Construction  
**Budget** \$225.6 Million  
**Schedule** Construction Complete: 1st QTR 2019

## Major Contracts

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

## Key Project Activities

- **Work outside the tunnels** – As-built plans review.
- **Mercer Island Tunnel** – Work to complete punch list items.
- **Mount Baker Ridge Tunnel** – Progress resolution of Fire/Life Safety systems punch list items.
- **SCADA** – Ongoing WSDOT final reviews of systems integration.
- **Simplex** – Continue punch list & resolution of remaining programming issues.

## Closely Monitored Issues

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

- Challenges continue with final commissioning of the Fire/Life/Safety Systems, including incomplete Building Information Modeling (BIM) As-Built data and incomplete or missing Operations & Maintenance manuals; and
- Commissioning Agent’s Certification of required tests.



### Project Cost Summary

The following tables summarize the cost information for the I-90 Two-way Transit and HOV Operations (Stage 3) project. WSDOT has caught up on their invoice submittals, allowing resolution to past over-accruals and a more realistic expenditure forecast. Project expenditures for April were \$620.3K. Tables below are in millions.

#### Cost Summary by Phase

| Project Phase           | Baseline Budget | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|-----------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$3.6           | \$3.6                         | \$2.3              | \$2.3            | \$3.6                      | \$0.0                         |
| Preliminary Engineering | \$1.5           | \$1.5                         | \$1.5              | \$1.5            | \$1.5                      | \$0.0                         |
| Final Design            | \$22.1          | \$22.1                        | \$18.7             | \$18.3           | \$22.1                     | \$0.0                         |
| Construction Services   | \$0.0           | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 3rd Party Agreements    | \$0.0           | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| Construction            | \$198.3         | \$198.3                       | \$182.7            | \$172.1          | \$198.3                    | \$0.0                         |
| <b>Total</b>            | <b>\$225.6</b>  | <b>\$225.6</b>                | <b>\$205.3</b>     | <b>\$194.2</b>   | <b>\$225.6</b>             | <b>\$0.0</b>                  |

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

#### Cost Summary by SCC

| SCC Element                      | Baseline Budget | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------|-----------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 40 Sitework & Special Conditions | \$180.6         | \$190.7                       | \$182.7            | \$172.1          | \$190.7                    | \$0.0                         |
| 80 Professional Services         | \$26.3          | \$26.3                        | \$22.6             | \$22.1           | \$26.3                     | \$0.0                         |
| 90 Unallocated Contingency       | \$18.7          | \$8.7                         | \$0.0              | \$0.0            | \$8.7                      | \$0.0                         |
| <b>Total</b>                     | <b>\$225.6</b>  | <b>\$225.6</b>                | <b>\$205.3</b>     | <b>\$194.2</b>   | <b>\$225.6</b>             | <b>\$0.0</b>                  |

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

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



## Cost Contingency Management

In the table below, the Allocated Contingency includes both WSDOT-controlled construction contingency and the total ST-controlled allocated contingencies. Reduction of the remaining work budgeted during the month of May included payments to the Contractor, identified scope gap work, and WSDOT staff & their consultants; this resulted in a net 0.4% increase from last month to the overall Current Contingency % when compared to the remaining work budgeted.

| Contingency Status              | Baseline Amount | Baseline % of Total | Current Amount | CTG as % of Remaining Work Budgeted |
|---------------------------------|-----------------|---------------------|----------------|-------------------------------------|
| Design Allowance                | \$0.0           | 0.0%                | \$0.0          | 0.0%                                |
| Committed Allocated Contingency | \$17.0          | 7.5%                | \$2.2          | 7.0%                                |
| Unallocated Contingency         | \$18.7          | 8.3%                | \$8.7          | 27.5%                               |
| <b>Total</b>                    | <b>\$35.7</b>   | <b>15.8%</b>        | <b>\$10.9</b>  | <b>34.5%</b>                        |

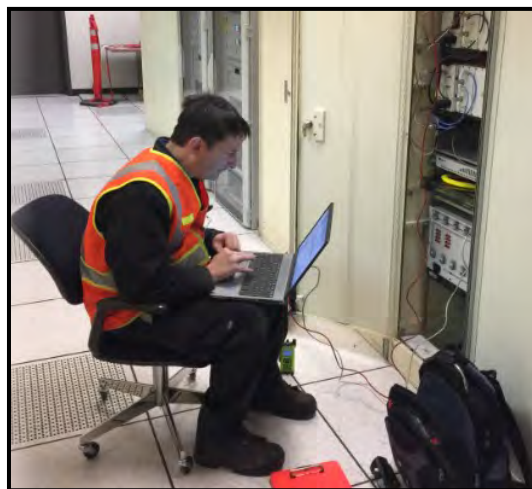
Note: Table in millions.

## Project Schedule

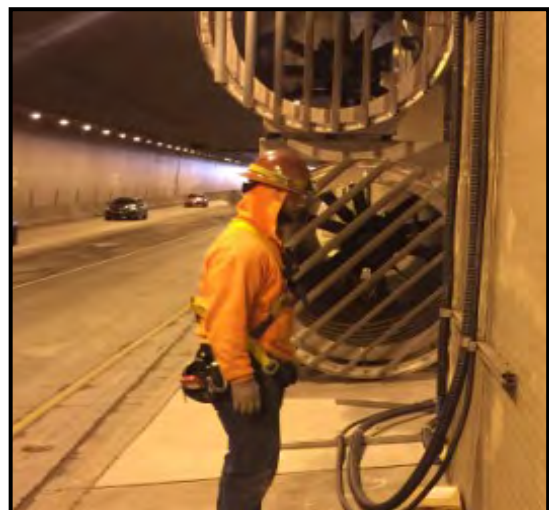
Project Milestones for construction are indicated below; the revised Substantial Completion date, retroactive to June 14, 2017, was negotiated by WSDOT with their contractor and approved by Sound Transit as part of a commercial issues resolution change order, which is pending final authorization.

| Contract                                      | Fire/Life Safety Systems Commissioning |                   | Substantial Completion |                   | Center Roadway Turnover |                   | Physical Completion |                   |
|-----------------------------------------------|----------------------------------------|-------------------|------------------------|-------------------|-------------------------|-------------------|---------------------|-------------------|
|                                               | Baseline                               | Forecast / Actual | Baseline               | Forecast / Actual | Baseline                | Forecast / Actual | Baseline            | Forecast / Actual |
| I-90 Two-Way Transit & HOV Operations Stage 3 | 2/16/2017                              | 6/14/2017         | 2/20/2017              | 6/14/2017         | 5/31/2017               | 6/14/2017 A       | 5/31/2017           | Q2/2019           |

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



Troubleshooting issues at MBRT.



Checking jet fan cabling connections during test sequences, MBRT.

This page left blank intentionally.

# Link Light Rail East Link Extension



## Project Summary

### Scope

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

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

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

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

**Phase** Construction

**Budget** \$3.677 Billion (Baseline April 2015)

**Schedule** Revenue Service: June 2023



Map of East Link Extension Alignment.

## Key Project Activities

### Seattle to South Bellevue

- **Floating Bridge Retrofit (E130):** Modifications for cathodic protection and seismic retrofit of approach structures continue; ongoing installation of direct fixation track and guide rail; progressing placement and installation of modular track bridges.
- **Mercer Island (E130):** Continue utility and structural modifications at Mercer Island Tunnel; progress structural finishes and utility construction at Mercer Island Station; ongoing direct fixation track installation at the East Channel Bridge.
- **IDS to Mt. Baker Tunnel (E130):** Progressing preliminary work for track alignment and utility relocation in the International District Station; electrical and structural modifications continue in the Mt. Baker Tunnel; ongoing construction of the plaza, pedestrian access building, and ancillary building at Judkins Park Station.

### South Bellevue to Redmond

- **South Bellevue (E320):** Continued to span across I-90. Ongoing aerial guideway decking and installing station elements including stairs and station canopy. Ongoing trench and wall stabilization work for undercrossing at 112<sup>th</sup>.
- **Downtown Bellevue Tunnel (E330):** Started waterproofing and installing reinforcement for walls and crown from North Portal. Continued installation of invert rebar, conduits and drainage pipe at South Portal.
- **Downtown Bellevue to Spring District (E335):** Completed post tensioning. Started preparation on false work removal over I-405. Completed waterproofing and concrete placement for lid slab at NP and removed shoring towers. Continued form-work, reinforcing, and concrete placement for footings, columns and walls at BDS.
- **Bel-Red (E340):** Continued placing diaphragms, forming bridge deck and bridge deck rebar at the aerial guideway. Formed stem retaining wall for platform canopy and installed systems ductbank at 130<sup>th</sup> station area.
- **SR520 to Redmond Technology Station (E360):** Girder erection completed, started OVS Ped Bridge ramp walls and foundations, continued RT Garage level four and deck/beam placement, and continued aerial guideway superstructures work.
- **Systems (E750):** Continued with submittals, component design/manufacturing/fabrication, site interface inspections.

## Closely Monitored Issues

- Bellevue Downtown Station challenges and schedule slippage.
- Design change during construction phase.
- With construction in full swing, quality, construction safety and environment compliance are priorities.
- Coordination of pre-requisite work in 2019 that leads up to IDS single tracking in 1st QTR 2020.

## Project Cost Summary

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

The Estimated Final Cost (EFC) remains the same at approximately \$3.68B. This period's expenditure is roughly \$50M, pushes the total expenditure to date from \$1.84B to \$1.89B. Project commitments is over \$3B with all major construction contracts in place and construction is on-going throughout the alignment. This period's continues to somewhat under perform due to a combination of resequencing of work plan and construction challenges. It is anticipate to be made up throughout the current year.

### Cost Summary by Phase

| Project Phase           | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$186.2          | \$186.2                       | \$82.0             | \$82.1           | \$186.2                    | \$0.0                         |
| Preliminary Engineering | \$55.9           | \$55.9                        | \$54.8             | \$54.8           | \$55.9                     | \$0.0                         |
| Final Design            | \$283.0          | \$283.0                       | \$245.5            | \$216.7          | \$283.0                    | \$0.0                         |
| Construction Services   | \$257.5          | \$257.5                       | \$196.7            | \$94.6           | \$257.5                    | \$0.0                         |
| 3rd Party Agreements    | \$52.2           | \$52.2                        | \$38.5             | \$24.4           | \$52.2                     | \$0.0                         |
| Construction            | \$2,544.3        | \$2,544.3                     | \$2,160.2          | \$1,149.9        | \$2,544.3                  | \$0.0                         |
| Light Rail Vehicles     | \$0.0            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| ROW                     | \$298.2          | \$298.2                       | \$269.6            | \$268.6          | \$298.2                    | \$0.0                         |
| <b>Total</b>            | <b>\$3,677.2</b> | <b>\$3,677.2</b>              | <b>\$3,047.4</b>   | <b>\$1,891.0</b> | <b>\$3,677.1</b>           | <b>\$0.0</b>                  |

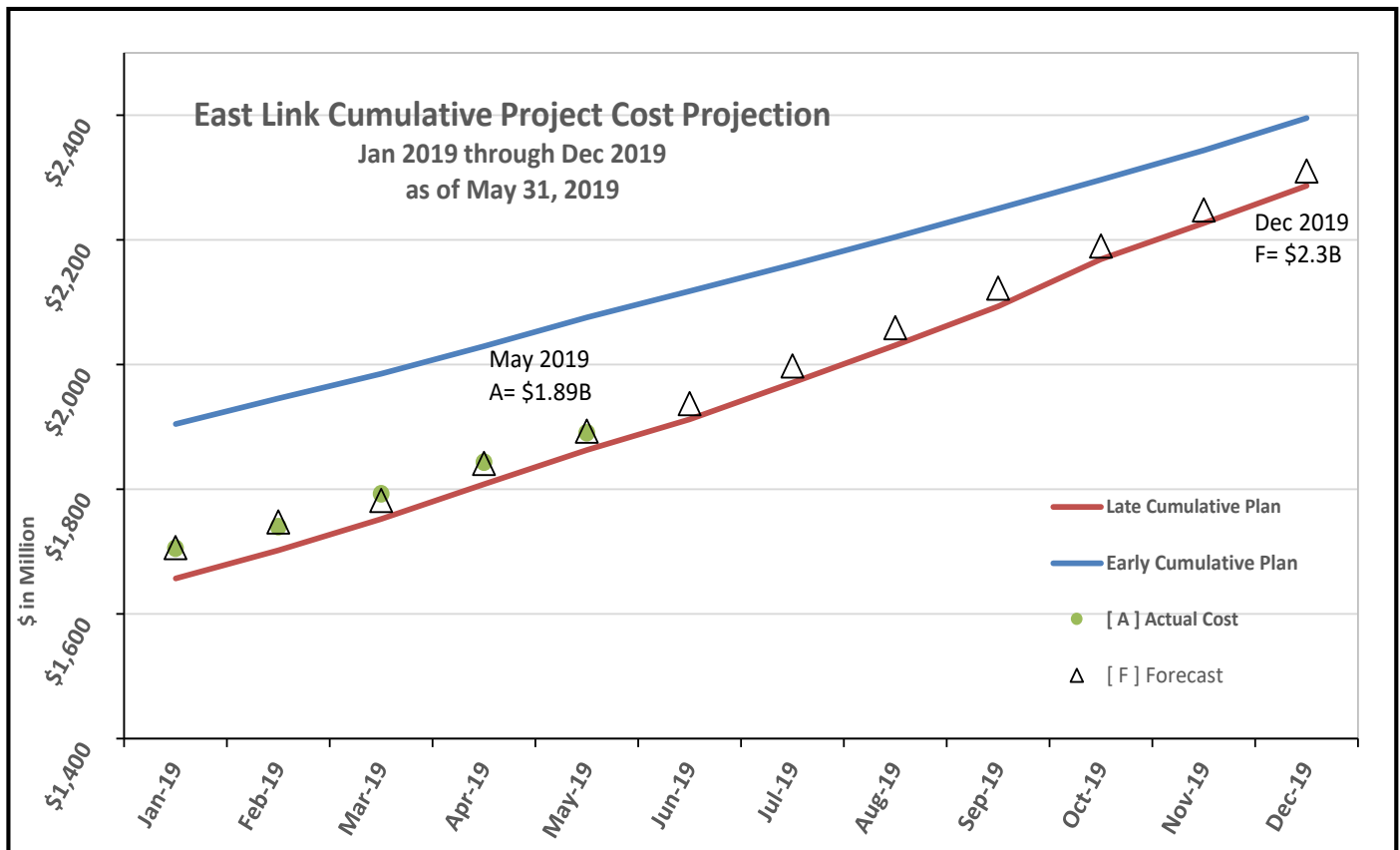
### Cost Summary by SCC

| SCC Element                            | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$744.6          | \$949.7                       | \$890.7            | \$559.9          | \$957.6                    | (\$213.0)                     |
| 20 Stations                            | \$397.7          | \$474.2                       | \$436.3            | \$196.9          | \$469.8                    | (\$72.1)                      |
| 30 Support Facilities                  | \$0.0            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 40 Sitework & Special Conditions       | \$808.5          | \$568.3                       | \$462.8            | \$299.0          | \$602.4                    | \$206.1                       |
| 50 Systems                             | \$353.8          | \$367.9                       | \$347.4            | \$79.1           | \$330.2                    | \$23.6                        |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$2,304.6</b> | <b>\$2,360.1</b>              | <b>\$2,137.2</b>   | <b>\$1,134.9</b> | <b>\$2,360.0</b>           | <b>(\$55.4)</b>               |
| 60 Row, Land                           | \$288.5          | \$288.5                       | \$269.6            | \$268.6          | \$288.5                    | \$0.0                         |
| 70 Vehicles (non-revenue)              | \$2.8            | \$2.8                         | \$0.0              | \$0.0            | \$2.8                      | \$0.0                         |
| 80 Professional Services               | \$898.4          | \$889.1                       | \$640.6            | \$487.5          | \$889.3                    | \$9.1                         |
| 90 Unallocated Contingency             | \$182.9          | \$136.6                       | \$0.0              | \$0.0            | \$136.6                    | \$46.2                        |
| <b>Total (10 - 90)</b>                 | <b>\$3,677.2</b> | <b>\$3,677.2</b>              | <b>\$3,047.4</b>   | <b>\$1,891.0</b> | <b>\$3,677.1</b>           | <b>\$0.0</b>                  |



## Project Cash Flow Projection

The East Link cost projection continues to progress within the planned expenditure as construction activities continue to pickup. This period's project expenditure topped out at approximately \$50M where Construction Phase is responsible for about 90% or approximately \$41M of May's expenditure. Total project cost incurred to date topped \$1.89B, to which over \$1,150M was recorded in the Construction Phase. The project expenditures continue to pick up and is predicted to rise to approximately \$2.3B by December 2019, taking into consideration weather inclement in earlier in the year and construction challenges.



## Risk Management

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

The 1st QTR 2019 risks updates have been completed. The Risk Mitigation Milestone #4 (Completion of SEM Tunneling) report is completed and given the current risk profile in the project, there are sufficient schedule and budget in the project to complete in accordance to baseline. The 2nd QTR 2019 risk register are being prepared for update. The following are the current top project wide risks areas:

- Compliance with quality, safety and environmental requirements.
- Design changes during construction, particularly at technically complex stations such as Mercer Island, Bellevue Downton and Redmond Technology.
- Interfaces between contracts, agency supplied equipment and third party jurisdictions.

## Contingency Management

East Link project budget was baselined on April 2015 with a total contingency of \$795.9M. At the end of this period, all major construction contracts have been procured, the total contingency balance stands at \$410.4M (previously \$408.6M). The current contingency balance is consistent with the project's planned contingency drawdown.

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

**Allocated Contingency (AC)** is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. This period, AC increased by a net amount of approximately \$1.8K bring the AC to \$270.1M. The contingency increase in this period is primarily driven by aggregation of construction change orders in the project, primarily the construction contracts that included a large credit attributing from the E330 tunneling contract.

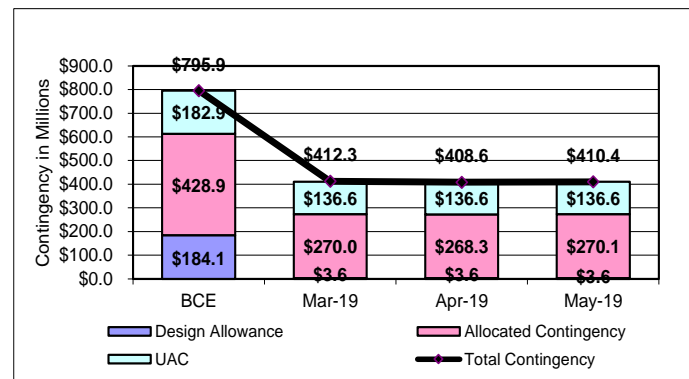
**Unallocated Contingency (UAC)** is used to address general project-wide cost risks and uncertainties. The UAC balance remains unchanged at \$136.6M.

### Contingency Status

| Contingency Type        | Baseline       |                   | Current Status   |                     |
|-------------------------|----------------|-------------------|------------------|---------------------|
|                         | Amount         | % of Total Budget | Amount Remaining | % of Work Remaining |
| Design Allowance        | \$184.1        | 5.0%              | \$3.6            | 0.2%                |
| Allocated Contingency   | \$428.9        | 11.7%             | \$270.1          | 15.1%               |
| Unallocated Contingency | \$182.9        | 5.0%              | \$136.6          | 7.6%                |
| <b>Total</b>            | <b>\$795.9</b> | <b>21.6%</b>      | <b>\$410.4</b>   | <b>23.0%</b>        |

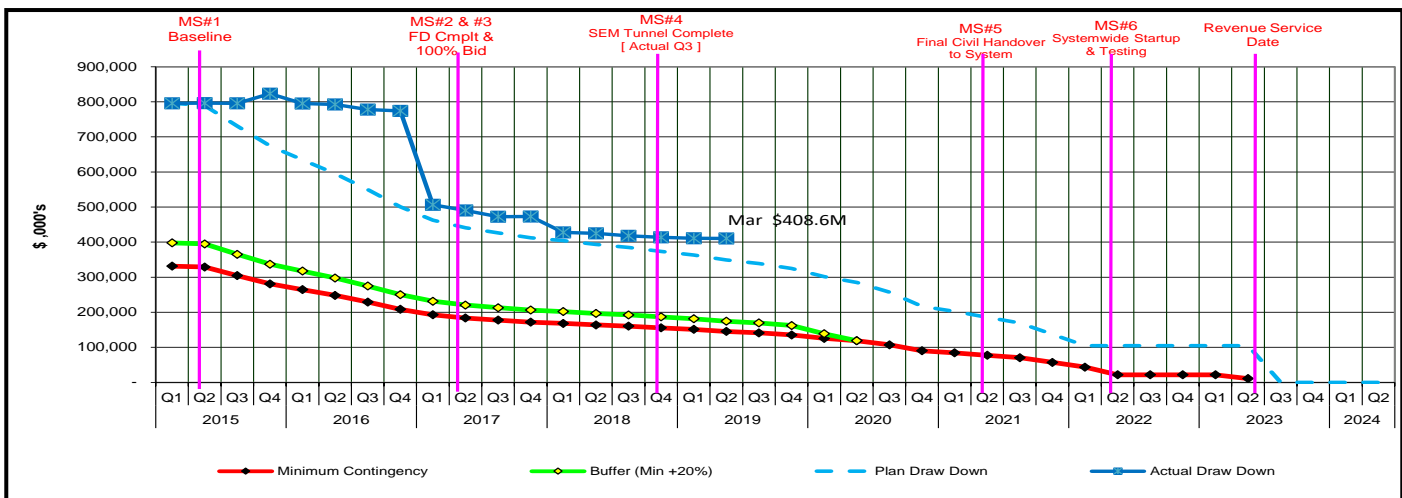
Table figures are shown in millions.

### Contingency by Type



### Contingency Drawdown

At the end of the 1st QTR 2019, East Link Project's total contingency drawdown plan is trending within plan with an overall balance was approximately \$408.6M and with all major construction contracts procured, remains above the baseline draw down projection and well above both the minimum contingency and the buffered (minimum plus 20%) contingency levels. The contingencies at the end of March represented a quarterly draw of about \$800K. The next update will be end of 2nd QTR 2019.



Contingency Drawdown as of March 31, 2019

# Link Light Rail East Link Extension



## Project Schedule

The Integrated Master Schedule is presented below.

**E130** continued placing track on the East Channel Bridge and the HMH floating bridge; work continues at both stations; continued preliminary work to prepare for single tracking at International District Station.

**E320** continued pouring the second long-span segment over I-90; continued excavation and track slab preparation; continued fill and grade at 112th undercrossing; continued pouring concrete for vertical elements at the station and garage.

**E330** continued applying waterproofing to the tunnel crown.

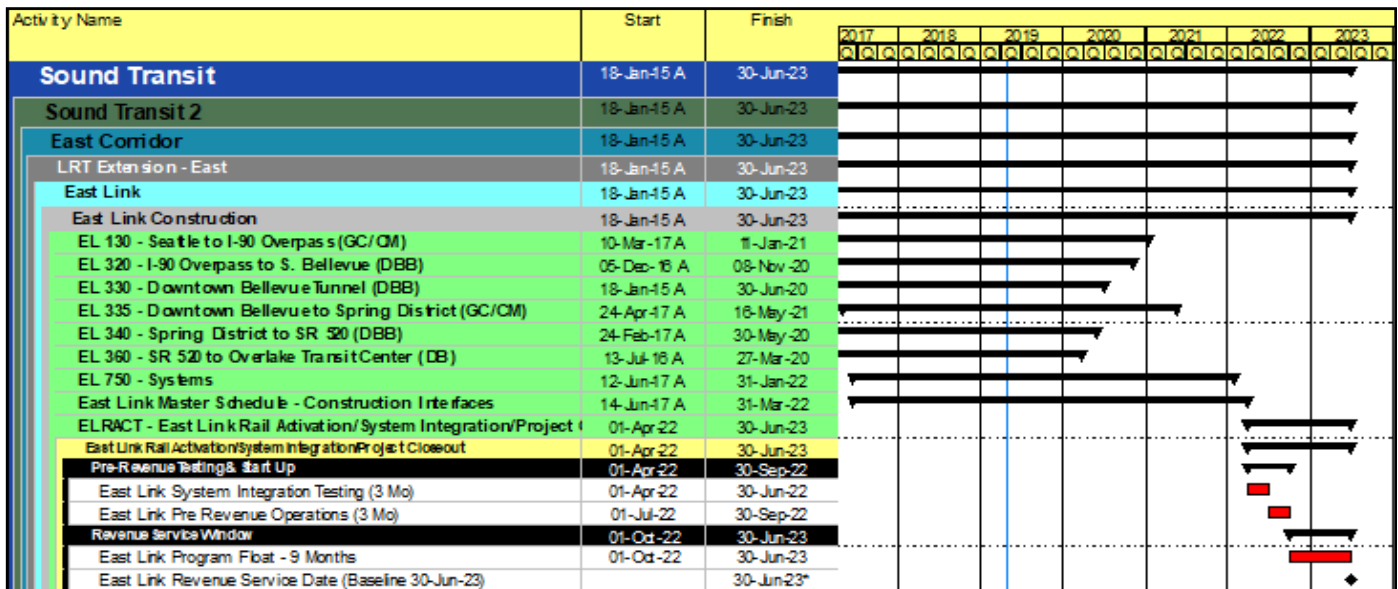
**E335** completed concrete placement for lid over north portal; completed post-tensioning for long span over I-405; continued wall placement at all stations.

