

# Progress Report

## Link Light Rail Program

---



Installation of the “Jet Kiss” artwork over the Capitol Hill Station platform

February | 2015

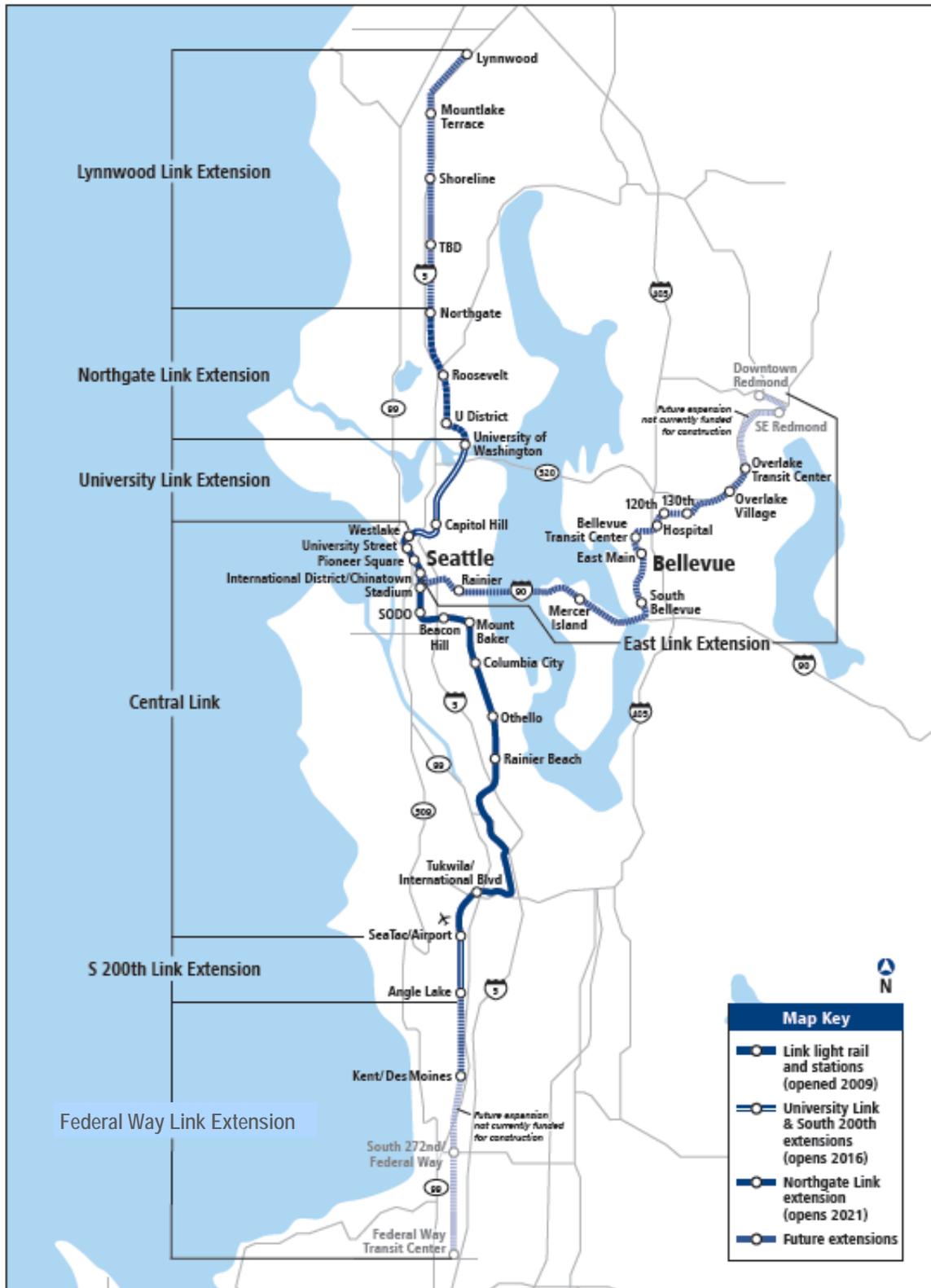






## **TABLE of CONTENTS**

<b>Program Overview .....</b>	<b>1</b>
<b>University Link Extension .....</b>	<b>3</b>
<b>Tunnels .....</b>	<b>13</b>
<b>Stations.....</b>	<b>14</b>
<b>Systems .....</b>	<b>18</b>
<b>Northgate Link Extension.....</b>	<b>21</b>
<b>Lynnwood Link Extension.....</b>	<b>33</b>
<b>East Link Extension.....</b>	<b>37</b>
<b>S. 200th Link Extension.....</b>	<b>49</b>
<b>Federal Way Transit Extension.....</b>	<b>63</b>
<b>Tacoma Link Expansion .....</b>	<b>67</b>
<b>Link Operations &amp; Maintenance Satellite Facility .....</b>	<b>71</b>
<b>Staffing Report.....</b>	<b>73</b>
<b>Acronyms .....</b>	<b>93</b>



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

## Projects

**University Link Extension:** The University Link Extension work program with \$1.76 billion capital budget was approved by the Board in July 2008. The 3.15-mile light rail segment 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 Lake Washington Ship Canal to an underground station on the University of Washington campus, near Husky Stadium.

**Northgate Link Extension:** The University of Washington Station (UWS) to Northgate project is a 4.3-mile extension of light rail from the UWS north under campus via twin-bored tunnels to an underground station at NE 45th Street continuing to an underground station at NE 65th Street and via tunnel, retained cut and elevated sections to Northgate. The project is in Final Design and Construction. Revenue Service date is September 2021.

**Lynnwood Link Extension:** This project entails the planning, design and construction of an extension of Northgate Link from Northgate to Lynnwood in Snohomish County with additional service in the cities of Shoreline and Mountlake Terrace. The draft environmental impact statement (DEIS) was published in July 2013.

**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 Overlake Transit Center. Revenue service to the Overlake Transit Center is forecast for early 2023 with a tunnel route in Downtown Bellevue.

**Initial Segment:** Completed 13.9-mile light rail line between downtown Seattle and South 154th Street in the City of Tukwila. Revenue service began on July 18, 2009.

**Airport Link:** Completed 1.7-mile extension of the Initial Segment to Sea-Tac International Airport. Revenue service began on December 19, 2009.

**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 is being developed through a design-build (DB) delivery strategy and the anticipated service launch is September 2016.

**Federal Way Link Extension:** Sound Transit has initiated studies to identify and evaluate routing and station location requirements to inform conceptual engineering and environmental review for the extension of light rail to the Federal Way Transit Center; with preliminary engineering to be completed on the segment extending from S. 200<sup>th</sup> St. to Kent/Des Moines in the vicinity of Highline Community College. The proposed budget for this effort is \$41.8M.

**Tacoma Link Expansion:** In partnership with the City of Tacoma and Pierce Transit, Sound Transit is studying the potential of expanding Tacoma Link in the context of the City and Pierce Transit service and capital plans.

**Link Operations and Maintenance Satellite Facility:** Sound Transit is reviewing and evaluating current and future light rail storage and maintenance requirements to support the development, design, and construction of a future light rail operations and maintenance facility for proposed system expansion.



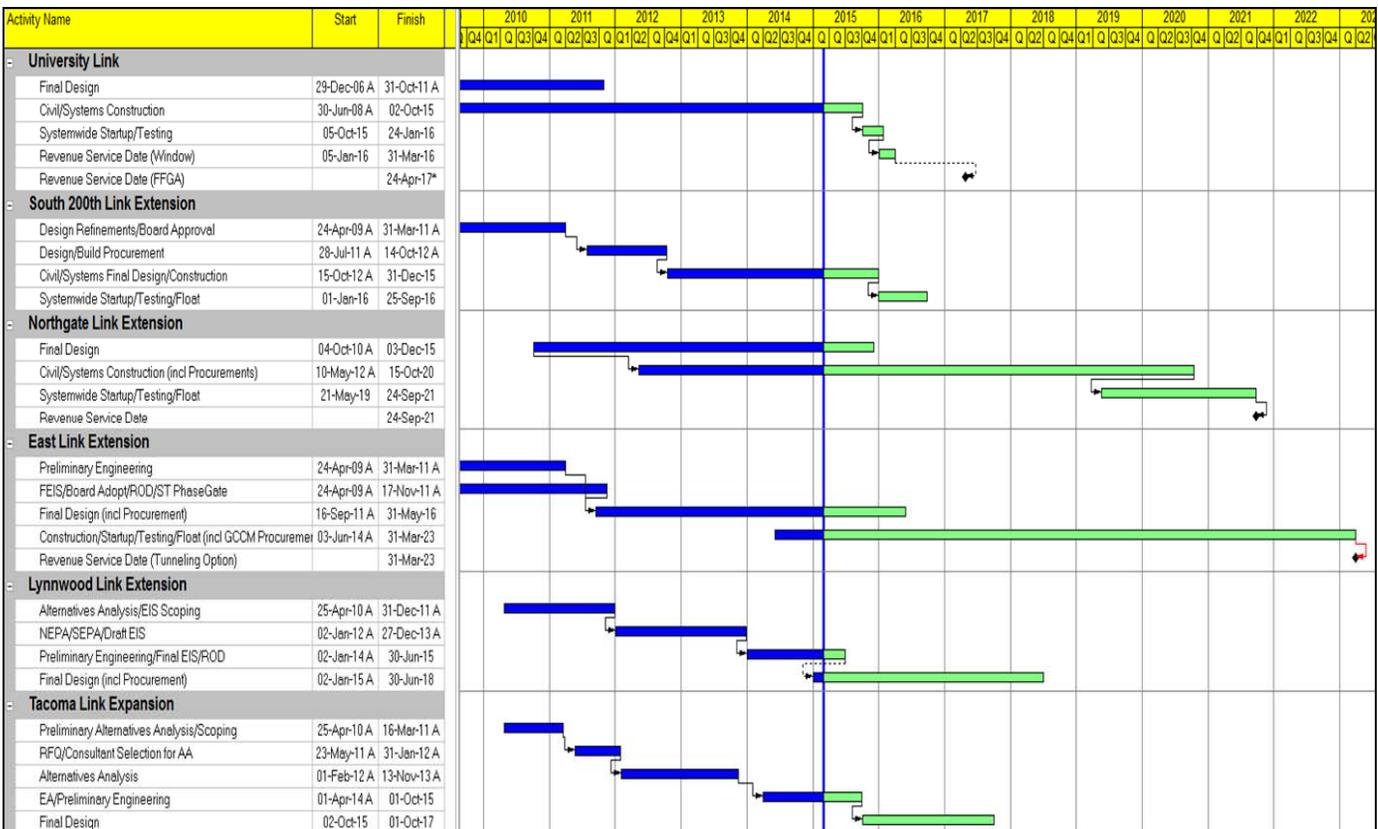
## Program Budget

Project	Adopted Budget	Committed to Date	Incurred to Date
University Link <sup>(3)</sup>	\$1,947.7	\$1,659.6	\$1,518.2
Northgate Link Extension <sup>(2, 3)</sup>	\$2,131.4	\$788.1	\$443.5
Lynnwood Link Extension <sup>(1)</sup>	\$57.1	\$48.4	\$44.0
East Link <sup>(2)</sup>	\$798.3	\$342.4	\$296.4
Initial Segment <sup>(4)</sup>	\$2,433.7	\$2,323.7	\$2,296.3
Airport Link <sup>(4)</sup>	\$261.6	\$261.3	\$260.8
S. 200th Link Extension <sup>(3)</sup>	\$383.2	\$301.2	\$196.4
Federal Way Link Extension <sup>(1)</sup>	\$42.0	\$14.9	\$13.4
Tacoma Link Expansion <sup>(1,5)</sup>	\$7.8	\$6.5	\$4.2
Link Operations & Maintenance Satellite Facility <sup>(1)</sup>	\$36.8	\$32.6	\$28.0
<b>Total</b>	<b>\$8,099.6</b>	<b>\$5,778.7</b>	<b>\$5,101.2</b>

Table figures in millions (1) Preliminary Engineering Phase; (2) Final Design Phase; (3) Construction Phase; (4) In Service, (5) Updated Quarterly.

## Program Schedule

Schedules for active projects are summarized below.



Changes this period: No changes this period.

## 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 Lake Washington Ship Canal and south to the Capitol Hill underground station. U230 commences at Capitol Hill Station and proceeds south under the I-5 freeway to the PSST.

**Stations:** 2 underground center platform stations – Capitol Hill (U240) and University of Washington (U250). U240 is approximately 65' underground with three station entrances. U250 is about 100' below ground, with three station entrances and connections to the UW campus by a pedestrian bridge.

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

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

**Schedule:** Project completion in the 1st QTR 2016



## Key Project Issues

- **U830 Systems** - SCADA software development continues to be the highest risk critical path in Systems. Sound Transit continues to visit the Contractor's facilities to monitor and obtain status of subcontractors SCADA software development. The interim milestones: Milestone 5 (Train Control DSTT) was successfully met on November 15, 2014 and the system continues to be stable. MS5A (Beacon Hill Cutover) continues to be a challenge but is still anticipated in the last weekend of March 2015 with a final determination of go/no-go on March 23rd. MS5B (DSTT EVS/BMS & U-Link EVS Cutover) will be in the Summer 2015. [As of this writing, MS5A was cutover successfully.]
- **U830 Systems**—Demolition of the demising wall in Pine Street Stub Tunnel will connect the U-Link tunnels to existing Link tunnel operations. Coordination with all stakeholders especially with the Seattle Fire Department is critical.
- **LRV Fleet Wide Repairs** - Fleet wide defect was discovered in the LRVs' traction motor/gearbox unit. Repairs on the older LRV must be made immediately as they are now unreliable. Without sufficient reliable LRVs by Revenue Service or Pre-Revenue Service, U-Link may be challenged to operate with six-minute headways. ST Board approved an agency emergency declaration to mitigate this problem and this declaration is being implemented. ST is collaborating with Kinkisharyo, the LRV manufacturer, in aligning all necessary steps to expedite and fully repair this issue. Cost will be tracked and isolated. The minimal goal is to at least repair enough LRVs to operate with six-minute headways.
- **Early Opening:** Projection to open for Revenue Service sometime during the 1st QTR 2016 continues to be on target. All project float has been released. Testing and Start-Up Period compressed with the critical path running through U240 and U830—any impact or delay will be difficult to absorb as there is no more float. Coordination with regional stakeholders has begun through rail activation activities. A comprehensive qualitative risk register related to Rail Activation has been compiled and will be revisited and updated in March 2015.

## Project Cost Summary

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

WBS Phase Elements	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Est. Final Cost (EFC)	Adopted Budget vs. EFC
ADMINISTRATION	\$ 115.23	\$ 113.55	\$ 66.36	\$ 66.30	\$ 103.56	\$ 10.00
PRELIMINARY ENGINEERING	\$ 24.39	\$ 24.26	\$ 24.26	\$ 24.26	\$ 24.26	\$ -
FINAL DESIGN	\$ 77.94	\$ 89.31	\$ 86.24	\$ 82.66	\$ 89.31	\$ (0.00)
CONSTRUCTION SERVICES	\$ 68.53	\$ 95.81	\$ 83.70	\$ 74.32	\$ 93.80	\$ 2.01
3rd PARTY AGREEMENTS	\$ 18.65	\$ 18.65	\$ 12.08	\$ 10.72	\$ 17.77	\$ 0.88
CONSTRUCTION	\$ 1,180.00	\$ 1,158.18	\$ 970.42	\$ 901.00	\$ 1,047.67	\$ 110.51
VEHICLES	\$ 103.91	\$ 103.91	\$ 99.19	\$ 99.18	\$ 101.91	\$ 2.00
ROW	\$ 167.33	\$ 152.33	\$ 125.63	\$ 125.59	\$ 127.29	\$ 25.04
<b>Capital Total</b>	<b>\$ 1,755.97</b>	<b>\$ 1,756.01</b>	<b>\$ 1,467.88</b>	<b>\$ 1,384.04</b>	<b>\$ 1,605.56</b>	<b>\$ 150.45</b>
FINANCE COST	\$ 191.71	\$ 191.71	\$ 191.71	\$ 134.20	\$ 191.71	\$ -
<b>Project Total</b>	<b>\$ 1,947.68</b>	<b>\$ 1,947.72</b>	<b>\$ 1,659.59</b>	<b>\$ 1,518.24</b>	<b>\$ 1,797.27</b>	<b>\$ 150.45</b>

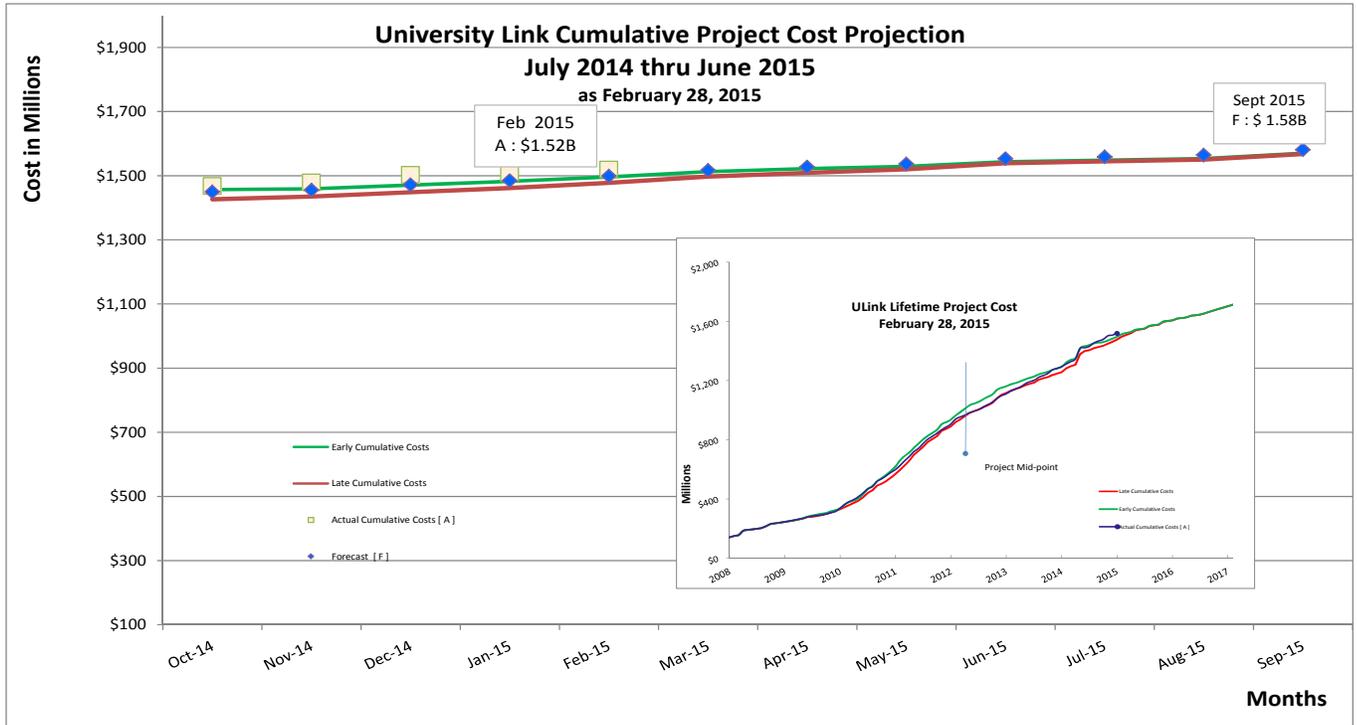
(\*)Totals may not equal column sums due to rounding of line entries.

In February, the projected Estimated Final Cost (EFC) including Finance Cost continues to be about \$1.8B. During this period, approximately \$11.6M was incurred, increasing the project Incurred to Date amount to over \$1.38B (Finance Cost excluded). Direct construction cost accounted for about 86% of the cost incurred in February at \$9.6M essentially split three ways between Systems, Station Finishes and Maintenance of Way Building. The direct construction EFC trends approximately \$1B. This trend continues to be intact as both the high risk tunnel scope are now completed. The Capitol Hill Station (U240) Contractor continues west entry work /pedestrian concourse and station mechanical/ electrical work, the Systems (U830) Contractor continues Signals and SCADA development. Maintenance of Way is fully mobilized and midway through their drill pile installation program. The Total Incurred to Date for the Construction Phase is over \$901M with a current commitments is over \$970M. Cost for LRV is approximately \$99.2M and continues to be working on repairs to the traction motor and gear unit.

Construction EFC under the SCC format for this period remains stable and relatively unchanged at about \$1B. Construction phase expenditures in February is approximately \$9.5M. This period, the bulk of U-Link construction cost is attributed Systems \$3.91M, Stations \$4.33M and Support Facilities at \$1M. U240 station continues to west entry work and station, mechanical and electrical work. All systems work are on schedule towards completion in 4th QTR 2015 and the Maintenance of Way Building trending the end of 2016.

Project Elements by SCC	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 Guideway & Track Elements	\$ 626.83	\$ 450.46	\$ 455.85	\$ 455.18	\$ 462.41	\$ (11.96)
20 Stations	\$ 366.33	\$ 350.75	\$ 336.56	\$ 318.64	\$ 354.04	\$ (3.29)
30 Support Facilities: Yards, Shops	\$ 7.01	\$ 24.83	\$ 21.59	\$ 10.83	\$ 24.83	\$ -
40 Siterwork & Special Conditions	\$ 59.03	\$ 67.49	\$ 54.29	\$ 50.25	\$ 61.02	\$ 6.47
50 Systems	\$ 69.63	\$ 116.42	\$ 97.64	\$ 62.82	\$ 104.11	\$ 12.31
<b>Construction Subtotal (SCC 10-50)</b>	<b>\$ 1,128.82</b>	<b>\$ 1,009.95</b>	<b>\$ 965.93</b>	<b>\$ 897.72</b>	<b>\$ 1,006.41</b>	<b>\$ 3.54</b>
60 Row, Land, Existing Improvements	\$ 167.33	\$ 125.77	\$ 125.63	\$ 125.59	\$ 125.77	\$ -
70 Vehicles	\$ 99.76	\$ 100.06	\$ 99.23	\$ 99.18	\$ 99.76	\$ 0.30
80 Professional Services	\$ 306.41	\$ 346.18	\$ 277.09	\$ 261.55	\$ 342.68	\$ 3.50
90 Unallocated Contingency	\$ 53.65	\$ 174.04	\$ -	\$ -	\$ 30.93	\$ 143.11
<b>Capital Cost Total (SCC 10-90)</b>	<b>\$ 1,755.97</b>	<b>\$ 1,756.01</b>	<b>\$ 1,467.88</b>	<b>\$ 1,384.04</b>	<b>\$ 1,605.56</b>	<b>\$ 150.45</b>
100 Finance Cost	\$ 191.71	\$ 191.71	\$ 191.71	\$ 134.20	\$ 191.71	\$ -
<b>Project Total</b>	<b>\$ 1,947.68</b>	<b>\$ 1,947.72</b>	<b>\$ 1,659.59</b>	<b>\$ 1,518.24</b>	<b>\$ 1,797.27</b>	<b>\$ 150.45</b>

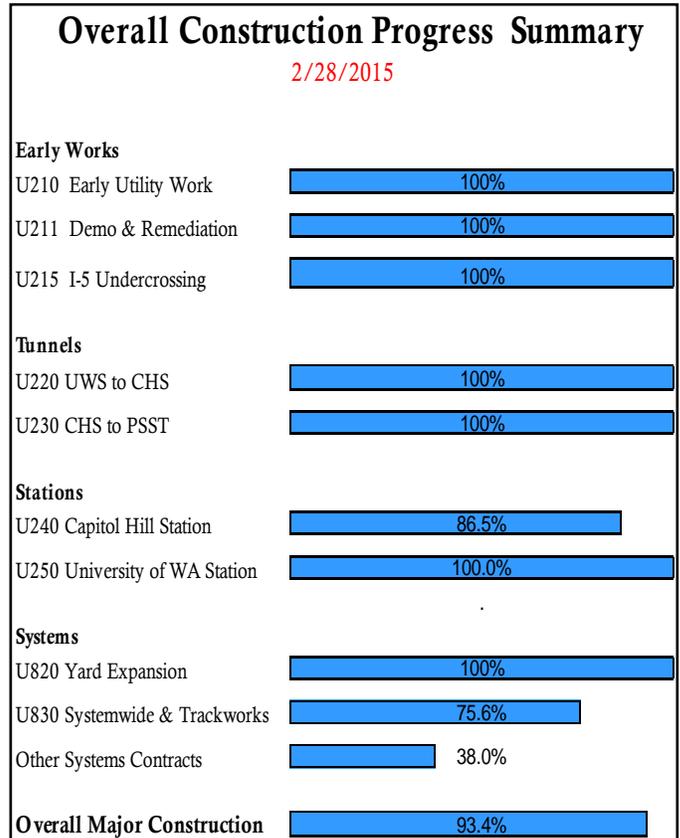
(\*)Totals may not equal column sums due to rounding of line entries.