**E340** placed systems duct bank and storm drains and formed stem wall for canopy at 130th Station; continued waterline and utility duct bank placement on Spring Blvd; and poured the deck span for the aerial guideway.

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

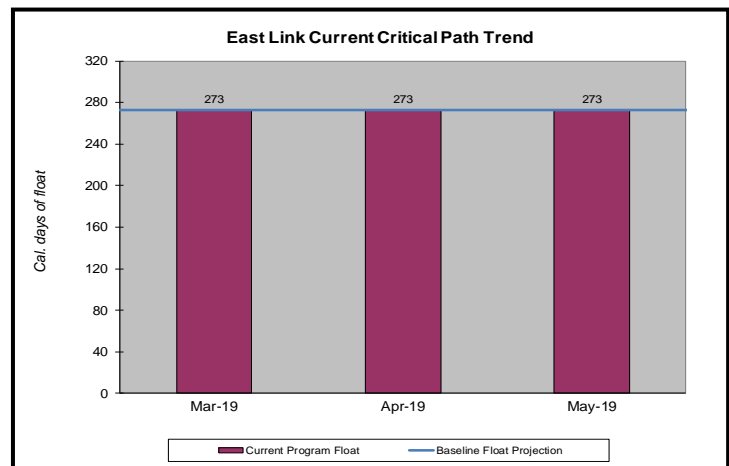
**E750** Systems contractor continued procuring equipment and continued mobilizing for construction; preliminary work commenced at International District Station; major work will begin with the eastern segment of E130 in Summer of 2019.

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



## Project Float

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

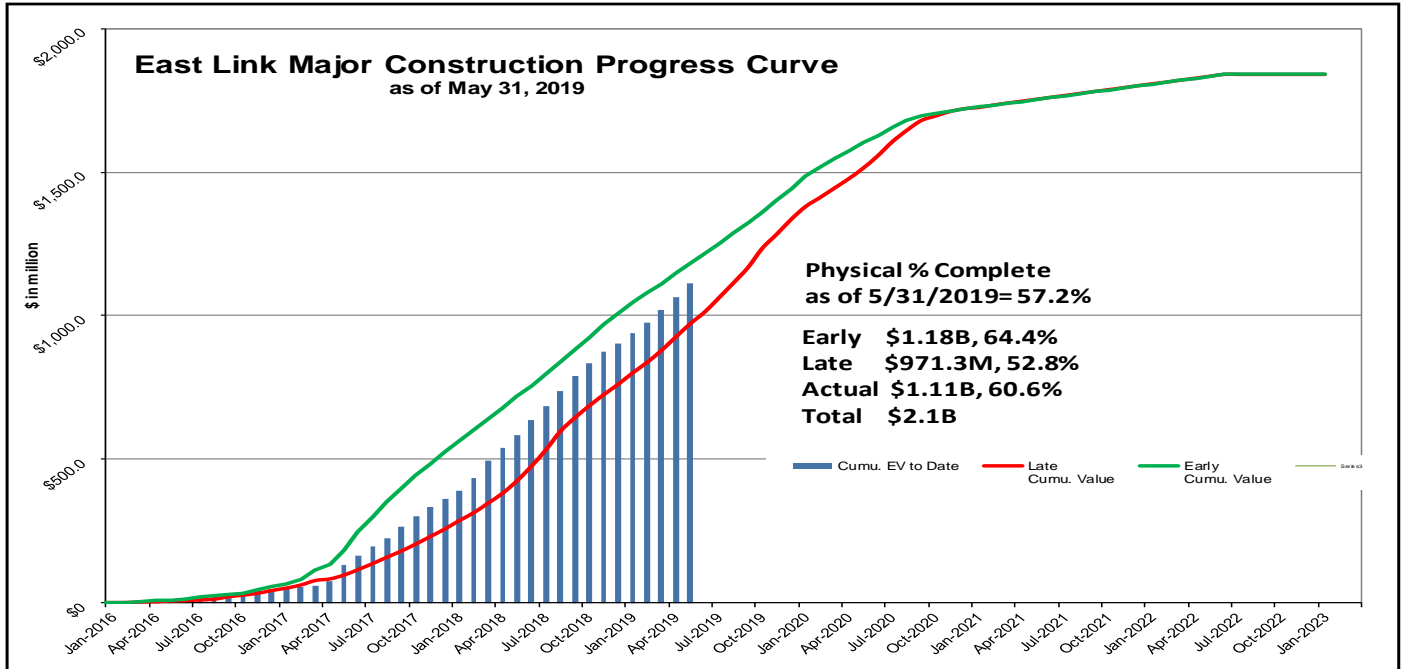




# Link Light Rail East Link Extension

## Project Cash Flow Projection

The overall East Link Major Construction percent complete analysis is based on a weighted measurement among the seven major construction contracts' schedule, duration and cost. The graph below shows the aggregate cost progression for these construction contracts. As of the end of May, performance continues to trend appropriately between the early/late projection as drawn from the master schedule. The overall physical percent complete for East Link construction is 57.2%.



*E320 South Bellevue: Setting wall forms for concrete pour.*



## Right-of-Way

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

| East Link Ext Extension Acquisition Status |                |                     |                  |                      |                               |
|--------------------------------------------|----------------|---------------------|------------------|----------------------|-------------------------------|
| ACQUISITION                                |                |                     |                  | RELOCATION           |                               |
| Total Acquisitions                         | Board Approved | Offers Made to date | Closings to date | Relocations Required | Relocations Completed to date |
| 239                                        | 246            | 234                 | 228              | 229                  | 226                           |

*\* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.*

- 2 new relocations on Mercer Island

## Community Outreach

- Ongoing distribution of weekly construction alerts for maintenance of traffic activities for Mercer Island, Bellevue and Redmond. Coordinated many briefings and meetings with impacted neighbors about upcoming major traffic changes including but not limited to full closures.
- Ongoing engagement with individual property owners, members of the public and impacted neighbors on a variety of concerns including demolition, noise wall construction, signage, night time noise, traffic, access, maintenance of traffic, irrigation line repairs.
- Attended “welcome event” for Amazon employees moving into downtown Bellevue. Staff engaged with over 200 employees and provided information on the East Link project.
- Continued major outreach for the Connect 2020 early works in the International District/Chinatown Station.



*E335 Downtown Bellevue to Spring District: Bridge spanning over Highway I-405 along NE 6th Street on May 31, 2019*

## Sound Transit Board Actions

| Board Action | Description      | Date |
|--------------|------------------|------|
|              | None This Period |      |

## Construction Safety

| Data/ Measure                           | May 2019        | Year to Date | Project to Date |
|-----------------------------------------|-----------------|--------------|-----------------|
| Recordable Injury/Illness Cases         | 2               | 14           | 53              |
| Days Away From Work Cases               | 0               | 2            | 9               |
| Total Days Away From Work               | 62              | 227          | 611             |
| First Aid Cases                         | 13              | 47           | 168             |
| Reported Near Mishaps                   | 11              | 23           | 213             |
| Average Number of Employees on Worksite | 1,115           | -            | -               |
| <b>Total # of Hours (GC &amp; Subs)</b> | 199,508         | 879,202      | 3,349,384       |
| OSHA Incident Rates                     | Monthly Average | Year to Date | Project to Date |
| Recordable Injury Rate                  | 2.00            | 3.18         | 3.16            |
| LTI Rate                                | 0.00            | 0.45         | 0.54            |
| Recordable National Average             | 3.10            | 3.10         | 3.10            |
| LTI National Average                    | 1.20            | 1.20         | 1.20            |
| Recordable WA State Average             | 5.70            | 5.70         | 5.70            |
| LTI WA State Average                    | 2.30            | 2.30         | 2.30            |

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

*Note2: Pass reports included OMF East construction safety's statistics. From this current month forward, OMF East's statistic will be reported independently under the OMF East's section.*

This page left blank intentionally.

## Major Construction Contract Packages

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

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

*Status: Completed and Operational.*

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

*Status: See following pages under Contract E130.*

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

*Status: See following pages under Contract E320.*

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

*Status: See following pages under Contract E330.*

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

*Status: See following pages under Contract E335.*

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

*Status: See following pages under Contract E340.*

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

*Status: See following pages under Contract E360.*

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

*Status: Contractor continues with critical submittal, reviews of plans, component and product designs as well as meetings with civil contractors with regards to the Coordinated Installation Plan (CIP) and off site TPSS work Site interface inspections.*



*E340 Bel-Red : Installing wall panel facing west.*

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

### Current Progress

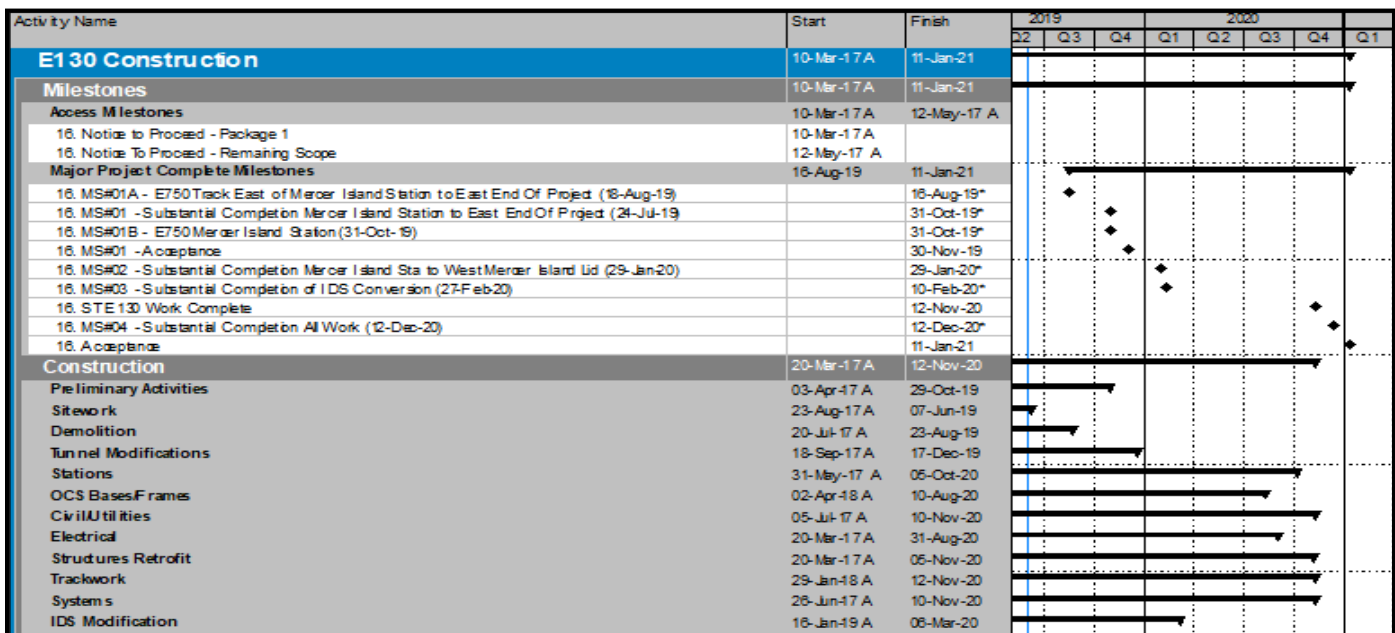
**West Segment:** Progressing preliminary work for track alignment and utility relocation in the International District Station; electrical and structural modifications continue in the Mt. Baker Tunnel; ongoing construction of the plaza, pedestrian access building, and ancillary building at Judkins Park Station.

**Center Segment:** Modifications for cathodic protection and seismic retrofit of approach structures continue; ongoing installation of direct fixation track and guide rail; progressing placement and installation of modular track bridges.

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

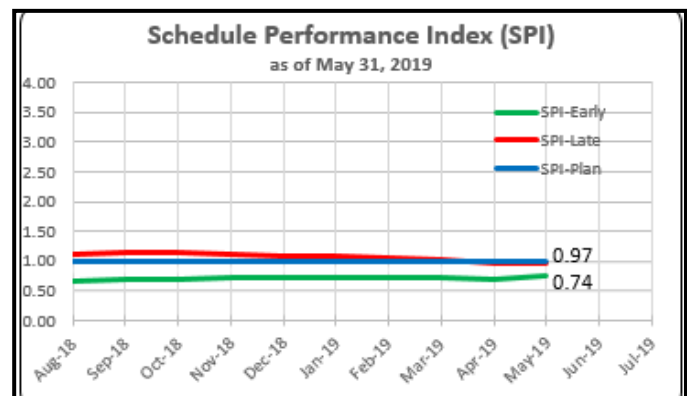
### Schedule Summary

The critical path for this project currently runs through Judkins Park Station. E130 is anticipated to hand over the first segment of track on the East Channel Bridge later this summer to allow the E750 systems contractor to start work on the East Link alignment. The contractor is expected to achieve substantial completion by the baselined milestone.



### Schedule Performance Index

This period, the SPI early is 0.74, SPI late is 0.97. The early index indicates the Contractor is behind their early finish plans; the late index shows the Contractor has fallen behind their late finish plan. This is due to resequencing several Mercer Island Station activities to align with modifications of the Milestone 1 date. The modifications allow a later handover of the Mercer Island Station, without impact to the overall schedule. It is anticipated the SPI over the subsequent months will trend to the 1.00 baseline as the critical path returns to Judkins Park Station.





# Link Light Rail East Link Extension



## Next Period's Activities

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

## Closely Monitored Issues

- Extent of variations in the actual deck thickness on the East Channel Bridge and potential ramifications.
- Timeliness of utility service connections on Mercer Island regarding E750 interface.
- Coordination of rail tie-in activities at the International District Station.

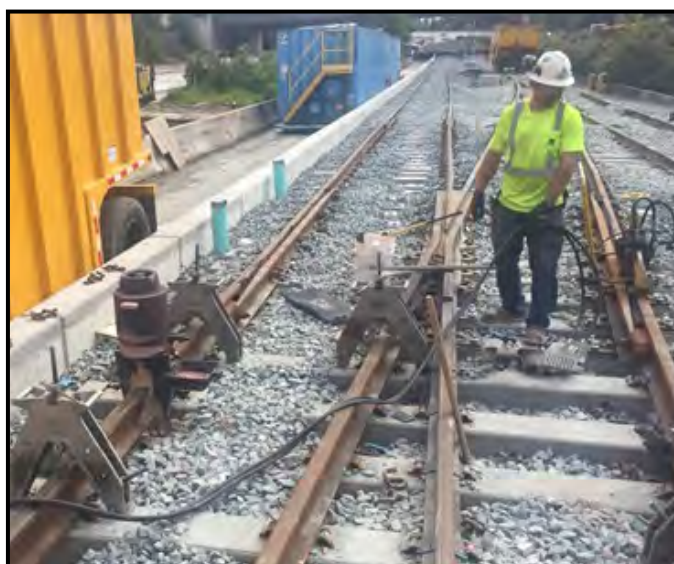
## E130 Construction Features



## Cost Summary

| Present Financial Status                     | Amount        |
|----------------------------------------------|---------------|
| <b>E130 Contractor - Kiewit-Hoffman</b>      |               |
| Original Contract Value (incl. Phase 2 MACC) | \$665,000,000 |
| Change Order Value                           | \$21,318,972  |
| Current Contract Value                       | \$685,363,972 |
| Total Actual Cost (Incurred to Date)         | \$376,104,562 |
| Percent Complete                             | 51.55%        |
| Authorized Contingency                       | \$46,660,541  |
| Contingency Drawdown                         | \$21,318,972  |
| Contingency Index                            | 1.1           |

*Contract Value excludes Betterment*



*Thermite welding at crossover east of Mercer Island Station*

## Contract E320 – South Bellevue

### Current Progress

**I-90 Flyover:** Reopened HOV ramp; remobilized Traveler to begin work at next span over I-90; continued to form/rebar/pour track slabs; began drilling dowel holes

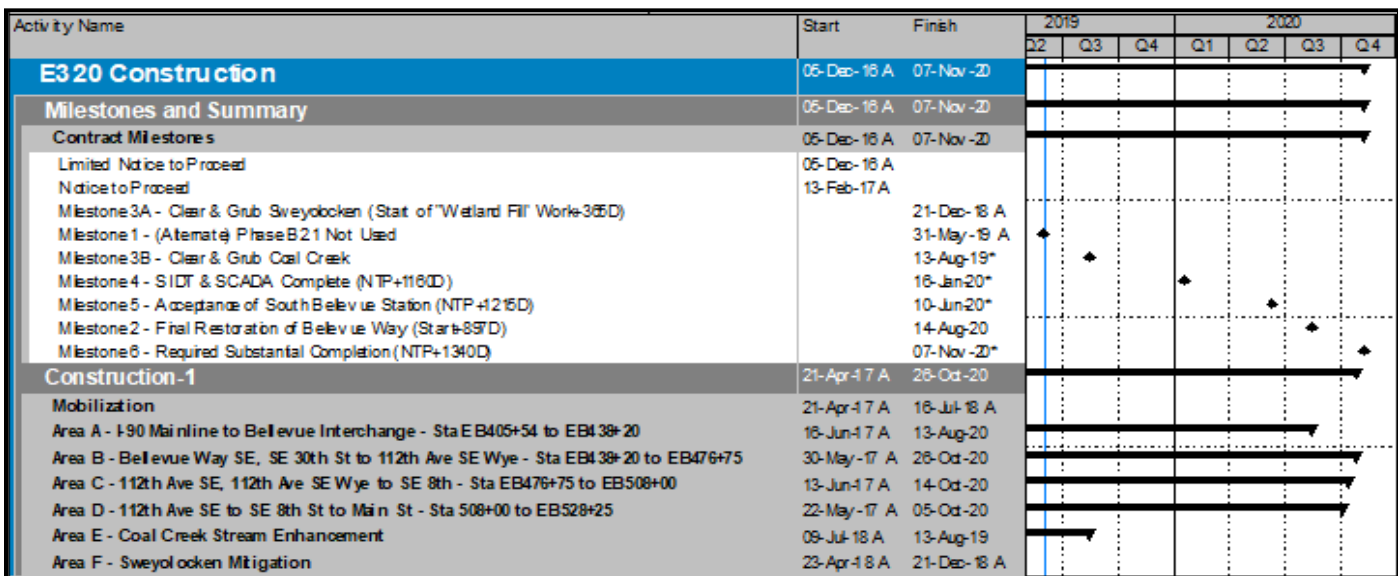
**Bellevue Way SE:** Continued to FRP track slabs and trench slabs; FRP sidewalks; poured end diaphragms; installed under-drains; prepared track subgrades; began planting and landscaping at temporary parking.

**S. Bellevue Sta./P&R:** Continued pouring and construction through level 4 on the north side of the garage; began wall construction for Level 2-4 South; finished mechanical, electrical, and plumbing installation; began constructing structural steel at ground level station; FRP footing and walls. Began erecting station canopy on guideway.

**Wye-to-East Main:** Completed concrete backfill on east side; continued concrete backfill at undercrossing; continued constructing mechanically stabilized earth wall; installed temporary ventilation system; began erecting undercrossing lid false work; FRP undercrossing lid slab at 112<sup>th</sup>.

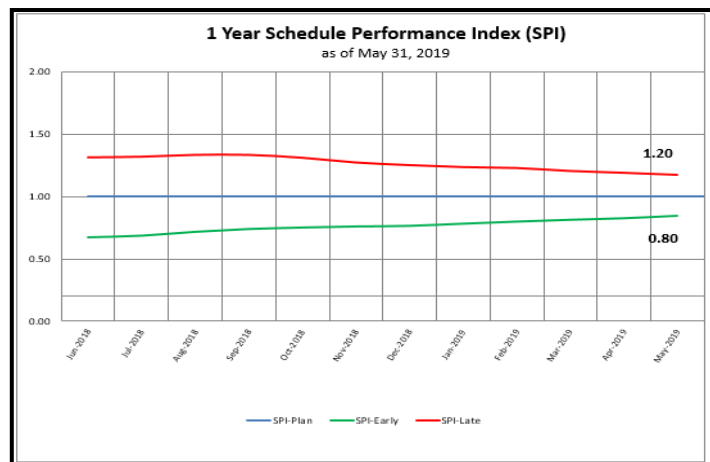
### Schedule Summary

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



### Schedule Performance Index

The SPI early and late remain at 0.8 and 1.2 respectively. Confidence levels in the schedule have greatly increased over the last few months, based on timely and compliant CPM schedules. Work performed ahead of schedule was level 4 of the parking garage, which allowed level 5 to pour early as well. Critical path shifted some to encompass the MSE wall to form the trench slab, but also continues to be the 112th undercrossing, as the excavation has taken much longer than anticipated.





# Link Light Rail East Link Extension

## Next Period's Activities

- **I-90 Flyover:** Continue to drill station Dowell holes; continue main span work over I-90 via Traveler; pour and FRP track slab.
- **Bellevue Way SE:** Continue FRP trench slabs and overhead cantenary system (OCS) poles; prepare track subgrade.
- **S. Bellevue Sta./P&R:** Continue wall construction and verticle elements at garage; continue to erect structural steel below platform at station and install under-slab conduit.
- **Wye-to-East Main:** Complete MSE wall; continue erecting undercrossing lid false work; continue to FRP undercrossing lid slab at 112<sup>th</sup>.

## Closely Monitored Issues

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



## Cost Summary

| Present Financial Status                      | Amount*       |
|-----------------------------------------------|---------------|
| <b>E320 Contractor - Shimmick/Parsons JV.</b> |               |
| Original Contract Value                       | \$319,859,000 |
| Change Order Value                            | \$1,800,980   |
| Current Contract Value                        | \$321,659,980 |
| Total Actual Cost (Incurred to Date)          | \$197,783,710 |
| Percent Complete                              | 59.5%         |
| Authorized Contingency                        | \$38,532,000  |
| Contingency Drawdown                          | \$1,800,980   |
| Contingency Index                             | 12            |

\* \$ Amount excludes betterments and STArt.



Topside look from within the Traveler system working over I-90

## Contract E330 – Downtown Bellevue Tunnel

### Current Progress

**Tunnel Crown:** Continued preparing the tunnel crown and wall surfaces by grinding and patching crown. Commenced spray applied waterproofing and installing reinforcement for walls and crown from North Portal working toward south. Continued installing reinforcing support dowels in the crown. Moved two set of tunnel form inside the tunnel.

**South Portal:** Continued installation of invert rebar, conduits and drainage pipe at South portal. Continued assemble reinforcement gantry for reinforcement of the crown. Continued to maintain the temporary erosion/sediment control and the traffic control at the South Portal and at the mid-access shaft.

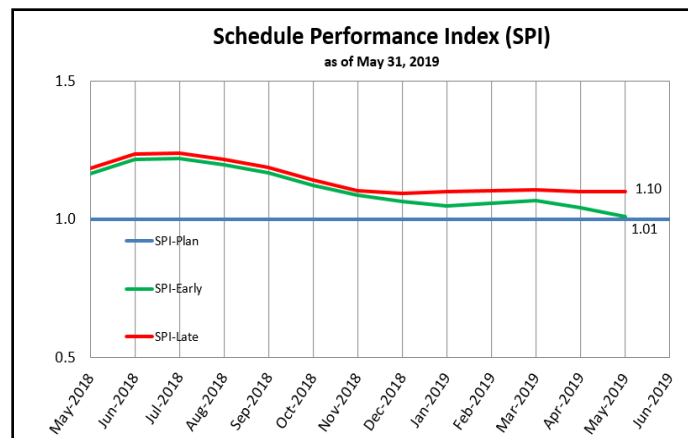
### Schedule Summary

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

| Activity Name                                                                                | Start       | Finish      | 2019 |    |    |    |    | 2020 |
|----------------------------------------------------------------------------------------------|-------------|-------------|------|----|----|----|----|------|
|                                                                                              |             |             | Q2   | Q3 | Q4 | Q1 | Q2 |      |
| <b>E330 Construction</b>                                                                     | 15-Dec-15 A | 02-Jun-20   |      |    |    |    |    |      |
| <b>CONSTRUCTION</b>                                                                          | 15-Dec-15 A | 02-Jun-20   |      |    |    |    |    |      |
| <b>MILESTONES/CONSTRUCTION EASEMENTS</b>                                                     | 15-Dec-15 A | 02-Jun-20   |      |    |    |    |    |      |
| <b>MILESTONES</b>                                                                            | 15-Dec-15 A | 02-Jun-20   |      |    |    |    |    |      |
| <b>CALCULATED MILESTONES</b>                                                                 | 15-Dec-15 A | 02-Jun-20   |      |    |    |    |    |      |
| L-NTP                                                                                        | 15-Dec-15 A |             |      |    |    |    |    |      |
| NTP                                                                                          | 08-Feb-16 A |             |      |    |    |    |    |      |
| MLST1 - Acceptance of the 110th Ave Controlled Low Strength Material Work                    |             | 14-Oct-16 A |      |    |    |    |    |      |
| MLST2 - Acceptance of CO #006 Work                                                           |             | 14-Oct-16 A |      |    |    |    |    |      |
| MLST3 - Substantial Completion of all Work from Station EB 542+64.52 to Station EB 562+47.91 |             | 04-Feb-20   |      |    |    |    |    |      |
| MLST4 - Substantial Completion Total Contract                                                |             | 02-Jun-20   |      |    |    |    |    |      |
| <b>MOBILIZATION</b>                                                                          | 08-Feb-16 A | 03-Jul-19   |      |    |    |    |    |      |
| <b>SITWORK</b>                                                                               | 29-Feb-16 A | 02-Jun-20   |      |    |    |    |    |      |
| <b>PRECONSTRUCTION</b>                                                                       | 21-Mar-16 A | 07-Feb-20   |      |    |    |    |    |      |
| <b>TRAFFIC CONTROL</b>                                                                       | 25-Mar-16 A | 20-Aug-19   |      |    |    |    |    |      |
| <b>SURVEY &amp; MONITORING</b>                                                               | 29-Feb-16 A | 03-May-18 A |      |    |    |    |    |      |
| <b>NORTH PORTAL AREA</b>                                                                     | 13-Jun-16 A | 14-Oct-16 A |      |    |    |    |    |      |
| <b>CAST IRON PIPE REPLACEMENT</b>                                                            | 08-Feb-17 A | 08-Apr-17 A |      |    |    |    |    |      |
| <b>SOUTH PORTAL AREA</b>                                                                     | 29-Feb-16 A | 02-Jun-20   |      |    |    |    |    |      |
| <b>SKYLINE BUILDING RETROFIT</b>                                                             | 17-Jan-17 A | 18-Oct-17 A |      |    |    |    |    |      |
| <b>TUNNELING</b>                                                                             | 01-Feb-17 A | 10-Jan-20   |      |    |    |    |    |      |
| <b>EXCAVATION</b>                                                                            | 01-Feb-17 A | 20-Jul-18 A |      |    |    |    |    |      |
| <b>FINAL TUNNEL LINING</b>                                                                   | 20-Jul-18 A | 16-Oct-19   |      |    |    |    |    |      |
| <b>FINAL TUNNEL FINISHES</b>                                                                 | 09-Oct-19   | 10-Jan-20   |      |    |    |    |    |      |
| <b>MID TUNNEL</b>                                                                            | 08-Mar-18 A | 22-Aug-19   |      |    |    |    |    |      |
| <b>DEMOBE</b>                                                                                | 13-Mar-17 A | 20-May-20   |      |    |    |    |    |      |

### Schedule Performance Index

In May, the SPI early is at 1.01 and the SPI late is at 1.10. The SPI curves are leveling off the earlier gains achieved during tunneling and are still ahead of planned performance. Production curves decline as tunnel surface preparation took longer than expected and the steep learning curve associated with installation of the spray applied waterproofing.



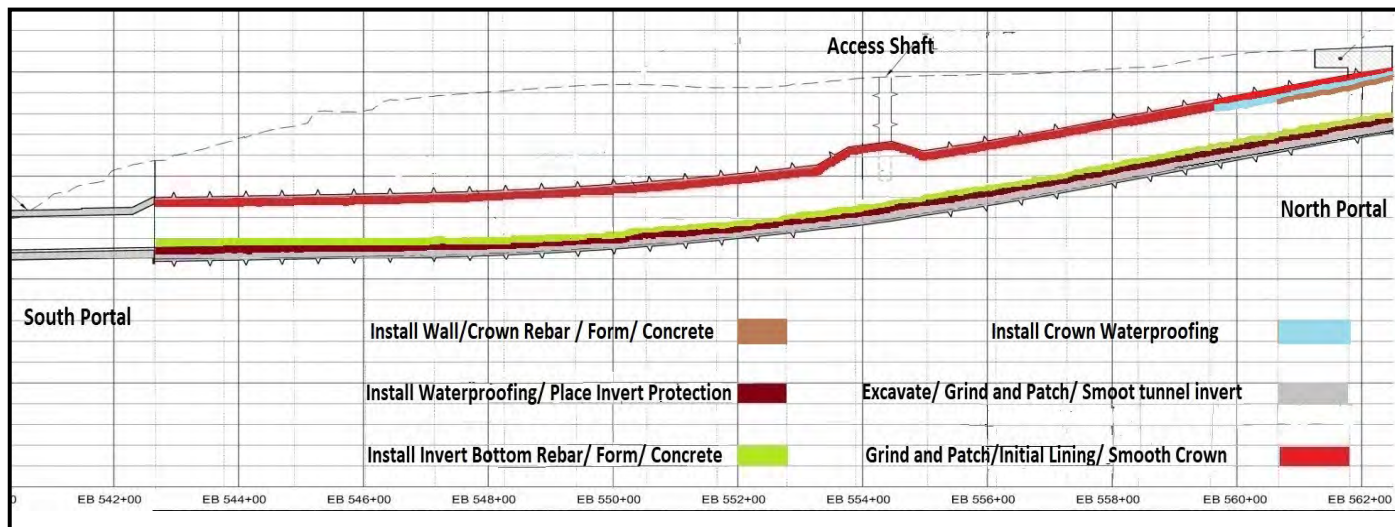
## Next Period's Activities

- **South Portal:** Continue forming, reinforcement, installing conduits and concrete placement of cut and cover invert.
- **Tunnel Crown:** Continue gridding, patching, install support dowels and repair of the crown and wall surfaces. Continue spray applied waterproofing application at North Portal working south.

## Closely Monitored Issues

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

## E330 Downtown Bellevue Tunnel overall progress (As of 5/31/2019)



## Cost Summary

| Preset Financial Status                                   | Amount        |
|-----------------------------------------------------------|---------------|
| <b>E330 Contractor– Guy F Atkinson Construction, LLC.</b> |               |
| Original Contract Value                                   | \$121,446,551 |
| Change Order Value                                        | (\$1,621,273) |
| Current Contract Value                                    | \$119,825,278 |
| Total Actual Cost (Incurred to Date)                      | \$100,741,799 |
| Percent Complete                                          | 81.65%        |
| Authorized Contingency                                    | \$12,144,655  |
| Contingency Drawdown                                      | (\$1,621,273) |
| Contingency Index                                         | -6.0          |



Final lining tunnel forms staged in the Tunnel.



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

### Current Progress

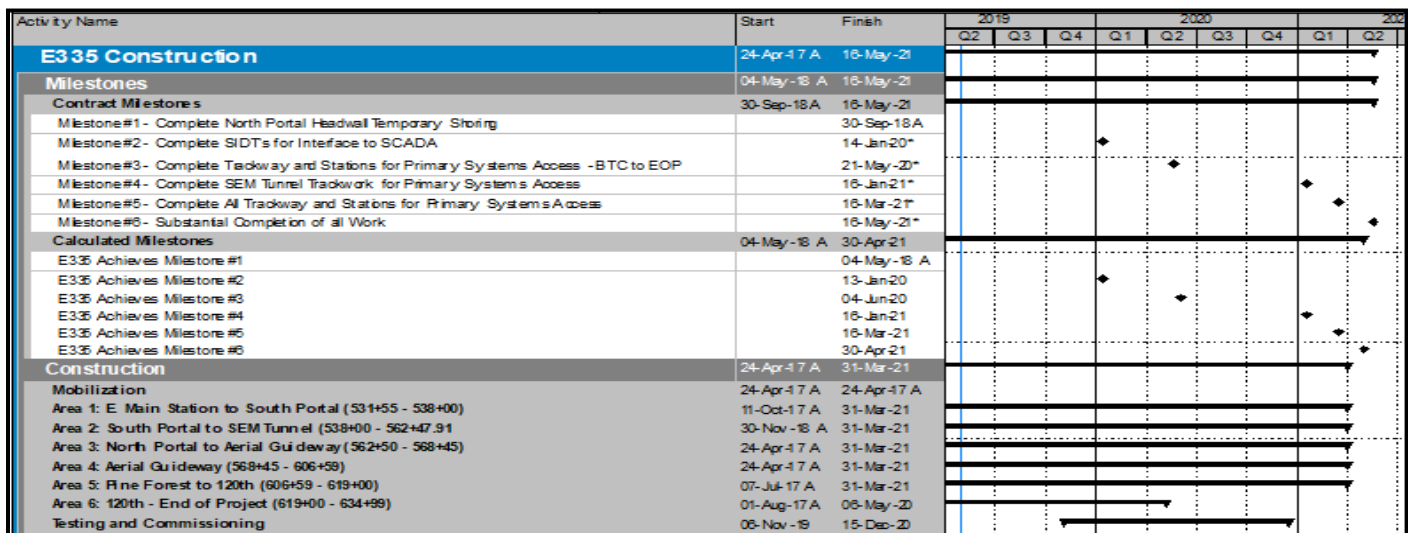
**Area 3:** N Portal/ Bellevue Downtown Station( BDS): Completed waterproofing and concrete placement for lid slab at NP and removed shoring towers. Continued formwork, reinforcing, and concrete placement for footings, columns and walls at BDS.

**Area 4:** Aerial Guideway/ Wilburton Station: Completed Post tensioning for long span. Commenced preparation for false work removal for long span over I-405. Continued formwork, rebar, and concrete placement for decks, curbs, diaphragms on Aerial Guideway. Continued formwork, rebar, and concrete placement for escalator and elevators and station walls at Wilburton station.

**Area 6:** 120th-124th Trench/Station: Completed form, rebar, and concrete placement for exterior walls at 120th Station and continued rebar and placement interior walls. Commenced cure and patching and waterproofing at exterior wall and started backfill South side of 120th Station.

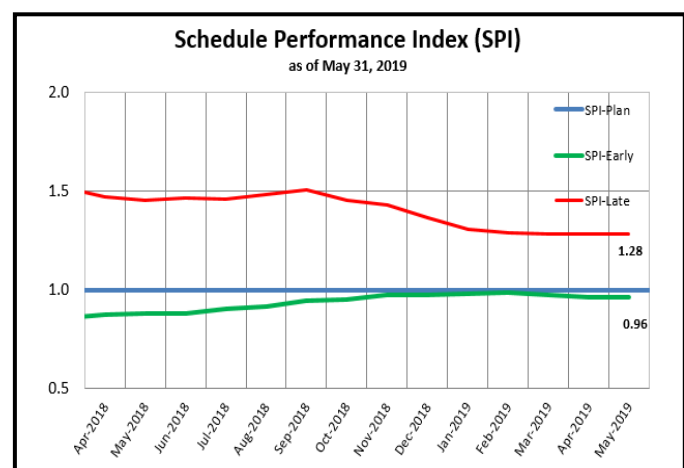
### Schedule Summary

There are two primary critical paths for this contract, corresponding to the two handovers to the E750 Systems Contractor — one runs through Bellevue Downtown Station, and the other follows access to the SEM tunnel (E330 Contract) in Area 2 and goes through the South Portal and the South Portal Electrical Building. Tunnel work will not start until mid-2020. The contractor is currently 14 days behind their first interface milestone, but is expected to continue mitigating to deliver on schedule.



### Schedule Performance Index

This period, the SPI early is at 0.96 and the SPI late is at 1.28. The numbers indicate that the contractor continues to lag the early plan yet well ahead of late planned curve. Installation of emergency guardrail and acoustical panels is later than shown on the baseline, which cause Aerial Guideway to keep lagging behind schedule. Construction of track on aerial guideway is behind the baseline. Procurement of fasteners and special tracks are behind baselined schedule which shows completion of delivery in 2018.



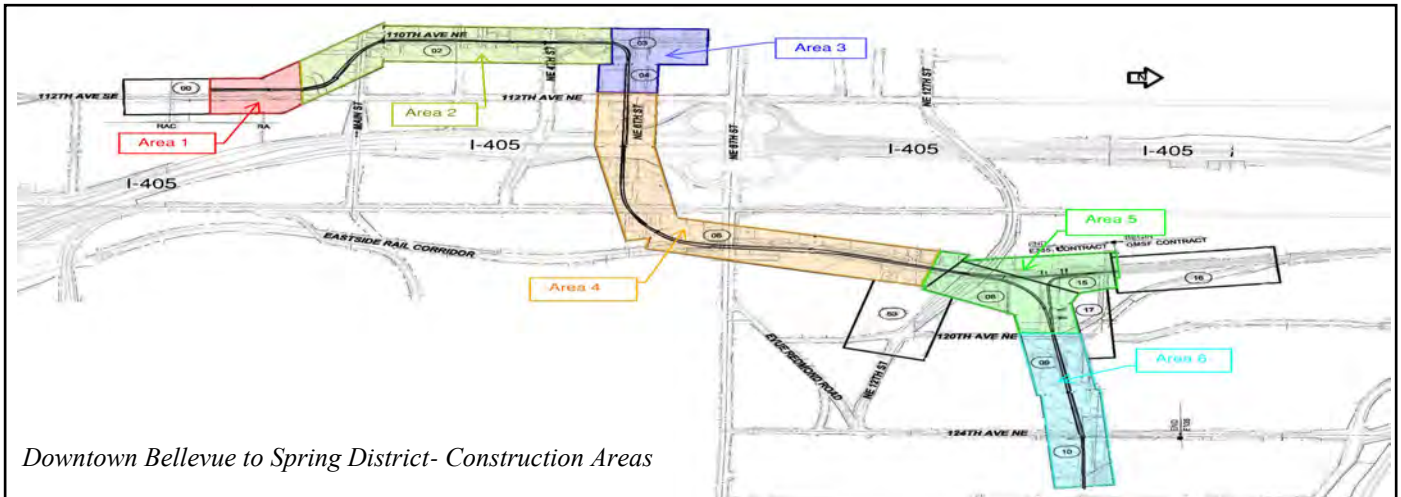
# Link Light Rail East Link Extension

## Next Period's Activities

- **Area 1:** Main street Station: Commence remove Sound walls at west section of South Portal. Start form, rebar and concrete placement footing for precast panel walls.
- **Area 3:** N Portal/ Bellevue Down town Station (BDS): Commence backfill and utility tie-ins at the NP. Continue footing, columns, wall formwork, reinforcing, concrete placement and installing utilities at BDS. Complete back fill the walls at south side of BDS.
- **Area 4:** Aerial Guideway/Wilburton Station: Continue preparation falsework removal by removing overhang soffits and exterior beams for long Span. Continue installing utilities at Wilburton Station.

## Closely Monitored Issues

- Building Information Modelling (BIM) by SWA has stopped at the two stations since late December 2018. There are a number of electrical and plumbing coordination issues that need designer input.
- The litigation between SCL and ST delayed City of Bellevue's (COB) bridge project at 124th Ave NE. To help mitigate the delay, ST asked COB to allow ST perform its work after the bridge piles are installed and before the bridge, deck is constructed. ST is asking for two months primary access to the site and working with contractor on a shotcrete option to reduce the impact on schedule.



## Cost Summary

| Present Financial Status                                                     | Amount        |
|------------------------------------------------------------------------------|---------------|
| <b>E335 Contractor– Stacy &amp; Witbeck/Atkinson Joint Venture (SWA-JV).</b> |               |
| Original Contract Value (includes station scope)                             | \$393,798,210 |
| Change Order Value                                                           | \$6,264,330   |
| Current Contract Value                                                       | \$400,062,540 |
| Total Actual Cost (Incurred to Date)                                         | \$200,161,028 |
| Percent Complete                                                             | 58.75%        |
| Authorized Contingency                                                       | \$19,689,911  |
| Contingency Drawdown                                                         | \$6,264,330   |
| Contingency Index                                                            | 1.8           |



*Wall forms at Wilburton Station. (Area 4)*

## Contract E340 – Bel-Red

### Current Progress

**Aerial Guideway:** Placed intermediate and end diaphragms; poured deck span; formed bridge deck and Overhead Contact System (OCS) overhangs.

**130<sup>th</sup> Ave Station:** Storm drain placement; installed systems duct bank, forming stem wall for platform canopy.

**NE Spring Blvd:** Utility duct bank placement; storm drain placement; resumed waterline placement.

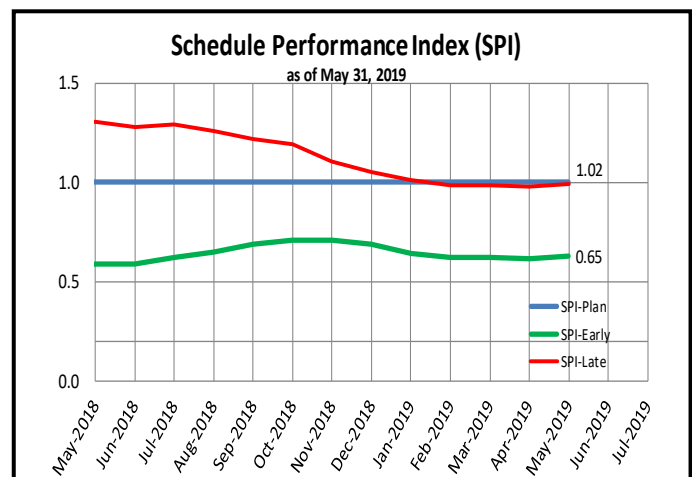
### Schedule Summary

Critical path of this project now runs through the 130th Avenue Station. The Contractor is trending to finish in time to meet their contractual milestone.

| Activity Name                                                                           | Start       | Finish      | 2019                                           |    |    |    | 2020 |    |    |  |
|-----------------------------------------------------------------------------------------|-------------|-------------|------------------------------------------------|----|----|----|------|----|----|--|
|                                                                                         |             |             | Q2                                             | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 |  |
| <b>E340 Construction</b>                                                                | 24-Feb-17 A | 30-May-20   | [Gantt bar spanning from Feb 2017 to May 2020] |    |    |    |      |    |    |  |
| <b>CONSTRUCTION</b>                                                                     | 24-Feb-17 A | 30-May-20   | [Gantt bar spanning from Feb 2017 to May 2020] |    |    |    |      |    |    |  |
| -MILESTONE S/EASEMENT S-                                                                | 24-Feb-17 A | 30-May-20   | [Gantt bar spanning from Feb 2017 to May 2020] |    |    |    |      |    |    |  |
| ~-Milestones                                                                            | 24-Feb-17 A | 30-May-20   | [Gantt bar spanning from Feb 2017 to May 2020] |    |    |    |      |    |    |  |
| <b>Contract Milestones</b>                                                              | 24-Feb-17 A | 30-May-20   | [Gantt bar spanning from Feb 2017 to May 2020] |    |    |    |      |    |    |  |
| Limited Notice to Proceed (LNTP - Feb 24 2017)                                          | 24-Feb-17 A |             | [Gantt bar ending at Feb 24 2017]              |    |    |    |      |    |    |  |
| Notice to Proceed (NTP - March 27, 2017)                                                | 27-Mar-17 A |             | [Gantt bar ending at Mar 27 2017]              |    |    |    |      |    |    |  |
| MS #1 West Tributary Mitigation Site - NTP + 537 DAYS (September 15, 2018)              |             | 14-Sep-18 A | [Gantt bar ending at Sep 14 2018]              |    |    |    |      |    |    |  |
| MS #2 Substantial West Tributary Mitigation Site - NTP + 828 DAYS (July 1, 2019) Ref. C |             | 04-Jul-19*  | [Gantt bar ending at Jul 4 2019]               |    |    |    |      |    |    |  |
| MS #3 Acceptance of SDIT- NTP + 976 DAYS- (Nov 27, 2019)                                |             | 11-Aug-19*  | [Gantt bar ending at Aug 11 2019]              |    |    |    |      |    |    |  |
| MS #4 Substantial Completion- NTP + 1156 DAYS- (May 28, 2020)                           |             | 30-May-20*  | [Gantt bar ending at May 30 2020]              |    |    |    |      |    |    |  |
| -SUBMITTALS/PRELIMINARY ACTIVITIES-                                                     | 24-Feb-17 A | 29-Nov-19   | [Gantt bar spanning from Feb 2017 to Nov 2019] |    |    |    |      |    |    |  |
| -MOBILIZATION-                                                                          | 24-Feb-17 A | 14-Feb-20   | [Gantt bar spanning from Feb 2017 to Feb 2020] |    |    |    |      |    |    |  |
| -SITEWORK-                                                                              | 04-Apr-17 A | 24-Apr-20   | [Gantt bar spanning from Apr 2017 to Apr 2020] |    |    |    |      |    |    |  |
| -RETAINING WALL S-                                                                      | 12-Feb-18 A | 11-Dec-19   | [Gantt bar spanning from Feb 2018 to Dec 2019] |    |    |    |      |    |    |  |
| -AERIAL STRUCTURES-                                                                     | 15-May-17 A | 02-Jan-20   | [Gantt bar spanning from May 2017 to Jan 2020] |    |    |    |      |    |    |  |
| -STATIONS-                                                                              | 01-Aug-18 A | 28-Apr-20   | [Gantt bar spanning from Aug 2018 to Apr 2020] |    |    |    |      |    |    |  |
| -ELECTRICAL I T S-                                                                      | 02-Jan-18 A | 27-Aug-19   | [Gantt bar spanning from Jan 2018 to Aug 2019] |    |    |    |      |    |    |  |
| -FINISHES-                                                                              | 03-Jun-19   | 14-Jan-20   | [Gantt bar spanning from Jun 2019 to Jan 2020] |    |    |    |      |    |    |  |
| -TRACKWORK-                                                                             | 13-Jul-18 A | 23-Mar-20   | [Gantt bar spanning from Jul 2018 to Mar 2020] |    |    |    |      |    |    |  |
| -LANDSCAPING/FLATWORK-                                                                  | 22-May-18 A | 03-Feb-20   | [Gantt bar spanning from May 2018 to Feb 2020] |    |    |    |      |    |    |  |
| -TESTING AND COMMISSIONING-                                                             | 01-Aug-19   | 28-Feb-20   | [Gantt bar spanning from Aug 2019 to Feb 2020] |    |    |    |      |    |    |  |

### Schedule Performance Index

This period, the SPI early is at 0.65 and the SPI late is at 1.02. The late index is effective trending according to plan; while the SPI early continues to lag the early finish plans. Some of the contributing factors to the SPI late index are as follows. Completed rail welding the track rail, connecting 80-foot-long sections to make 240-foot-long sections. Progressed precast track wall, completing 22 track wall sections for a total of 68 completed. Progressed excavation for the 130th station north-side footings. Progressed the systems duct bank at the 130th station. Progressed of the retaining wall as well as aerial guideway end diaphragm constructions.





# Link Light Rail East Link Extension



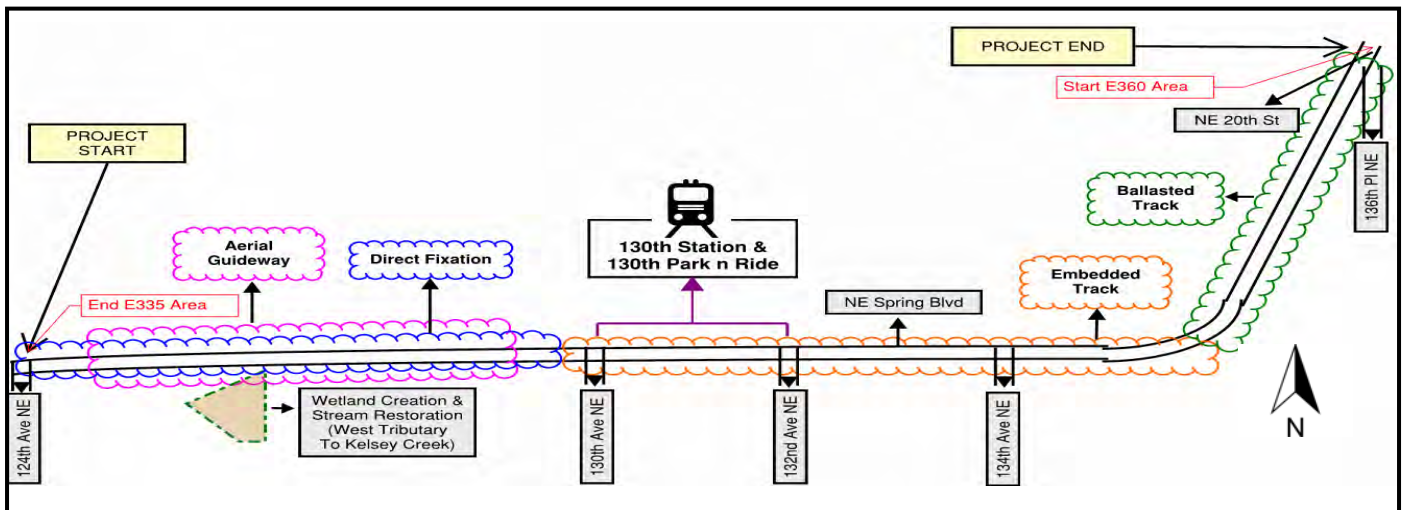
## Next Period's Activities

- **Aerial Guideway:** Continue placing intermediate and end diaphragms. Continue placing forms, rebar and embeds for spans at aerial guideway deck.
- **130th Ave Station:** Install underground power and communications. Pour first section of stem wall for the platform canopy at south-side. Footing placement at north-side. Close 132nd Ave NE.
- **NE Spring Blvd:** Begin excavation and footing placement; pour first of two footing pours.
- Shift one-way traffic on NE Spring Blvd to the north side of the roadway (134th Ave NE to 136th PI NE).