Incurred to date for Construction under the SCC is over \$897M. Total capital cost incurred to date including non-construction cost (SCC 60 thru 90) is over \$1.37B or about 78% of total project budget scoped (excluding Finance Cost).

Total cost incurred at the end of February 2015 including Finance Cost is about \$1.5B. The project financing cost incurred to date about \$135M with an annual projection of \$28M to incur in 2015. There was a minor mathematical error discovered in the financing cost calculation in December 2014 but was discovered and corrected in January 2015. The next finance cost update will be for the end of 1st QTR 2015. Overall, University Link cost to date is projected to be approximately \$1.5B by June 2015.

The EFC for project Finance Cost continues to be projected at \$191.7 million. This cost represents booked financing cost and is generated based on allocation of appropriate level of financing cost to each capital project at Sound Transit. Despite an earlier than anticipated release of \$44 million of the FFGA funds due to the American Recovery Reinvestment Act that was used to pay down finance charges, it is premature to project any savings at this time.



Note: The overall construction progress above is based on a weighted combination of duration, schedule and cost % complete for individual construction contracts as compared to the overall U-Link construction contracts.

## Cost Contingency Management

Project contingencies continue to remain at a healthy level of about \$276M due to the favorable construction bidding climate, ROW acquisition cost trends, diligent project risk management practices and excellent tunneling conditions. February's overall contingency notched down by about \$2 million due to change orders and some administrative adjustments due to the budget transition from the previous fiscal year to the current. Contingency level continues to trend well above the Planned Contingency Drawdown; the projected planned balance between the end of 4th QTR 2014 and the end of 1st QTR 2015 ranges from \$87M and \$93M and the Contingency Buffer is now projected to at the minimum \$100M from this point until project completion. The projected planned Reserved Contingency balance is now planned at \$25M (see contingency curve at the bottom of page). Construction has now surpassed 93% complete. Barring any catastrophic event, there is a high likelihood that this contingency trend will remain intact.

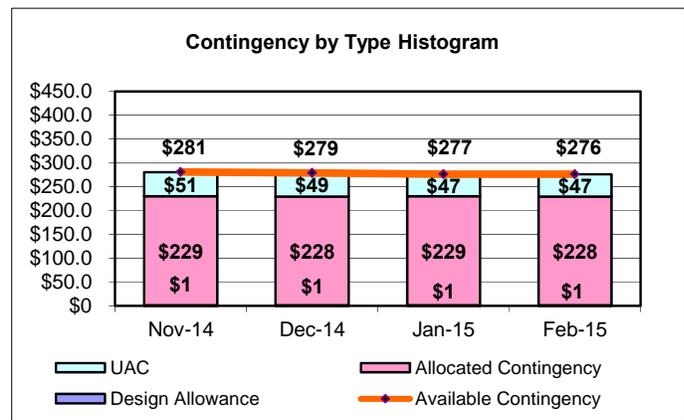
*Design Allowance:* The balance of design allowance has been reduced to less than \$1M and is consistent with the project cycle as all the major design has been completed. The level of design allowance currently represents less than one-half percent of the total remaining scope in the project that has not been procured.

*Allocated Contingency:* Allocated Contingency continues to remain stable approximately at \$228M.

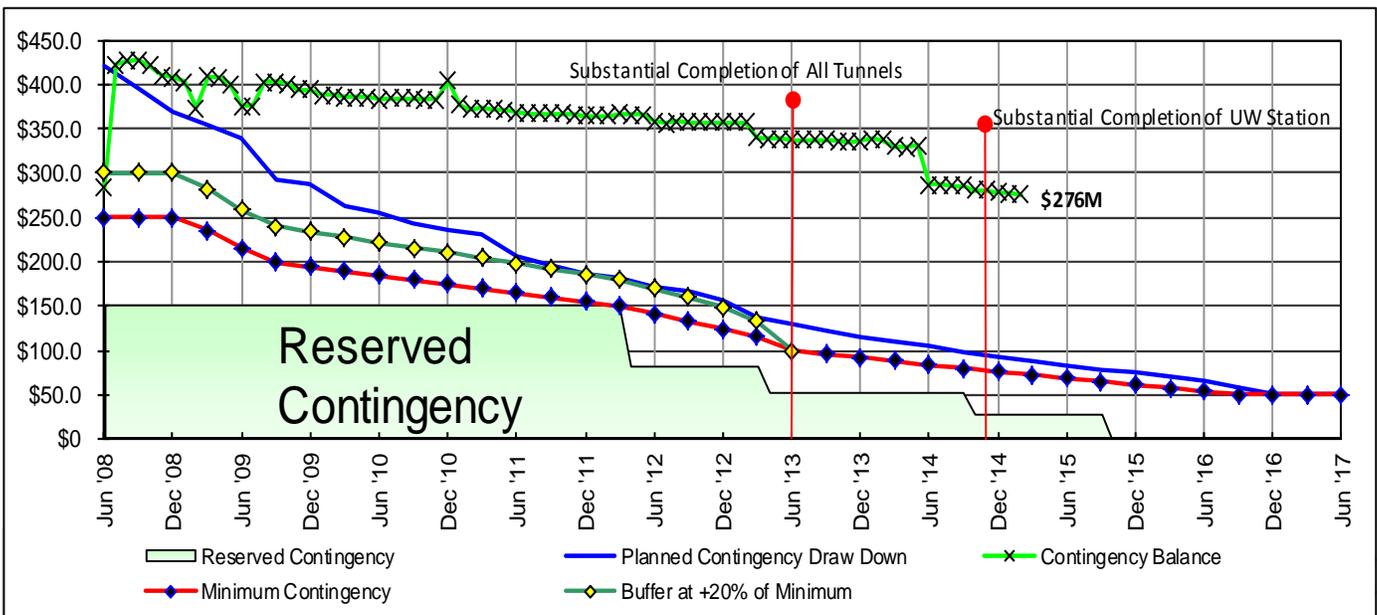
*Unallocated Contingency (UAC):* The total UAC balance is at \$47M and continues to remain stable compared to the Baseline Cost Estimate amount of \$53.7M considering that the construction has now surpassed 93% complete.

Contingency Status	BCE		Current Status	
	Amount	% of Total	Remaining Amount	% Remaining Work
Design Allowance	\$103.9	7.8%	\$1.0	1.0%
Allocated Contingency	\$264.3	19.8%	\$228.4	238.9%
Unallocated Contingency	\$53.7	4.0%	\$46.9	49.1%
<b>Total:</b>	<b>\$421.9</b>	<b>31.6%</b>	<b>\$276.3</b>	<b>289.0%</b>

Percentage = Contingency \$ / (EFC or Remain. Work \$ ex-Contingencies)



### MINIMUM CONTINGENCY CURVES as of February 28, 2015 \$ in millions



## Risk Management

The University Link Risk Management Plan (RMP) established a risk management and oversight process for identifying, assessing, and monitoring risks and develop risk reduction/mitigation plans. On a quarterly basis, the risk register is reviewed and risks are updated to reflect condition at the end of the current quarter. The RMP is also executed in compliance to the Federal Transit Administration's (FTA) guidance laid out as part of FTA's Program Guidelines sub-task 40E.

### Project Risk Overview:

The 4th QTR 2014 risk is currently being updated. At the end of the 3rd QTR 2014, U-Link project represents almost 90% construction completion with U220 and U230 Tunnels at Acceptance; U240 Station is now over 74% complete as it reaches basic structure completion and excavation on the West Entry's pedestrian tunnel is well underway. U250 is over 98% completion, and is now focusing on commissioning items while completing landscaping, restoration and the pedestrian bridge. U830 Systems continued work on rail installation in the tunnels; commenced development of specialty track works; ongoing verification for communication and signaling elements approaches 60% complete. Communication work is somewhat behind and is being monitored closely. Sound Transit completed updating and identifying risks on the register that were both within the current management time horizon and posed considerable risk to project objectives by having both relatively high probability and impact. The report will be issued shortly to FTA and the PMOC. Prior to this update, the register contained a total of 586 risks, of which 103 were active (483 closed). This quarterly update resulted in a total of 586 risks, of which 95 are active (491 closed). Closed risks were those that no longer presents a potential impact, e.g., risks associated with surface and tunnel excavation at the stations and design risks that have been resolved since the last update. While there are no new risks registered for this quarter, activities in the Rail Activation phase has commenced and the University Link team is currently in the process of building a comprehensive qualitative risk register addressing risks related to the project. It is currently in a draft state, this risk register will be included and discussed in the next quarter.

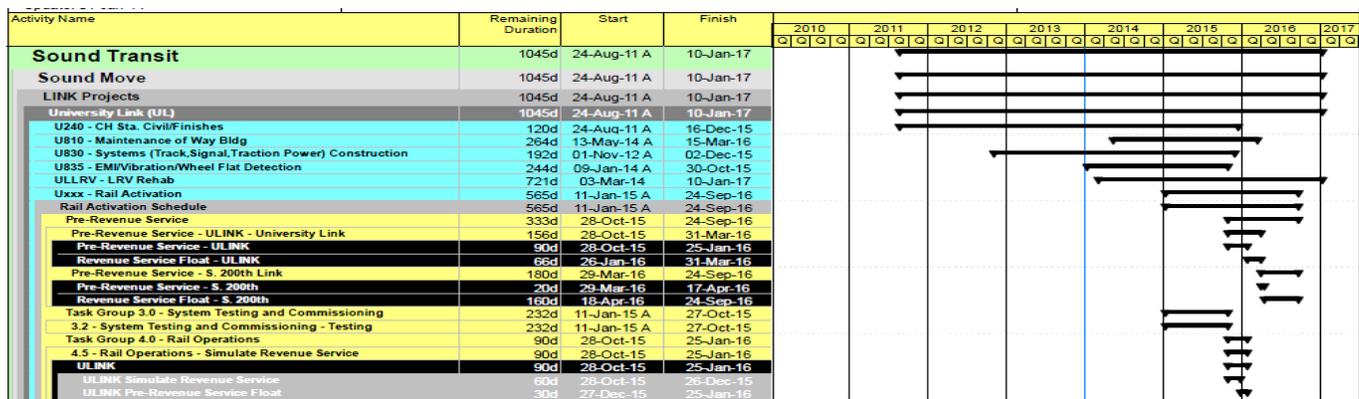
The top remaining risk subjects that will require at least partial mitigating action in the upcoming quarter are provided below along with their planned risk management strategies:

- **Civil to Systems Contract Interfaces**  
Risk subjects pertaining to the transitioning interface between Station Finishes contractors (U240 and U250) to Systems contractor (U830)
- **Systems Software Development**  
Development of the software systems to operate U-Link and the integration of the current operating system
- **Systems Final Design, Installation, and Testing (U830, U835, System-wide Testing)**  
All phases U-Link systems integration between the cut over of the current operating systems through to the commissioning and occupancy of the U-Link program
- **Rail Activation**  
As the project moves closer towards the transition from construction to rail activation, identification new risks and its potential to impact cost and schedule needs to be more visible.
- **LRV Fleet wide Repair**  
A latest defect was discovered in the Traction Motor/Gear Unit in the LRVs. Repairs require long lead materials and careful coordination to minimize any impacts to current operations. If there are insufficient reliable LRVs by Revenue Start, the 6 minutes headways promised for U-Link will be in jeopardy.

## Project Schedule Summary

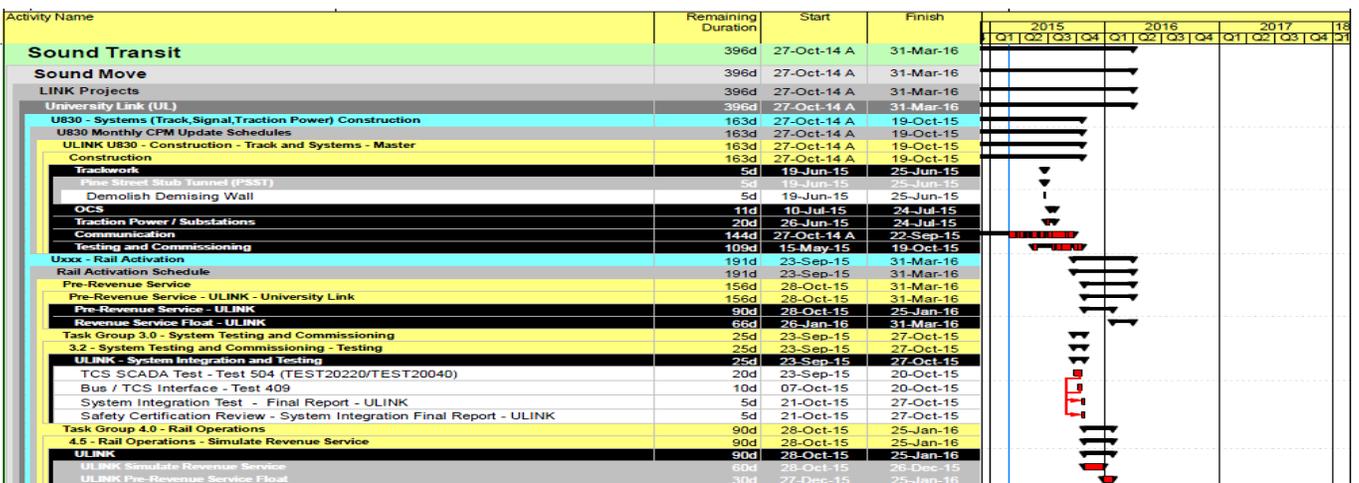
The University Link schedule is provided below. The U210, U211 and U215 early work contracts have been completed. The U820 LRV Storage Yard Expansion Contractor has also completed all work. The U220 and U230 TBM mining is complete. At U250 UW Station, Substantial Completion was granted in November and the Contractor is working through the punch-list, expected completion is June 2015. The U240 Contractor has returned the Pine Street site to U830. The U830 Contractor has completed rail installation and the floating slab. Acceleration of OCS activities is underway to commence an early start to System Integration Activities in March. U835 EMI/Vibration design is underway. All U860 Fiber Retrofit, upgrades and fiber installation have been completed. The U810 MOW contract has been awarded and excavation and foundation activities are now underway.

The targeted Revenue Service window is now the 1st QTR 2016 with the removal of 169 days of float contingency from the Master Schedule. The Rail Activation Schedule has been linked to the University Link Master Schedule this period and the critical path will now be tracked as schedule is updated monthly. The rehabilitation of the LRV's has been added to the Master Schedule last period for tracking purposes.



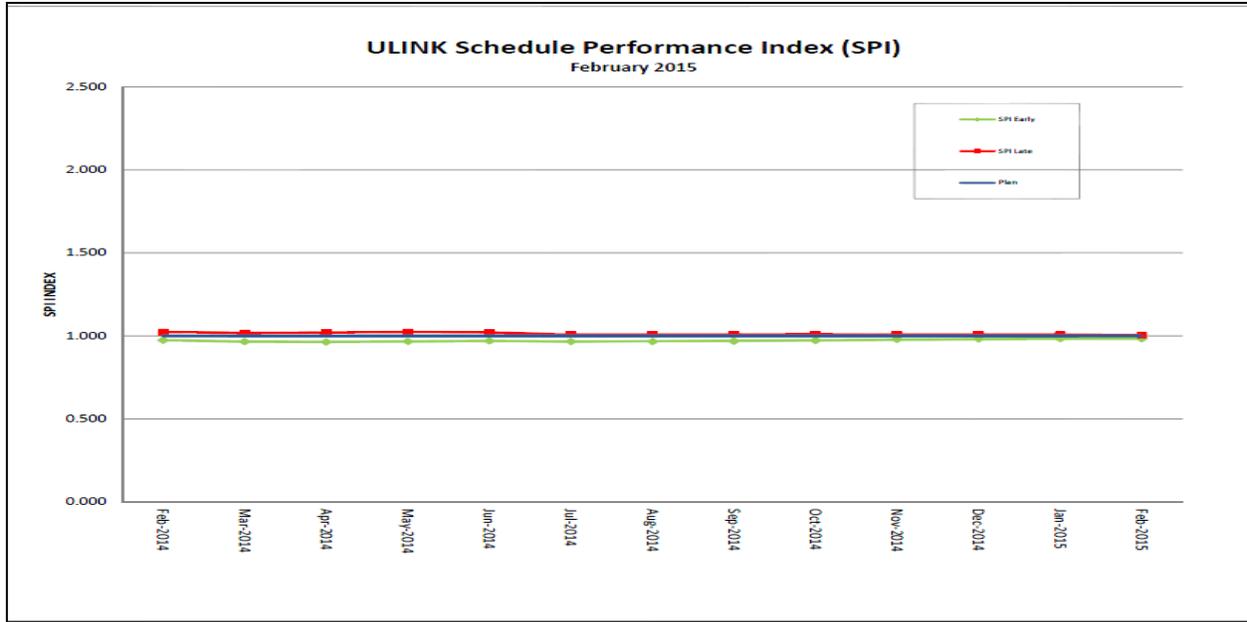
## Progress and Critical Path Analysis

The U-Link Master Schedule update contains the tunnel contractors' schedules and interfaces with the stations and U830 (Track, Signal, Traction power and Communications System) schedules. TBM Mining, U220 and U230, have achieved Substantial Completion and U830 has completed rail charging at the UW Station and now CHS Station. Plinth rail installation is complete in the NB and SB tunnel between CHS and PSST. Sound Transit is tracking multiple critical paths through the project as U-Link nears completion in early 2016. The critical path is progressing through U240 CHS Systems Rooms access and the handover of these rooms to U830 for equipment installation and testing and commissioning. U830's Initial Segment SCADA retrofit activities are closely being monitored at this time due to its criticality to system-wide testing for the U-Link Extension. The Rail Activation Schedule has been linked to the University Link Master Schedule as the critical path is tracked through System Integration Testing by U830 and the commencement of Pre-Revenue Service for U-Link.



## Schedule Performance Index

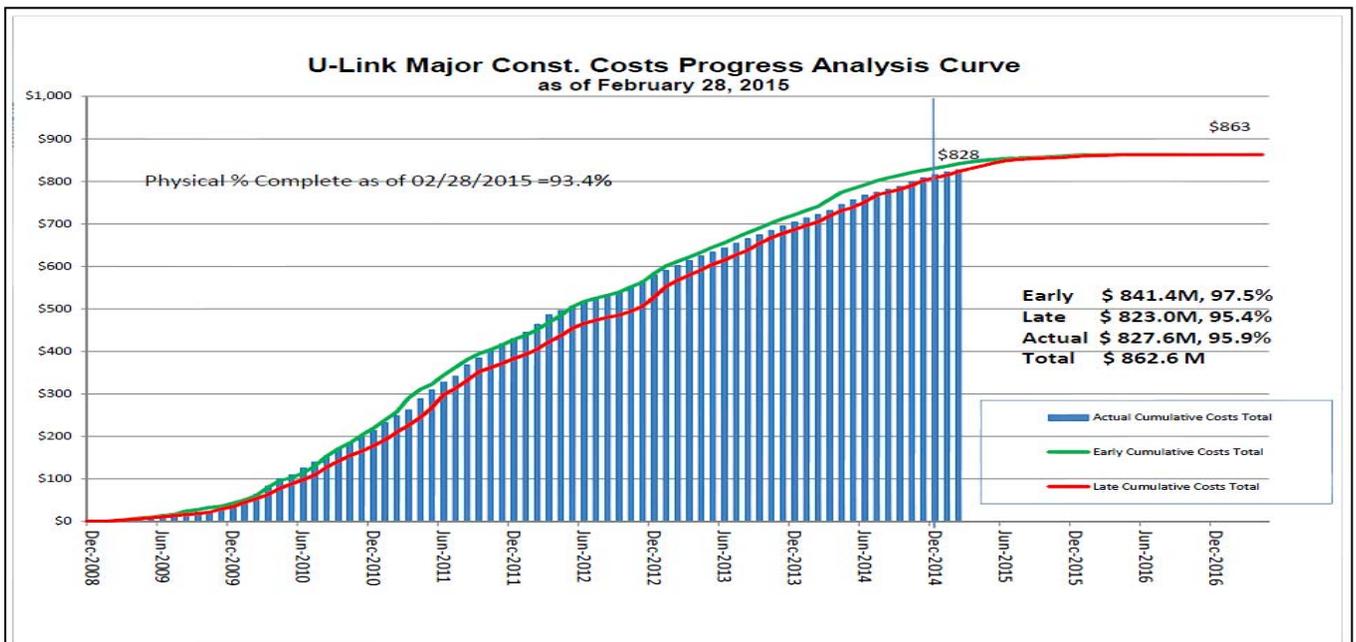
The Schedule Performance Index (SPI) for U-Link remains at 0.98 as rail completes and OCS installation production has increased for the U830 contract. (See details on individual contract sections.) Progress will continue to be monitored closely.



## Cost Progress Analysis

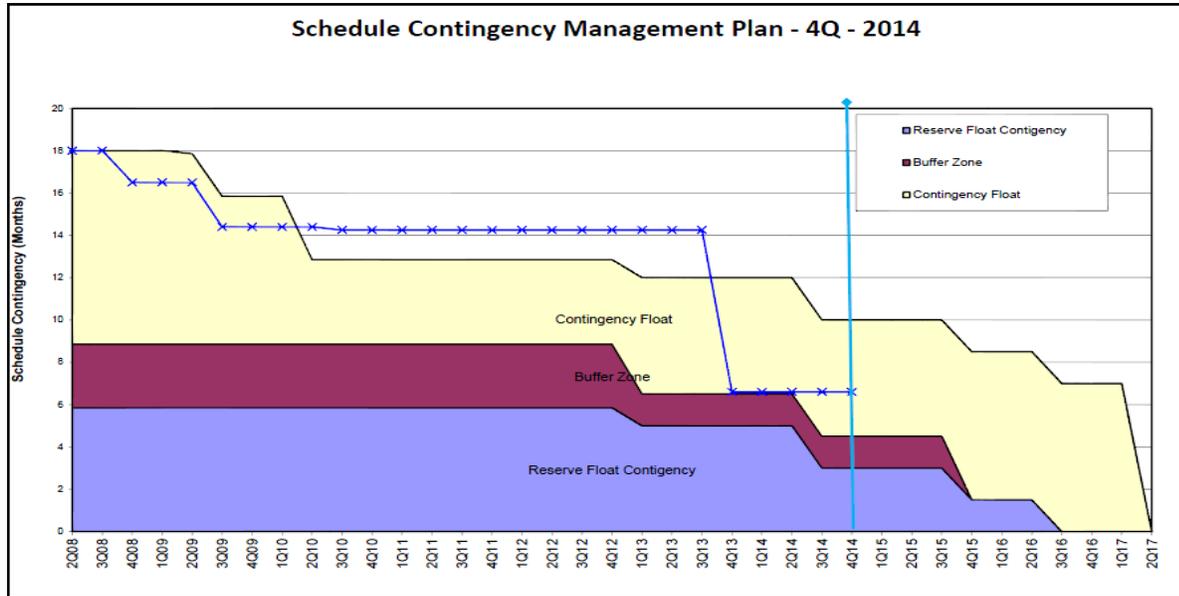
U220 and U230 are complete. U250 is complete with punchlist and MTB handrail outstanding.