## Closely Monitored Issues

- The City of Bellevue Mid-Lakes Pump Station and a late start on the 124<sup>th</sup> Ave NE Bridge have potential to impact overall project schedule. The City of Bellevue has advised to prepare for a full closure of 124<sup>th</sup> Ave NE for nine months, starting August 1, 2019.
- The delay of the 124<sup>th</sup> Ave NE Bridge Project also carries Maintenance of Traffic risk for upcoming closures on 130<sup>th</sup> Ave NE, 132<sup>nd</sup> Ave NE and NE 20<sup>th</sup> St, as the contract does not allow the contractor to keep the closures on these streets during the estimated nine-month closure of 124<sup>th</sup> Ave NE.

## E340 Construction Work Areas



## Cost Summary

| Present Financial Status             | Amount       |
|--------------------------------------|--------------|
| <b>E340 Contractor– Max J Kuney</b>  |              |
| Original Contract Value              | \$93,170,012 |
| Change Order Value                   | \$4,028,836  |
| Current Contract Value               | \$97,198,848 |
| Total Actual Cost (Incurred to Date) | \$54,850,502 |
| Percent Complete                     | 57.7%        |
| Authorized Contingency               | \$9,317,000  |
| Contingency Drawdown                 | \$4,028,836  |
| Contingency Index                    | 1.33         |



Installing a wall panel facing west at the station area.

## Contract E360 – SR 520 to Redmond Technology Station (RTS)

### Current Progress

**Design:** Advanced design packages for the following areas: Design Package 5B/19B — Landscape and Restoration ST review 100% submittal resolution and IFC submittal 1, 2 & 3 completed. Sweeper Site IFC ongoing. Continue Sound Transit initiated design changes: Bike Storage, Distributed Antenna Systems, Platform Hydrants and PSE Meters.

**Construction:** Work Area (WA) #1 Set rows 3 & 4 for MSE wall construction. Start ductbank and OCS pole foundation. WA #2 Continued aerial guideway superstructures work for diaphragms and precast panels. Girder erection completed. Poured deck and curb spans. Installed guardrail. Continued track work. WA #3 welding rail and grading approach slab. WA #4 station continue M/E utilities and track wall & slab on grade placement. Started ticket vending machine foundation. WA #5 continued construction of wall 14 & 15 fascia panel and cap. Resume OCS pole foundation and duct bank leading to RTS. WA #6 continued RTS Garage level four columns and deck/beams placement. Slab MEP ongoing level four. Station F/R/P slab on grade and continue erection of vertical circulation tower steel. Start framing Garage Entry Ramp (GER) walls. WA #7 started OVS Pedestrian Bridge ramp walls and foundation.

### Schedule Summary

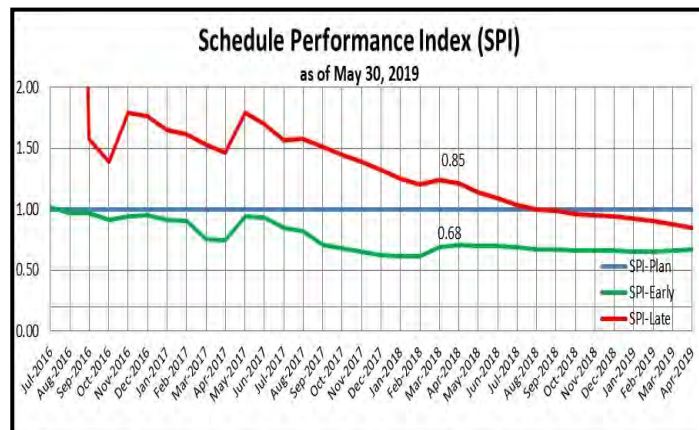
The critical path for this project currently goes through the structural work at RTS and then into the Leased Office Building near the station. The contract milestones are being revised to mitigate delays associated with permitting; no impact to the interface with the E750 systems contract is expected.

| Activity Name                                                 | Start       | Finish      | 2019                                         |    |    | 2020 |    |    |
|---------------------------------------------------------------|-------------|-------------|----------------------------------------------|----|----|------|----|----|
|                                                               |             |             | Q2                                           | Q3 | Q4 | Q1   | Q2 | Q3 |
| <b>E360 Construction</b>                                      | 13-Jul-16 A | 18-Mar-20   | [Gantt bar spanning from Q2 2019 to Q4 2020] |    |    |      |    |    |
| <b>Base Contract</b>                                          | 13-Jul-16 A | 18-Mar-20   | [Gantt bar spanning from Q2 2019 to Q4 2020] |    |    |      |    |    |
| <b>Design</b>                                                 | 13-Jul-16 A | 19-Jul-19   | [Gantt bar spanning from Q2 2019 to Q1 2020] |    |    |      |    |    |
| <b>Design Milestones</b>                                      |             |             | [Milestone markers for Design milestones]    |    |    |      |    |    |
| Design Submittals Start                                       | 03-Oct-16 A | 01-Jun-19   | [Milestone marker]                           |    |    |      |    |    |
| 30% Design Submittals Complete                                |             | 03-Oct-16 A | [Milestone marker]                           |    |    |      |    |    |
| 60% Design Submittals Complete                                |             | 28-Oct-16 A | [Milestone marker]                           |    |    |      |    |    |
| 100% Design Submittals Complete                               |             | 28-Feb-18 A | [Milestone marker]                           |    |    |      |    |    |
| IFC Design Submittals Complete                                |             | 08-May-19 A | [Milestone marker]                           |    |    |      |    |    |
| Design Overhead                                               | 13-Jul-16 A | 01-Jun-19   | [Gantt bar]                                  |    |    |      |    |    |
| Design and Engineering                                        | 13-Jul-16 A | 18-Jul-17 A | [Gantt bar]                                  |    |    |      |    |    |
| <b>Construction</b>                                           | 13-Jul-16 A | 19-Jul-19   | [Gantt bar]                                  |    |    |      |    |    |
| <b>General</b>                                                | 13-Jul-16 A | 18-Mar-20   | [Gantt bar]                                  |    |    |      |    |    |
| <b>Project Milestones</b>                                     |             |             | [Milestone markers for Project milestones]   |    |    |      |    |    |
| Notice to Proceed                                             | 13-Jul-16 A | 18-Mar-20   | [Milestone marker]                           |    |    |      |    |    |
| Civil/Systems 100% Design Submittal (NTP +300d) (09 May-2017) | 13-Jul-16 A | 10-Apr-17 A | [Milestone marker]                           |    |    |      |    |    |
| Substantial Completion                                        |             | 17-Jan-20   | [Milestone marker]                           |    |    |      |    |    |
| Actual Acceptance of all Work                                 |             | 18-Mar-20   | [Milestone marker]                           |    |    |      |    |    |
| <b>WA #1 - Track Slab Guideway</b>                            | 22-May-17 A | 28-Dec-19   | [Gantt bar]                                  |    |    |      |    |    |
| <b>WA #2 - Aerial Guideway</b>                                | 01-Jun-17 A | 31-Dec-19   | [Gantt bar]                                  |    |    |      |    |    |
| <b>WA #3 - Ballasted Guideway Block#1</b>                     | 01-May-17 A | 27-Sep-19   | [Gantt bar]                                  |    |    |      |    |    |
| <b>WA #4 - Overlake Village Station</b>                       | 14-Jul-16 A | 17-Dec-19   | [Gantt bar]                                  |    |    |      |    |    |
| <b>WA #5 - Ballasted Guideway Block#2</b>                     | 15-Aug-17 A | 04-Nov-19   | [Gantt bar]                                  |    |    |      |    |    |
| <b>WA #6 - Overlake Transit Center</b>                        | 01-May-17 A | 17-Jan-20   | [Gantt bar]                                  |    |    |      |    |    |
| <b>WA #7 - OVS Pedestrian Bridge</b>                          | 01-Oct-18 A | 30-Dec-19   | [Gantt bar]                                  |    |    |      |    |    |
| <b>WA #8 - OTC Pedestrian Bridge</b>                          | 17-Jan-20   | 17-Jan-20   | [Gantt bar]                                  |    |    |      |    |    |

### Schedule Performance Index

This period, early SPI is 0.68 and late SPI is 0.85. The early SPI value continues to reflect slippage of early finish of baseline plan. ST directed stoppage of RTS Pedestrian Bridge due to Microsoft reevaluation of the bridge, design completion is taking longer than anticipated, weather days impact, and recovering from a pause in girder work have also

contributed to the slippage. Girder erection is complete. Some longer than anticipated procurement activities has also contributed to lower late SPI.





# Link Light Rail East Link Extension



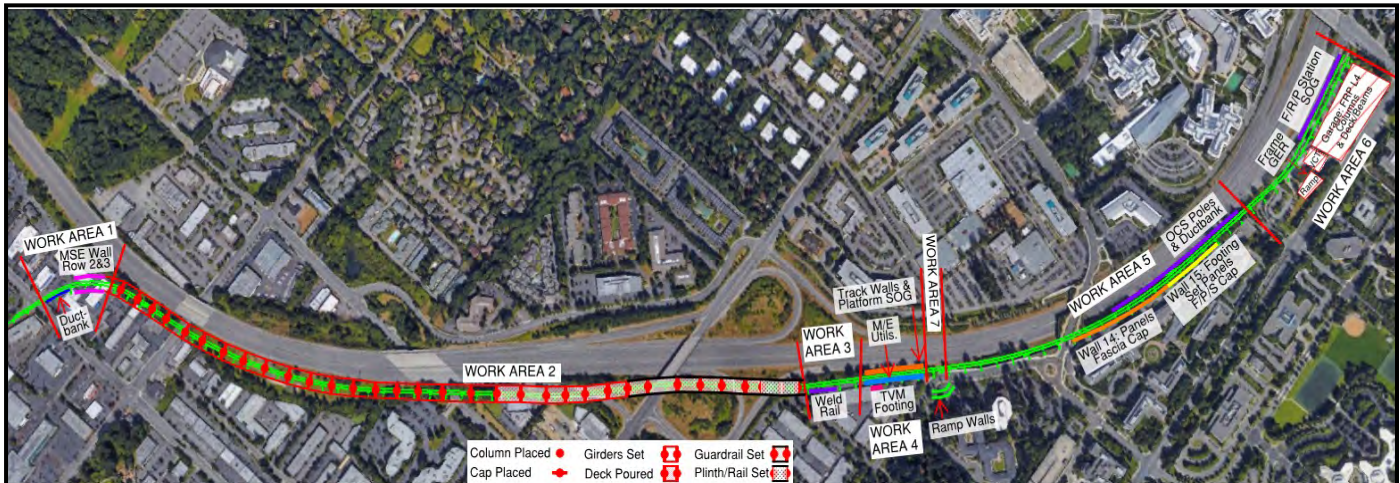
## Next Period's Activities

- **Work Area #1:** Complete MSE backfill and cap.
- **Work Area #2:** Continue diaphragm, precast panel, deck curb placement and guardrail set. Complete girder erection. Start Valley Creek vault and track work activities.
- **Work Area #3/4:** Start sub-ballast at transition and continue MSE coping/fencing. Continue platform and track wall grade beams, footings and platform slab on grade placement at OVS. Continued ticket vending foundations.
- **Work Area #5:** Complete fascia panel and cap for walls 14 & 15. Start fine grade and sub-ballast activities.
- **Work Area #6:** Continue garage structure with closure/traffic barrier pours. Paint and frame VCT. Continue station slab on grade placement and underground utilities.

## Closely Monitored Issues

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

## E360 Construction Work Areas



## Cost Summary

| Present Financial Status               | Amount        |
|----------------------------------------|---------------|
| <b>E360 Contractor— Kiewit-Hoffman</b> |               |
| Original Contract Value                | \$225,336,088 |
| Change Order Value                     | \$2,129,346   |
| Current Contract Value                 | \$227,465,434 |
| Total Actual Cost (Incurred to Date)   | \$147,418,645 |
| Percent Complete                       | 76.60%        |
| Authorized Contingency                 | \$22,786,521  |
| Contingency Drawdown                   | \$2,129,346   |
| Contingency Index                      | 7.5           |

*Excludes Betterment*



Work Area 6 - Vertical Circulation Tower at Redmond Technology Station

This page left blank intentionally.

# Link Light Rail Downtown Redmond Link Extension

## Project Summary

### Scope

|                  |                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Limits</b>    | The Downtown Redmond Link Extension builds new light rail from the Redmond Technology Station to downtown Redmond.    |
| <b>Alignment</b> | The extension starts at Redmond Technology Station and travels generally along SR-520 and SR-202 to downtown Redmond. |
| <b>Stations</b>  | Two Stations—SE Redmond (at Marymoor Park) and Downtown Redmond                                                       |
| <b>Systems</b>   | Signals, traction electrification, and communications (SCADA)                                                         |
| <b>Phase</b>     | Planning                                                                                                              |
| <b>Budget</b>    | \$1.530 Billion (Baselined October 2018)                                                                              |
| <b>Schedule</b>  | Revenue Service: December 31, 2024                                                                                    |



Map of Downtown Redmond Link Extension

## Key Project Activities

- Continued work on Development Agreement with City of Redmond.
- Continued progressing permit applications including submittal of the Redmond shoreline substantial development permit materials.
- Continued development of O & M agreement to identify ownership and maintenance responsibilities along the alignment.
- Continued environmental due diligence investigation on ROW parcels.
- Continued development of Utility Relocation Settlement Agreements with private utilities for relocation.
- Prepared Betterment Agreements with King County, City of Redmond for Board Presentation
- Continued development of Betterment Agreements with Microsoft for the project.
- FTA approved the Redmond Transitway Agreement with Redmond and ST Board to approve next.
- Completed RFP evaluations.



# Link Light Rail Downtown Redmond Link Extension

## Project Cost Summary

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

The first table below summarizes costs in accordance with Sound Transit’s budget Work Breakdown Structure (WBS), while the second table in FTA’s Standard Cost Categories (SCC) format. The figures in both tables are shown in millions.

In this period, the Redmond Link project incurred approximately \$0.9M of expenses bringing the total expenditure to date from \$29.6M to \$30.5M. Third Party, Preliminary Engineering and Administrative activities are the main cost drivers during this period. Agency Administrative activities are primarily staffing cost, while expenditures related to 3rd Parties are for coordination and fees.

### Cost Summary by Phase

| Project Phase           | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$77.0           | \$77.0                        | \$6.1              | \$5.9            | \$77.0                     | \$0.0                         |
| Preliminary Engineering | \$23.0           | \$23.0                        | \$18.6             | \$17.7           | \$23.0                     | \$0.0                         |
| Final Design            | \$4.5            | \$4.5                         | \$0.1              | \$0.0            | \$4.5                      | \$0.0                         |
| Construction Services   | \$58.0           | \$58.0                        | \$1.7              | \$1.2            | \$58.0                     | \$0.0                         |
| 3rd Party Agreements    | \$17.0           | \$17.0                        | \$6.2              | \$1.4            | \$17.0                     | \$0.0                         |
| Construction            | \$1,151.5        | \$1,151.5                     | \$0.0              | \$0.0            | \$1,151.5                  | \$0.0                         |
| ROW                     | \$199.0          | \$199.0                       | \$9.4              | \$4.3            | \$199.0                    | \$0.0                         |
| <b>Total</b>            | <b>\$1,530.0</b> | <b>\$1,530.0</b>              | <b>\$42.2</b>      | <b>\$30.5</b>    | <b>\$1,530.0</b>           | <b>\$0.0</b>                  |

### Cost Summary by SCC

| SCC Element                            | Baseline Budget  | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$332.4          | \$332.4                       | \$0.0              | \$0.0            | \$332.4                    | \$0.0                         |
| 20 Stations                            | \$261.9          | \$261.9                       | \$0.0              | \$0.0            | \$261.9                    | \$0.0                         |
| 30 Support Facilities                  | \$0.0            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 40 Sitework & Special Conditions       | \$287.1          | \$287.1                       | \$0.0              | \$0.0            | \$287.1                    | \$0.0                         |
| 50 Systems                             | \$108.6          | \$108.6                       | \$0.0              | \$0.0            | \$108.6                    | \$0.0                         |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$990.0</b>   | <b>\$990.0</b>                | <b>\$0.0</b>       | <b>\$0.0</b>     | <b>\$990.0</b>             | <b>\$0.0</b>                  |
| 60 Row, Land                           | \$168.5          | \$168.5                       | \$9.4              | \$4.2            | \$168.5                    | \$0.0                         |
| 70 Vehicles (Non-Revenue)              | \$4.1            | \$4.1                         | \$0.0              | \$0.0            | \$4.1                      | \$0.0                         |
| 80 Professional Services               | \$289.3          | \$289.3                       | \$32.7             | \$26.3           | \$289.3                    | \$0.0                         |
| 90 Unallocated Contingency             | \$78.2           | \$78.2                        | \$0.0              | \$0.0            | \$78.2                     | \$0.0                         |
| <b>Total (10 - 90)</b>                 | <b>\$1,530.0</b> | <b>\$1,530.0</b>              | <b>\$42.2</b>      | <b>\$30.5</b>    | <b>\$1,530.0</b>           | <b>\$0.0</b>                  |



# Link Light Rail Downtown Redmond Link Extension



## Risk Management

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

The project completed its quantitative risk assessment risk workshop as part of the process project baseline in 4th QTR 2018. The quantitative risk assessment report is completed and finalized with good probability that supported the DRLE baseline cost and schedule assumptions. The externality conditions remains the same this period and may have reduced in some instances, therefore, the project’s risk profile remains unchanged. The following continues to be the current top project risk areas:

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

## Project Schedule

The project schedule is presented below. Final proposals from shortlisted firms were submitted in April 2019. They are currently under review by ST and stakeholders from the City of Redmond, King County, and WSDOT. Rankings should be complete by June 2019. Property acquisition is underway and environmental permitting is ongoing. Project is currently forecast for completion near the end of 2024.

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



## Right-of-Way

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

| Downtown Redmond Link Extension Property Acquisition Status                                                                                     |                |                     |                  |                      |                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------|------------------|----------------------|-------------------------------|
| ACQUISITION                                                                                                                                     |                |                     |                  | RELOCATION           |                               |
| Total Acquisitions                                                                                                                              | Board Approved | Offers Made to date | Closings to date | Relocations Required | Relocations Completed to date |
| 93                                                                                                                                              | 93             | 36                  | 0                | 1526                 | 144                           |
| * All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods. |                |                     |                  |                      |                               |

- Board Approved increased by 6 parcels—Resolution 2019-16

## Community Outreach

- Continued meetings with potentially impacted property owners in southeast and downtown Redmond to provide updated project information and real estate process information and timing.
- Engaged with the community on a variety of concerns including schedule, property acquisition and station access.
- Hosted a neighborhood-focused open house at Benjamin Rush Elementary School on May 16th. Discussed a variety of topics including tree removal, noise, and other construction impacts.

## Sound Transit Board Actions

| Board Action | Description                                                                                                                                                                                                                                                                                                                                                                                          | Date      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| M2019-47     | Authorizes the chief executive officer to execute an amendment to the task order under the Umbrella Agreement GCA 2941 with the Washington State Department of Transportation for preliminary design services for the Downtown Redmond Link Extension in the amount of \$292,971, with a 10% contingency of \$29,297, totaling \$322,268, for a new total authorized amount not to exceed \$808,623. | 5/09/2019 |
| R2019-16     | Authorizes the chief executive officer to 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 necessary for the Downtown Redmond Link Extension.                                                                            | 5/23/2019 |

# Link Light Rail West Seattle and Ballard Link Extensions



## Project Summary

### Scope

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

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

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

**Phase** Planning

**Budget** \$286M through completion of Preliminary Engineering

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



Map of Project Alignment

## Key Project Activities

- The Sound Transit Board of Directors identified a Preferred Alternative and other alternatives to study in the Draft EIS on May 23, 2019.
- The Board also approved a contract modification with HNTB for Phase 2 - Conceptual Engineering and Draft EIS development through early 2021.
- Continued engagement with City of Seattle, WSDOT, Port of Seattle, King County and other regulatory and partner agencies regarding the alternatives development process and design, permitting, construction and operational considerations.
- Agency Coordination Plan document distributed to cooperating and participating agencies and tribes for review.
- Continued second-round evaluation of improvements, including cost estimation and traffic simulation, for RapidRide C and D improvements.



# Link Light Rail West Seattle and Ballard Link Extensions

## Project Cost Summary

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

Out of the total Authorized Project Allocation, the project is authorized and planned to incur approximately \$31M in 2019 for completing alternatives development and evaluation; EIS Scoping; Draft EIS; conceptual engineering work; project administration and stakeholder engagement.

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

### Cost Summary by Phase

| Project Phase           | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$63.1                        | \$7.4              | \$6.8            | \$63.1                     | \$0.0                         |
| Preliminary Engineering | \$205.4                       | \$27.1             | \$25.9           | \$205.4                    | \$0.0                         |
| Final Design            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| Construction Services   | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 3rd Party Agreements    | \$11.4                        | \$1.1              | \$0.3            | \$11.4                     | \$0.0                         |
| Construction            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| Light Rail Vehicles     | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| ROW                     | \$6.0                         | \$0.5              | \$0.3            | \$6.0                      | \$0.0                         |
| <b>Total</b>            | <b>\$285.9</b>                | <b>\$36.0</b>      | <b>\$33.4</b>    | <b>\$285.9</b>             | <b>\$0.0</b>                  |

### Cost Summary by SCC

| SCC Element                            | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 20 Stations                            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 30 Support Facilities                  | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 40 Sitework & Special Conditions       | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 50 Systems                             | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$0.0</b>                  | <b>\$0.0</b>       | <b>\$0.0</b>     | <b>\$0.0</b>               | <b>\$0.0</b>                  |
| 60 Row, Land                           | \$5.0                         | \$0.5              | \$0.3            | \$5.0                      | \$0.0                         |
| 80 Professional Services               | \$263.4                       | \$35.6             | \$33.1           | \$263.4                    | \$0.0                         |
| 90 Unallocated Contingency             | \$17.5                        | \$0.0              | \$0.0            | \$17.5                     | \$0.0                         |
| <b>Total (10 - 90)</b>                 | <b>\$285.9</b>                | <b>\$36.0</b>      | <b>\$33.4</b>    | <b>\$285.9</b>             | <b>\$0.0</b>                  |

# Link Light Rail West Seattle and Ballard Link Extensions



## Risk Management

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

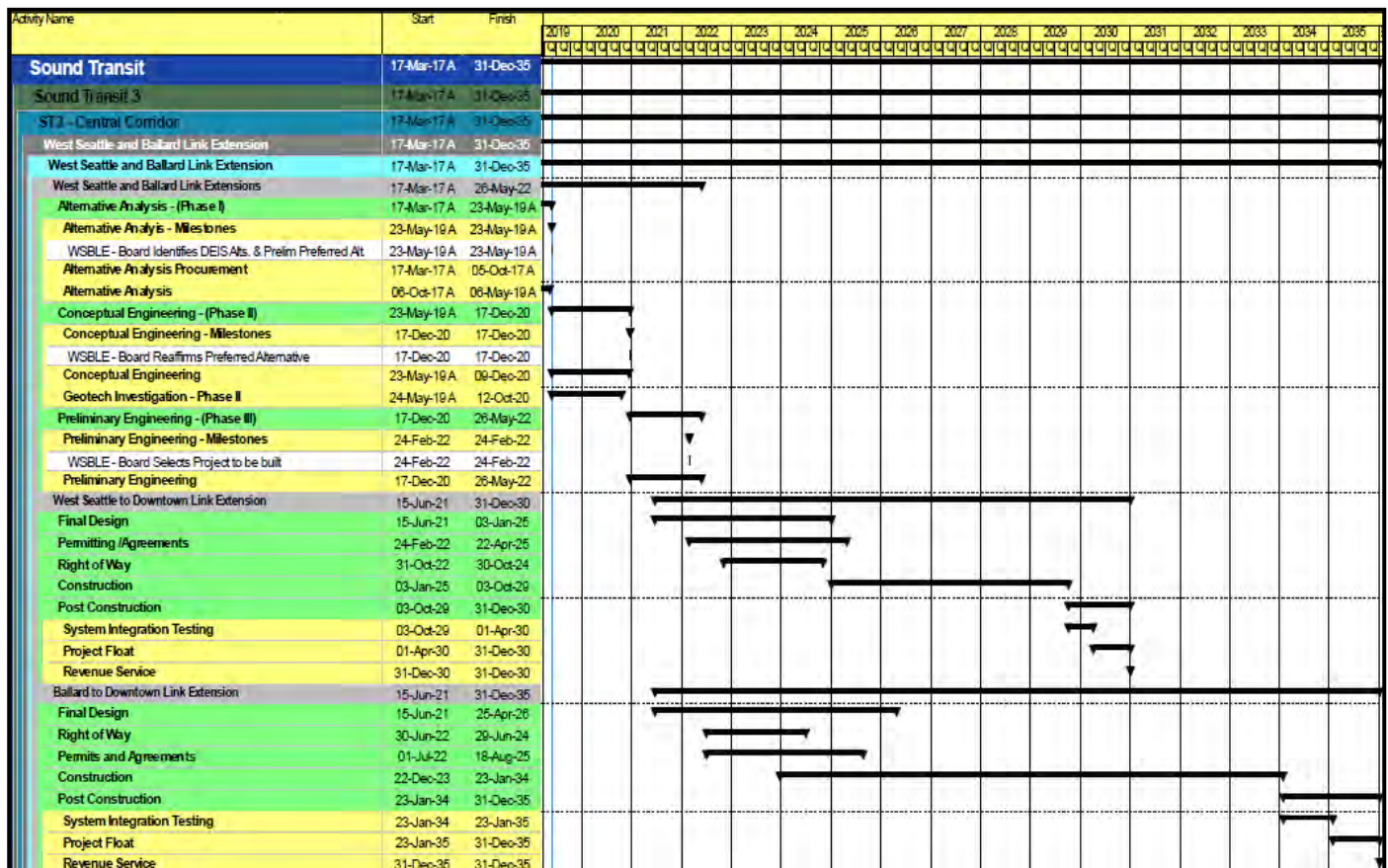
Project issues and risks identified at this stage include:

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

## Project Schedule

The preliminary project schedule can be found below. ST Board identified preliminary preferred alternatives (DEIS) on May 23 2019. FTA issuance of ROD and Final Design are expected to begin in 2022.

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



## Community Outreach

- Continued outreach to neighborhood and stakeholder groups throughout the project corridor.
- Prepared for community outreach opportunities at Summer fairs and festivals throughout the region.

## Sound Transit Board Actions

| Board Action | Description                                                                                                                                                                                                                                                                                                                                           | Date      |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| M2019-51     | Identifies the preferred alternative(s) and other alternatives for study in the Draft Environmental Impact Statement for the West Seattle and Ballard Link Extensions project.                                                                                                                                                                        | 5/23/2019 |
| M2019-52     | Authorizes the chief executive officer to execute a contract modification with HNTB Corporation to provide project development services for the West Seattle and Ballard Link Extensions Project in the amount of \$54,812,500, with a ten percent contingency of \$5,481,250, for a new total authorized contract amount not to exceed \$87,745,971. | 5/23/2019 |



# Link Light Rail Federal Way Link Extension

## Project Summary

### Scope

|                  |                                                                                                                                                             |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Limits</b>    | 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. |
| <b>Alignment</b> | The extension generally parallels SR 99 and I-5 freeway.                                                                                                    |
| <b>Stations</b>  | Stations at Kent/Des Moines, South 272nd Star Lake Park –and-Ride and the Federal Way Transit Center                                                        |
| <b>Systems</b>   | Signals, traction power, and communications (SCADA)                                                                                                         |
| <b>Phase</b>     | Proceed to Final Design/Construction                                                                                                                        |
| <b>Budget</b>    | \$2.451 Billion (Baseline Sep 2018)                                                                                                                         |
| <b>Schedule</b>  | Revenue Service: December 2024                                                                                                                              |



Map of Federal Way Link Extension.

## Key Project Activities

- Reviewed project refinements and Alternative Technical Concepts (ATC) with FTA to ensure EIS compliance.
- Full Funding Grant Agreement (FFGA) application was submitted to FTA.
- Design Build (DB) procurement: ST Board approved DB construction contract and LNTP issuance anticipated early June.
- Negotiations continues for Design Build Project Management Services Phase 2 contract; scheduled for July 2019 ST Board.
- Advanced Demolition work is complete.
- Development Agreement with City of Federal Way is finalized and scheduled for June 2019 ST Board.
- City service agreements with Kent and Des Moines for additional city services thru end of construction are finalized and pending ST Board and Executive Leadership Team approval in June. Negotiations continue with City of Federal Way services agreement.
- Continue preparing task order scope of work for advanced utility relocation with Century Link.
- Executive leadership involved to assist project team with resolving issues hindering Puget Sound Energy (PSE) master agreement development for utility relocation early work.
- Progress continues with right-of-way acquisition and relocation activities this period.

## Project Cost Summary

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

This period approximately \$7.2M was incurred for May 2019, of which \$6.1M incurred was for Right-Of-Way; \$0.7M incurred for Administration. Remaining major expenditures of \$0.4M were for Preliminary Engineering, Third Party services and Construction Services. Overall the project Estimate at Completion continues to reflect \$2.45B.

### Cost Summary by Phase

| Project Phase           | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$96.5                        | \$16.9             | \$17.0           | \$96.5                     | \$0.0                         |
| Preliminary Engineering | \$46.5                        | \$45.5             | \$43.9           | \$46.5                     | \$0.0                         |
| Final Design            | \$3.1                         | \$1.0              | \$0.8            | \$3.1                      | \$0.0                         |
| Construction Services   | \$107.0                       | \$4.6              | \$3.4            | \$107.0                    | \$0.0                         |
| 3rd Party Agreements    | \$27.7                        | \$6.3              | \$3.4            | \$27.7                     | (\$0.0)                       |
| Construction            | \$1,831.9                     | \$1.0              | \$0.1            | \$1,831.9                  | \$0.0                         |
| ROW                     | \$338.8                       | \$65.9             | \$53.5           | \$338.8                    | (\$0.0)                       |
| <b>Total</b>            | <b>\$2,451.5</b>              | <b>\$141.2</b>     | <b>\$122.1</b>   | <b>\$2,451.5</b>           | <b>\$0.0</b>                  |

### Cost Summary by SCC

| SCC Element                            | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$517.7                       | \$0.0              | \$0.0            | \$523.0                    | (\$5.2)                       |
| 20 Stations                            | \$316.1                       | \$0.0              | \$0.0            | \$318.9                    | (\$2.8)                       |
| 30 Support Facilities                  | \$5.3                         | \$0.0              | \$0.0            | \$5.3                      | (\$0.0)                       |
| 40 Sitework & Special Conditions       | \$557.7                       | \$0.1              | \$0.1            | \$551.5                    | \$6.2                         |
| 50 Systems                             | \$153.0                       | \$0.0              | \$0.0            | \$153.8                    | (\$0.8)                       |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$1,549.9</b>              | <b>\$0.1</b>       | <b>\$0.1</b>     | <b>\$1,552.5</b>           | <b>(\$2.6)</b>                |
| 60 Row, Land                           | \$338.8                       | \$65.9             | \$53.5           | \$338.8                    | (\$0.0)                       |
| 70 Vehicles                            | \$1.8                         | \$0.0              | \$0.0            | \$1.8                      | \$0.0                         |
| 80 Professional Services               | \$383.0                       | \$75.2             | \$68.5           | \$380.4                    | \$2.6                         |
| 90 Unallocated Contingency             | \$178.1                       | \$0.0              | \$0.0            | \$178.1                    | \$0.0                         |
| <b>Total (10 - 90)</b>                 | <b>\$2,451.5</b>              | <b>\$141.2</b>     | <b>\$122.1</b>   | <b>\$2,451.5</b>           | <b>\$0.0</b>                  |



## Contingency Management

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

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

**Allocated Contingency (AC)** is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. During this period no drawdown from AC occurred.

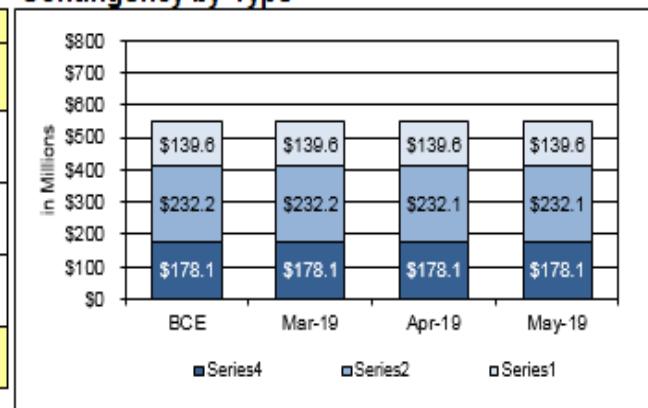
**Unallocated Contingency (UAC)** is used to address general project-wide cost risks and uncertainties. During this period no drawdown to UAC occurred.

### Contingency Status (Monthly)

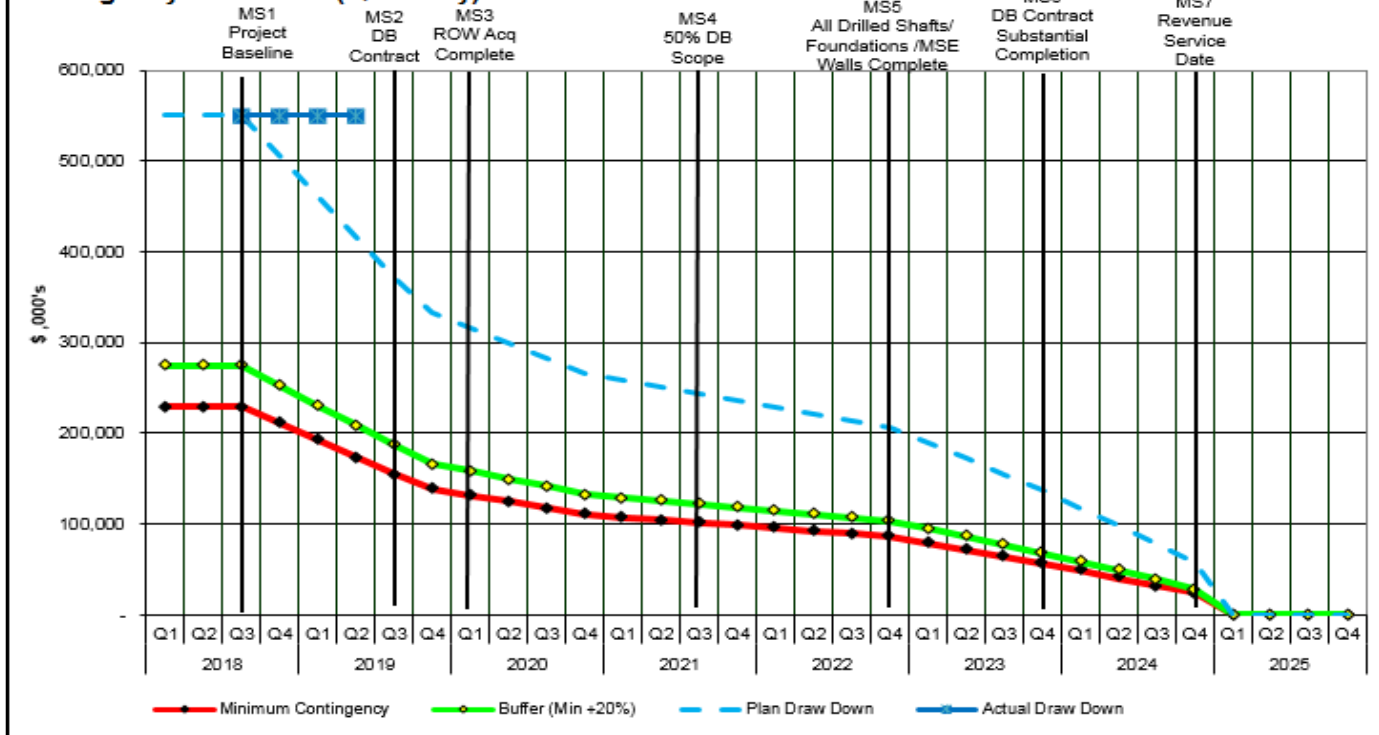
| Type                    | Baseline       |                   | Current Status   |                     |
|-------------------------|----------------|-------------------|------------------|---------------------|
|                         | Amount         | % of Total Budget | Remaining Amount | % of Work Remaining |
| Design Allowance        | \$139.6        | 5.7%              | \$139.6          | 6.0%                |
| Allocated Contingency   | \$232.2        | 9.5%              | \$232.1          | 10.0%               |
| Unallocated Contingency | \$178.1        | 7.3%              | \$178.1          | 7.6%                |
| <b>Total:</b>           | <b>\$549.9</b> | <b>22.4%</b>      | <b>\$549.8</b>   | <b>23.6%</b>        |

Table figures are shown in millions.

### Contingency by Type



### Contingency Drawdown (Quarterly)



## Right-of-Way

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

| Federal Way Link Extension Property Acquisition Status |                |                     |                  |                      |                               |
|--------------------------------------------------------|----------------|---------------------|------------------|----------------------|-------------------------------|
| ACQUISITION                                            |                |                     |                  | RELOCATION           |                               |
| Total Acquisitions                                     | Board Approved | Offers Made to date | Closings to date | Relocations Required | Relocations Completed to date |
| 255                                                    | 259            | 231                 | 46               | 429                  | 174                           |

*\* All numbers are cumulative totals, except where noted. Number of totals may differ from other reports due to the timing of reporting periods.*

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

## Community Outreach

- Communication with property owners regarding FWLE route, profile, station areas, acquisition and relocation is ongoing.
- Staffed FWLE informational table at Kent International Festival 5/18.



*Community Outreach at Kent International Festival*

## Sound Transit Board Actions

| Board Action | Description                                                                                                                                                                      | Date    |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| M2019-49     | Execute a design-build contract with Kiewit Infrastructure West Co. to complete final design and construction of the Federal Way Link Extension in the amount of \$1,285,200,000 | 5/23/19 |



## Phase 3 Preliminary Engineering (PE)

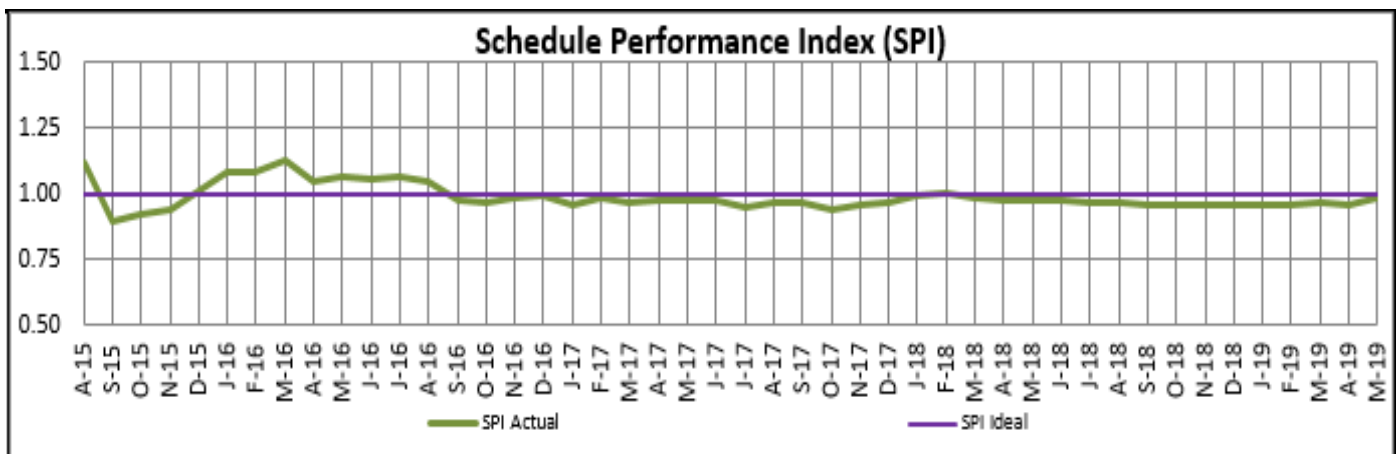
In July 2015, Sound Transit executed an amendment to the professional services agreement with HDR Engineering, Inc. for Phase 3 professional services, including completion of a Final Environmental Impact Statement (FEIS) using the preferred alternative and the other alternatives in the Draft EIS, preliminary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

### Current Progress

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

### Schedule Performance Index

The cumulative Schedule Performance Index (SPI) is 0.99 through May 2019, indicating the overall amount of work accomplished is as planned. The consultant is fully engaged on the scope, to confirm RFP document and WSDOT channelization plans, environmental permit support and in right-of-way acquisition support.

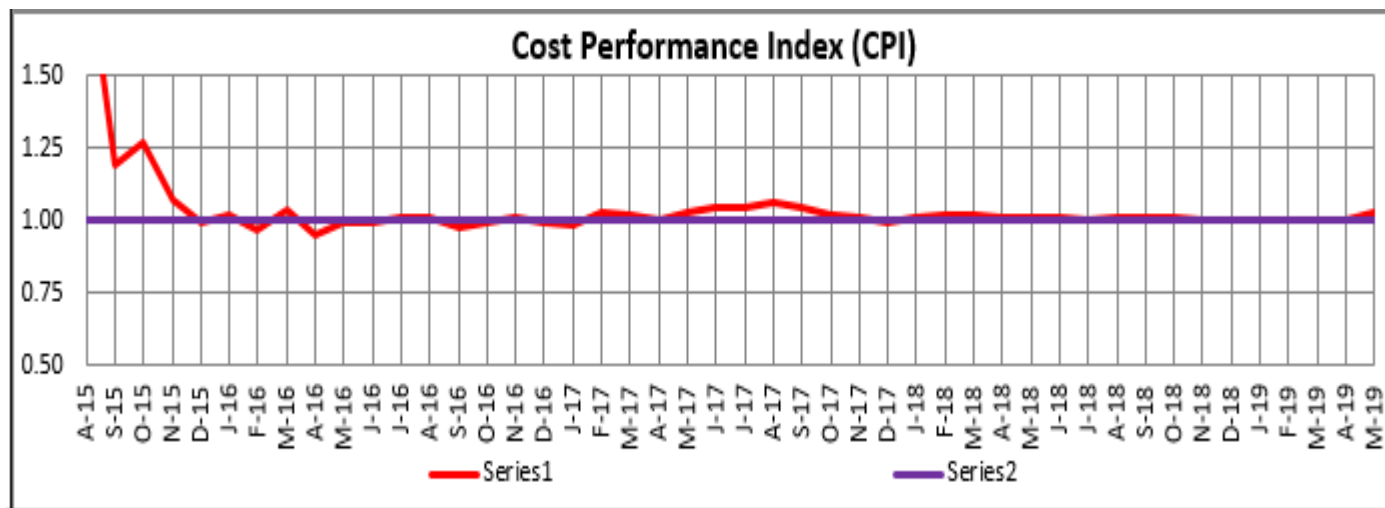


# Link Light Rail Federal Way Link Extension



## Cost Performance Index

Phase 3 expenditures through May 2019 totaled \$35.7M, approximately 96.0% of the amended total contract. The Phase 3 percent complete is reported at 99%, with an earned value of \$36.6M. The cumulative Cost Performance Index (CPI) is 1.03 showing costs are on track with work accomplished. The Consultant is engaged in conforming RFP documents and WSDOT channelization plans, Development Agreements support, environmental permits support and in ROW acquisition support.



## Cost Summary

| Contract (Phase 3 portion) | Cumulative To-date |
|----------------------------|--------------------|
| Amount Invoiced            | \$35.7M            |
| % Spent                    | 96.0%              |
| Earned Value               | \$36.6M            |
| % Complete                 | 99%                |
| <b>SPI</b>                 | <b>0.99</b>        |
| <b>CPI</b>                 | <b>1.03</b>        |

This page left blank intentionally.

# Link Light Rail Hilltop Tacoma Link Extension

## Project Summary

### Scope

**Limits** City of Tacoma

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

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

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

**Phase** Construction

**Budget** \$217.3 Million (Baselined September 2017)

**Schedule** Revenue Service: May 2022



Map of Hilltop Tacoma Link Extension.

## Key Project Activities

### Final Design

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

### Construction:

- Jack and Bore Work in Heading 3 at Division ST and MLK continues.
- Drill shaft and install piles for TPSS 1.
- Installation of ELB Storm Drain at Heading 1, Heading 2A and 2B weekend work only and Heading 3 continues.
- Installing Vapor Barrier under the OMF Main Slab.
- Form Grade Beams and rebar in OMF Facility Structure.
- Installation of OMF Sewer at East 25th Ave.

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



# Link Light Rail Hilltop Tacoma Link Extension

## Project Cost Summary

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

The T100 construction contract was executed in August 2018.

In the May 2019 period approximately \$4.6M was incurred, with most expenditures occurring in the Construction Phase related to the T100 construction contract. ST continues to anticipate majority of expenditures in the construction phase.

### Cost Summary by Phase

| Project Phase           | Baseline Budget | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|-----------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$16.9          | \$16.9                        | \$9.0              | \$9.0            | \$16.9                     | (\$0.0)                       |
| Preliminary Engineering | \$5.6           | \$5.6                         | \$5.6              | \$5.6            | \$5.6                      | \$0.0                         |
| Final Design            | \$10.8          | \$11.3                        | \$10.5             | \$10.0           | \$11.3                     | \$0.0                         |
| Construction Services   | \$9.9           | \$10.3                        | \$8.9              | \$2.3            | \$10.3                     | \$0.0                         |
| 3rd Party Agreements    | \$1.5           | \$1.5                         | \$1.4              | \$1.1            | \$1.5                      | (\$0.0)                       |
| Construction            | \$127.2         | \$130.1                       | \$116.8            | \$34.9           | \$130.1                    | \$0.0                         |
| Vehicles                | \$35.4          | \$32.8                        | \$30.3             | \$0.2            | \$32.8                     | \$0.0                         |
| ROW                     | \$3.6           | \$2.3                         | \$2.2              | \$1.9            | \$2.3                      | \$0.0                         |
| Contingency             | \$6.6           | \$6.6                         | \$0.0              | \$0.0            | \$6.6                      | \$0.0                         |
| <b>Total</b>            | <b>\$217.3</b>  | <b>\$217.3</b>                | <b>\$184.6</b>     | <b>\$65.0</b>    | <b>\$217.3</b>             | <b>(\$0.0)</b>                |

### Cost Summary by SCC

| SCC Element                            | Baseline Budget | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|-----------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$21.9          | \$24.9                        | \$22.4             | \$6.7            | \$24.9                     | \$0.0                         |
| 20 Stations                            | \$1.8           | \$2.8                         | \$2.5              | \$0.7            | \$2.8                      | (\$0.0)                       |
| 30 Support Facilities                  | \$26.6          | \$33.1                        | \$29.7             | \$8.9            | \$33.1                     | (\$0.0)                       |
| 40 Sitework & Special Conditions       | \$40.0          | \$41.6                        | \$37.3             | \$11.2           | \$41.6                     | (\$0.0)                       |
| 50 Systems                             | \$25.0          | \$27.8                        | \$24.9             | \$7.4            | \$27.8                     | (\$0.0)                       |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$115.4</b>  | <b>\$130.12</b>               | <b>\$116.8</b>     | <b>\$34.9</b>    | <b>\$130.1</b>             | <b>\$0.0</b>                  |
| 60 Row, Land                           | \$3.4           | \$2.3                         | \$2.2              | \$1.9            | \$2.3                      | (\$0.0)                       |
| 70 Vehicles (non-revenue)              | \$34.1          | \$32.8                        | \$30.3             | \$0.2            | \$32.8                     | (\$0.0)                       |
| 80 Professional Services               | \$48.4          | \$45.6                        | \$35.4             | \$28.0           | \$45.6                     | \$0.0                         |
| 90 Unallocated Contingency             | \$16.1          | \$6.6                         | \$0.0              | \$0.0            | \$6.6                      | \$0.0                         |
| <b>Total (10 - 90)</b>                 | <b>\$217.3</b>  | <b>\$217.3</b>                | <b>\$184.6</b>     | <b>\$65.0</b>    | <b>\$217.3</b>             | <b>(\$0.0)</b>                |



## Risk Management

The Hilltop Tacoma Link Risk and Contingency Management Plan (RCMP) was updated in 2nd QTR 2018. This establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It will provide a tool for the project team to proactively manage risks on the project. It is Sound Transit's responsibility for continuously monitoring project status and associated risks, taking mitigation actions for known risks identified on the risk register, and effectively responding in a timely manner to those risks that pose a significant impact to the project cost or schedule forecast. The quarterly risk review for 4th QTR 2018 was held on December 12, 2018. The 1st QTR 2019 Risk Register Review was held in February 2019. A Quantitative Risk Assessment in 2nd QTR 2019. Per the 1st QTR 2019 Register Review the current top project risks include:

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



*Inserting casing into shaft for Pile 9.*

## Contingency Management

Hilltop Tacoma Link Extension was baselined on September 2017 with a total contingency of \$33.8M. Since baselining, there were draw downs on AC and UAC to address Final Design Change Orders, the Procurement of the Tacoma LRV contract and the T100 Construction contract.