Overall U-Link physical % complete is at 93.4% against 88.2% of contract time expended. The U835 EMI/Wheel Flat Vibration Contract was added to the U-Link Major Const. Progress last period. The graph below shows the progress of major construction contracts cost compared to the early/late projections.



## Schedule Contingency Management

The “Minimum Schedule Contingency Curves” were established in the Project Execution Plan (PEP). The PEP segregated Schedule Contingency into “Forced Lag,” which is a built-in float on the Critical Path; “Buffer Float,” which is the duration between Sound Transit’s targeted Revenue Operation Date and the Schedule Revenue Operation Date; “Contingency Float,” which is the duration between Sound Transit targeted Revenue Operation Date and the FFGA Revenue Operation Date, and “Desired Minimum Float” which is the amount of schedule float the FTA requires Sound Transit to maintain. The current schedule contingency balance was reduced by six months in November 2013. All contingency float was removed based on the completion of the tunneling contracts in the 3rd QTR 2013.



## Right-of-Way

The U-Link project involved the acquisition of a range of property interests, including fee takings for stations and staging areas, tunnel easements for the running tunnels, acquisitions from the University of Washington and airspace leases with the Washington Department of Transportation. These acquisitions required relocation of 141 owners and tenants. The right-of-way program status is summarized below.

Line Section	Total Parcels Certified	Offers Made	Signed Agreements	Admin. Settlements	Possession and Use	Closings to date	Relocations Required	Relocations Completed
Capitol Hill Station	19	19				19	140	140
Tunnel Easements	223	222				222	1	1
<b>TOTAL</b>	<b>242</b>	<b>241</b>				<b>241</b>	<b>141</b>	<b>141</b>

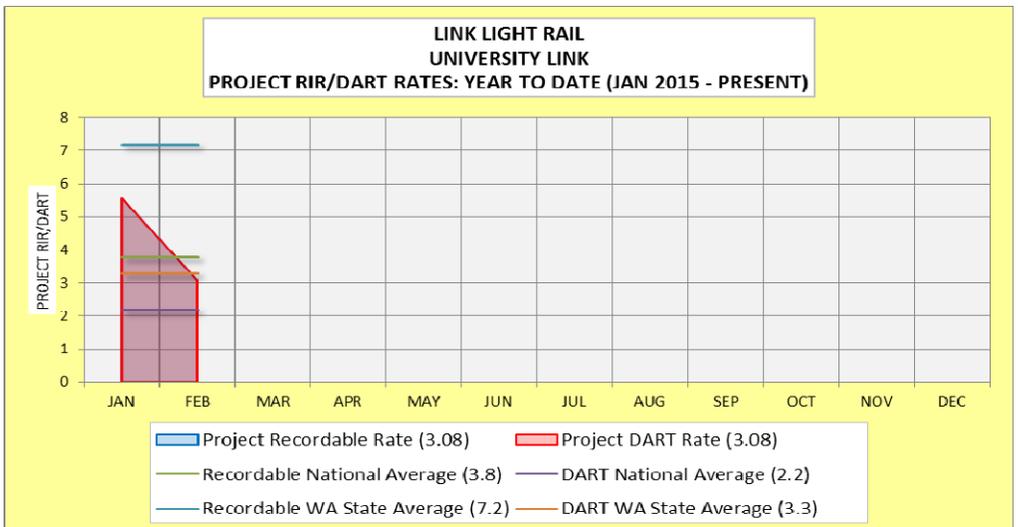
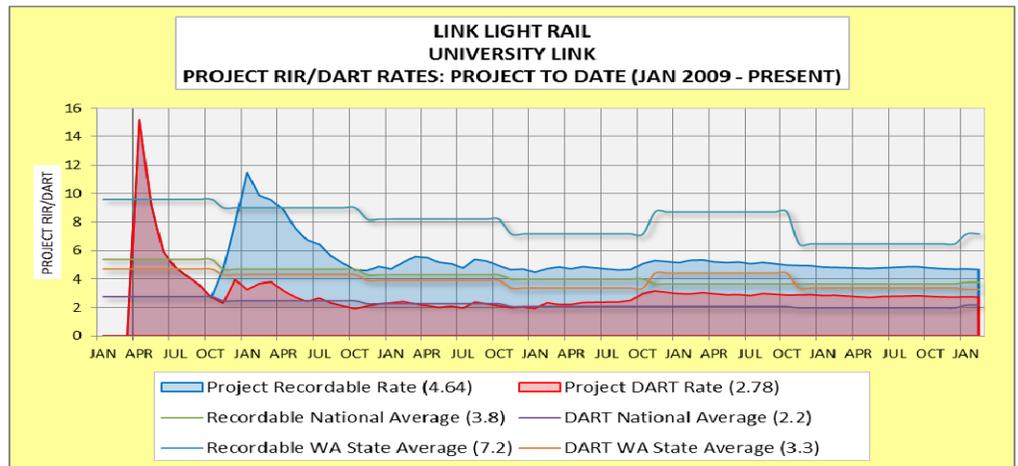
Capitol Hill Station: The acquisitions and relocations for the station site are complete.

## Construction Safety

Safety statistics for the reporting period and year-to-date are summarized in the table and charts.

Data/Measure	February 2015	Year to Date	Project to Date
Recordable Injury/Illness Cases	0	1	86
Days Away From Work Cases	0	1	18
Total Days Away From Work	28	39	751
Restricted or Modified Work Cases	0	0	33
Total Days Restricted or Modified Work	0	0	1558
First Aid Cases	0	0	146
Reported Near Mishaps	1	1	229
Ave. Nos. of Employees on Worksite	139	-	-
Total # of Hours (GC & Subs)	<b>29,000</b>	<b>64,911</b>	<b>3,683,820</b>
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	0.00	3.08	4.67
DART Rate	0.00	3.08	2.77
<i>Recordable National Average</i>	<b>3.80</b>	<b>3.80</b>	<b>3.80</b>
<i>DART National Average</i>	<b>2.20</b>	<b>2.20</b>	<b>2.20</b>
<i>Recordable WA State Average</i>	<b>7.20</b>	<b>7.20</b>	<b>7.20</b>
<i>DART WA State Average</i>	<b>3.30</b>	<b>3.30</b>	<b>3.30</b>

The charts to the right show University Link's Recordable Injury Rates (*RIR*) and University Link's Days Away, Restricted or Modified (*DART*) Injury Rate as compared to the national average.



## Quality Assurance Activities

### Activities

- *U240*: MRB dispositioned a Use-As-Is NCR for an unapproved concrete mix used on one of the pre-cast water vaults.
- *U830*: MRB dispositioned 2 Use-As-Is NCRs for non-conformances regarding Floating Slab Type I Support Pads, and 28 day strength test requirements for Pre-cast Panels

### Issues

- U810 Surveillance has one Finding regarding work performed without IFC drawings and specifications.

### Summary

Description	Feb 2015	Notes
No. of Audits Planned	1	U810 IFC Design Audit
No. of Audits Completed	1	U250 RE Audit
Reports in Progress	1	None
No. of Audits Post-poned	0	None

## Environmental

- Continued Environmental Oversight of construction.

## Sound Transit Board Actions

Board motions and resolutions directly related to University Link are summarized in the table below.

Motion Number	Description	Date
	None this period.	

## Community Outreach

- Emailed the U-Link monthly newsletter.
- Delivered alerts regarding the start of construction on the Maintenance of Way building to nearby businesses.
- Notified key stakeholders and sent a construction alert to UWS email list regarding weekend lane closures in Montlake Boulevard.

### *Business Mitigation*

- Met with Capitol Hill Champion regarding the upcoming transit oriented development developer selection.
- Attended the “State of the Hill”, the Capitol Hill Chamber’s annual event sponsored by Sound Transit.

**U220 Contract - TBM Tunnel  
(UWS to CHS)**

**Current Progress**

The U220 contract achieved Substantial Completion on June 7, 2013. Continued close-out activities.

**Close-out Activities**

Current Period

- All NCR paperwork are now closed and Acceptance was issued in August 30, 2013.

Next Period

- Finalize remaining Change Orders to capture remaining Work Directive costs and de-commit unused Provisional Sums.

**Closely Monitored Issues**

- No remaining issues.

**U230 Contract - TBM Tunnel  
(CHS to PSST)**

**Current Progress**

Substantial Completion was achieved in March 2013. The Contractor completed the punchlist items and continued working on final documentation. Work is 100% complete.

**Close-out Activities**

Current Period

- Contract is at Acceptance and is currently in the process of achieving Final Acceptance, which includes close out of contract.

Next Period

- Close out Activities: Continue working on achieving Final Acceptance. This includes reconciling of all outstanding monies and processing of final payment

**Closely Monitored Issues**

- None to report.

**Cost Summary**

Present Financial Status	Amount
<b>U220 Contractor— Traylor Frontier-Kemper Joint Venture (TFK)</b>	
Original Contract Value	\$309,175,274
Change Order Value	\$12,067,459
Current Contract Value	\$ 321,408,334
Total Actual Cost (Incurred to date)	\$ 315,071,655
Financial Percent Complete	98%
Physical Percent Complete:	100%
Authorized Contingency	\$30,917,527
Contingency Drawdown	\$12,233,060
Contingency Index*	2.53

\*Physical % complete / % contingency drawn down

**Cost Summary**

Present Financial Status	Amount
<b>U230 Contractor— JCM Joint Venture</b>	
Original Contract Value	\$153,556,000
Change Order Value	\$9,866,998
Current Contract Value	\$163,452,998
Total Actual Cost (Incurred to date)	\$156,979,939
Financial Percent Complete	96%
Physical Percent Complete	100%
Authorized Contingency	\$15,355,600
Contingency Drawdown	\$9,896,998
Contingency Index*	1.56

\*Physical % complete / % contingency drawn down

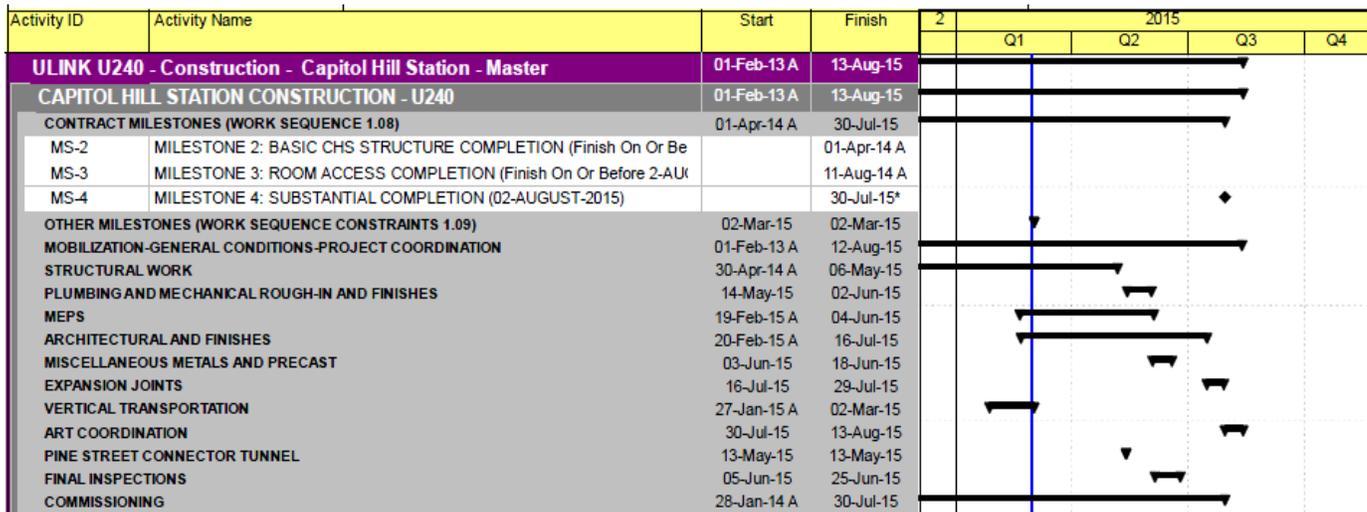
## U240 Contract – Capitol Hill Station

### Current Progress

U240 continued the tunnel closure work at Pine Street this period. West Entry exterior wall work continues; the pedestrian corridor pile drilling operations is complete and shoring installation will continue through base slab installation next period. Eastside of Broadway open to traffic is expected in May 2015. Turnover of major systems rooms to U830 was completed in August 2014. Turnover of Pine Street access back to U830 occurred last period. The artwork Jet Kiss was installed in February and the Phased Red Wall removal is expected 2nd QTR 2015.

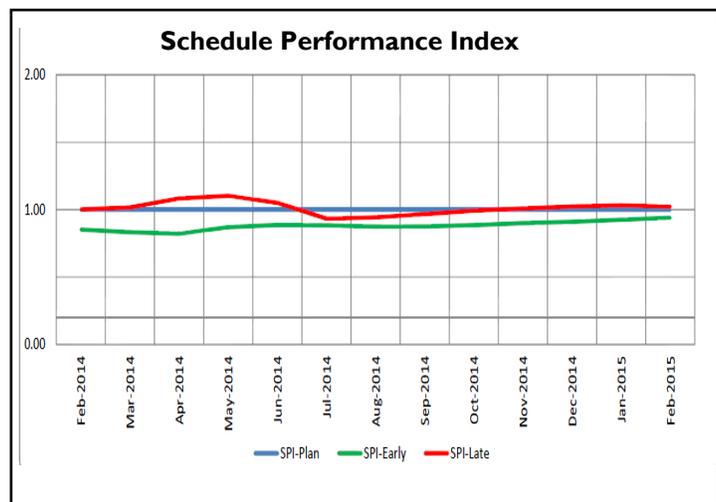
### Schedule/Critical Path

An early turnover of Emergency Ventilation Fans to U830 for an early commencement of Level 3 commissioning of Systems in the 2nd QTR 2015 is expected to occur. Milestone #4, Substantial Completion is reporting three days of float. The critical path continues to run through the pedestrian corridor and final inspections and testing.



### Schedule Performance Index

The U240 Schedule Performance Index (SPI) has improved slightly this period to 0.95. The U240 baseline schedule represented an aggressive schedule based on payment for materials and equipment procured but not yet installed. A review of the contract documents subsequent to the baseline schedule submittal indicated payment for these items can only occur once they are in place. The logic in the schedule has been adjusted since the baseline to recognize this payment process. Production levels and material procurement will continue to be monitored closely.



## Key Activities

### Current Period

- Completed delivery and installation of the “Jet Kiss” artwork.
- Continued installing all components for all escalators and elevators throughout the station.
- Continued painting at the West Entry and the main station.
- Continued installing tiles along the north mezzanine lobby walls and floor tiles at the platform level.
- Continued conducting BMS startup and wiring and programming in multiple electrical rooms.
- Installed concrete floor slab at the pedestrian concourse.
- Continued site work, including installation of the main water line connection and work on the electrical duct bank along Nagle Place.

### Next Period

- Continue installing the high bay storefront glazing at the West Entry and the high bay curtain wall at the North Entry.
- Continue work on tiling mezzanine level walls and continue floor tiling at the platform level.
- Electrical and mechanical subcontractors will continue working on wire pulling, testing, and pipe connections throughout the station and west entry.
- Continue intermittent work with installing and testing the fire alarm system wiring throughout the station.

- Continue working on emergency fan commissioning, and system commissioning throughout the station.
- Continue placing concrete walls at pedestrian concourse.
- Continue installing metal stud framing and drywall at the West Entry walls.
- Contractor to continue utility work along Denny way and begin site restoration, including removal of the big red wall around the site.

## Closely Monitored Issues

- Partition wall “inefficiencies” as outlined in RFC 96 continues to be reviewed with Turner. ST gave the Contractor an offer for settlement of the issue and is awaiting response.
- A risk contingency request related to formwork removal criteria was received requesting significant monies; a draft denial letter was forwarded to the Contractor.
- A request for additional time for work at the Pine Street Stub Tunnel is under review. If approved and agreed, this would extend the completion of Milestone 1. The CM team is still working on final negotiations of costs with Turner for resolution.

## Cost Summary

Present Financial Status	Amount
<b>U240 Contractor - Turner Construction</b>	
Original Contract Value	\$104,850,276
Change Order Value	\$4,520,131
Current Contract Value	\$109,370,407
Total Actual Cost (Incurred to date)	\$91,817,122
Financial Percent Complete:	84%
Physical Percent Complete:	84%
Authorized Contingency	\$10,242,514
Contingency Drawdown	\$4,520,131
Contingency Index	1.90



Workers painting CHS platform areas.

## U250 Contract – *University of Washington Station*

### Current Progress

Milestone #7, Substantial Completion, was granted in November 2014. U250 has commenced punchlist work and is expected to be complete by June 2015 with the installation of the handrail at the MTP Bridge and final inspections by L & I.

Work progress continued with approximately 100% physical completion against 100% contract time expended.

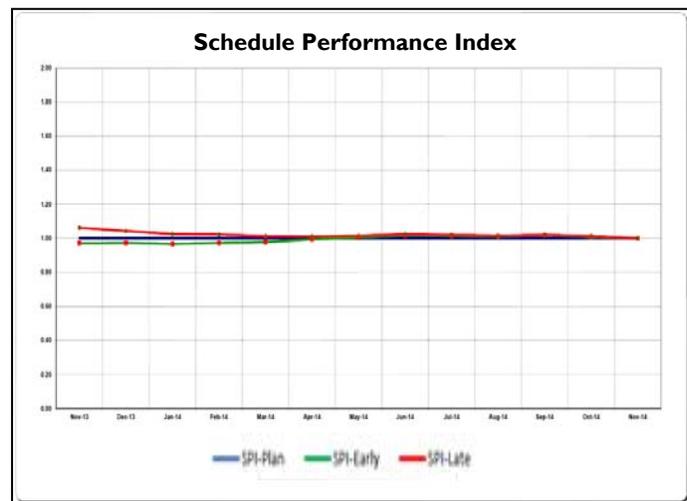
### Schedule/Critical Path

Milestone #7 (Substantial Completion) has been granted. Punchlist and commissioning work is ongoing.

Activity Name	Start	Finish	2015				2016			
			Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>ULINK U250 - Construction - UW Station</b>	05-Apr-11 A	19-Jan-15	[Gantt bar spanning from Q3 2014 to Q1 2015]							
<b>MILESTONES</b>	01-Apr-13 A	14-Nov-14 A	[Gantt bar with diamond marker]							
MILESTONE 1 (727d FROM NTP) (31 Mar 13) ACHIEVE BASIC STRUCTURE COMPLETION OF STATION		01-Apr-13 A	[Gantt bar]							
MILESTONE 2 (60d FROM OCC OF EAST BOUNDARY F3) (01 Apr 13)		06-May-13 A	[Gantt bar]							
MILESTONE 3 (880d FROM NTP) (31 Aug 13) UWS ROOM ACCESS COMPLETION		30-Aug-13 A	[Gantt bar]							
MILESTONE 4 (1031d FROM NTP) (29 Jan 14) BASIC STRUCTURE COMPLETION OF ENTIRE UWS FOR USE BY SYSTEM WIDE		29-Jan-14 A	[Gantt bar]							
MILESTONE 5 (1033d FROM NTP) (31 Jan 14) UWS ROOM ACCESS COMPLETION FOR ALL SYSTEM ROOMS		29-Jan-14 A	[Gantt bar]							
MILESTONE 6 (1160d FROM NTP) (07 Jun 14) RESTORATION OF THE SITE OUTSIDE OF THE CONSTRUCTION WORK AREA		06-Jun-14 A	[Gantt bar]							
MILESTONE 7 SUBSTANTIAL COMPLETION OF ALL WORK (1320d FROM NTP) (14 Nov 14) SUBSTANTIAL COMPLETION OF ALL WORK		14-Nov-14 A	[Gantt bar with diamond marker]							
<b>CONSTRUCTION</b>	05-Apr-11 A	19-Jan-15	[Gantt bar]							
<b>STATION</b>	05-Apr-11 A	19-Jan-15	[Gantt bar]							
CROSSOVER	01-Aug-12 A	12-Dec-14	[Gantt bar]							
ABOVE GRADE ENTRY	31-Aug-12 A	12-Dec-14	[Gantt bar]							
PEDESTRIAN BRIDGE	29-Feb-12 A	12-Dec-14	[Gantt bar]							

### Schedule Performance Index

Substantial Completion was granted in November 2014. Punchlist and handrail are expected to be completed in June 2015.



## Key Activities

### Current Period

- Continued punch list item completion, primarily paint touch ups. Items are expected to be complete by the end of March.
- Continued commission test demonstrations. Level 1 & level 2 commissioning expected to be completed by the end of March.
- Continued final inspections for escalator and elevator operations.

### Next Period

- Commence fabrication of aluminum guardrail materials.
- Installation of all aluminum guardrails is expected to be complete by June, 2015.
- Continue commissioning test demonstrations
- Complete final inspections for elevator and escalator operation.
- Continue punch list item completion efforts.

## Closely Monitored Issues

- The elevator subcontractor reports that further testing awaits L&I confirmation of hoist beam connections to the main building, identified by L&I as a potential barrier to permanent operating permits at Elevators 1 and 2. L&I are currently reviewing the subcontractor's response to their concerns.
- Vibration testing of the smoke exhaust fans on the north end of the project has resulted in alarm-level vibrations with both smoke exhaust fans running simultaneously. Upon witnessing the initial testing, the fan supplier elected to rebalance both fans. This appears to have corrected the issue. Sound Transit is awaiting the final reports.
- Pedestrian bridge guardrail fabrication has commenced following mockup approval, with the first shipment expected to arrive on site in mid-April. Installation of all aluminum guardrails is expected to be complete by June 5, 2015.
- Three Notices of Intent to Claim have been filed by the GC/CM.

## Cost Summary

Present Financial Status	Amount
<b>U250 Contractor - Hoffman Construction Co.</b>	
Original Contract Value	141,745,898
Change Order Value	7,087,147
Current Contract Value	148,833,045
Total Actual Cost (Incurred to date)	145,366,855
Financial Percent Complete:	98%
Physical Percent Complete:	98%
Authorized Contingency	7,087,295
Contingency Drawdown	7,087,147
Contingency Index	.99



UWS at night.

### U830 Contract – Track, Signal, Traction Power and Communications

#### Current Progress

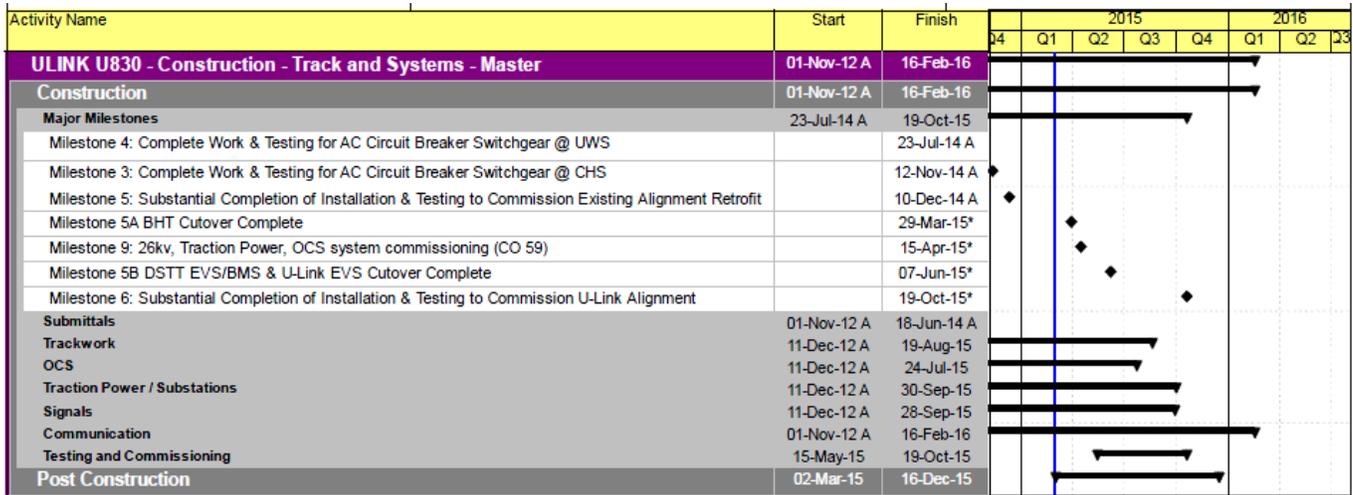
Track construction is now 100% complete with the installation of the crossover and the completion of the floating slab. Permanent power has been established at the UWS and CHS station. OCS installation has been accelerated and is well underway. Coordination between station contractors continues. The first cutover of the SCADA System was completed in November. Emergency Ventilation Level 3 Testing is expected in 2nd Quarter 2015 and critical SCADA cutovers are expected in late March and 2nd Quarter 2015.

Work progress continued with approximately 67% physically complete against 79% contract time expended.

#### Schedule/Critical Path

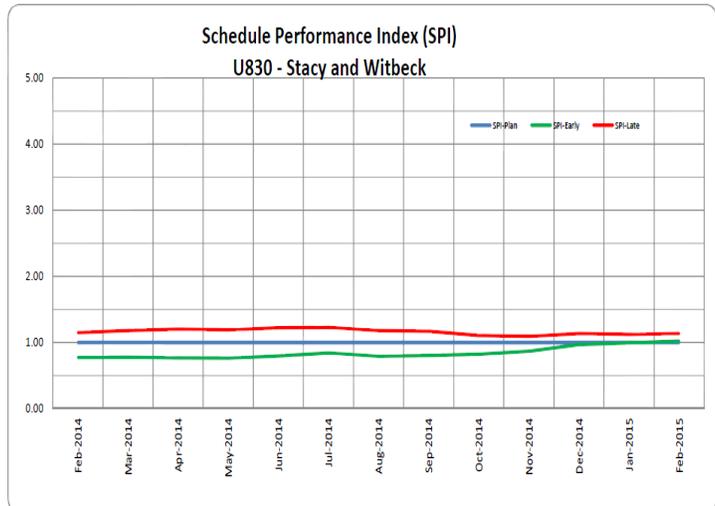
A schedule update for February has been received and it addresses OCS acceleration. Expected completion for OCS installation is forecasting for early March. Early completion of OCS is expected to provide early starts to critical system integration tests prior to the demising wall removal in June 2015. Milestone #6 (Substantial Completion) is reporting one day of positive float.

The U830 Critical Path runs through the communication equipment and testing/commissioning. Contractor production rates and construction submittals are being tracked closely.



#### Schedule Performance Index

The SPI based on early forecast has risen slightly above a 1.0 this period. The completion of rail and floating slab installation and improved production with OCS installation has improved the performance indices for U830.



### Key Activities

#### Current Period

##### *Trackwork*

- Rail profile grinding was performed on both tracks between Pine St. to UWS.
- Continued installation of tunnel signage.

##### *Traction Power/Signal/Com-SCADA Systems*

- Continued pulling and terminating fiber optic cables in the stations and cross passages.
- Continued installing communication devices at CHS and UWS.
- Continued installation of fan damper control panels at UWS and CHS.
- Continued splicing EMI at UWS area and tunnel.
- Continued installation of overhead catenary system between UWS and CHS.
- Continued installation and testing of the signal cable and devices in the tunnels between CHS and UWS. Began testing signal systems at CHS and UWS area.
- Continued preparation for the systems integration testing phase.
- Began cutover process for Beacon Hill tunnel SCADA retrofit.
- Ongoing design and software development for all system scopes.

#### Next Period

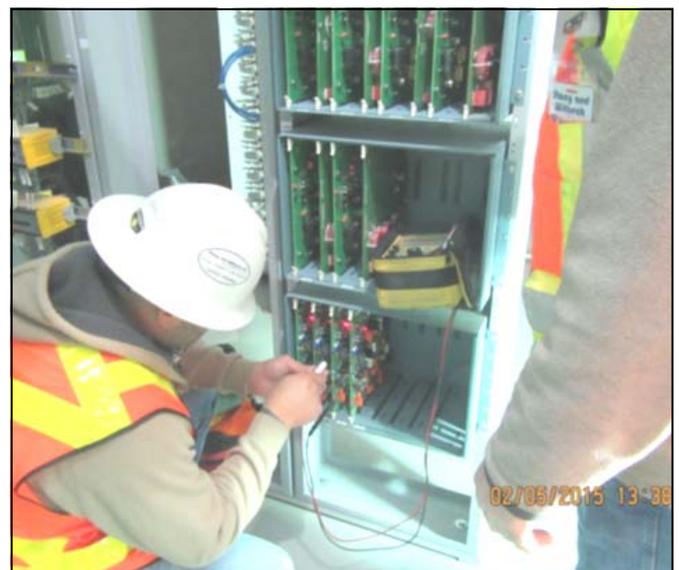
- Continued installation of tunnel signage.
- Continue pulling and terminating fiber optic cables in the stations and cross passages.
- Continue installing communication devices at CHS and UWS.
- Continue installation of fan damper control panels at UWS and CHS.
- Continue splicing EMI at UWS area and tunnel.
- Continue installation of overhead catenary system between UWS and CHS.
- Continue installation and testing of the signal cable and devices in the tunnels between CHS and UWS, and continue testing signal systems at CHS and UWS area.
- Begin systems integration testing phase.
- Scheduled to complete Beacon Hill tunnel SCADA retrofit by end of March.
- Ongoing design and software development for all system scopes.

### Closely Monitored Issues

- Current focus is on overhead catenary support installation at UWS and communications systems installation at CHS.

### Cost Summary

Present Financial Status	Amount
<b>U830 GC/CM Contractor - Stacy &amp; Witbeck</b>	
Original Contract Value	\$119,167,433
Change Order Value	\$2,054,719
Current Contract Value	\$121,222,152
Total Actual Cost (Incurred to date)	\$90,783,290
Financial Percent Complete	75%
Physical Percent Complete:	76%
Authorized Contingency	\$5,958,373
Contingency Drawdown	\$2,054,719
Contingency Index	2.2



Track Circuit Testing at the Signal Room in CHS.

**U820 Contract - LRV Storage and Yard Expansion**

**P821 Contract - Light Rail Vehicles**

**C802 Contract - Signals Systems (Yard Expansion)**

**Other Systems - Radio Console, Fare Collection.**

**Key Activities**

*Closed Contracts*

- C802 Signals Yard Expansion
- U820 LRV Storage and Yard Expansion
- U826 Radio Console Upgrade
- U860 Network Fiber
- U820- LRV Storage and Yard Expansion

Current Period

*P821 – Light Rail Vehicles*

- Contract Close Out on hold until repair to the Traction Power/ Gear Unit is completed.

*Other Systems*

- U835 EMI/Vibration & Wheel Flat Monitoring – continue final design activities and work plans.
- U810 MOW to submit 100% Design and mobilization of construction activities
- U829 Fare Collection Contracts – TVM work commenced

Next Period

*P821 – Light Rail Vehicles*

- Contract Close Out on hold until repair to the Traction Motor/ Gear Unit (TM/GU) repairs is completed.
- Collaborate with manufacturer on the TM/GU fleet repair .

*Other Systems*

- U835 EMI/Vibration & Wheel Flat Monitoring – continue final design activities and work plans.
- U810 MOW to mobilize for construction activities
- U829 Fare Collection Contracts – TVM work continues.

**Closely Monitored Issues**

- Timely repair of the TM/GU is critical to provide sufficient LRV units to adequately support a 6 minute headways operation when University Link commences.

**P821 Cost Summary**

Present Financial Status	Amount
<b>P821 Manufacturer — Kinkisharyo Intl.*</b>	
Original Contract Value (U-Link Option)	\$94,576,095
Change Order Value	\$4,598,480
Current Contract Value	\$99,174,575
Total Actual Cost (Incurred To Date)	\$99,174,575
Financial Percent Complete:	100%
Physical Percent Complete:	100%
Authorized Contingency	\$4,608,904
Contingency Drawdown	\$4,598,480
Contingency Index	N/A

\*Change Order to Initial Segment LRV Contract

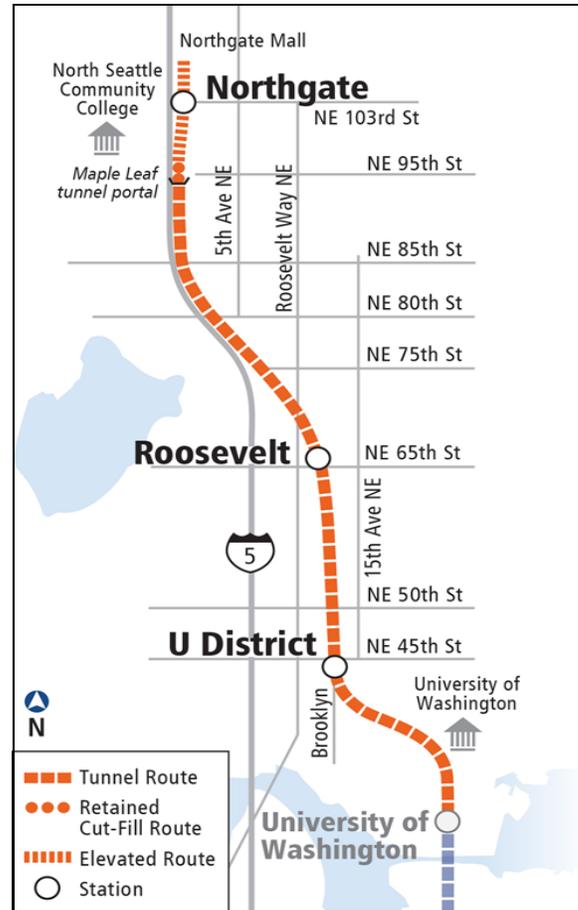
**C802 Cost Summary**

Present Financial Status	Amount
<b>C802 Train Control —GETS Global Signaling, LLC*</b>	
Original Contract Value (U-Link Option)	\$1,996,269
Change Order Value	\$15,390
Current Contract Value	\$2,011,659
Total Actual Cost (Incurred To Date)	\$2,011,659
Financial Percent Complete:	100%
Physical Percent Complete:	100%
Authorized Contingency	\$103,731
Contingency Drawdown	\$15,390
Contingency Index	N/A

\*Change Order to Initial Segment Train Control Contract.  
55% of contract costs are assigned to U-Link 45% Northgate Link.

## 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 the UW Station, boring tunnels under campus then continues north to a portal located north of NE 94<sup>th</sup> Street on the east side of I-5, then transitioning to an aerial structure running north to the Northgate Mall.
- Stations:** The U District Station is an underground station located on the west side of the UW campus near Brooklyn Ave. and NE 45<sup>th</sup> St. The Roosevelt Station is an underground station located near NE 65<sup>th</sup> St. and 12<sup>th</sup> Ave NE. The Northgate Station is an elevated station located at the southwest edge of the Northgate Mall property.
- Systems:** Include Signals, track electrification, and SCADA communications, and an additional 40 light rail vehicles.
- Budget:** \$2.131 Billion
- Service:** September 2021
- Phase:** Final Design and Construction



Map of Northgate Link Extension route and stations.

## Key Project Activities

- The ST Capital Committee authorized award of the N160 Northgate Station, Aerial Guideway & Garage, for preconstruction services on February 12.
- Staff provided a project update to the ST Board.
- Prepared for Executive Partnering session on the TBM Tunneling Contract (N125) scheduled for March 2nd.
- Held third transit integration workshop with King County Metro and Seattle Department of Transportation
- Completed first draft of the Preliminary Hazard Analysis (PHA) report as necessary to meet Safety and Security Certification requirements.
- Meetings regarding the Street Improvement Permit (SIP) process were held with SDOT to review street/pedestrian lighting and grading/drainage plans for the U District Station.
- Staff participated in Mayor Murray's "Find it – Fix it" community walk in the U District on February 21st.
- For N111 Advanced Utility Relocation, the Contractor began submittals of permit applications, traffic control plans, schedules and technical information needed to proceed with construction of the new ductbanks.

- For N125, northbound tunnel TBM No. 1 advanced 1,050 ft. for a total to date of 7,600 ft. TBM No.2 advanced 420 ft. for a to date total of 1,670 ft.
- At the Roosevelt Station, excavation of the station box was completed. The Contractor cleaned up the station box and the slurry wall in preparation for placing the bottom slab for arrival of TBM#1 in March.
- At the U District Station, continued excavation and tieback installation.

## Closely Monitored Issues

- The tunnel contractor has had some challenges in meeting planned TBM production rates including delays in starting mining operations with TBM No. 2. A recovery schedule has been submitted with a plan to get this work back on track.
- An alternative route for the relocation of the 115 kV power lines in the Northgate area continues to be evaluated and discussed with FHWA, SCL and WSDOT.

## Project Cost Summary

The Northgate Link project cost is summarized below by two cost categorizations. In the first table, the cost is summarized in accordance with Sound Transit's Work Breakdown Structure (WBS). 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.

### Cost Summary by Phase

Project Phase	Baseline Budget	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
ADMINISTRATION	\$147.5	\$147.5	\$27.4	\$27.4	\$147.5	\$0.0
PRELIMINARY ENGINEERING	\$15.1	\$15.1	\$15.1	\$15.1	\$15.1	\$0.0
FINAL DESIGN	\$128.5	\$128.5	\$103.3	\$78.2	\$128.5	\$0.0
CONSTRUCTION SERVICES	\$117.9	\$117.9	\$78.4	\$16.6	\$117.9	\$0.0
3rd PARTY AGREEMENTS	\$11.8	\$11.8	\$9.9	\$4.2	\$11.8	\$0.0
CONSTRUCTION	\$1,324.2	\$1,324.2	\$477.1	\$230.2	\$1,324.2	\$0.0
VEHICLES	\$259.1	\$259.1	\$4.7	\$0.4	\$259.1	\$0.0
ROW	\$127.3	\$127.3	\$72.2	\$71.4	\$127.3	\$0.0
<b>Total</b>	<b>\$2,131.4</b>	<b>\$2,131.4</b>	<b>\$788.1</b>	<b>\$443.5</b>	<b>\$2,131.4</b>	<b>\$0.0</b>

The Estimated Final Cost (EFC) for the project as of this reporting period is \$2,131.4M, which is equal to the project budget. This period approximately \$30.7M was incurred, of which \$10.9M was for the N125 tunneling contract and \$16.8 was for right-of-way payments made on property acquisitions in the Northgate Station vicinity. Another \$1.2M was for civil and systems final design and design support during construction, and \$0.9M was for construction management. The remaining expenditures were for permit costs, 3rd Party coordination, staff, and other direct charges.

SCC Element	Baseline Budget	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 GUIDEWAY & TRACK	\$615.1	\$628.4	\$327.9	\$159.0	\$595.7	\$32.6
20 STATIONS	\$434.2	\$278.5	\$40.1	\$19.6	\$372.1	(\$93.6)
30 SUPPORT FACILITIES: YARD, SHOP	\$5.3	\$5.3	\$5.2	\$5.2	\$5.2	\$0.1
40 SITEWORK & SPECIAL CONDITIONS	\$64.3	\$201.8	\$97.9	\$44.0	\$140.9	\$60.9
50 SYSTEMS	\$110.9	\$110.9	\$0.9	\$0.9	\$110.9	\$0.0
<b>Construction Subtotal (SCC 10 - 50)</b>	<b>\$1,229.9</b>	<b>\$1,224.9</b>	<b>\$472.0</b>	<b>\$228.7</b>	<b>\$1,224.9</b>	<b>\$0.0</b>
60 ROW, LAND, EXISTING IMPROVEMENTS	\$143.1	\$119.9	\$72.2	\$71.4	\$119.9	\$0.0
70 VEHICLES	\$236.9	\$236.9	\$4.7	\$0.4	\$236.9	\$0.0
80 PROFESSIONAL SERVICES	\$400.8	\$424.3	\$239.2	\$143.0	\$419.2	\$5.0
90 CONTINGENCY	\$120.8	\$125.4	\$0.0	\$0.0	\$130.5	(\$5.0)
<b>Capital Total (SCC 10 - 90)</b>	<b>\$2,131.4</b>	<b>\$2,131.4</b>	<b>\$788.1</b>	<b>\$443.5</b>	<b>\$2,131.4</b>	<b>\$0.0</b>

The Estimated Final Cost (EFC) for some contract packages have been reassessed and revised as a result of updated design development estimates and the award of N125 at an amount lower than the adopted budget. The current adopted budget values have been updated to reflect the 2015 budget revisions and updated contingency amounts. The variances associated with some of the SCC groups shown above reflect the updated EFC due to these revisions.

### Cost Contingency Status

Compared to the baseline amount of \$396.2 million, the Total Contingency has decreased by \$30.1M to \$366.6M, which is 21.7% of project work remaining. During this reporting period, a net decrease of \$0.5M in the overall project contingency occurred. Detailed information is provided below.

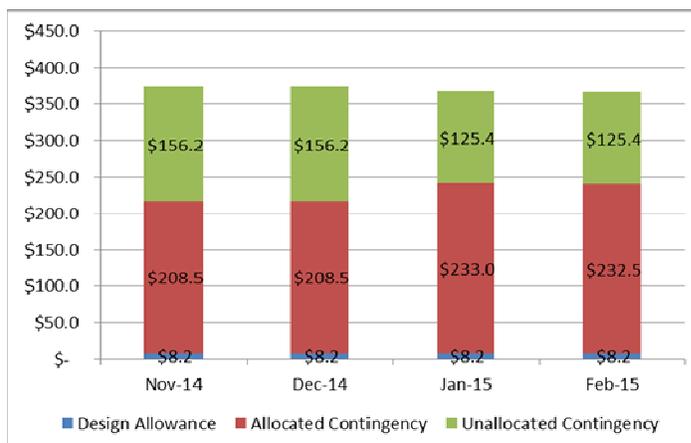
**Design Allowance** – Compared to the baseline amount of \$113.9M, Design Allowance has decreased by \$105.7M to \$8.2M as a result of updated construction cost estimates that have utilized DA as the scope development has progressed. No changes to DA occurred during this period.

**Allocated Contingency** – Compared to the baseline amount of \$184.0M, Allocated Contingency has increased by \$48.5M to \$233M. During this reporting period, a decrease of \$0.5M occurred due change orders that were executed on the 125 TBM Tunnel contract.

**Unallocated Contingency** – Compared to the baseline amount of \$98.3M, Unallocated Contingency has increased by \$27.1M to \$125.4M. No changes to UAC occurred during this period.

## Cost Contingency Status, continued

Contingency Status	Baseline		Current	
	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$ 113.9	5.3%	\$ 8.2	0.5%
Allocated Contingency	\$ 184.0	8.6%	\$ 232.5	13.8%
Unallocated Contingency	\$ 98.3	4.8%	\$ 125.4	7.4%
<b>Total</b>	<b>\$ 396.2</b>	<b>18.6%</b>	<b>\$ 366.1</b>	<b>21.7%</b>



## Project Schedule

The design team for the N105 Key Bank Site Demolition is working toward a solution for the support of utilities in the alley that transects the site in response to the City's Grading Permit comments on regarding the proposed shoring system. The N111 Advanced Utilities Relocation Contractor, Walsh Construction, is currently preparing pre-construction submittals, and has submitted their Baseline CPM for approval. SCL will install three temporary poles to accommodate relocated street lighting. Walsh Construction will begin full mobilization and begin installing vaults and hand-holes the first week in April.

Design of the N113 SCL 115kV Transmission Line Relocation within the WSDOT right-of-way on the west side of I-5 continues. The team will complete the Wetlands Delineation, Tree Report, Access Control, and Clear Zone reports by early March. The permit for Geotechnical borings was approved and the field work will take place mid-March.

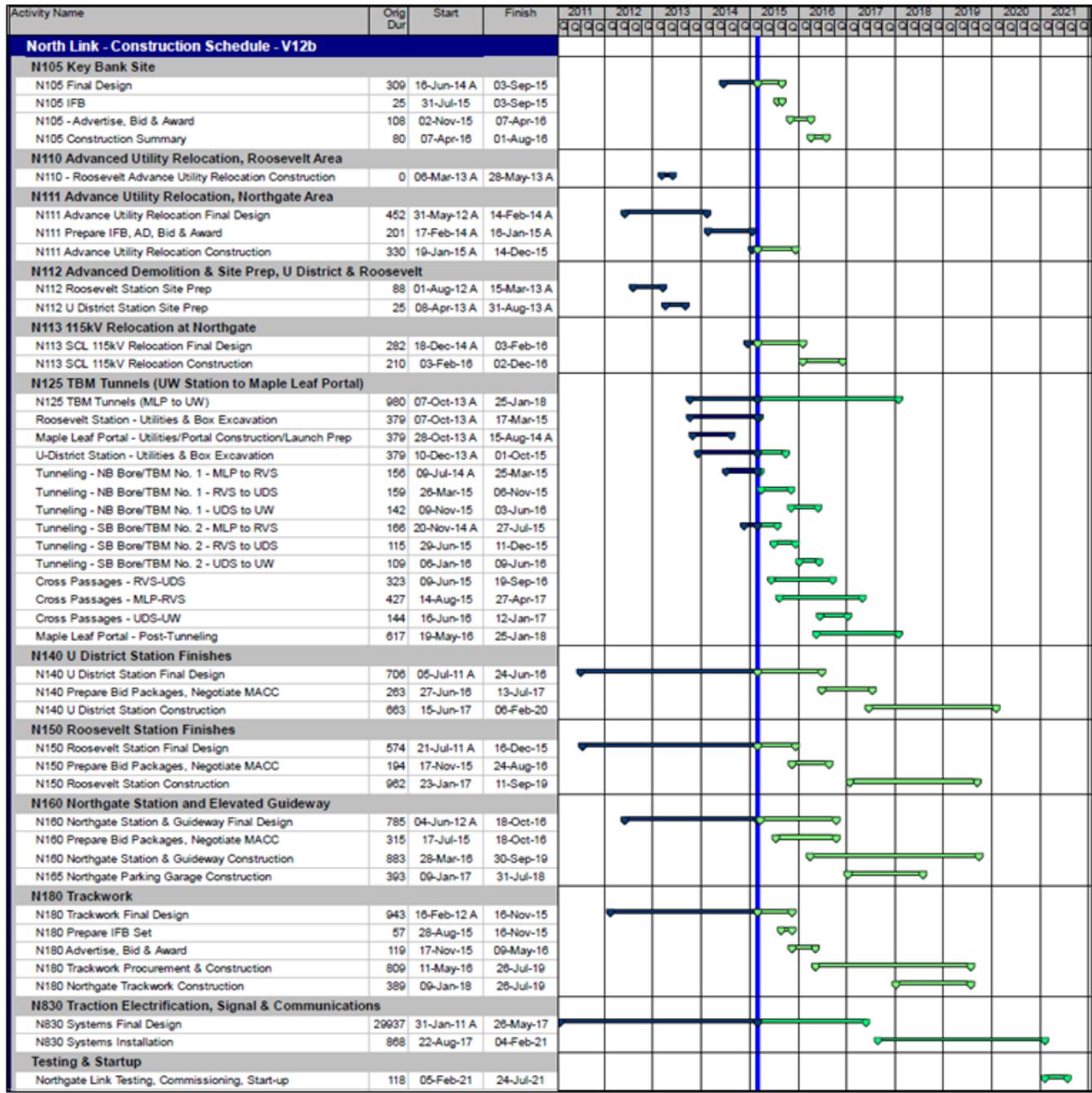
The N125 TBM Tunnels contractor completed tie-backs and soil nails, and has begun placing the temporary receiving slab at RVS. TBM No. 1 is scheduled to reach its' first tunneling milestone with breakthrough at Roosevelt Station in mid-March. TBM No. 2's production will be increased with the use of three 8-hour shifts. Tieback and lagging installation continued at U-District Station as planned. The Contractor is currently completing punchlist items in the Temporary Power Vault per SCL inspections.