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

**Allocated Contingency (AC)** is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. This period the Total AC was reduced minimally for executing T100 Change Orders and more are in process. The balance is \$9.0M.

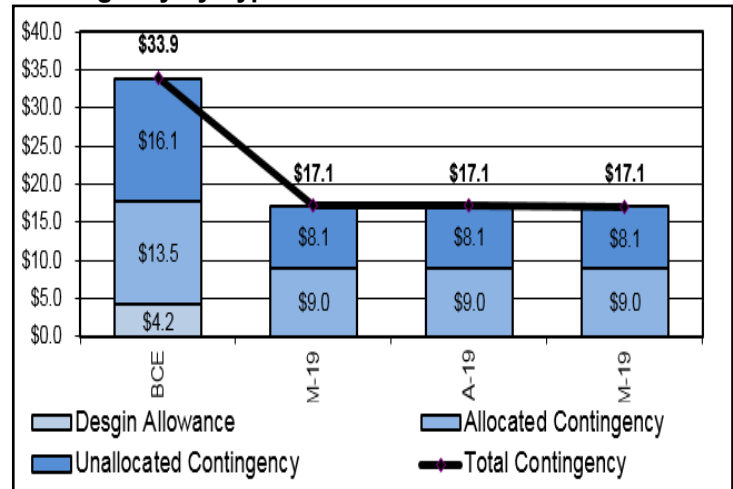
**Unallocated Contingency (UAC)** is used to address general project-wide cost risks and uncertainties. The UAC balance remained the same in May with a net amount of \$8.1M.

### Contingency Status (Monthly)

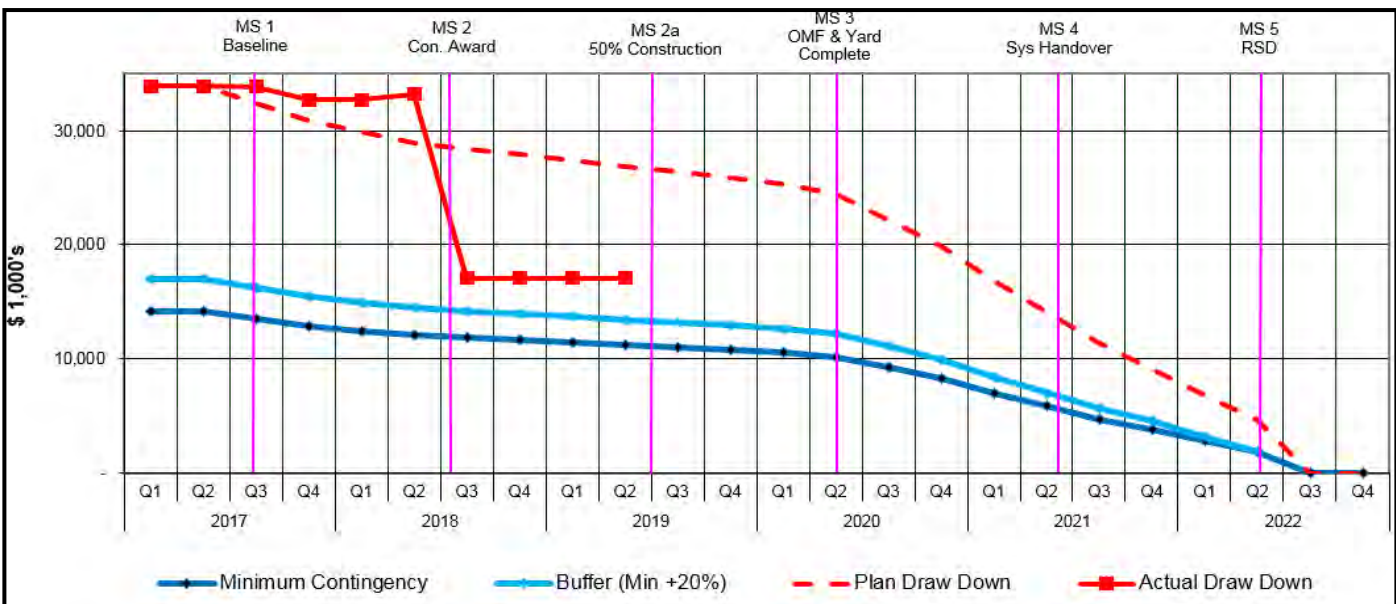
| Type                    | Baseline      |              | Current       |              |
|-------------------------|---------------|--------------|---------------|--------------|
|                         | Amount        | % of Total   | Amount        | % of Work    |
| Design Allowance        | \$4.2         | 2.2%         | \$0.0         | 0.0%         |
| Allocated Contingency   | \$13.5        | 6.8%         | \$9.0         | 5.9%         |
| Unallocated Contingency | \$16.1        | 8.2%         | \$8.1         | 5.3%         |
| <b>Total</b>            | <b>\$33.8</b> | <b>17.2%</b> | <b>\$17.1</b> | <b>11.2%</b> |

Table figures are shown in millions.

### Contingency by Type



### Contingency Drawdown (Quarterly)



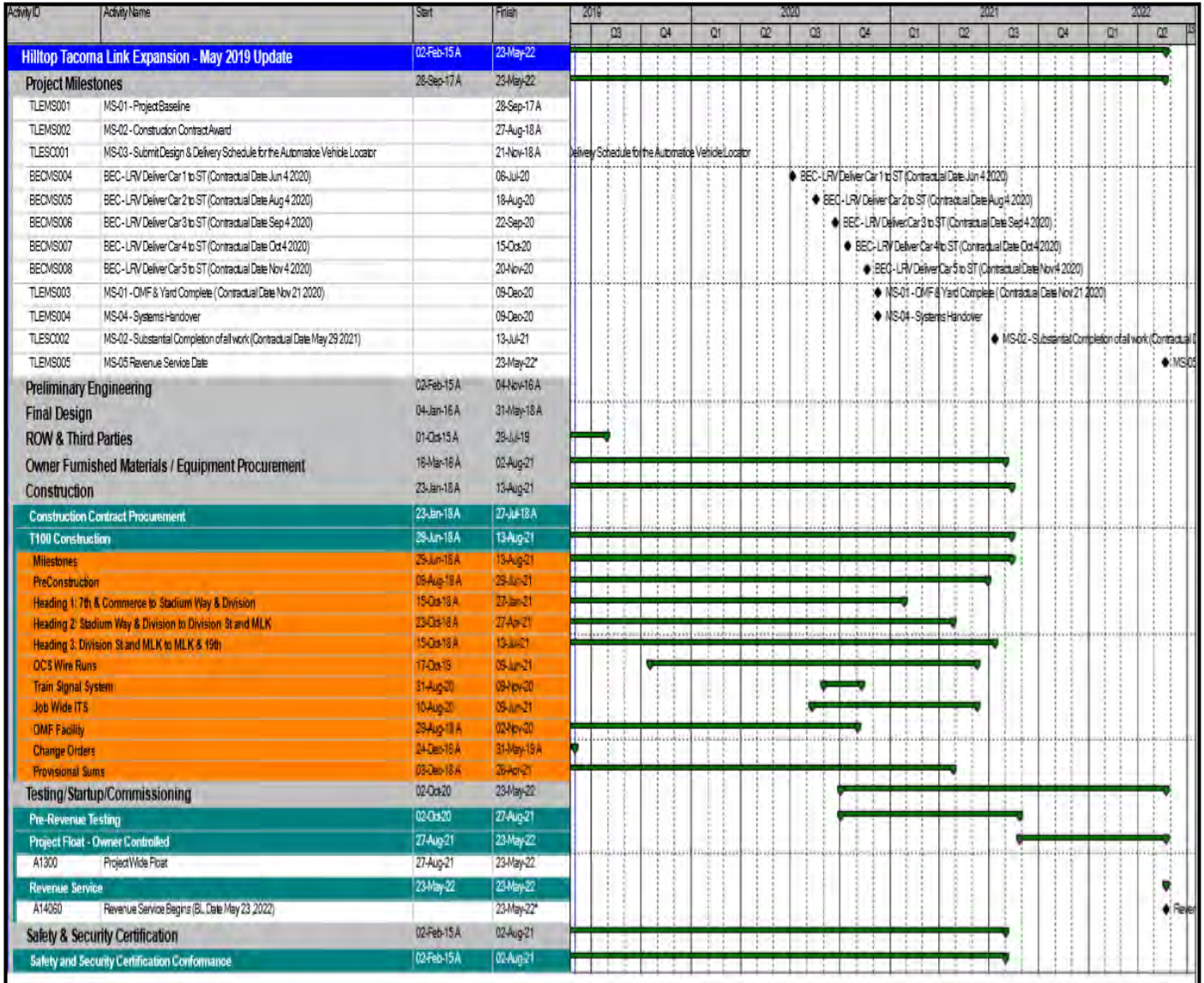


# Link Light Rail Hilltop Tacoma Link Extension



## Project Schedule

The Master Schedule has been updated through the end of May 2019. The LRV procurement contractor is still on track to Preliminary Design Review #2 in 2nd QTR 2019 and Final Design Review (FDR) completion in late 3rd QTR 2019. Forecast delivery of the LRVs forecasts the first car arriving in 3rd QTR 2020 and last car in 4th QTR 2020. All cars will be delivered in time to support pre-revenue service startup in 2nd QTR 2021.





## Right-of-Way

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

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

## Community Outreach

- Met and walked with MultiCare to discuss construction in front of Tacoma General Hospital (May 7) and the contract’s special conditions and upcoming work (May 15).
- Met with Stadium High School, businesses and residents about the street closure in front of the school (May 28). Continued coordinating with the high school on construction and communications.
- Notified businesses, residents and key stakeholders about the Stadium Way street closure that will begin on June 20.
- Provided notification about 24-hour construction on weekends at the intersection of Division Ave and Yakima Ave, water line work on N. 1st St., the Commerce St. closure from 7th St. to the 705, drilling at the TPSS 1 site, and construction at MLK Jr. Way and 13th St.
- Provided additional information about the TPSS 1 to adjacent residents.
- Met with the event planner for the Hilltop Street Fair to discuss the event’s footprint and logistics, May 15. The street fair will be held on MLK Jr. Way on Aug. 24.
- Visited businesses in all areas along the route to check in on construction and answer questions. Gave weekly updates to Stadium Thriftway.
- Gave a project update at the Hilltop Business District’s monthly meeting (May 16), the Downtown on the Go’s transit committee (May 8), and the City of Tacoma’s Division Directors meeting (May 6). Discussed the Loyal to the Local program at the City of Tacoma’s stakeholder outreach meeting, May 9.
- Produced and distributed weekly construction alerts about traffic impacts along the route.
- Coordinated access with the McMenamins, MC Delivery, Columbia Bank, and Jacksons Shell. Responded to questions about garbage pickup on Stadium Way.



## Sound Transit Board Actions

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

## Construction Safety

| Data/ Measure                           | May 2019        | Year to Date | Project to Date |
|-----------------------------------------|-----------------|--------------|-----------------|
| Recordable Injury/Illness Cases         | 1               | 1            | 2               |
| Days Away From Work Cases               | 0               | 0            | 0               |
| Total Days Away From Work               | 0               | 0            | 0               |
| First Aid Cases                         | 0               | 3            | 4               |
| Reported Near Mishaps                   | 0               | 1            | 8               |
| Average Number of Employees on Worksite | 121             | -            | -               |
| <b>Total # of Hours (GC &amp; Subs)</b> | 6,934           | 3,206        | 44,422          |
| OSHA Incident Rates                     | Monthly Average | Year to Date | Project to Date |
| Recordable Injury Rate                  | 28.84           | 6.13         | 9.00            |
| LTI Rate                                | 0.00            | 0.00         | 0.00            |
| Recordable National Average             | 3.10            | 3.10         | 3.10            |
| LTI National Average                    | 1.20            | 1.20         | 1.20            |
| Recordable WA State Average             | 5.70            | 5.70         | 5.70            |
| LTI WA State Average                    | 2.30            | 2.30         | 2.30            |

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

# Link Light Rail Hilltop Tacoma Link Extension



## Contract T100 — Hilltop Tacoma Link Extension

### Current Progress

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

- Jack and Bore Work in Heading 3 at Division ST and MLK continues.
- Drill shaft and install piles for TPSS 1.
- Installation of ELB Storm Drain at Heading 1, Heading 2A and 2B weekend work only and Heading 3 continues.
- Installing Vapor Barrier under the OMF Main Slab.
- Form Grade Beams and rebar in OMF Facility Structure.
- Installation of OMF Sewer at East 25th Ave.

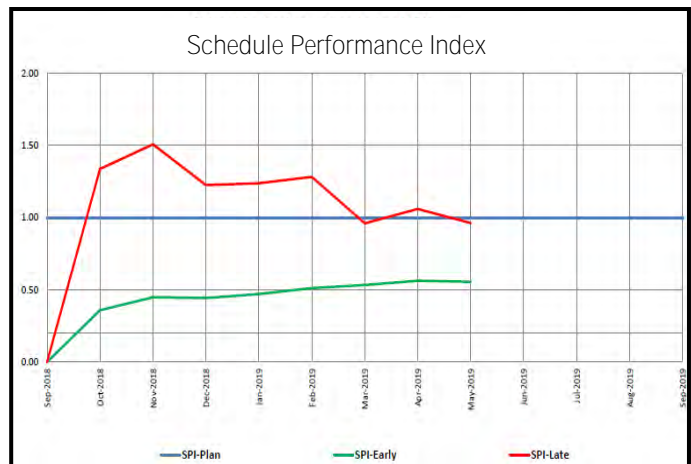
### Schedule Summary

The schedule update for May 2019 indicates a revised completion date for the OMF Substantial Completion in December 2020 and MS#2 Substantial Completion of all Work is completing in 3rd Quarter 2021 , negative float of 46 days in the schedule is reflecting potential impacts in schedule due to differing site condition requiring design changes .The critical path has remains the same from last month’s submittal running through the remaining heavy utility work which in turn impacts the installation of rail in the mainline to pouring of the grade beams and erecting structural steel in the OMF Facility structures. Weighted Percent Complete is currently 30%.

| Activity ID                                                      | Activity Name                                                                                  | Original Duration | Actual Duration | Start       | Finish      | Total Float | user_text2 | Schedule Performance |         |         |         |         |         |         |         |         |         |  |  |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------|-----------------|-------------|-------------|-------------|------------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|--|
|                                                                  |                                                                                                |                   |                 |             |             |             |            | 2019 Q3              | 2019 Q4 | 2020 Q1 | 2020 Q2 | 2020 Q3 | 2020 Q4 | 2021 Q1 | 2021 Q2 | 2021 Q3 | 2021 Q4 |  |  |
| <b>T100 Hilltop Tacoma Link Extension Schedule Update May-19</b> |                                                                                                |                   |                 |             |             |             |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| <b>Tacoma Links Baseline Schedule</b>                            |                                                                                                |                   |                 |             |             |             |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| <b>Milestones</b>                                                |                                                                                                | 779.00            | 518.00          | 29-Jun-18 A | 12-Aug-21   | -33.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| <b>Job Milestones</b>                                            |                                                                                                | 1141.00           | 146.00          | 29-Jun-18 A | 12-Aug-21   | -46.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| <b>Contractual Milestones</b>                                    |                                                                                                | 956.00            | 0.00            | 21-Nov-18 A | 13-Jul-21   | -45.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| 0129CMS1010                                                      | Cont: MILESTONE 1: Substantial Completion of OMF & Yard (NTP+817 = 11/21/20)                   | 0.00              | 0.00            |             | 09-Dec-20*  | -18.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| 0129CMS1020                                                      | Cont: MILESTONE 2 + Potential Impacts: Substantial Completion of All Work (NTP+1005 = 5/29/21) | 0.00              | 0.00            |             | 13-Jul-21*  | -46.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| 0129CMS1030                                                      | Cont: MILESTONE 2: Substantial Completion of All Work (NTP+1005 = 5/29/21)                     | 0.00              | 0.00            |             | 29-May-21*  | 0.00        |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| 0129CMS1000                                                      | Cont: MILESTONE 3: Submittal and Design of and Delivery Schedule for AVL (NTP+90 = 11/25/18)   | 0.00              | 0.00            |             | 21-Nov-18 A |             |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| <b>Pre-Construction</b>                                          |                                                                                                | 654.00            | 490.00          | 09-Aug-18 A | 17-Jun-21   | -13.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Heading 1: 7th & Commerce to Stadium Way & Division              |                                                                                                | 537.00            | 156.00          | 15-Oct-18 A | 27-Jan-21   | 86.00       |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Heading 2: Stadium Way & Division to Division St and MLK         |                                                                                                | 618.00            | 151.00          | 23-Oct-18 A | 27-Apr-21   | 23.00       |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Heading 3: Division St and MLK to MLK & 19th                     |                                                                                                | 671.00            | 156.00          | 15-Oct-18 A | 15-Jul-21   | -30.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| OCS Wire Runs                                                    |                                                                                                | 408.00            | 0.00            | 17-Oct-19   | 05-Jun-21   | -7.00       |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Train Signal System                                              |                                                                                                | 49.00             | 0.00            | 31-Aug-20   | 09-Nov-20   | 136.00      |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Job Wide ITS                                                     |                                                                                                | 115.00            | 0.00            | 10-Aug-20   | 28-Jan-21   | 85.00       |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| OMF Facility                                                     |                                                                                                | 500.00            | 188.00          | 29-Aug-18 A | 02-Nov-20   | 13.00       |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Change Orders                                                    |                                                                                                | 83.00             | 109.00          | 24-Dec-18 A | 31-May-19 A |             |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Deleted Activities                                               |                                                                                                | 8.00              | 1.00            | 01-Apr-19 A | 01-Apr-19 A |             |            |                      |         |         |         |         |         |         |         |         |         |  |  |
| Provisional Sums                                                 |                                                                                                | 585.00            | 124.00          | 03-Dec-18 A | 26-Apr-21   | 44.00       |            |                      |         |         |         |         |         |         |         |         |         |  |  |

### Schedule Performance Index

This period, the SPI-early remained the same 0.56 and the SPI-late dropped to 0.96. The early index indicates that the contractor continues to perform behind the plan when compared to the baseline schedule. The SPI-late did decrease to below 1 this month so we will need to track this trend as progress continues.



## Next Period's Activities

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

## Closely Monitored Issues

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

## Cost Summary

| Present Financial Status                           | Amount         |
|----------------------------------------------------|----------------|
| <b>T100 Contractor— Walsh Construction Company</b> |                |
| Original Contract Value                            | \$ 108,295,000 |
| Change Order Value                                 | \$ 38,480      |
| Current Contract Value                             | \$ 108,333,480 |
| Total Actual Cost (Incurred to Date)               | \$ 32,916,140  |
| Percent Complete                                   | 30%            |
| Authorized Contingency                             | \$ 5,376,270   |
| Contingency Drawdown                               | \$ 38,480      |
| Contingency Index                                  | 41.5           |



*Water crew continues trenching work.*

# Link Light Rail Tacoma Dome Link Extension

## Project Summary

### Scope

|                  |                                                                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Limits</b>    | Federal Way Transit Center to South Federal Way, Fife, East Tacoma, and Tacoma Dome                                                                                                 |
| <b>Alignment</b> | The Tacoma Dome Link Extension expands light rail 9.7 miles from the Federal Way Transit Center to Tacoma. The representative alignment travels adjacent to I-5 with four stations. |
| <b>Stations</b>  | South Federal Way, Fife, and East Tacoma (elevated stations) and Tacoma Dome (at-grade station)                                                                                     |
| <b>Systems</b>   | Signals, traction power, communications (SCADA), Operations and Maintenance Facility South (OMF South)                                                                              |
| <b>Phase</b>     | Planning: Alternative Development                                                                                                                                                   |
| <b>Budget</b>    | \$125.7 Million for Preliminary Engineering Phase 1—Alternative Development                                                                                                         |
| <b>Schedule</b>  | Revenue Service: December 2030                                                                                                                                                      |



Map of Tacoma Dome Link Extension.

## Key Project Activities

- OMF South Scoping Summary Report released May 3. The Board identified three site alternatives for evaluation in the EIS: Midway Landfill/I-5, S 336th/I-5 and S 344th/I-5.
- TDLE scoping initiated April 1 and concluded May 1. Scoping Summary Report released on May 30.
- Briefing with FTA on TDLE held on May 24. TDLE Stakeholder Group meeting held on May 29.
- TDLE ELG meeting to discuss preferred alternative held May 31 and ELG recommendation planned for June 14 in preparation for July Board action.
- Began negotiations with jurisdictional cities on Task Order 2 of Project Administration Agreement.
- Continued engagement with partner and regulatory agencies, tribes, stakeholder groups and property owners regarding TDLE alternatives development process and scoping.
- Continued developing TDLE consultant scope of work and budget for Phase 2 contract amendment.
- Continued monthly coordination meetings with the Cities of Federal Way, Fife, Milton and Tacoma.

## Project Cost Summary

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

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

### Cost Summary by Phase

| Project Phase           | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$26.8                        | \$4.3              | \$3.9            | \$26.8                     | \$0.0                         |
| Preliminary Engineering | \$87.1                        | \$10.5             | \$7.4            | \$87.1                     | \$0.0                         |
| Final Design            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| Construction Services   | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 3rd Party Agreements    | \$5.8                         | \$0.2              | \$0.2            | \$5.8                      | \$0.0                         |
| Construction            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| Vehicles                | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| ROW                     | \$6.0                         | \$0.0              | \$0.0            | \$6.0                      | \$0.0                         |
| <b>Total</b>            | <b>\$125.7</b>                | <b>\$15.1</b>      | <b>\$11.5</b>    | <b>\$125.7</b>             | <b>\$0.0</b>                  |

### Cost Summary by SCC

| SCC Element                            | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 20 Stations                            | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 30 Support Facilities                  | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 40 Sitework & Special Conditions       | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 50 Systems                             | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$0.0</b>                  | <b>\$0.0</b>       | <b>\$0.0</b>     | <b>\$0.0</b>               | <b>\$0.0</b>                  |
| 60 Row, Land                           | \$5.0                         | \$0.0              | \$0.0            | \$5.0                      | \$0.0                         |
| 80 Professional Services               | \$110.9                       | \$15.1             | \$11.5           | \$110.9                    | \$0.0                         |
| 90 Unallocated Contingency             | \$9.8                         | \$0.0              | \$0.0            | \$9.8                      | \$0.0                         |
| <b>Total (10 - 90)</b>                 | <b>\$125.7</b>                | <b>\$15.1</b>      | <b>\$11.5</b>    | <b>\$125.7</b>             | <b>\$0.0</b>                  |



# Link Light Rail Tacoma Dome Link Extension



## Risk Management

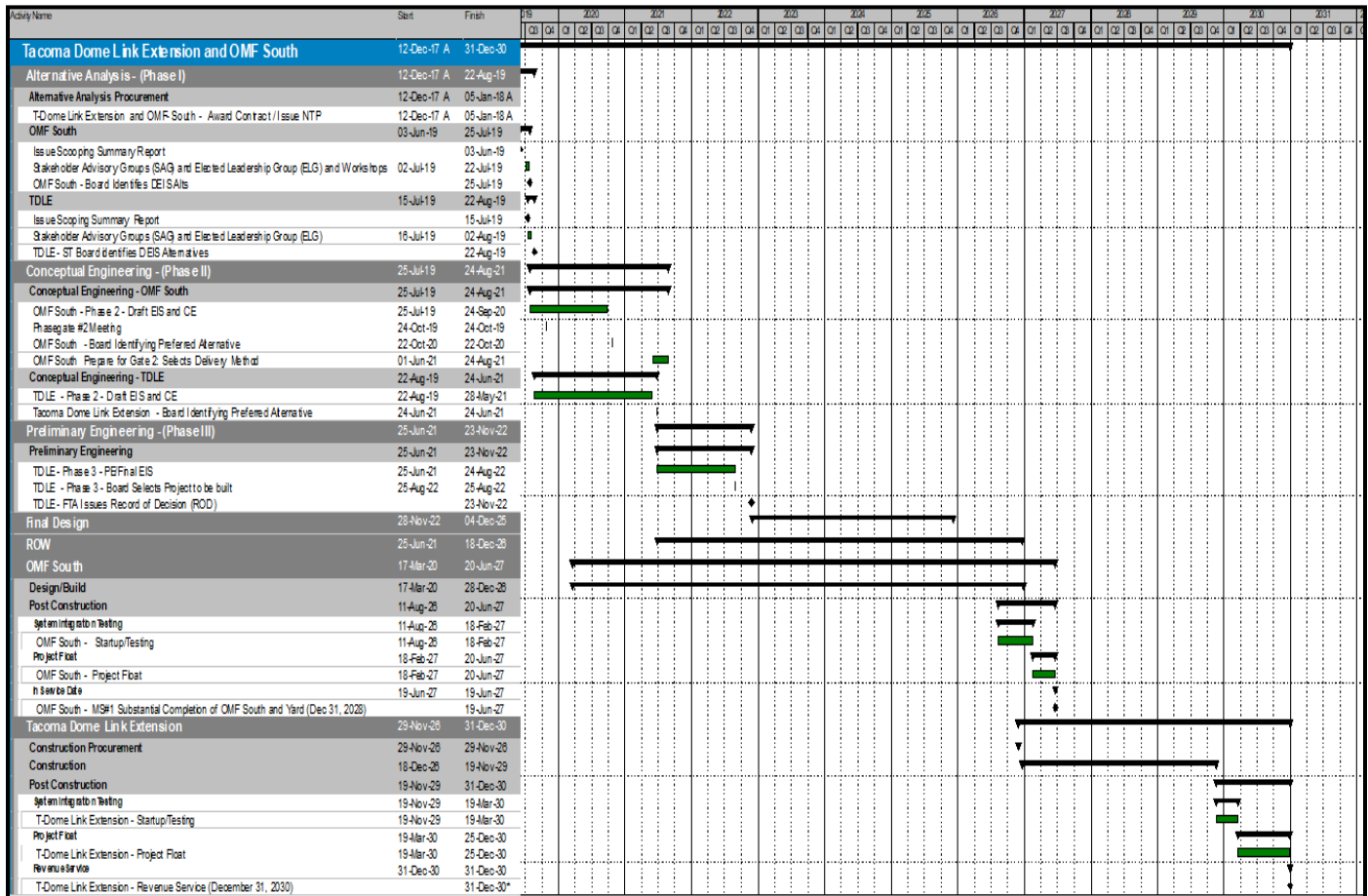
The Tacoma Dome Link Extension and OMF South Risk and Contingency Management Plan (RCMP) will establish a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It will provide a tool for the project team to proactively manage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

The 1st QTR 2019 risk review workshop was held in March. The following are the top project wide risks:

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

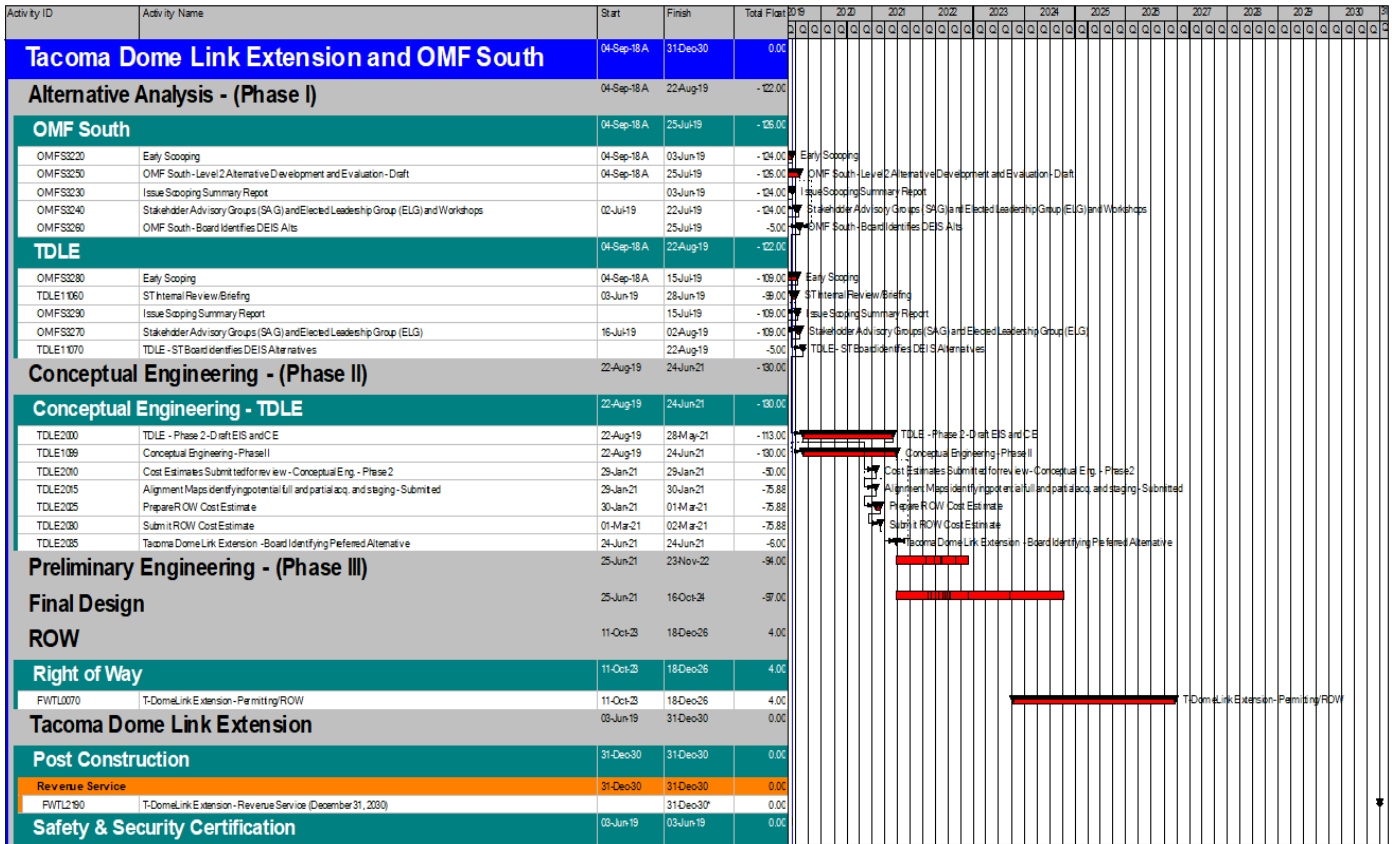
## Project Schedule

Phase I Alternative Analysis —The HDR detailed schedule as of May 31, 2019 is schedule to complete level 1 and level 2 scoping and Final DEIS Alternatives Development and Preferred Alternative Identification for the OMF South and TDLE in 3rd QTR 2019.



## Critical Path Analysis

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



Critical Path Schedule - May 2019

## Community Outreach

- Hosted various meetings: East Tacoma Listening Session (5/2); TDLE Interagency Coordination meeting (5/2); TDLE Interagency Coordination meeting (5/29); TDLE Stakeholder Group meeting (5/29); and a TDLE Elected Leadership Group meeting (5/31).
- Attended New Tacoma Neighborhood Council meeting (5/8).
- Attended Dome District meeting (5/9).
- Provided briefing to the Pierce County Coordinated Transportation Coalition meeting (5/17).

## Sound Transit Board Actions

| Board Action | Description     | Date |
|--------------|-----------------|------|
|              | None to report. |      |

# Link Light Rail

## Link Operations & Maintenance Facility: East



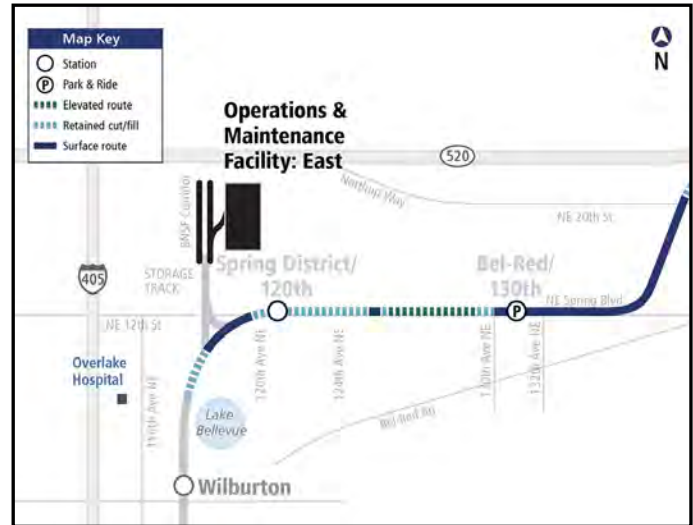
### Project Summary

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

**Phase** Proceed to Construction

**Budget** \$449.2 Million (Baselined July 2016)

**Schedule** Project Completion: December 2020



Map of OMF East Site

### Key Project Activities

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

### Closely Monitored Issues

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

### Project Cost Summary

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

The Estimated Final Costs (EFC) continues to be projected at approximately \$449.2M. This period’s expenditure of about \$10.9M. The total project cost incurred from \$213.M to \$2224.3M. The primary cost drivers during this period on the OMF East project comes from the design build (construction) phase at \$10.3M or roughly 94% of the total monthly expenditures. The next cost driver this period are the Construction Services and Administrative Phase expenditures at about \$383K and \$153K respectively.

#### Cost Summary by Phase

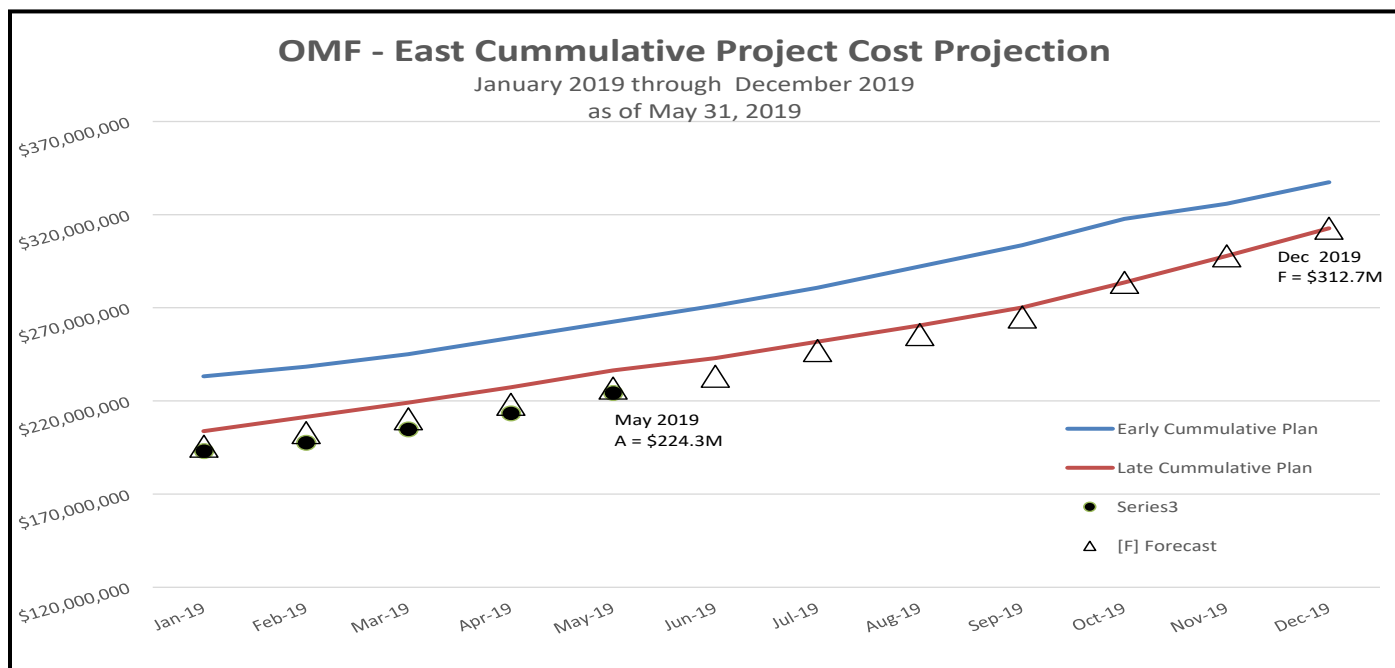
| Project Phase           | Baseline Budget | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-------------------------|-----------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| Administration          | \$17.6          | \$17.6                        | \$5.8              | \$5.7            | \$17.6                     | \$0.0                         |
| Preliminary Engineering | \$9.5           | \$9.5                         | \$9.0              | \$8.7            | \$9.5                      | \$0.0                         |
| Final Design            | \$0.4           | \$0.4                         | \$0.0              | \$0.0            | \$0.4                      | \$0.0                         |
| Construction Services   | \$19.3          | \$19.3                        | \$17.5             | \$6.7            | \$19.3                     | \$0.0                         |
| 3rd Party Agreements    | \$3.1           | \$3.1                         | \$0.3              | \$0.1            | \$3.1                      | \$0.0                         |
| Construction            | \$264.8         | \$264.8                       | \$223.6            | \$101.3          | \$264.8                    | \$0.0                         |
| ROW                     | \$134.5         | \$134.5                       | \$102.0            | \$101.7          | \$134.5                    | \$0.0                         |
| <b>Total</b>            | <b>\$449.2</b>  | <b>\$449.2</b>                | <b>\$358.2</b>     | <b>\$224.3</b>   | <b>\$449.2</b>             | <b>\$0.0</b>                  |

#### Cost Summary by SCC

| SCC Element                            | Baseline Budget | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|----------------------------------------|-----------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| 10 Guideway & Track                    | \$2.6           | \$4.4                         | \$4.1              | \$1.3            | \$4.1                      | \$0.3                         |
| 20 Stations                            | \$0.0           | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 30 Support Facilities: Yard, Shop      | \$140.1         | \$136.1                       | \$124.6            | \$59.1           | \$145.8                    | -\$9.7                        |
| 40 Sitework & Special Conditions       | \$43.6          | \$48.5                        | \$39.8             | \$13.8           | \$42.8                     | \$5.7                         |
| 50 Systems                             | \$43.0          | \$41.6                        | \$38.6             | \$12.6           | \$38.6                     | \$2.9                         |
| <b>Construction Subtotal (10 - 50)</b> | <b>\$229.3</b>  | <b>\$230.6</b>                | <b>\$207.1</b>     | <b>\$86.9</b>    | <b>\$231.3</b>             | <b>-\$0.7</b>                 |
| 60 ROW, Land, Improvements             | \$134.5         | \$134.5                       | \$102.0            | \$101.7          | \$134.5                    | \$0.0                         |
| 70 Vehicles                            | \$0.0           | \$0.0                         | \$0.0              | \$0.0            | \$0.0                      | \$0.0                         |
| 80 Professional Services               | \$71.6          | \$70.3                        | \$49.1             | \$35.7           | \$69.6                     | \$0.7                         |
| 90 Unallocated Contingency             | \$13.8          | \$13.8                        | \$0.0              | \$0.0            | \$13.8                     | \$0.0                         |
| <b>Total (10 - 90)</b>                 | <b>\$449.2</b>  | <b>\$449.2</b>                | <b>\$358.2</b>     | <b>\$224.3</b>   | <b>\$449.2</b>             | <b>\$0.0</b>                  |

### Project Cash Flow Projection

The OMF East cost projection is trending late this period but anticipates to pick up through the following summer. Total project expenditure incurred to date approximated \$224.3M with Right-of-Way (ROW) phase cost being the largest driver at 45.3% and Construction Phase at about 45.2% - an inflection point indicating that Construction activities has caught up as the main driver going forward. The projected cash flow was revised this period for the next nine months to reflect some current trends. While the Design Builder's (DB) design completion slipped and impacted specifically on Systems where some anticipated procurements did not occur as planned, construction has certainly picked up on yard tracks and structural steel installations. The revised project expenditure continues to trend a projection of \$312.7M by December of 2019 which is at the lower bounds of the late planned expenditures as shown in the graph below.



### Risk Management

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

The project has completed Risk Mitigation Milestone 2, the completion of ROW Acquisition and Mass Grading. The Quantitative Risk Assessment (QRA) assessed that with the current risk profile, the project would complete within the baseline schedule and budget. The current top actively managed risk areas remains similar to the previous quarter and are listed below:

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



## Contingency Management

The Link Operations and Maintenance Facility: East was baselined and approved by Sound Transit Board in July 2016 with a total contingency of \$93.2M. The Project's starting contingency balance as of the Notice to Proceed for Construction was \$71.6M. Reflecting the inclusion of the Design Allowance in the Design Builder contract amount. In this period, change orders were related to various construction scope. The current contingency balance remains practically unchanged at approximately \$69.0M (previous quarter at \$69.4M).

**Design Allowance (DA):** N/A.

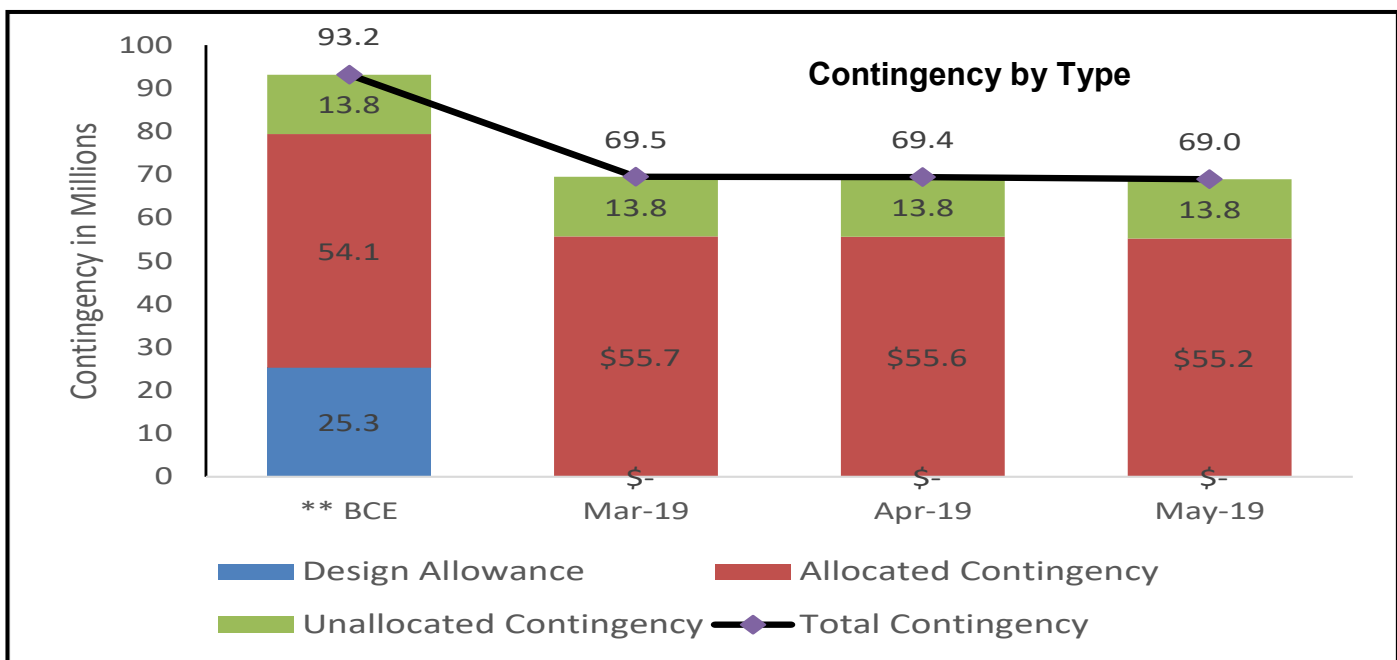
**Allocated Contingency (AC)** is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. Allocated contingency balance at the end of this period was reduced to \$55.2M from the previous month at \$55.6M due to normal construction changes.

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

## Contingency Status

| Contingency Type        | Baseline       |              | Current        |                     |
|-------------------------|----------------|--------------|----------------|---------------------|
|                         | Amount         | % of Total   | Amount         | % of Work Remaining |
| Design Allowance        | \$ 25.3        | 5.6%         | \$ -           | 0.0%                |
| Allocated Contingency   | \$ 54.1        | 12.0%        | \$ 55.2        | 24.5%               |
| Unallocated Contingency | \$ 13.8        | 3.1%         | \$ 13.8        | 6.1%                |
| <b>Total</b>            | <b>\$ 93.2</b> | <b>20.7%</b> | <b>\$ 69.0</b> | <b>30.7%</b>        |

Table figures are shown in millions.

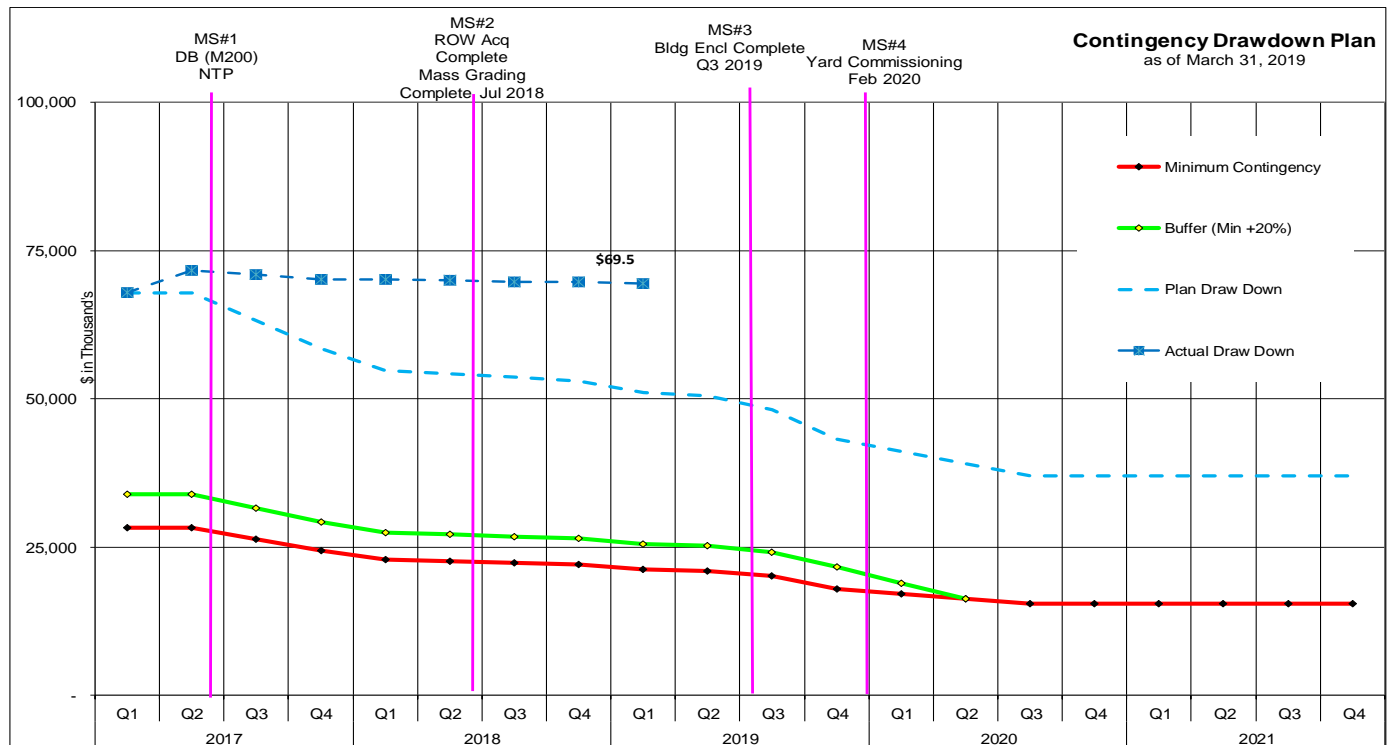


# Link Light Rail Link Operations & Maintenance Facility: East



## Contingency Drawdown

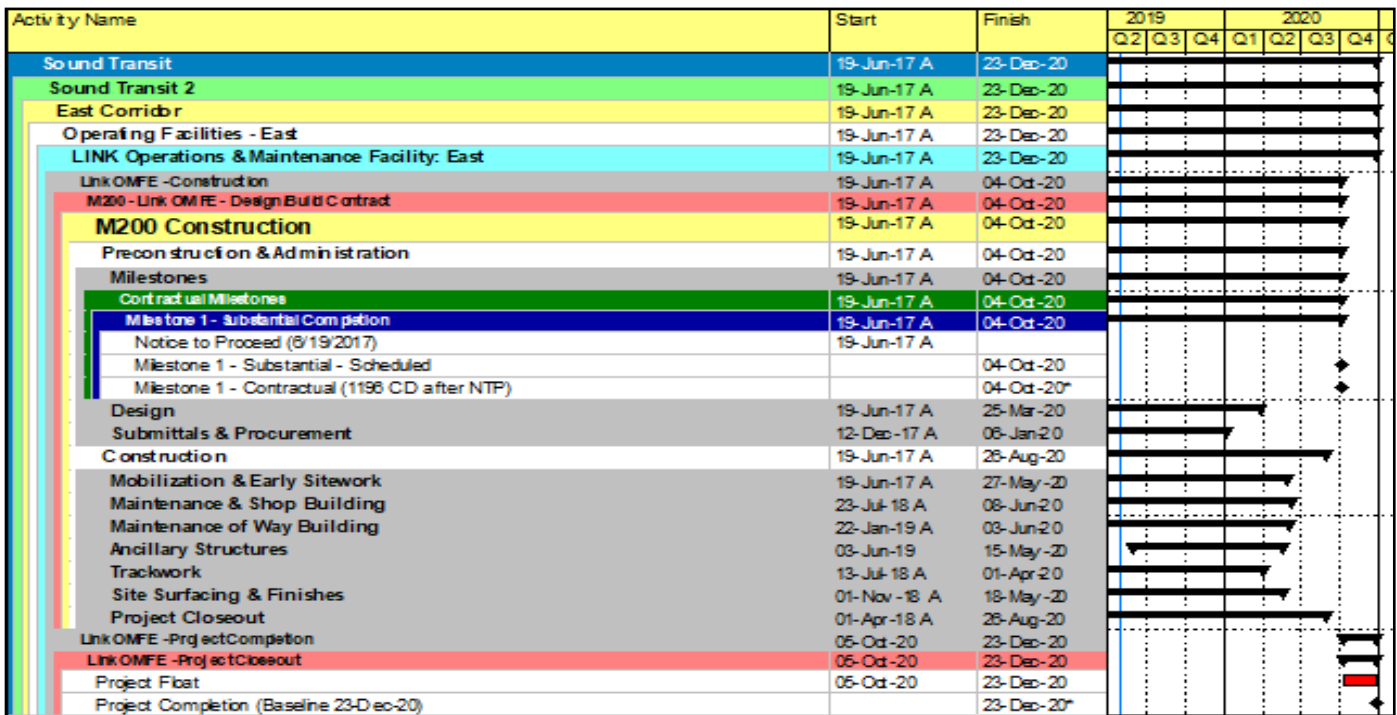
At the end of the 1st QTR 2019, OMF East Project's total contingency drawdown plan is trending positively. Total contingencies balance is at approximate \$69.5M (previously at \$69.7M) and remains above all the baseline draw down projection and well above both the minimum contingency and the buffered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