The 90% design effort for N140 U-District Station continues. Hoffman Construction is preparing to produce the cost estimate and schedule for the station. The Roosevelt Station design is advancing to 100%. The submittal date will be pushed back in order to accommodate the QA/QC process and allow the GC/CM to complete their mobilization. ST has received the GC/CM's 90% Construction Cost Estimate and Schedule, and is currently reviewing both.

The N160 100% design effort will start at the beginning of March. NTPP for the GC/CM is now expected in late March 2015. The 30% design for the Northgate Station Parking Garage is currently in review. The 60% Garage design is also underway with the submittal planned for early June. The 90% Garage submittal is still scheduled for mid-August 2015 with submission of the complete N160 design still planned for December 2015. The trackwork (N180) design team is currently incorporating the feedback from the U830 project and preparing the Industry Review Package for advertisement in May. The review is currently planned for June-July, and the IFB set has a planned completion of November 2015.

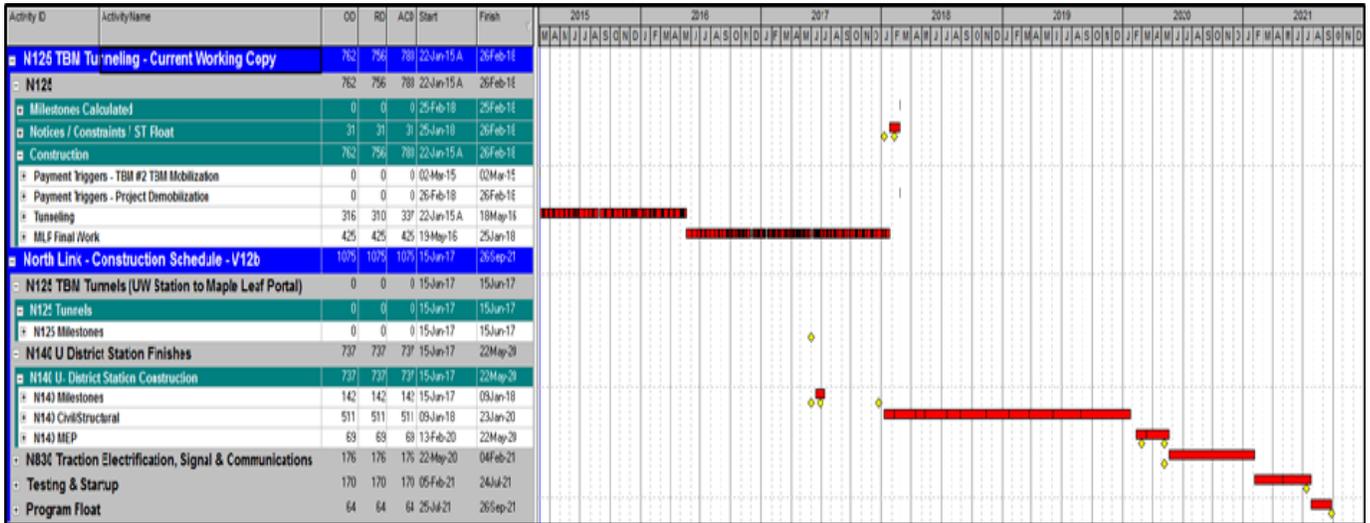
The Northgate Link Extension Revenue service is still scheduled for September 2021 with overall project float remaining unchanged at 165 days.

## Project Schedule, continued



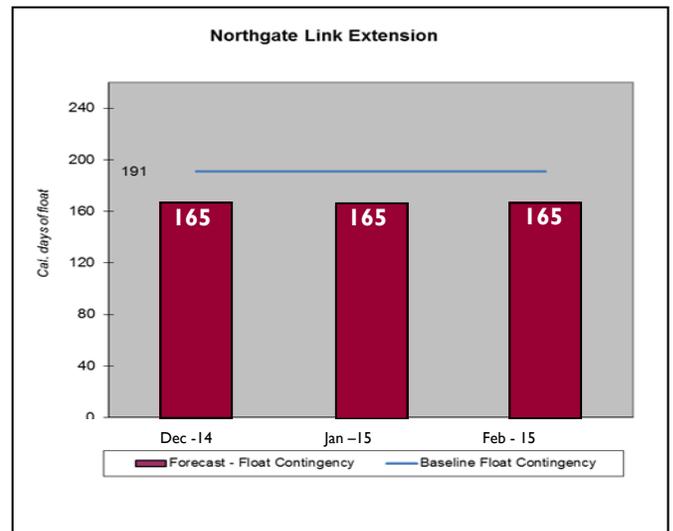
## Critical Path Analysis

The longest path through Northgate Link is unchanged in this period. The N125 Milestone No. 5, turnover of the U District station site to the N140 contractor is the key milestone at this point. Tunneling is the driving element, with station box excavations now anticipated to be completed in advance of the TBM reaching them. TBM No. 2 continues to be the primary driver in turning over the station to the N140 contractor, followed by completion of Maple Leaf Portal. The Contractor's efforts to increase production on TBM No. 2 will be closely monitored. The Revenue Service date is still forecast for September 2021 with the use of overall project float.



## Critical Path Float

The Northgate Link baseline schedule included 191 days of project-wide float. Some of those days have been allocated as buffers at critical interfaces between adjacent contracts. Revenue Service is still scheduled in September 2021.



## Construction Safety

Data/ Measure	February 2015	Year to Date	Project to Date
Recordable Injury/Illness Cases	1	1	15
Days Away From Work Cases	1	1	1
Total Days Away From Work	15	15	15
Restricted or Modified Work Cases	1	1	11
Total Days Restricted or Modified Work	61	61	291
First Aid Cases	2	2	11
Reported Near Mishaps	1	1	32
Average Number of Employees on Worksite	274	-	-
<b>Total # of Hours (GC &amp; Subs)</b>	<b>49,323</b>	<b>49,323</b>	<b>722,189</b>
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	4.05	4.05	4.15
DART Rate	8.11	8.11	3.32
<i>Recordable National Average</i>	<b>3.80</b>	<b>3.80</b>	<b>3.80</b>
<i>DART National Average</i>	<b>2.20</b>	<b>2.20</b>	<b>2.20</b>
<i>Recordable WA State Average</i>	<b>7.20</b>	<b>7.20</b>	<b>7.20</b>
<i>DART WA State Average</i>	<b>3.30</b>	<b>3.30</b>	<b>3.30</b>

## Right of Way

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

**Roosevelt Station** – All parcels have been acquired.

**U District Station** – All parcels have been acquired.

**Northgate Station** - Owner reviewing a Purchase and Sale Agreement for one parcel. Two parcels awaiting for appraisal review due to modification of TCE term; Condemnation package prepared for two parcels, and in review at ST. Two parcels granted P&U and payment pending. Action pending on one parcel.

**Tunnel Easements:** All parcels have been acquired.

Line Section	Total Parcels Certified	Offers Made	Signed Agreements	Admin. Settlements	Possession and Use (P&U)	Closings to date	Baseline Relocations Required	Relocations Completed
U District Station	16	15	0	0	0	15	4	3
Roosevelt Station	20	18	0	0	0	18	26	26
Tunnel Easements	190	188	0	0	0	188	0	0
Northgate Station	11	6	0	0	0	1	13	0
<b>Total</b>	<b>237</b>	<b>227</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>222</b>	<b>43</b>	<b>29</b>

## Quality Assurance Activities

### Activities

- None to report

### Issues

- None to report

### Summary

Description	Feb 2015	Notes
No. of Audits Planned	0	None
No. of Audits Completed	0	None
Reports in Progress	1	N150 90% Design Audit
No. of Audits Post-poned	3	N125 RE Audit, N180 100% Design, N105 100% Design

## Sound Transit Board Actions

Board Action	Description	Date
	None to report.	

## Environmental

- Completed SEPA Addendum for the N113 115kV Line Relocation.

## Community Outreach

- Emailed monthly newsletter to Northgate Link distribution list.

### *Northgate Station*

- Met with some businesses at the Northgate Station strip mall to inform them of impacts of the upcoming utility relocation.
- Coordinated survey work with the property manager.

### *Maple Leaf Portal and tunnels*

- Distributed dewatering well installation alerts to nearby residents.
- Delivered right of entry notifications for video surveys.

### *Roosevelt Station*

- Hosted the Roosevelt Station 90% Design Open House and more than 60 people attended the event.
- Distributed structural settlement point alerts to residents of the Roosevelt neighborhood.
- Delivered various notifications to residents regarding TBMs, video surveying, utility work and restoration work.

### *U District Station*

- Updated UW Tower and Neptune Theater on new “No Parking” signed areas.
- Conducted project briefing for UW Tower Floor Coordinators; provided ear plugs to UW Tower S Building employees.

### *Business Mitigation*

- Distributed promotional materials for the Enter-to-Win campaign for 24 impacted businesses for a chance to win a tour of the UW Station. Website for the promotion went live.
- Posted construction update and UW Station Tour promotion banners.

## Final Design Overview

Sound Transit has executed two key contracts with professional services consultants for the Final Design of the Northgate Link Extension. Jacobs Associates (JA) is providing civil engineering and architectural final design services. LTK Engineering Services (LTK) is providing systems engineering final design services.

### Final Design Activities

Contract Package N105 – Key Bank Demo and Remediation:

- Continued 100% design effort.

Contract Package N113 – 115kV Relocation at Northgate Station:

- Continued evaluation of alternative 115 kV alignments within the WSDOT Right of Way to the west of I-5.
- Conducted preliminary regulatory assessment of wet-land and drainage features within the N113 utility corridor and prepared draft report.

Contract Package N140 - U District Station Civil and Finishes:

- Continued 90% design effort.
- Continued preconstruction phase activities with the GC/CM Contractor including workshop sessions.
- Continued with efforts on Green Street designs.

Contract Package N150 - Roosevelt Station Civil and Finishes:

- Continued responding to 90% design review comments.
- Continued coordination with GC/CM during preconstruction activities.

Contract Package N160 - Northgate Station and Aerial Guideway Civil and Finishes:

- Continued to update and resolve 90% Outstanding Issues, including preparation of action items list for completion during 100% design phase.
- Continued responding to 90% review comments.

Contract Package N165 – Northgate Parking Garage:

- Continued responding to 30% design review comments and provided support for ST and SPG coordination and meetings.

Contract Package N180 – Trackwork:

- Began updates for the industry review design package including specification revisions based on construction input from U-Link floating slab test section.
- Continued to track issues and information available from U-Link Contract U830 following floating slab inspection.

Contract Package N830 – Traction Electrification, Signals, and Communications:

- Completed feasibility analysis to move 26kV installation to N180 contract.
- Reviewed N140 armature design and provided feedback to Systems Designers.
- Attended EMI Workshop at UW in preparation for Certification Testing.
- Submitted statement of work to LTK for 3D Modelling for N830 contract.

## Final Design Schedule

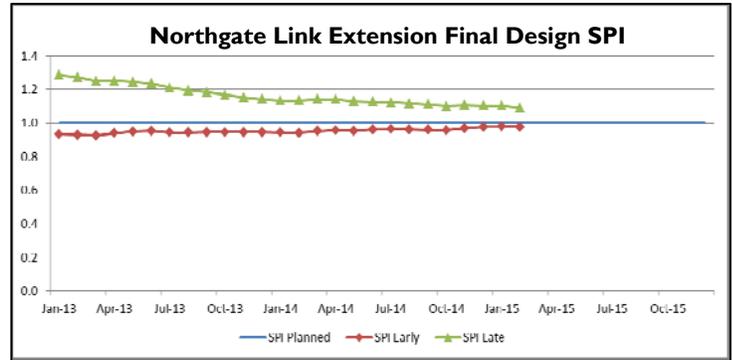
The table below summarizes the current civil Final Design submittal schedule for each contract package.

Work Packages	60%		90%		100% to ST	
	Plan	F/A*	Plan	F/A*	Plan	F/A*
N105 Key Bank Demolition and Remediation	7/31/14	7/31/14A	10/3/14	10/3/14A	2/23/15	4/17/15
N111 Advanced Utility Relocation – Northgate	12/21/2012	5/23/2013A	3/29/2013	10/14/2013A	7/12/2013	1/31/2014A
N113 115kV Relocation at Northgate	10/29/2013	11/21/2014A	3/27/2014	6/8/2015	6/19/2014	9/4/15
N140 U District Station Finishes	12/24/2011	4/27/2012A	9/18/2012	8/19/2015	5/10/2013	5/12/16
N150 Roosevelt Station Finishes	4/13/2012	2/27/2012A	1/28/2013	12/18/2014	10/23/2013	9/10/2015
N160 Northgate Sta. Civil/Finishes/Guideway	6/27/2012	10/5/2012A	4/17/2013	3/7/2014A	11/26/2013	12/15/2015
N180 Trackwork	8/23/2012	8/23/2012A	5/22/2013	4/8/2013A	8/26/2013	11/18/2015
N830 Traction Electrification, Signals, Communications	12/12/2012	12/20/2012A	4/10/2014	8/31/2015	12/9/2014	5/16/2016

F/A\* = Forecast/Actual

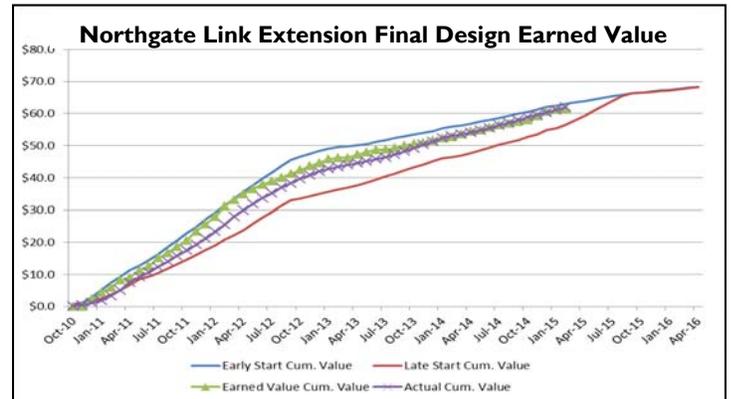
## Final Design Schedule Performance

For Final Design activities only, the Schedule Performance Index (SPI) reported this period is 0.98 based on the early start dates and the late start SPI is 1.09. The Design Consultant has had some design deliverable milestones for N105, N113, N140, N150 and N180 pushed back.



## Final Design Cost Performance

Through this period, the total amount spent for Civil Final Design is \$66.3M, which is approximately 74% of the total contract amount. For Final Design activities only, the total amount spent is \$62.0M, which is approximately 88.1%. The Consultant reported 87.2% complete for Final Design Activities, resulting in an Earned Value of \$61.4M. The current period Cost Performance Index (CPI) is reported at 0.4 since the most recent change orders have not yet been reflected in the consultant's earned value data. The cumulative CPI remains 1.0, which indicates that overall expenditures are in line with planned cost.



Performance	Previous Period	Current Period	Cumulative To Date
Amount Invoiced	\$61,221,932	\$827,050	\$62,048,982
Spent	86.9%	1.2%	88.1%
Earned Value	\$61,098,128	\$325,662	\$61,423,790
% Complete	86.7%	0.5%	87.2%
CPI	1.0	0.4	1.0

## Other Key Final Design Activities

### Geotechnical Investigation

- Continued analysis and report preparation for geotechnical exploration program for the Northgate Parking Garage.
- Coordinated with WSDOT on permitting requirements for N113 Geotechnical exploration program.

### Surveying and ROW

- Continued field survey of N113 revised alignment and wetland locations.
- Potholed 8 locations on the SPG Mall parking lot to confirm existing stormwater vault locations.

### Permits

- Continued coordination support on MUP and SIP applications.
- Continued revision of NEPA re-evaluation for N113.

### Construction Noise Variances

- None to report.

### Noise Mitigation for At Grade and Elevated Guideway

- None to report.

### Ground Borne Noise and Vibration

- Evaluated design approach for vibration mitigation at U District Station to accommodate TOD overbuild.

### Construction Cost Estimating

- Worked with GC/CM on reconciliation of N140 60% cost estimate
- Submitted proposed N160 cost estimate format to include Northgate Garage for reconciliation with GC/CM.

### Construction Schedules

- None to report.

### Quality Assurance

- Submitted N150 90% QA audit report.

### Design and Project Integration

- Provided coordination and integration between all contracts in the Northgate area.

## Major Construction Contract Packages

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

**N105 Key Bank Demolition and Remediation** - Demo of Key Bank Building, remove underground storage tanks and remediate contaminated soil.

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

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

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

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

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

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

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

**N160 Northgate Station & Elevated Guideway** - Civil and architectural finishes work for the Maple Leaf Portal, the aerial guideway, and the Northgate Station and Tail Track.

**N165 Northgate Parking Garage** (will be part of N160) - 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.

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

## Construction Schedule Highlights

Package	Bid Advertisement	NTP	Substantial Completion
N105-Key Bank Remediation/Demo	Dec 2015*	Apr 2015	Sep 2016
N111-Advanced Utility Relocation	Sept 2014A	Jan 2015A	Nov 2015
N113-SCL 115kV Relocate	Oct 2015**	Feb 2016**	Dec 2016**
N125-Station Box Exc. & TBM Tunnels	Jan 2013A	Sep 2013A	Feb 2018
N140-U District Station Finishes	Oct 2013A (GC/CM-Precon)	Jun 2017 (construction)	Apr 2020
N150-Roosevelt Station Finishes	Apr 2013A (GC/CM-Precon)	Jan 2017 (construction)	Sep 2019
N160-Northgate Station & Guideway	July 2014A (GC/CM -RFQ)	Mar 2015 (GC/CM-Precon)	Sep 2019
N180-Trackwork to Northgate Station	Jan 2016	May 2016	Jul 2019
N830-Traction Power, Signals & Com	Dec 2016 (GC/CM-RFQ)	Jan 2018 (construction)	Sep 2020

A = Actual

\* N105 may be "shelved" after 100% design until late 2015. Construction is planned for the Summer 2016. The site will not be needed by N140 until early 2017.

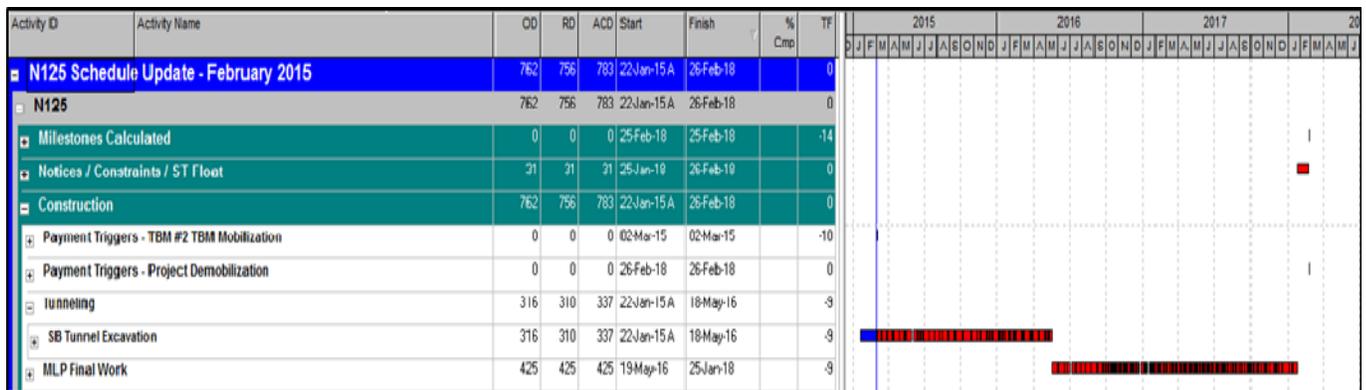
\*\*These dates are based on the alternative alignment proposed, which places the 115kV line on WSDOT property west of I- 5.

## Contract N125 – TBM Tunnels

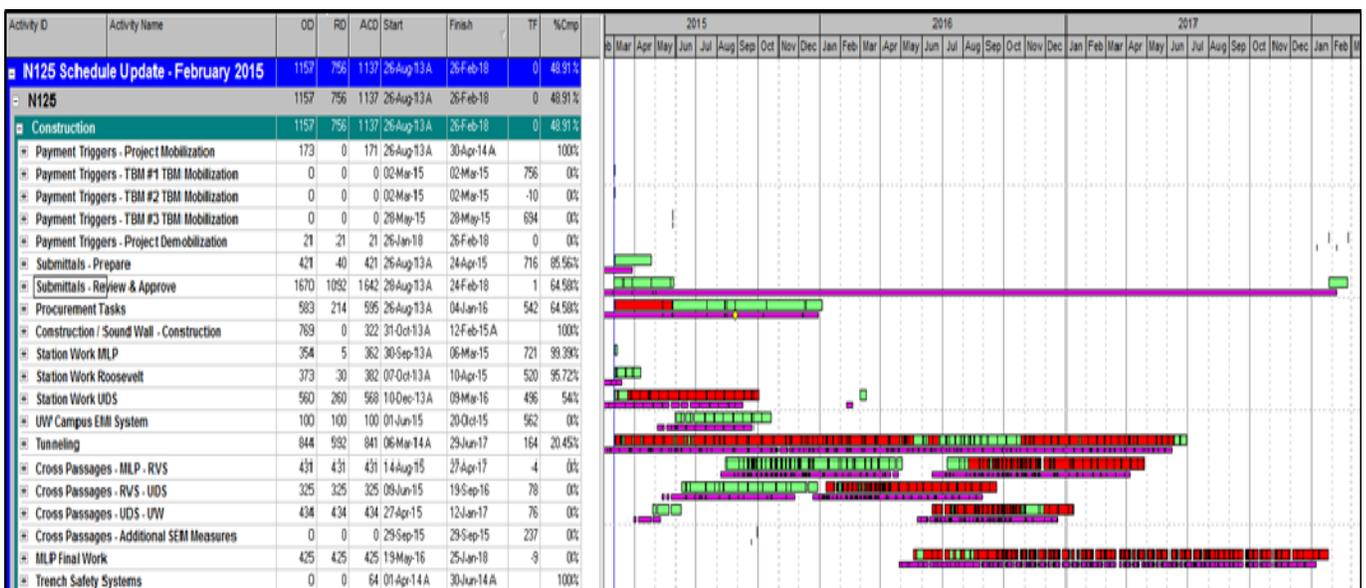
### Current Progress

At the end of February TBM No. 1 was 41% complete, with 509 feet remaining to reach hole-through at Roosevelt Station. Breakthrough at RVS is expected in mid-March. The southbound bore is 9% complete. TBM No. 2 is increasing production with three 8-hour shifts in operation. Production for TBM No. 2 ranged from 30 feet to 155 feet per week in February. *At the Roosevelt Station*, excavation completed and the temporary receiving slab was placed. Street restoration continues at the intersection of NE 65th St. & 12th Ave. NE. Repair of the slurry wall will be resumed after the TBMs have completed breakthrough, maintenance, and re-launch. *At U District Station (UDS)*, excavation and installation of lagging & tie-backs are ongoing, with 53% of the soil removed as of the end of February. Contractor is continuing to address the punchlist items in the 1600amp vault.

### Schedule/Critical Path

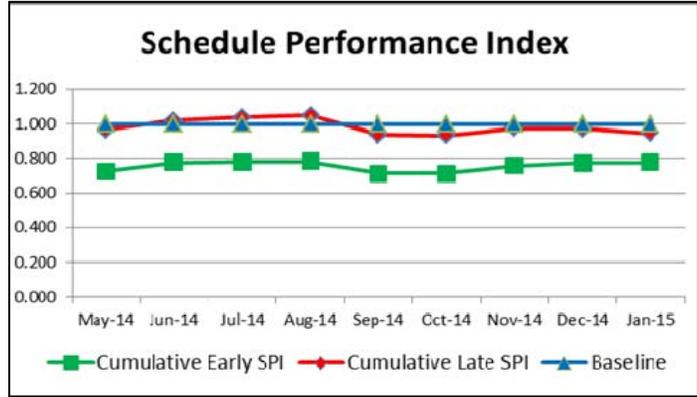


The critical path as illustrated above is unchanged and continues to be driven by TBM No. 2 following completion of the Maple Leaf Portal. Cross Passages have been re-sequenced to take the work off the critical path but this work still has negative 4 days of float, as a result of the late tunneling. The average production rate for TBM No. 2 decreased from 221.25 ft./week to 101 ft./week in February due to mechanical problems. The February schedule update now calculates negative fourteen calendar days of float in achieving Milestone No. 5 - Substantial Completion U-District Station & Tunnels. Milestone 2 – Demobilization from U-District Station has a negative nine days. Milestone No. 6 – Substantial Completion of All N125 Work, exhibits negative fourteen calendar days. Milestone No. 4 – Substantial Completion of Area “B” MLP has negative four calendar days of float. Schedule summary is below.



## Schedule Performance Index

The SPI for February is 0.78, virtually unchanged from the 0.77 reported in January. While TBM No. 2 has lagged behind, TBM No. 1 has exceeded planned production. Overall performance continues below the late curve. The project now has a 0.72 Cumulative Early SPI life-time average and a 0.76 SPI since May 2014. The Contractor's current schedule update forecasts a late completion. The Contractor has submitted a recovery schedule which is currently in review.



## Key Activities

### Current Period

- CSI continued casting segment rings – 74.2% have been produced.

### Maple Leaf Portal (MLP)

- Continued TBM No.1 mining in NB tunnel. Total progress to date: 1,515 rings.
- Continued TBM No.2 mining in SB tunnel: 333 rings.

### Roosevelt Site (RVS)

- Completed shaft excavation and tie-back installation.
- Completed installation of soil nails at south wall.
- Completed repairing slurry wall bulges & defects.
- Continued concrete slab preparation for the TBM working slab.
- Completed installation of shotcrete smoothing to both NB and SB receiving eye at north end.

### U District Site (UDS)

- Continued excavation and installation of lagging and tie – backs.
- Began meter main grounding grid and conduits.

### Next Period

- Continue casting production segment rings.
- Continue mining with TBM No. 1 and 2; breakthrough of TBM No. 1 at RVS.
- At RVS, begin thrust frame concrete work at south end of shaft; begin south end 25ft TBM launch slab; complete working slab installation; begin Phase 3 restoration; begin installation of working elevator.
- At UDS, resume excavation of shaft and installation of tie-backs.

### Closely Monitored Issues

- TBM No. 2 is still a concern as it continues to lag behind the planned production rate. The Contractor's efforts to increase production on TBM No. 2 is closely monitored.
- Procurement of TBM No. 3 continues to be pushed back by the Contractor.

## Cost Summary

Present Financial Status	Amount
<b>N125 Contractor - JCM Northlink</b>	
Original Contract Value	\$440,321,000
Change Order Value	\$ 2,361,293
Current Contract Value	\$442,682,293
Total Actual Cost (Incurred to date)	\$213,115,015
Financial Percent Complete:	48%
Physical Percent Complete:	48%
Authorized Contingency	\$22,016,050
Contingency Drawdown	\$ 2,361,293
Contingency Index	4.52



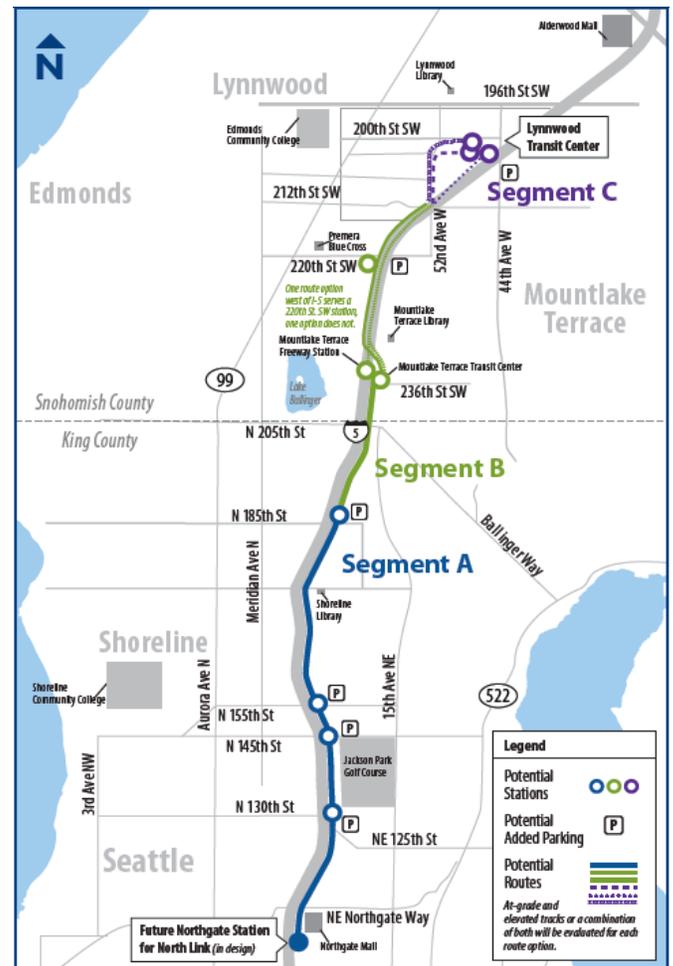
MLP Portal entrances to both NB and SB tunnels.

## Scope

The Lynnwood Link Extension Project entails the identification and evaluation of transit alternatives between Northgate in the City of Seattle to Lynnwood in Snohomish County with service in the cities of Shoreline and Mountlake Terrace. Consistent with FTA New Starts requirements, the project has undergone an Alternative Analysis, completed in the 3rd QTR 2011 and Environmental Scoping, completed in the 4th QTR 2011. Development of the Conceptual Engineering and Draft EIS concluded in 2013. In November 2013, the Sound Transit Board identified the preferred route and station alternatives for the Final EIS.

## Key Project Activities

- Phase 3 (Final EIS and Preliminary Engineering) began in December 2013.
- Preparing for Final EIS and PE completion in 2nd QTR 2015.
- Preparing for PE completion and application for FTA New Starts Engineering phase authority.



Map of Lynnwood Link Extension route and station alternatives.

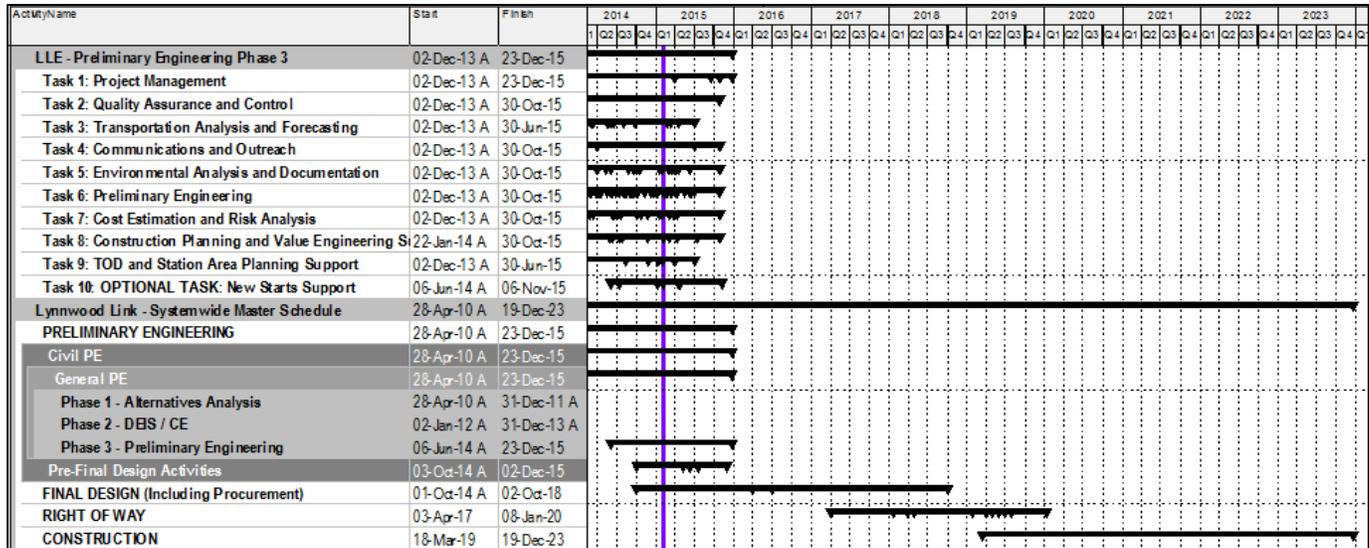
## Project Cost Summary

The Lynnwood Link Extension is currently funded through the completion of preliminary engineering (PE) and environmental documentation. Board approval for additional funding for final design and construction will be sought upon completion of PE. Table (below) figures in millions.

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	\$11.7	\$5.1	\$5.2	\$6.6	\$11.7	\$0.0
Preliminary Engineering	\$44.3	\$37.9	\$33.9	\$6.5	\$44.3	\$0.0
3 <sup>rd</sup> Party Agreements	\$1.0	\$0.7	\$0.2	\$0.3	\$1.0	\$0.0
Right of Way	\$7.1	\$4.8	\$4.7	\$2.3	\$7.1	\$0.0
<b>Total</b>	<b>\$64.1</b>	<b>\$48.4</b>	<b>\$44.0</b>	<b>\$15.7</b>	<b>\$64.1</b>	<b>\$0.0</b>

## Project Schedule

The Lynnwood Link Extension, environmental documentation and preliminary engineering is anticipated to be completed end of 2015. The project schedule is presented below.



## Sound Transit Board Actions

Board Action	Description	Date
	None to report this period.	

## Environmental

- Preparing Final EIS for publication in early 2015.

## Community Outreach

- A public hearing for Shoreline city council was held on February 25 for station planning efforts around potential and future stations at NE 145th and NE 185th streets.

## Phase 3 Preliminary Engineering and Final EIS

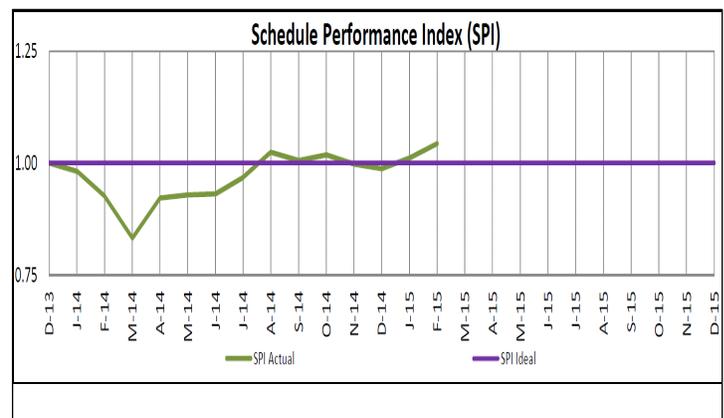
Sound Transit executed a contract amendment for Phase 3, Preliminary Engineering and Final EIS for Lynnwood Link, in December 2013.

### Phase 3 Key Activities

- Continued to advance the engineering of the preferred alternative and final PE submittal.
- Completing Final EIS and preparing for publication in April.
- Continued development of the work program to obtain FTA New Starts Engineering authority.
- Developing a change order for advanced PE work.

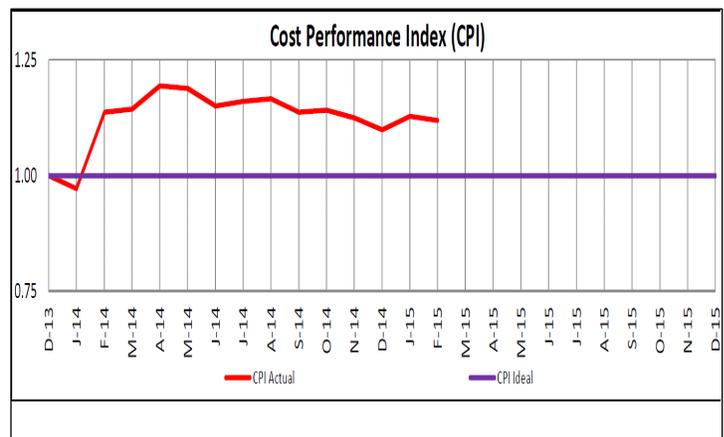
### Phase 3 Schedule Performance

The cumulative Schedule Performance Index (SPI) for the Phase 3 contract is 1.04 through February, indicating work performed to date is close to the amount originally planned.



### Phase 3 Cost Performance

\$32.8M of the total contract amount, approximately 90%, has been spent through February. Phase 3 contract expenditures through February totaled \$16.4 M, approximately 81% of the Phase 3 contract total. The Phase 3 contract percent complete reported at the end of February is 91%, with an earned value of \$18.3 M. The cumulative Cost Performance Index (CPI) through February is 1.12; indicating costs are lower than the budget planned for work accomplished.



Phase 3 Performance	Previous Period	Current Period	Cumulative To-date
Amount Invoiced	\$15,672,508	\$697,130	\$16,369,638
% Spent	78%	3%	81%
Earned Value	\$17,678,990	\$637,625	\$18,316,615
% Complete	88%	3%	91%
<b>SPI</b>	<b>1.01</b>	<b>9.40</b>	<b>1.04</b>
<b>CPI</b>	<b>1.13</b>	<b>0.91</b>	<b>1.12</b>

This page left intentionally blank.



Map of East Link Extension.

## Scope

<b>Limits:</b>	Downtown Seattle to Mercer Island, Bellevue and the Overlake area of Redmond.
<b>Alignment:</b>	East Link extends light rail 14 miles to East King County from Downtown Seattle serving Mercer Island via I-90, Bellevue and the Overlake area of Redmond, with ten new light rail stations. The alignment configuration includes at-grade, elevated, bridges, new and retrofitted tunnels.
<b>Stations:</b>	Rainier Ave/I-90, Mercer Island, South Bellevue, East Main, Bellevue Transit Center, Hospital, 120 <sup>th</sup> , 130 <sup>th</sup> , Overlake Village and the Overlake Transit Center (OTC).
<b>Systems:</b>	Signals, traction power, and communications (SCADA).
<b>Budget:</b>	\$798.3 Million Lifetime Budget through the Final Design Phase.
<b>Phase:</b>	Final Design
<b>Construction Starts:</b>	2016
<b>Service:</b>	2023

## Key Project Activities

### Project-wide

- Continued preparation for project baselining (scope, schedule, budget) and Phase Gate 5 & 6. Sound Transit Board consideration scheduled for April 2015.

### Seattle to South Bellevue

- *R8A Stage 3A:* HOV lane construction continues; Phase The 50-calendar days closure of the ramp from the I-90 express lanes to I-405 will begin in early March.
- *Stations:* Met with other agencies to plan next steps for Rainier Station entrance to ensure appropriate pedestrian access is provided. The City of Seattle will study traffic impacts associated with potential bus operational modifications.
- *Track Attachment:* Continued working on the Plinth Testing Program and related track attachment design at UW.
- *Floating Bridge:* Continued wind-wave and seismic analysis and review by WSDOT.

## Key Project Activities, continued

### South Bellevue to Redmond

- Collaborating with WSDOT to complete the Project Development Approval, Design Documentation Package, the Air Space Lease, and the Temporary Construction Air Space Lease for E320. Target completion date 2nd QTR 2015.
- Continued working with City of Bellevue on an amendment to the Memorandum of Understanding.
- Certain components of the draft RFP Project Requirements, Drawing, Etc. – for E360 have been issued to short-listed Design Build (DB) firms while continuing to develop the General, Special Conditions, and other contract documents.
- Held a Pre-Construction meeting for E335 on Value Engineering and constructability design concepts.
- Conducted a coordination meeting with Olympic Pipeline (OPL) and PSE to discuss integration and sequencing with all affected parties in the Bel-Red Corridor.
- Completed utility relocation agreements.
- Revising parcel map for new location of the KCM sewer line.

## Project Cost Summary

The following table summarizes the cost information for the East Link Extension. Lifetime Budget reflects the project budget adopted by Sound Transit Board, which includes budget through the Final Design Phase.

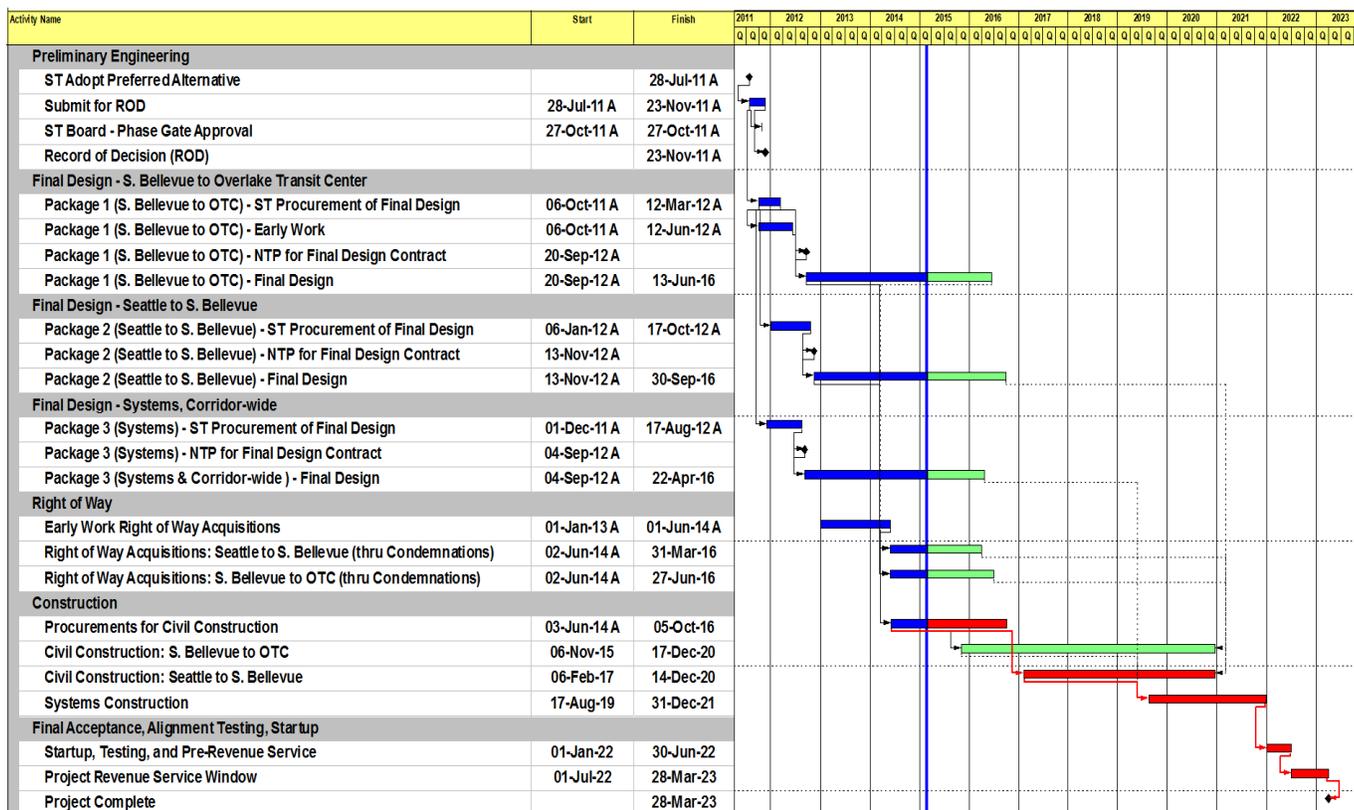
	<b>Lifetime Budget</b>	<b>Commitment to Date</b>	<b>Incurred to Date</b>	<b>Forecasts and Trends</b>	<b>Estimated Final Cost (EFC)</b>	<b>Budget vs. EFC</b>
Administration	\$68.1	\$32.3	\$32.4	\$35.8	\$68.1	\$0.0
Preliminary Engineering	\$56.6	\$54.3	\$53.9	\$2.3	\$56.6	\$0.0
Final Design	\$232.6	\$155.3	\$126.2	\$77.4	\$232.6	\$0.0
Construction Services	\$12.3	\$6.9	\$7.7	\$5.4	\$12.3	\$0.0
3rd Party Agreements	\$39.3	\$6.1	\$3.9	\$33.2	\$39.3	\$0.0
Construction	\$24.0	\$12.7	\$7.6	\$11.3	\$24.0	\$0.0
Right-of-way	\$365.4	\$74.8	\$71.3	\$290.6	\$365.4	\$0.0
<b>Total</b>	<b>\$798.3</b>	<b>\$342.4</b>	<b>\$296.4</b>	<b>\$456</b>	<b>\$798.3</b>	<b>\$0.0</b>

## Project Schedule

The East Link Extension is in Final Design. First early contract, Early Utilities for E340 (Bel Red) is scheduled to start 2nd QTR 2015. Contract packaging and sequencing of construction continues to be refined. Target date to baseline East Link is April 2015.

East Link contract procurements have started: E335 GC/CM (Downtown Bellevue to Spring District) and Bellevue Segment CMC Contract was awarded for preconstruction services. E130 GC/CM (I-90 Heavy Civil), E750 GC/CM (East Link Systems) and I-90 Segment CMC procurement planned for 1st QTR 2015. E360 Design Build procurement underway, contractors have been shortlisted and final RFP release is planned for 2nd QTR 2015. Systems CMC procurement timeline to start 3rd QTR 2015.

East Link Extension Revenue Service to the Overlake Transit Center is forecast for 2023.



\*Note: Dates tracked are contractual baseline dates with the exception of the Package 2 - Final Design which is showing forecasted date that is currently being negotiated. Project baselining is scheduled to occur in the April 2015, at which time the dates shown will all be baseline dates.

## Right of Way

The East Link Extension involves the acquisition of a range of property interests including fee acquisitions for stations, guideway, staging areas, support facilities, and tunnel and guideway easements as well as permanent and temporary easements for construction. These acquisitions will result in owner and tenant residential and commercial relocations. The East Link Extension included the advance acquisition of approximately one mile of an existing railroad parcel (“Bellevue Mile”) that the Sound Transit Board approved in June 2011. The right-of-way program status for this period is summarized in the following table. Market value trends in both residential and commercial properties are exhibiting strong upward pressure. Appraisals are being adjusted to reflect this increasing trend in the market. The overall impact on the Right-of-Way budget is being closely monitored.