OMF East looking north taking shape with yard scope and steel structure framing on May 31, 2019

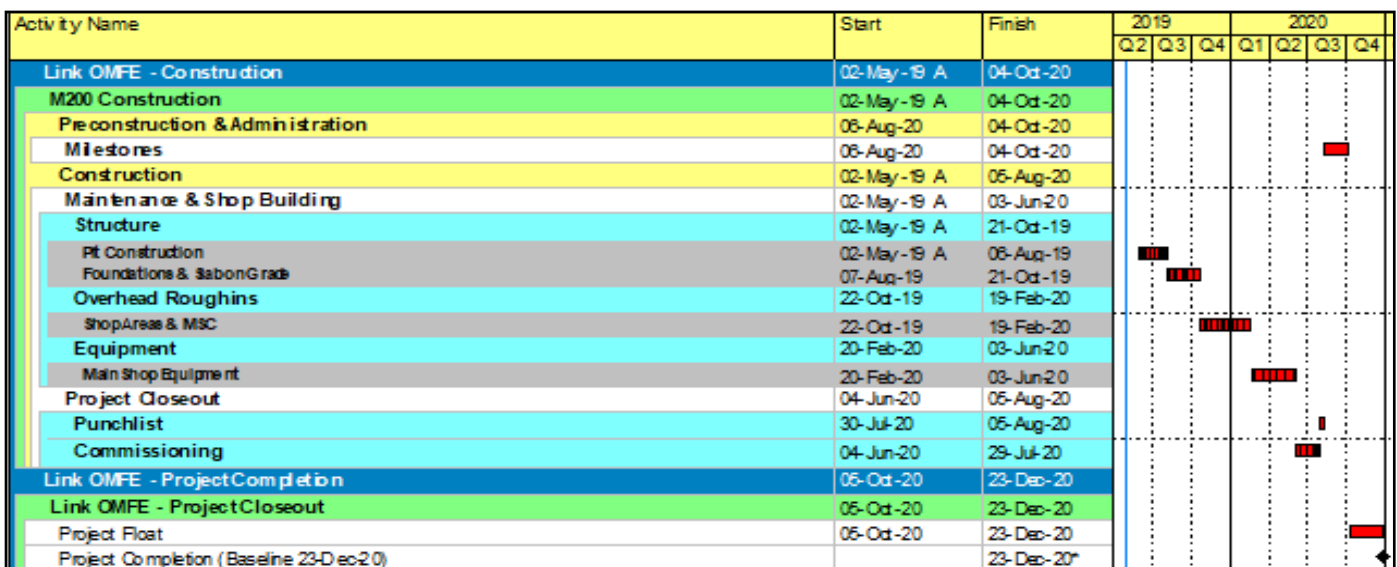
## Project Schedule

The schedule for OMF East is now entirely within the M200 contract, which is presented below. The Contractor continues to progress as planned and is forecast to complete on target. Their schedule currently shows that they are 9 days behind the required Substantial Completion date; this is a result of weather impacts from February for which the contractor will be awarded a non-compensable time extension. The OMF East is expected to be available to begin receiving LRVs as needed in the Summer 2020.



## Critical Path Analysis

The critical path currently runs through the shop area and equipment in the Maintenance & Shop Building, and then through commissioning and project closeout.



## Community Outreach

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

## Sound Transit Board Actions

| Board Action | Description                 | Date |
|--------------|-----------------------------|------|
|              | None to report this period. |      |

## Construction Safety

| Data/ Measure                           | May 2019        | Year to Date | Project to Date |
|-----------------------------------------|-----------------|--------------|-----------------|
| Recordable Injury/Illness Cases         | 0               | 1            | 2               |
| Days Away From Work Cases               | 0               | 0            | 0               |
| Total Days Away From Work               | 0               | 0            | 0               |
| First Aid Cases                         | 1               | 2            | 5               |
| Reported Near Mishaps                   | 0               | 2            | 5               |
| Average Number of Employees on Worksite | 98              | -            | -               |
| <b>Total # of Hours (GC &amp; Subs)</b> | 15,680          | 77,094       | 170,098         |
| OSHA Incident Rates                     | Monthly Average | Year to Date | Project to Date |
| Recordable Injury Rate                  | 0.00            | 2.59         | 2.35            |
| LTI Rate                                | 0.00            | 0.00         | 0.00            |
| Recordable National Average             | 3.10            | 3.10         | 3.10            |
| LTI National Average                    | 1.20            | 1.20         | 1.20            |
| Recordable WA State Average             | 5.70            | 5.70         | 5.70            |
| LTI WA State Average                    | 2.30            | 2.30         | 2.30            |

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

## Contract M200 - OMF East Design Build

### Current Progress

**Design:** Hensel Phelps (HP) advanced design package (DP) for the following areas: Sound Transit’s (ST) comments were incorporated in HP’s resubmittal of DP 003A Issue for Construction (IFC). ST rejected the DP003A Rev 2 on May 16th with a disposition of revise and resubmit. Design quality concerns regarding DP003A letter sent out to HP.

**Construction:** HP continued with the OCS foundations around the North Runaround and grading for sub-ballast. OMFE building continued work on the roof followed by welding and decking with ongoing Slab on Metal Deck (SOMD) pours and setting caissons for LRV lifts. MOW crews have been working on welding and plumbing the steel with metal decking.

### Next Period’s Activities

- Approval of DP #003A Rev 03 IFC.
- Continue work at OMFE Building.
- Continue work at MOW Building.
- Continue OCS pole foundation work.
- Continue installation of ballast.

### Closely Monitored Issues

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

### Cost Summary

| Present Financial Status               | Amount        |
|----------------------------------------|---------------|
| <b>M200 Contractor – Hensel Phelps</b> |               |
| Original Contract Value                | \$218,912,000 |
| Change Order Value                     | \$2,543,770   |
| Current Contract Value                 | \$221,455,770 |
| Total Actual Cost (Incurred to Date)   | \$100,572,494 |
| Percent Complete                       | 48.6%         |
| Authorized Contingency                 | \$21,891,200  |
| Contingency Drawdown                   | \$2,543,770   |
| Contingency Index                      | 4.2           |

\*Excludes Betterments



Curved Rail Installation and Exterior Wall Framing OMFE



# Link Light Rail Light Rail Vehicle Fleet Expansion

## Project Summary

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



*Artist rendering of the new light rail vehicles fleet.*

## Key Project Activities

- First Article Inspections (FAI) Open Items buy-backs by ST Operations and LTK's SMEs team held at Sacramento, CA. Approximately 80% closed, 12% open pending modification in Seattle, and 8% still needed resolution.
- Provided additional document requested by the PMOC for the finalization of their LRV Technical Review report.
- Car 201 through 217 in final assembly stage.

## Closely Monitored Issues

- Readiness of shop interface projects necessary to maintain the new LRVs.
- Cab mask design non-conformance issue pending Siemens response – schedule impact is a possibility. ST awaits to review recovery schedule.
- Final design packages not 100% complete: Of the 21 design reports, 4 approved, 14 conditionally approved, 3 disapproved (currently in final review)
- Siemens production quality and attentive details to administrative needs are a growing concern.



*Car 204 going through inspection*



*Car 203 on the test track in Sacramento*

## Project Cost Summary

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

The project expenditure incurred to date is approximately \$91.7M to which a majority of the cost is attributed to the vehicles phase. The current period expenditure is approximately \$2.0M, where the majority cost is associated to the arrival of the first two LRVs of \$1.8M. The other incurred costs were attributed from staff costs of \$161.0K and engineering and inspect of \$102.8K.

### Cost Summary by Phase

| Project Phase         | Baseline Budget | Authorized Project Allocation | Commitment to Date | Incurred to Date | Estimated Final Cost (EFC) | Authorized Allocation vs. EFC |
|-----------------------|-----------------|-------------------------------|--------------------|------------------|----------------------------|-------------------------------|
| ADMINISTRATION        | \$6.4           | \$6.4                         | \$1.9              | \$1.8            | \$6.4                      | \$0.0                         |
| CONSTRUCTION SERVICES | \$18.0          | \$18.0                        | \$4.8              | \$4.3            | \$18.0                     | \$0.0                         |
| VEHICLES              | \$716.3         | \$716.3                       | \$649.3            | \$85.5           | \$716.3                    | \$0.0                         |
| <b>Total</b>          | <b>\$740.7</b>  | <b>\$740.7</b>                | <b>\$656.0</b>     | <b>\$91.7</b>    | <b>\$740.7</b>             | <b>\$0.0</b>                  |

### Cost Summary by SCC

| SCC Element                                | Baseline Budget | Authorized Project Allo- | Commitment to  | Incurred to Date | Estimated Final Cost | Authorized Allocation |
|--------------------------------------------|-----------------|--------------------------|----------------|------------------|----------------------|-----------------------|
| <b>Construction Subtotal (SCC 10 - 50)</b> | <b>\$0.0</b>    | <b>\$0.0</b>             | <b>\$0.0</b>   | <b>\$0.0</b>     | <b>\$0.0</b>         | <b>\$0.0</b>          |
| 60 ROW, LAND, EXISTING IMPROVEMENTS        | \$0.0           | \$0.0                    | \$0.0          | \$0.0            | \$0.0                | \$0.0                 |
| 70 VEHICLES                                | \$702.8         | \$702.8                  | \$649.3        | \$85.5           | \$702.8              | \$0.0                 |
| 80 PROFESSIONAL SERVICES                   | \$6.1           | \$6.1                    | \$6.7          | \$6.2            | \$6.1                | \$0.0                 |
| 90 CONTINGENCY                             | \$31.7          | \$31.7                   | \$0.0          | \$0.0            | \$31.7               | \$0.0                 |
| <b>Capital Total (SCC 10 - 90)</b>         | <b>\$740.7</b>  | <b>\$740.7</b>           | <b>\$656.0</b> | <b>\$91.7</b>    | <b>\$740.7</b>       | <b>\$0.0</b>          |

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

## Risk Management

The Risk and Contingency Management Plan (RCMP) establishes a risk management and oversight process for identifying, assessing, and monitoring risks and develops risk reduction/mitigation plans. It provides a tool for the project team to proactively manage risks on the project. It is Sound Transit’s responsibility for continuously monitoring project status and associated risks. The project’s qualitative risk register reflects 4th Quarter of 2018. The 1st/2nd Quarter Risk will take place in June.

The current top risk areas are listed below:

- Hoist Beam Lifting Issues, OMF Central not able to lift car until limit springs are upgraded by Siemens
- Design of the propulsion and auxiliary power system is new; risk of unknown issues during acceptance testing.
- Competing needs, access and other resources at OMF Central during the commissioning of LRVs impacts the schedule.
- Automatic Train Protection retrofit of existing fleet takes longer than expected due to difficulty defining interface of new system for final design.
- Link Storage Capacity constraints may delay delivery or increase cost of receiving spare parts for ST2 LRV.

# Link Light Rail Light Rail Vehicle Fleet Expansion



## Contingency Management

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

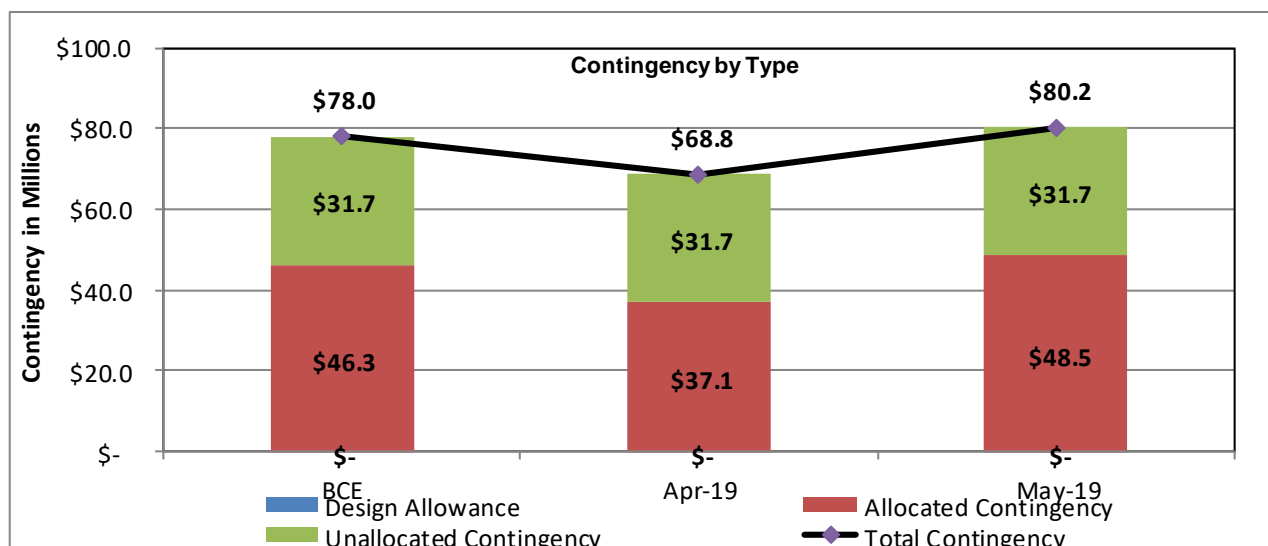
**Design Allowance (DA)** was established to account for unquantified scope at the time of the cost estimate. This project contains \$0 design allowance.

**Allocated Contingency (AC)** is used to address risks, complexity and unforeseen conditions during the execution of work, including procurement. The project baseline's allocated contingency was \$46.3M. The allocated contingency temporarily increase by \$11.3M to \$48.5M due to the timing of a budgetary shift from future commitment to contact contingency for the LRV inspection services change order. This increase will be offset in June when the change order is committed.

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

| Contingency Status      | Baseline       |              | Current        |                     |
|-------------------------|----------------|--------------|----------------|---------------------|
|                         | Amount         | % of Total   | Amount         | % of Work Remaining |
| Design Allowance        | \$ -           | 0.0%         | \$ -           | 0.0%                |
| Allocated Contingency   | \$ 46.3        | 6.4%         | \$ 48.5        | 8.6%                |
| Unallocated Contingency | \$ 31.7        | 4.3%         | \$ 31.7        | 5.6%                |
| <b>Total</b>            | <b>\$ 78.0</b> | <b>10.7%</b> | <b>\$ 80.2</b> | <b>14.2%</b>        |

## Contingency by Type





# Link Light Rail Light Rail Vehicle Fleet Expansion

## Project Schedule

The progress schedule below was established by using the last monthly production schedule submittal and forecast milestones updates for engineering final design during the weekly progress and coordination meeting.

As of May 2019 Siemens progress is currently trending behind by two to three months. Siemens has provided a partial recovery plan. Sound Transit is awaiting the submission of Siemens' complete recovery schedule for further assessment.

| Activity Name                                                                    | Start      | Finish     | 2019 |    | 2020 |    |    |    | 2021 |    |    |    | 2022 |    |    |    | 2023 |    |    |    | 2024 |    |    |    | 2025 |    |    |    |
|----------------------------------------------------------------------------------|------------|------------|------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|
|                                                                                  |            |            | Q3   | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 |
| <b>ST2 Light Rail Vehicle Fleet Expansion</b>                                    | 24-Feb-15A | 20-Sep-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| ST2 Light Rail Vehicle Fleet Expansion                                           | 24-Feb-15A | 10-Oct-16A |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| LRV Engineering and Manufacture                                                  | 11-Oct-16A | 20-Dec-19  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| LRV Design Reviews, Manufacturing, and System Tests                              | 11-Oct-16A | 20-Dec-19  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| LRV Delivery Schedule                                                            | 03-Jun-19  | 13-Aug-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| <b>LRV #1-122 (122 LRV Base Order)</b>                                           | 03-Jun-19  | 27-Mar-23  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Delivery of 1st LRV (BL 27-Mar-19)                                               |            | 07-Jun-19* |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Delivery of 40th LRV - Northgate Link Vehicle Deliveries Complete (BL 26-Jun-20) |            | 03-Jun-20  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Delivery of 42nd LRV - Existing OMF at capacity (104 LRVs) (BL 27-Jul-20)        |            | 24-Jun-20  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Final Acceptance of Vehicles (BL 28-Feb-23)                                      |            | 27-Mar-23  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Delivery of 122nd LRV - Final ST2 Delivery (BL 26-Aug-22)                        |            | 03-Jun-19  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| <b>LRV #123 - 152 (30 LRV Options) - Change Order #4</b>                         | 09-Feb-24  | 13-Aug-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Delivery of 152nd LRV - Final Delivery (BL 26-Feb-24)                            |            | 09-Feb-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Final Acceptance of Vehicles (BL 26-Aug-24)                                      |            | 13-Aug-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| <b>Project Closeout</b>                                                          | 27-Mar-23  | 20-Sep-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| <b>LRV #1-122 - Base Order</b>                                                   | 27-Mar-23  | 24-Jun-23  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| ST-Controlled Float                                                              | 27-Mar-23  | 24-Jun-23  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| LRV Procurement Complete - LRV #1 - #122                                         |            | 24-Jun-23  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| <b>LRV #123 - #152 - CO #4</b>                                                   | 20-Sep-24  | 20-Sep-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| LRV Procurement Complete - LRV #123 - #152                                       |            | 20-Sep-24  |      |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |

# Link Light Rail Light Rail Vehicle Fleet Expansion



## Critical Path Analysis

The critical path begins at the shipment and qualification testing of the first four cars through the next 36 cars. Cars will arrive at a rate of three to four cars a month through the final acceptance testing phase to maintain the required amount of cars required for the Northgate Link Extension.

Delivery and Conditional Acceptance Testing of all 40 light rail vehicles required for Northgate Link Extension is closely monitored to support the Pre-Revenue simulation period. The planned deliveries, commissioning and testing of light rail vehicles are anticipated to arrive by September 2024. Consequently also on time for the start of Pre-Revenue Service for each of the new extension lines (East Link, Lynnwood Link, Downtown Redmond Link and Federal Way Link).

## LRV Manufacturing Critical Path Schedule

| Activity Name                                       | Start       | Finish    | Total Float | 2019 |    |    |    | 2020 |    |    |    | 2021 |    |    |    | 2022 |    |    |  |
|-----------------------------------------------------|-------------|-----------|-------------|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|--|
|                                                     |             |           |             | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 |  |
| <b>Seattle - LRV Update - May 2019</b>              | 11-Jun-18 A | 01-Oct-20 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Final Assembly LRV#001                              | 11-Jun-18 A | 23-May-19 | -48.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| FAI First Vehicle (LRV No. TBD)                     | 11-Mar-19 A | 29-May-19 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Shipment and Arrival at O&M Facility LRV#001        | 24-May-19   | 31-May-19 | -48.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Rel. of Veh. Shipment (Milestone A-D) LRV#001       | 24-May-19   |           | -41.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Shipment and Arrival at O&M Facility LRV#002        | 30-May-19   | 05-Jun-19 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Rel. of Veh. Shipment (Milestone A-D) LRV#002       | 30-May-19   |           | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Rel. of Veh. Shipment (Milestone A-D) LRV#003       | 30-May-19   |           | -13.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Delivery LRV#001                                    | 03-Jun-19   |           | -48.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Qualification Testing (includes MP and GBV) LRV#001 | 03-Jun-19   | 01-Jul-19 | -48.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Delivery LRV#003                                    | 17-Jun-19   |           | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Qualification Testing LRV#003                       | 18-Jun-19   | 02-Jul-19 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Delivery LRV#004                                    | 25-Jun-19   |           | -18.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Qualification Testing LRV#004                       | 25-Jun-19   | 17-Jul-19 | -18.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing LRV#001                          | 02-Jul-19   | 08-Nov-19 | -48.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#003    | 03-Jul-19   | 04-Nov-19 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#004    | 19-Jul-19   | 04-Nov-19 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#005    | 29-Jul-19   | 12-Nov-19 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#012    | 18-Oct-19   | 20-Jan-20 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#036    | 10-Jun-20   | 21-Aug-20 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#037    | 19-Jun-20   | 01-Sep-20 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#038    | 30-Jun-20   | 11-Sep-20 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#039    | 13-Jul-20   | 22-Sep-20 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Acceptance Testing (includes MP and GBV) LRV#040    | 22-Jul-20   | 01-Oct-20 | -19.00      |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |



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

### Recruiting Status

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

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

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

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

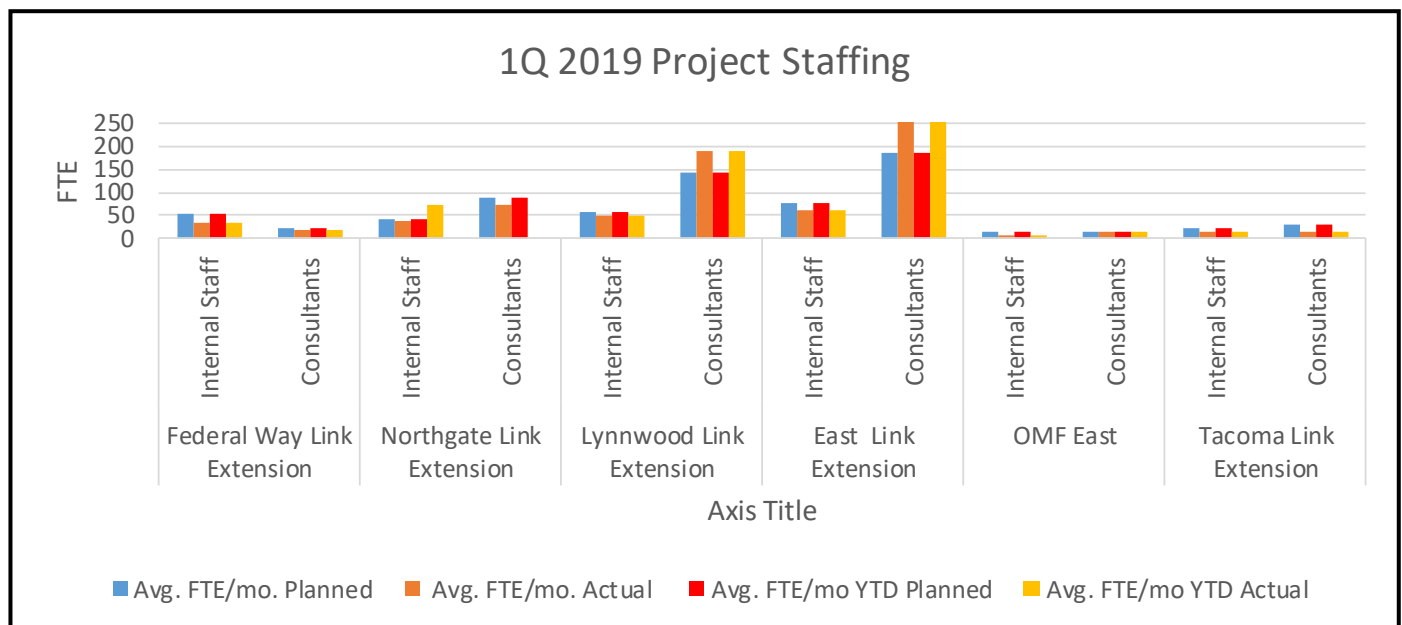
# Link Light Rail Staffing Report



## Staffing Variance relative to Plan

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

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



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

# Link Light Rail Acronyms



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