East Link Extension Property Acquisition Status							
Line Section	Board Approved	Offers Made	Signed Agreements	Possession and Use	Closings to date	Baseline Relocations Required	Relocations Completed
Seattle to S. Bellevue	2	0	0	0	0	0	0
S. Bellevue to OTC	232	105	3	0	61	222	73
Bellevue Mile	1	1	1	0	1	0	0
<b>Total</b>	<b>235</b>	<b>106</b>	<b>4</b>	<b>0</b>	<b>62</b>	<b>222</b>	<b>73</b>

### Seattle to S. Bellevue

*E110 IDS Rail Connection Upgrades* - No new activity.

### S. Bellevue to OTC parcels

*E130 I-90/E320 S. Bellevue*– No new activity.

*E320* - One parcel closed and one more relocation identified.

*E330 Downtown Bellevue /E335 Downtown Bellevue to Spring District* – One parcel vacated.

*E335* – One parcel vacated.

*E340 Bel-Red* - One parcel closed and one file submitted for condemnation proceedings.

*E360 SR 520 to OTC* – One more relocation identified and one parcel closed.

## Quality Assurance Activities

### Activities

- None to report.

### Issues

- None to report.

### Summary

Description	Feb 2015	Notes
No. of Audits Planned	1	E320 100%
No. of Audits Completed	2	E340 100% Design, E750 60% Design
Reports in Progress	0	None
No. of Audits Postponed	0	None

## Environmental

- Developing environmental permit application packages. Environmental commitments are being incorporated into the design, program, and specifications of the project.

## Sound Transit Board Actions

Board Action	Description	Date
	<i>None to report this period.</i>	

## Community Outreach

- Responded to inquiries about a Residential Sound Insulation Program and advanced outreach efforts for the closure of South Bellevue Park & Ride from South Bellevue residents.
- Issued a press release for the 8-week closure of I-405 HOV ramp which began February 25th as part of the I-90 Stage 3 project.
- Provided advanced notification for stormwater relocation work scheduled to begin as early as April.
- Distributed notification for Phase II Environmental Survey Assessment to be held at the Winters House.
- Met with Enatai Neighborhood Association and discussed mitigation presentation to City Council.
- Met with various stakeholders to discuss outreach strategy, project updates, construction and transportation coordination, station naming, etc.

## Construction

### I-90

- Continued I-90 (Stage 3A) HOV ramp construction.
- Completed Phase 2B and opened the realigned Bellevue Way HOV off-ramp.
- I-90 Stage 3 (adding HOV lanes on outer roadway between Mercer Island and Seattle) pre-construction underway.
- I-90 Construction management Services Request for Qualification (RFQ) in development.

### Bellevue-Redmond

- Bellevue Segment Construction Management Services (for preconstruction services), contract awarded, work underway.
- E335 GC/CM (Downtown Bellevue to Spring District) was awarded, work underway.



*Continued demolishing existing concrete barrier on I-90 for R8A Stage 3A HOV ramp construction.*

## Final Design Scope

Final Design for the East Link Extension includes three major design contracts: two for civil improvements and one for systems improvements. This contract is for civil and architectural design services from South Bellevue to the Overlake Transit Center (OTC). The contract was awarded to H-J-H Final Design Partners, a joint venture of HNTB Corporation, Jacobs Engineering Group, Inc., and Hatch Mott MacDonald.

The scope of H-J-H services includes detailed designs of the corridor, preparation of comprehensive construction contract documents, permitting support, surveying, geotechnical investigations, right-of-way planning, third party coordination, systems coordination, cost estimating, scheduling, sustainability report, bid support, Preliminary Hazards Analysis, and community outreach.

The design is being grouped into five Contract Packages: (1) E320 South Bellevue; (2) E330 Downtown Bellevue Tunnel; (3) E335 Downtown Bellevue to Spring District; (4) E340 Bel-Red, and (5) E360 SR-520 to OTC.



Map of South Bellevue to the Overlake Transit Center in Redmond.

## Final Design Key Activities

### E320 So. Bellevue

- Continued design development for the 100% design submittal.
- Submitted a first draft E320 WSDOT Project Development Approval Memorandum and an updated Design Documentation Package Checklist.
- Updated standpipe calculations based on 6" diameter.

### E330 Downtown Bellevue/E335 Downtown Bellevue to Spring District

- Civil design is complete and checked for the IFB submittal.
- Continued structural calculations for Skyline Building strengthening and developed preliminary structural plans for reinforcing Skyline Building basement wall.
- Performed testing and sampling of concrete coring and reinforcement sampling work at the PSE/Summit basement in support of the basement evaluation work.

### E335 Downtown Bellevue to Spring District

- Reviewed and began responses to 60% comments.
- Began coordination with the GC/CM concerning process and format of 60% cost estimate.
- Continued coordination with the City of Bellevue and Puget Sound Energy as related to fiber optic and electrical distribution system relocation along 116<sup>th</sup> Ave. NE.

### E340 Bel-Red

- Revised final drafts of Grade Crossing Diagnostic Review.
- Reviewed the 100% review comments. Response and incorporation of comments on hold until preparation of the IFB package in 2016.
- Continued coordination of third party utility companies. Evaluated potential alternatives for temporary relocation and protection in place during construction of the existing Century Link fiber optic transmission duct bank.

### E360 SR 520 to OTC

- Began refinements to RFP documents based on Authorities Having Jurisdiction comments.
- Add Rapid Ride stops to 152<sup>nd</sup> Ave NE and 156<sup>th</sup> Ave NE.
- Adjusted limits of soil nail easement by moving end of easement back to EB Station 765+50.

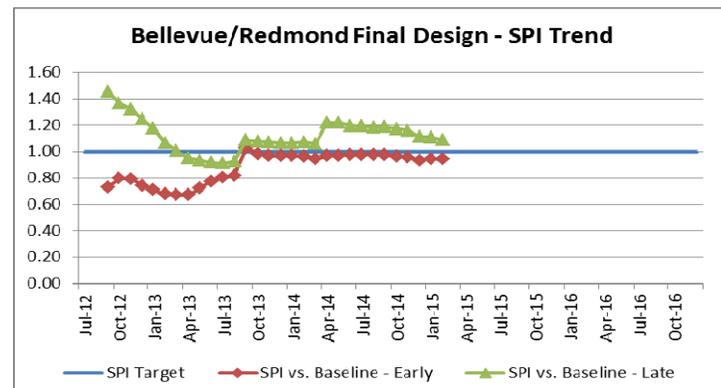
## Final Design Schedule

The table below shows the design submittal dates for each of the contract.

Contract Packages	60% Submittal		90% Submittal		100% Submittal		IFB Submittal	
	Baseline*	Forecast/Actual	Baseline*	Forecast/Actual	Baseline*	Forecast/Actual	Baseline*	Forecast/Actual
E320 So. Bellevue	12/6/2013	12/6/2013	9/19/2014	9/19/2014	4/3/2015	4/3/2015	7/13/2015	7/13/2015
E330 Downtown Bellevue Tunnel	11/18/2013	11/18/2013	6/2/2014	6/02/2014	10/20/2014	10/20/2014	5/11/2015	5/11/2015
E335 Downtown Bellevue to Spring District	12/20/2013	12/20/2013	10/19/2015	10/19/2015	3/8/2016	3/8/2016	6/13/2016	6/13/2016
E340 Bel-Red	7/15/2013	7/15/2013	4/04/2014	7/21/2014	12/8/2014	12/8/2014	5/23/2016	5/23/2016
	Draft RFP Submittal		Final RFP Submittal		*Baseline schedule dates revised to reflect final contract packaging and construction delivery methods.			
	Baseline*	Forecast/Actual	Baseline*	Forecast/Actual				
E360 SR-520 to OTC	2/18/2014	2/18/2014	1/19/2015	3/31/2015				

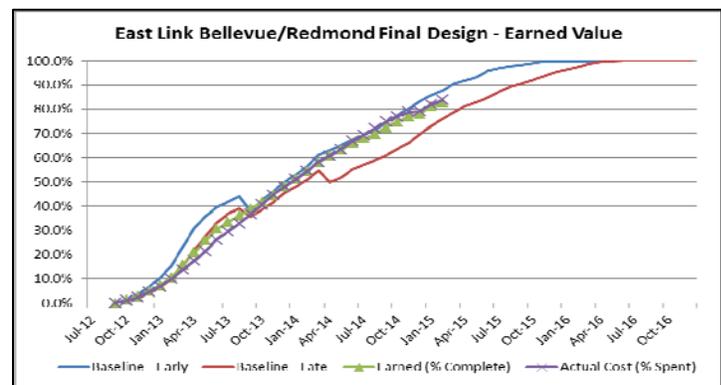
## Final Design Schedule Performance

Excluding Other Direct Expenses (ODC's), Profits and DSDC, the Schedule Performance Index (SPI) reported this period is at 0.98 when measuring against the Early Schedule Baseline, and 1.20 when measuring against the Late Schedule Baseline. Execution of change orders impacted the SPIs.

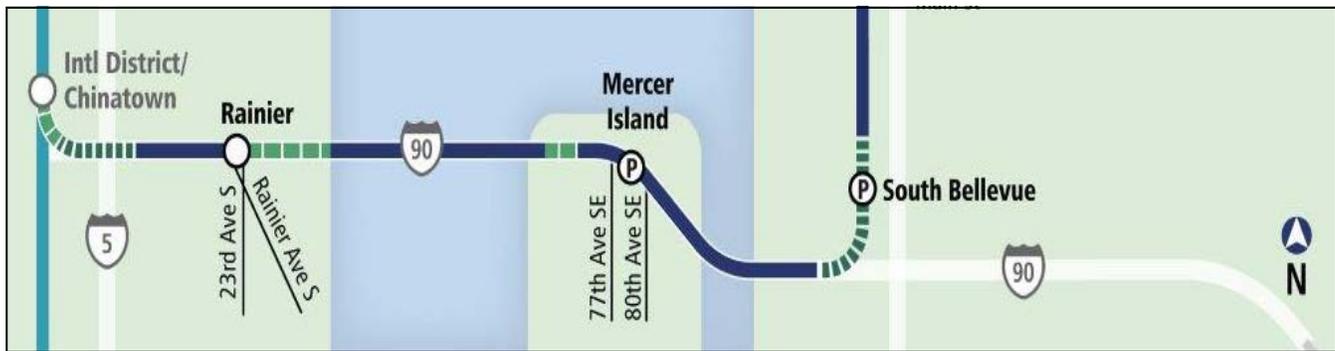


## Final Design Cost Performance

Labor cost (for Phase 2 Final Design) to-date is \$63.0 million, or 80.7% of the budget. Progress earned through the same period is approximately 79.5% or \$62.1 million of earned value. This yields a cumulative Cost Performance Index (CPI) of 0.99, which indicates approximately on-budget cost efficiency of the current contract budget, including executed change orders. There are upward cost pressures in several areas due to refinements to the design and potentially extension of the contract time. Estimate At Completion (EAC) based on EV data, which does not account for potential change orders, is approximately equal to current budget.



Performance	Previous Period	Current Period	Cumulative To Date
Labor Amt. Invoiced	\$61,754,992	\$1,287,214	\$63,042,206
% Spent	79.1%	1.6%	80.7%
Earned Value	\$61,086,490	\$1,062,443	\$62,148,933
% Complete	77.2%	2.3%	79.5%
CPI	0.99	0.83	0.99



Map of International District Station to South Bellevue.

## Final Design Scope

Final Design for the East Link Extension is delivered by three major design contracts: two for civil improvements and one for systems improvements. This Contract is for the civil and architectural design services from International District Station (IDS) to South Bellevue. The contract was awarded to Parsons Brinkerhoff, Inc. (PB).

The scope of the services includes detailed design of the corridor, preparation of comprehensive construction contract documents, permitting support, surveying, geotechnical investigation, right-of-way planning, third party coordination, systems coordination, cost estimating, scheduling, sustainability report, bid support and community outreach support.

The project in this segment has been grouped into three Contract Packages: (1) E110 Rail Connection and Upgrades at IDS, (2) E120 Seismic Retrofits of WSDOT Structures, (3) E130 I-90 Civil/Architectural, which also includes the two at-grade stations, and Electrical/Mechanical Upgrades to existing Tunnels.

## Final Design Key Activities

- Continued work on IRT issues, floating bridge wind-wave and seismic analysis reports, the Plinth Testing Program at UW and related track attachment design.
- Continued work to confirm advancing final design if Mercer Island Station. Rainier Avenue Station entrance, and WSDOT Right-of-Way landscape requirements.
- Sound Transit/WSDOT/ Metro /City of Seattle met to plan next steps for Rainier Station entrance.
- E130 Heavy Civil GC/CM Request for Qualifications (RFQ) advertisement is scheduled for March 2015.

## Final Design Schedule

Contract Packages	60% Submittal		90% Submittal		100% Submittal		IFB Submittal	
	Baseline	Actual	Baseline	Forecast/Actual	Baseline	Forecast/Actual	Baseline	Forecast/Actual
E110 - Rail connection & IDS upgrades	12/6/2013	6/3/2014	10/9/2014	3/15/2014	2/13/2015	6/1/2016	4/28/2015	TBD
E120 - Seismic Retrofits	11/1/2013	9/24/2014	1/15/2015	10/1/2015	3/25/2015	6/1/2016	4/28/2015	TBD
E130 - I-90 Civil/Arch./Elect. & Mech. Upgrades	4/4/2014	7/11/2014	12/17/2014	10/1/2015	3/25/2015	6/1/2016	4/30/2015	TBD

### **Final Design Schedule Performance**

Schedule information was not reported by the consultant for the January 2015 reporting period, due to a moratorium on non-critical work requested by ST. A revised baseline design schedule will be submitted once current scope & budget realignment negotiations have been resolved by senior management for ST and the consultant; a proposal was submitted by PB on February 23, 2015. Upon final ST acceptance, baseline milestones will be revised by an administrative change order.

### **Final Design Cost Performance**

Cost Performance data was not submitted by the consultant for the January 2015 reporting period, due to ST's moratorium on non-critical work. Excluding professional fee, total Labor and Other Direct Costs for Final Design through January 2015 is \$30.1 million, or 98.8% of the budget. The current budget includes executed change orders; a change order for \$2.8 million is pending execution but is not included in this report. A revised final design budget proposal was submitted by PB on February 23, 2015; upon ST acceptance, cost performance for all remaining work will again be submitted by the consultant and monitored to ensure project completion in a cost-effective and successful manner.

## Final Design Scope

Final Design for the East Link Extension is delivered by three major design contracts: two for civil improvements and one for systems improvements. This contract is for the systems design services for the entire alignment. The contract was awarded to LTK Engineering Services, Inc. The scope of the services include detailed design of the corridor, preparations of comprehensive construction contract documents, 3rd party coordination, cost estimating, scheduling, and bid support.

## Final Design Key Activities

- Completed preparation for and survey of electrical systems in Lacey V and Homer Hadley Floating Bridges in preparation for new cathodic protection systems.
- Reviewed the PSE gas line locations to ensure grounding systems are of adequate distance away and provided ST/PSE with confirmation.
- Presented to ST Operations the traffic modeling at the SE 20<sup>th</sup> Street crossing.
- Responded to WSDOT comments regarding IRT Issue H, Cathodic Protection System interference and compatibility.
- Team completed E320 100% interdisciplinary review comment incorporation.

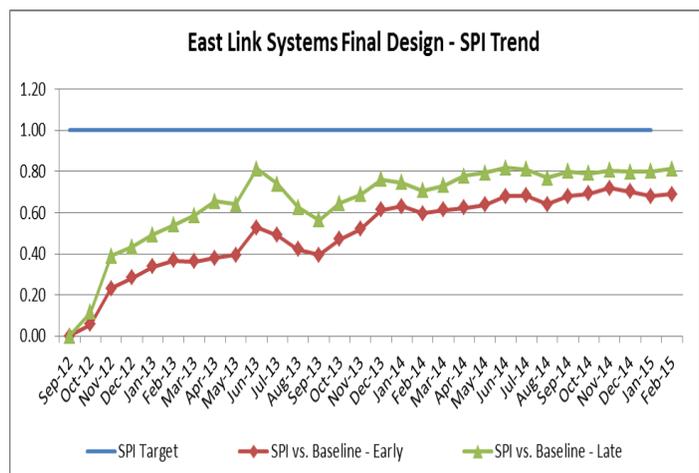
## Final Design Schedule

Though IFB submittal for E750 is showing six months behind schedule, however, there is no impact to the overall schedule.

	60% Submittal		90% Submittal		100% Submittal		IFB Submittal	
	Baseline	Actual	Baseline	Forecast/Actual	Baseline	Forecast/Actual	Baseline	Forecast/Actual
E750- LRT Systems	10/24/2014	10/24/2014	7/8/2015	7/8/2015	1/28/2016	1/28/2016	4/22/2016	4/22/2016

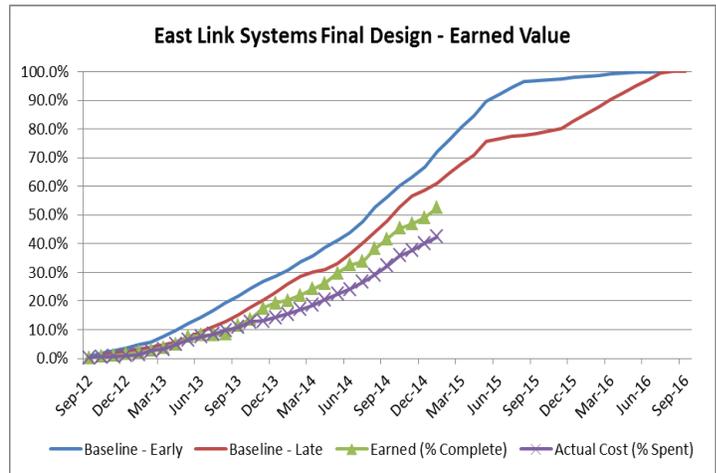
## Final Design Schedule Performance

In February 2015, the project is 51.2% complete resulting in an Earned Value of \$9.16M. The project has an early SPI of 0.75 and a late SPI of 0.99 which indicates that the contract is behind schedule. Revisions to the civil design schedules resulted in a delay to the systems deliverables.



## Final Design Cost Performance

Through the end of February 2015, the project has spent approximately 41.7% of the budget resulting in CPI of 1.24. The current Estimate at Completion (EAC) is expected to be less than the current budget of \$17.7M.

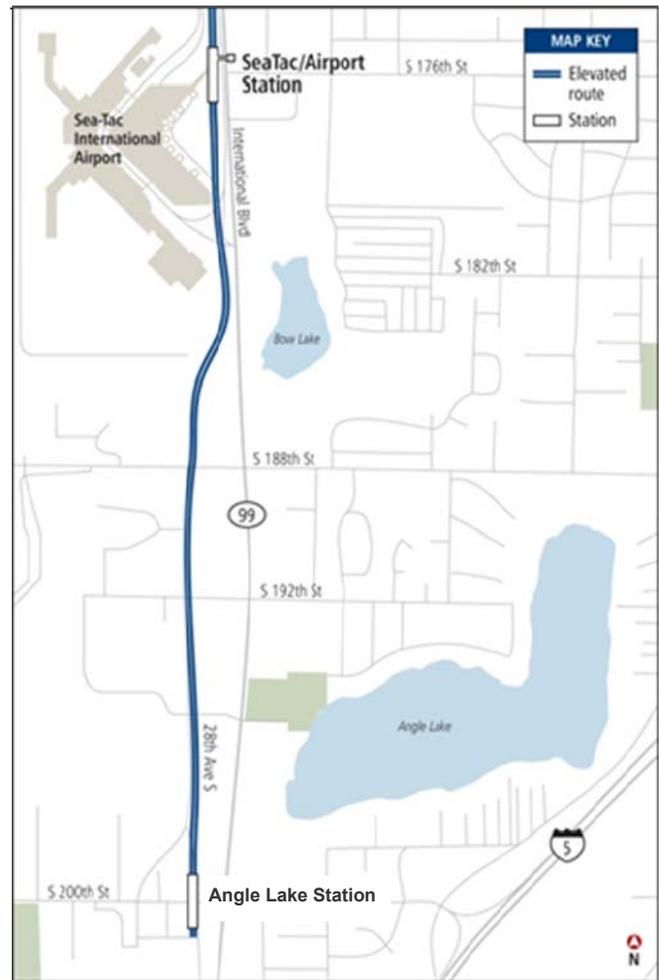


Performance	Previous Period	Current Period	Cumulative To Date
Labor Amt. Invoiced	\$7,002,557	\$391,633	\$7,394,190
% Spent	39.7%	2.0%	41.7%
Earned Value	\$8,575,768	\$585,499	\$9,161,267
% Complete	48.6%	2.6%	51.2%
<b>CPI</b>	1.2	1.5	1.2

This page left intentionally blank.

## Scope

- Limits:** South 200th Link Extension consists of 1.6-mile extension of light rail from the SeaTac/Airport Station to South 200th Street.
- Alignment:** The extension continues in an aerial configuration heading south of the existing SeaTac/Airport Station, east of Air Cargo Road across South 188th Street, and continuing south along the east side of 28th Avenue South to the elevated Angle Lake Station located at South 200th Street. A passenger pickup/drop-off area, bus transfer, plaza, and a minimum 700-space structured park and ride facility will be located at Angle Lake Station. Up to 400 additional spaces may be developed for interim parking while Angle Lake Station is the interim southern terminus of the Link system. Guideway/Station and Parking Garage/Plaza are being delivered under a Design Build contract.
- Station:** Angle Lake Station is located at South 200<sup>th</sup> Street.
- Systems:** Signals, track electrification, and SCADA communications
- Budget:** \$383.2 Million
- Service:** September 2016
- Phase:** Final Design and Construction



Map of S. 200th Link Extension.

## Key Project Activities

- *Design Build Guideway and Station (S440):* City of SeaTac (COS) has indicated King County Storm Water codes may require adding detention facilities to the previously approved S440 storm water IFC and permitted design. COS provided feedback to S440 designer's recent analysis. Artwork fabrication is about 4-months behind schedule and the artwork may be installed following station platform tile installation, requiring tile protection.
- *Design Build Parking Garage (S445):* IFC structural design package is pending permit issuance by City of SeaTac.
- *Roadway Improvements (S447):* This period ST Board approved Johansen Excavating Inc for S447 construction work, and NTP anticipated for mid next month. Working with utilities to finalize agreements and schedules to support S447 construction.
- *Military Road / South 200th (S446):* Final design consultant submitted 90% to WSDOT for review. Conducted field visit with WSDOT construction staff.

## Closely Monitored Issues

- None to report this period.

## Project Cost Summary

The S. 200th Link Extension project cost is summarized in two cost tables. The first table is in accordance with Sound Transit's Work Breakdown Structure (WBS), and in the second table, cost is summarized in accordance to the FTA's Standard Cost Categories (SCC) format. (Both tables' figures in millions).

WBS Phase Elements	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Est. Final Cost (EFC)	Adopted Budget vs. EFC
ADMINISTRATION	\$16.1	\$15.9	\$9.7	\$9.7	\$15.8	\$0.0
PRELIMINARY ENGINEERING	\$5.9	\$5.7	\$5.7	\$5.7	\$5.7	\$0.0
FINAL DESIGN	\$20.0	\$9.9	\$8.4	\$8.3	\$9.9	\$0.0
CONSTRUCTION SERVICES	\$15.1	\$17.3	\$15.0	\$7.1	\$17.1	\$0.2
3rd PARTY AGREEMENTS	\$6.9	\$7.1	\$5.6	\$2.8	\$7.1	\$0.0
CONSTRUCTION	\$275.7	\$283.8	\$215.4	\$126.5	\$263.5	\$20.3
VEHICLES	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
ROW	\$43.5	\$43.5	\$41.6	\$36.4	\$43.5	\$0.0
<b>Capital Total</b>	<b>\$383.2</b>	<b>\$383.2</b>	<b>\$301.2</b>	<b>\$196.4</b>	<b>\$362.7</b>	<b>\$20.5</b>
FINANCE COST	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Project Total</b>	<b>\$383.2</b>	<b>\$383.2</b>	<b>\$301.2</b>	<b>\$196.4</b>	<b>\$362.7</b>	<b>\$20.5</b>

The overall project Estimated Final Cost (EFC) for this period continues to reflect \$362.7M. This period incurred cost increased approximately \$4.2M, of this \$3.3M was for construction activities. S440 Guideway & Station Design Build contract was \$3M and S445 Parking Garage Design Build contract was \$0.4M. Construction services were \$0.3M and the remaining expenditures for \$0.5M were related to civil final design, third party, ROW and administrative charges.

The EFC grouped by SCC is consistent at \$362.7M and remains unchanged from last month, indicating remaining work can be achieved under the adopted budget.

Project Elements by SCC	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 Guideway & Track Elements	\$144.8	\$134.0	\$98.5	\$61.4	\$118.1	\$15.8
20 Stations	\$46.4	\$48.9	\$38.8	\$12.6	\$37.8	\$11.1
30 Support Facilities: Yards, Shops	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$34.6	\$49.6	\$39.7	\$22.8	\$53.3	(\$3.7)
50 Systems	\$30.8	\$20.1	\$19.2	\$11.6	\$20.1	\$0.0
<b>Construction Subtotal (SCC 10-50)</b>	<b>\$256.6</b>	<b>\$252.6</b>	<b>\$196.1</b>	<b>\$108.5</b>	<b>\$229.4</b>	<b>\$23.2</b>
60 Row, Land, Existing Improvements	\$43.5	\$43.5	\$41.6	\$36.4	\$43.5	\$0.0
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services	\$64.1	\$70.9	\$63.6	\$51.6	\$76.2	(\$5.3)
90 Unallocated Contingency	\$19.0	\$16.2	\$0.0	\$0.0	\$13.6	\$2.6
<b>Project Total (SCC 10-90)</b>	<b>\$383.2</b>	<b>\$383.2</b>	<b>\$301.2</b>	<b>\$196.4</b>	<b>\$362.7</b>	<b>\$20.5</b>
<b>100 Finance Cost</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>
<b>Project Total (SCC 10-90)</b>	<b>\$383.2</b>	<b>\$383.2</b>	<b>\$301.2</b>	<b>\$196.4</b>	<b>\$362.7</b>	<b>\$20.5</b>

## Cost Contingency Management

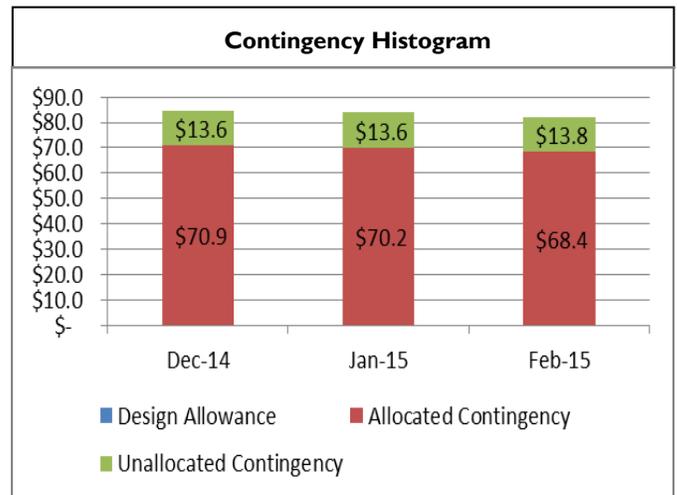
The overall project contingency balance as of this period is \$84.5M.

Design Allowance (DA): After baselining the project, the design allowance of \$26.7M was added to the base estimate for the design build work package. There will be no future reporting of DA.

Allocated Contingency (AC): This period the AC shows a current balance of \$68.4M, a decrease of \$2M from the previous period. The reduction was primarily due to construction change orders from S440 and S445 contracts.

Unallocated Contingency (UAC): This period the UAC is \$13.6M, a decrease of \$0.2M from the Construction phase. Additional budget to the WBS for the S447 construction contract was necessary following ST Board awarding this contract this period.

Contingency Status	Baseline		Current	
	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	\$26.7	7.0%	\$ -	0.0%
Allocated Contingency	\$29.8	8.0%	\$68.4	41.1%
Unallocated Contingency	\$19.0	5.0%	\$13.6	8.2%
<b>Total</b>	<b>\$75.5</b>	<b>20.0%</b>	<b>\$82.0</b>	<b>49.3%</b>



## Risk Management

The South 200th Link Extension Risk Management Plan (RMP) established a risk management and oversight process for assessing and monitoring risks to determine how risks have been reduced or mitigated. RMP captures scope growth, schedule delay, and cost growth risks that could arise during any phase of the project and potentially affect parts of the project scope. On a quarterly basis, the South 200th Link Extension team reviews and updates risk to reflect conditions. Below is a list of the top five major risk review items identified through 4th QTR 2014:

- *Construction*: Delays due to City of SeaTac electrical inspections (S440).
- *Third Party*: City of SeaTac permit approval of crucial elements of work at times is a hindrance.
- *Construction*: Integrating the various System and Station components.
- *Third Party*: Port of Seattle changing rules of engagement on their property after DB contract awarded (S440).
- *Construction*: Delays due to L&I inspections and Certificate of Occupancy for elevators (S440 and S445).

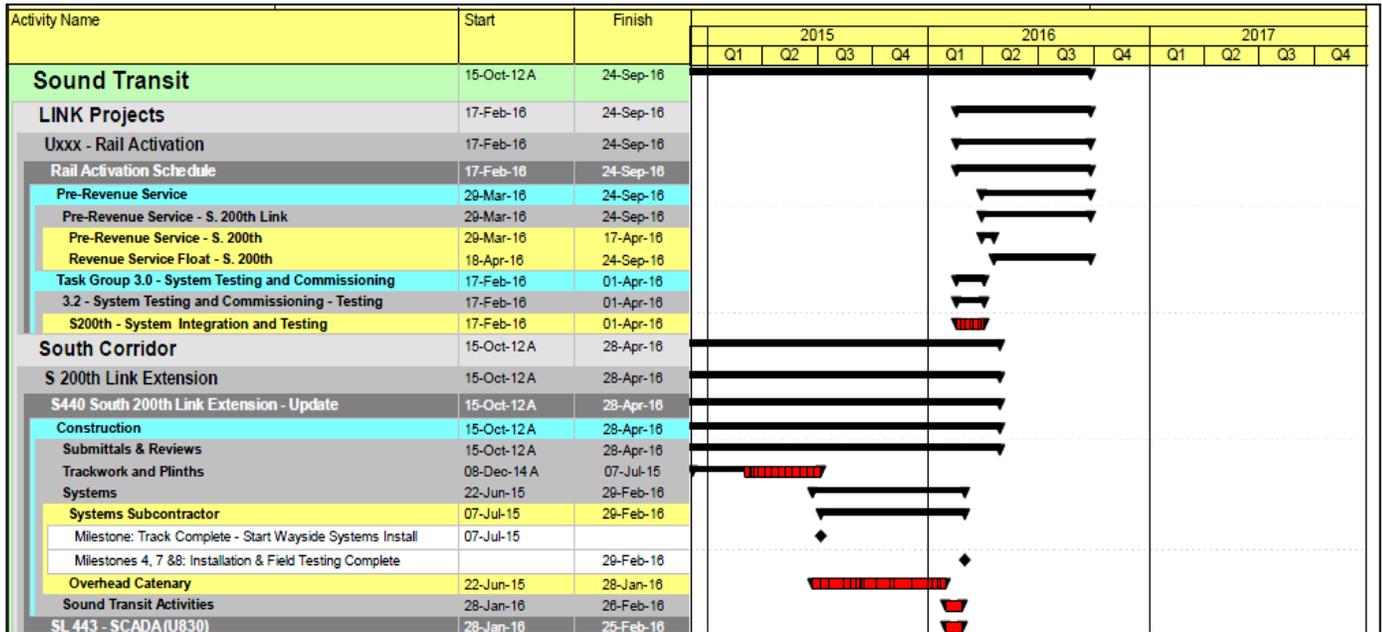
## Project Schedule

S440 contractor typical span erection by the overhead truss is at 70% complete. Full production rate of the truss has not been achieved. S445 DB Parking Garage Design/Builder has mobilized on site in August 2014. Tower crane has now been erected and may help the contractor reach full production. The S. 200th master schedule has been tied to the Rail Activation Schedule but commissioning activities in the S440 schedule needs more detail to be tied properly. The S. 200th Link Extension anticipated service launch is September 2016. (See Project Schedule Summary below).

Activity Name	Start	Finish	2015												2016				2017																			
			Q4				Q1				Q2				Q3				Q4				Q1				Q2				Q3				Q4			
			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	Q1	Q2	Q3								
<b>Sound Transit</b>	15-Oct-12 A	24-Sep-16	[Gantt bars for Sound Transit activities]																																			
<b>LINK Projects</b>	29-Mar-16	24-Sep-16	[Gantt bars for LINK Projects activities]																																			
Uxxx - Rail Activation	29-Mar-16	24-Sep-16	[Gantt bars for Uxxx - Rail Activation activities]																																			
Rail Activation Schedule	29-Mar-16	24-Sep-16	[Gantt bars for Rail Activation Schedule activities]																																			
Pre-Revenue Service	29-Mar-16	24-Sep-16	[Gantt bars for Pre-Revenue Service activities]																																			
Pre-Revenue Service - S. 200th Link	29-Mar-16	24-Sep-16	[Gantt bars for Pre-Revenue Service - S. 200th Link activities]																																			
Task Group 4.0 - Rail Operations	29-Mar-16	18-Apr-16	[Gantt bars for Task Group 4.0 - Rail Operations activities]																																			
4.5 - Rail Operations - Simulate Revenue Service	29-Mar-16	18-Apr-16	[Gantt bars for 4.5 - Rail Operations - Simulate Revenue Service activities]																																			
S200th	29-Mar-16	18-Apr-16	[Gantt bars for S200th activities]																																			
S200th Simulate Revenue Service	29-Mar-16	17-Apr-16	[Gantt bars for S200th Simulate Revenue Service activities]																																			
S200th Pre-Revenue Service Float	18-Apr-16	18-Apr-16	[Gantt bars for S200th Pre-Revenue Service Float activities]																																			
<b>South Corridor</b>	15-Oct-12 A	16-Jun-16	[Gantt bars for South Corridor activities]																																			
S 200th Link Extension	15-Oct-12 A	16-Jun-16	[Gantt bars for S 200th Link Extension activities]																																			
S445 S. 200th Link Extension Parking Garage Design-Build	03-Mar-14 A	03-Feb-16	[Gantt bars for S445 S. 200th Link Extension Parking Garage Design-Build activities]																																			
DESIGN	03-Mar-14 A	03-Feb-16	[Gantt bars for DESIGN activities]																																			
CONSTRUCTION	03-Mar-14 A	03-Feb-16	[Gantt bars for CONSTRUCTION activities]																																			
S440 South 200th Link Extension - Update	15-Oct-12 A	28-Apr-16	[Gantt bars for S440 South 200th Link Extension - Update activities]																																			
Construction	15-Oct-12 A	28-Apr-16	[Gantt bars for Construction activities]																																			
SL 442 - Fare Collection Equipment (TVM/ORCA)	01-Jan-15 A	16-Mar-16	[Gantt bars for SL 442 - Fare Collection Equipment (TVM/ORCA) activities]																																			
SL 443 - SCADA (U830)	28-Jan-16	25-Feb-16	[Gantt bars for SL 443 - SCADA (U830) activities]																																			
SL 446 - S. 200th WSDOT Roadway - Preliminary	12-May-15	16-Jun-16	[Gantt bars for SL 446 - S. 200th WSDOT Roadway - Preliminary activities]																																			
S446 - WSDOT Military Rd/ I-5 Improvements	12-May-15	16-Jun-16	[Gantt bars for S446 - WSDOT Military Rd/ I-5 Improvements activities]																																			
Construction	12-May-15	16-Jun-16	[Gantt bars for Construction activities]																																			
SL 447 - S. 200th Station Area Roadway	28-Sep-14 A	08-Feb-16	[Gantt bars for SL 447 - S. 200th Station Area Roadway activities]																																			
Construction	28-Sep-14 A	08-Feb-16	[Gantt bars for Construction activities]																																			

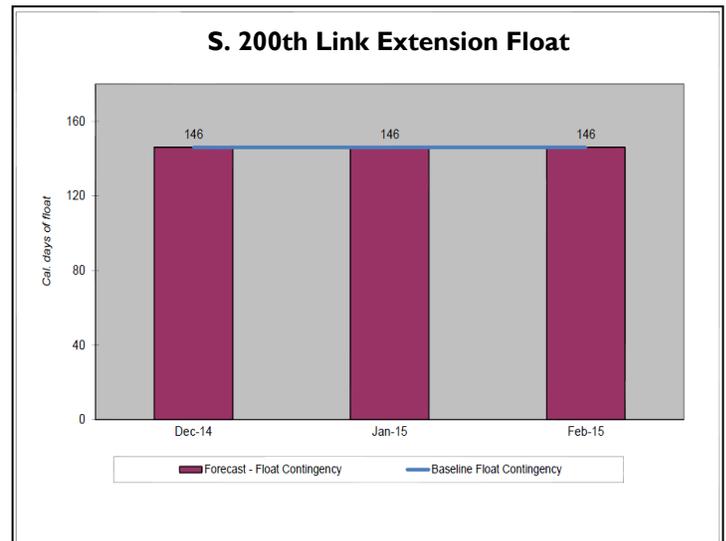
## Critical Path Analysis

The critical path of S. 200th Link Extension runs through S440 which commences with the procurement of the guideway erection truss, guideway erection. The critical path this period runs through procurement of special track and the installation of plinths through systems installation and commissioning and system wide testing and integration.



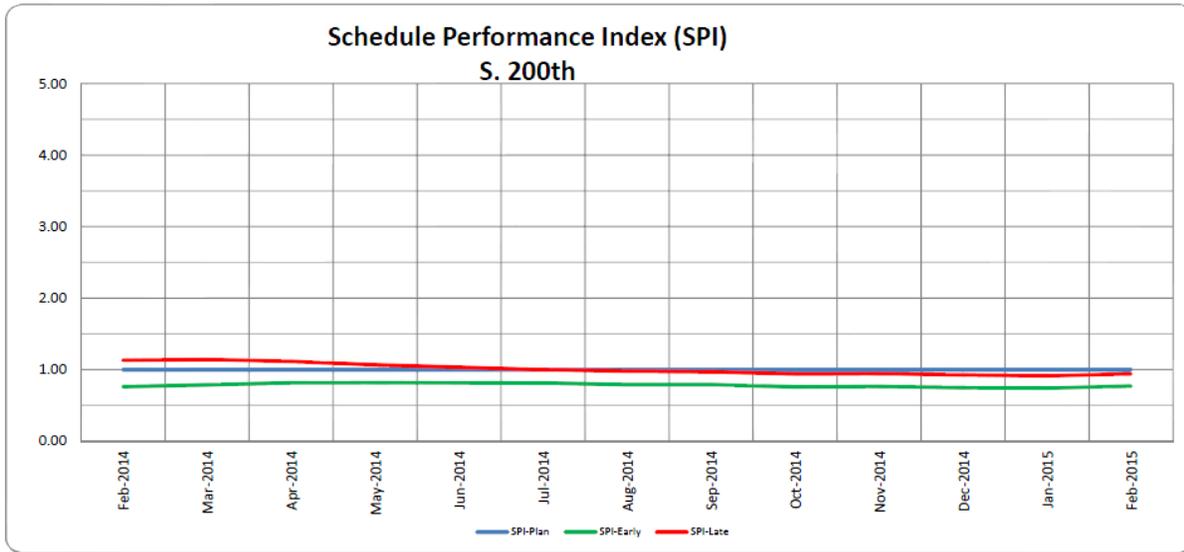
## Critical Path Float

The float contingency for S. 200th Link Extension is at 146 days.



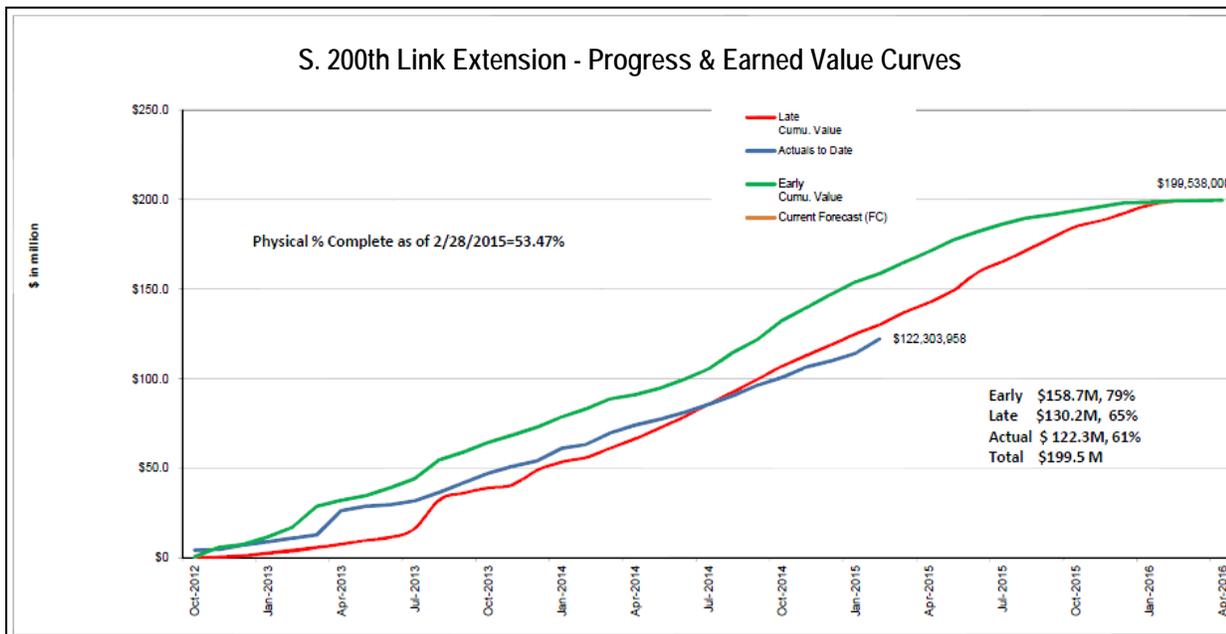
## Schedule Performance Index

The Schedule Performance Index (SPI) for S.200th has improved slightly this period to 0.77 as production improves at S445 and station construction and rail installation commences at S440. (See details on individual contract sections.) Progress will continue to be monitored closely.



## Cost Progress Analysis

Overall S. 200th physical % complete is at 53.5%. Graphic below is a representation of the progress of major construction contracts cost compared to the early/late projections. S440 will be the main driver for performance levels for S. 200th.



## Right-of-Way

The S. 200<sup>th</sup> Link Extension involves the acquisition of a range of property interests, including owner and tenant residential and commercial relocations. Property interests include compensable (e.g., easements, fee acquisitions) and non-compensable rights (e.g., rights of entry). The S. 200th Link Extension project involved the advance acquisition of three parcels that the Board approved in 2006 and 2007; the final decree was entered in 2009. The acquisition of property rights from additional parcels along the route was authorized by the Board in July 2011 (52 parcels) and February 2012 (6 parcels). On November 21, 2013 the Sound Transit Board authorized the acquisition of 21 parcels for S447. Seven parcels previously certified for S440 also have acquisitions on S447. Three parcels that had previous acquisitions on S440 have new acquisitions on the same project.

The right-of-way program is summarized below.

Line Section	Total Parcels Certified*	Offers Made	Signed Agreements	Admin. Settlements	Possession and Use	Closings to date	Baseline Relocations Required	Relocations Completed
S440	61	56	0	0	0	56	8	8
S445	1	1	0	0	0	1	0	0
S447	30	18	2	0	0	9	0	0
<b>Total</b>	<b>92</b>	<b>75</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>66</b>	<b>8</b>	<b>8</b>

Note: \*Seven of these parcels are in two different contracts and three parcels are in the S440 contract twice. These 10 parcels are counted twice as they have 2 different milestones.

*S440 DB Guideway and Station* - Offers have been made on 56 parcels. A total of 33 parcels were submitted for condemnation - 32 parcels have been filed in court and condemnation on one parcel was dismissed. All owners have settled and no parcels remain in condemnation.

*S445 Parking Garage and Plaza* - Completed.

*S447 Station Area Roadways* - One condemnation package filled in court. Final offer letter sent for two parcels and negotiations ongoing. Three new acquisitions were identified and added to the project; appraisal waivers have been received and offer package is being processed.

## Construction Safety

Safety Statistics for the reporting period and year-to-date are summarized in the table below.

Data/Measure	February 2015	Year to Date	Project to Date
Recordable Injury/Illness Cases	0	0	4
Days Away From Work Cases	0	0	0
Total Days Away From Work	0	0	0
Restricted or Modified Work Cases	0	0	3
Total Days Restricted or Modified Work	0	0	195
First Aid Cases	0	1	29
Reported Near Mishaps	0	2	15
Average Number of Employees on Worksite	200	-	-
<b>Total # of Hours (GC &amp; Subs)</b>	23,773	49,967	527,217
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	0.00	0.00	1.52
DART Rate	0.00	0.00	1.14
<i>Recordable National Average</i>	<b>3.80</b>	<b>3.80</b>	<b>3.80</b>
<i>DART National Average</i>	<b>2.20</b>	<b>2.20</b>	<b>2.20</b>
<i>Recordable WA State Average</i>	<b>7.20</b>	<b>7.20</b>	<b>7.20</b>
<i>DART WA State Average</i>	<b>3.30</b>	<b>3.30</b>	<b>3.30</b>

## Quality Assurance Activities

### Activities

- S440: dispositioned four NCRs for Repair regarding; improper Repair Procedure followed, misaligned plinth bar, and concrete structural spalls.
- S440: MRB dispositioned one NCR for Use-As-Is regarding Variable Depth Web wall thickness tolerance

### Issues

- Recurring NCRs.

### Summary

Description	Feb 2015	Notes
No. of Audits Planned	1	S440 RE Audit
No. of Audits Completed	0	None
Reports in Progress	0	None
No. of Audits Postponed	0	None

### Community Outreach

- Distributed construction alerts for overnight closures of 182nd Street (airport entrance).
- Coordinated access with Alaska Airlines for time-lapse camera installation on their rooftop.
- Met with property owners on access as gantry passes over driveways.

### Sound Transit Board Actions

Board Actions	Description	Date
M2015-19	<i>Execute a contract with Johansen Excavating, Inc. to provide construction services for the Station Area Roadways and Surface Parking work with in the S. 200th Link Extension in the amount of \$8,426,400 with a 10% contingency for a total authorized amount not to exceed \$9,269,040.</i>	Feb 26

### Contract Packages

The South 200<sup>th</sup> Link Extension consists of two major contract packages, both by Design Build methods, and two minor contracts. Below is a brief scope description of each package.

- **S440 Design Build Guideway and Station** - This contract involves the design and construction of an elevated guideway (1.6 miles) and station, site work, civil /roadwork, and systems. See S440 contract page for detailed information on the following page.
- **S445 Design Build – Parking Garage and Plaza** – This contract involves the design and construction of a parking garage (700 space structure), passenger pick-up and drop-off lot, plaza area, retail space and surface parking. See S445 contract page for details.
- **S446 Military Road & South 200<sup>th</sup> Street Improvements** – This contract package consists of construction of roadway and traffic signals work.
- **S447 Station Area Roadways & Surface Parking**- This contract package consists of station area roadway, surface parking, and non-motorized Improvements (sidewalks, traffic signals, pedestrian/bicycle connection, roadwork).

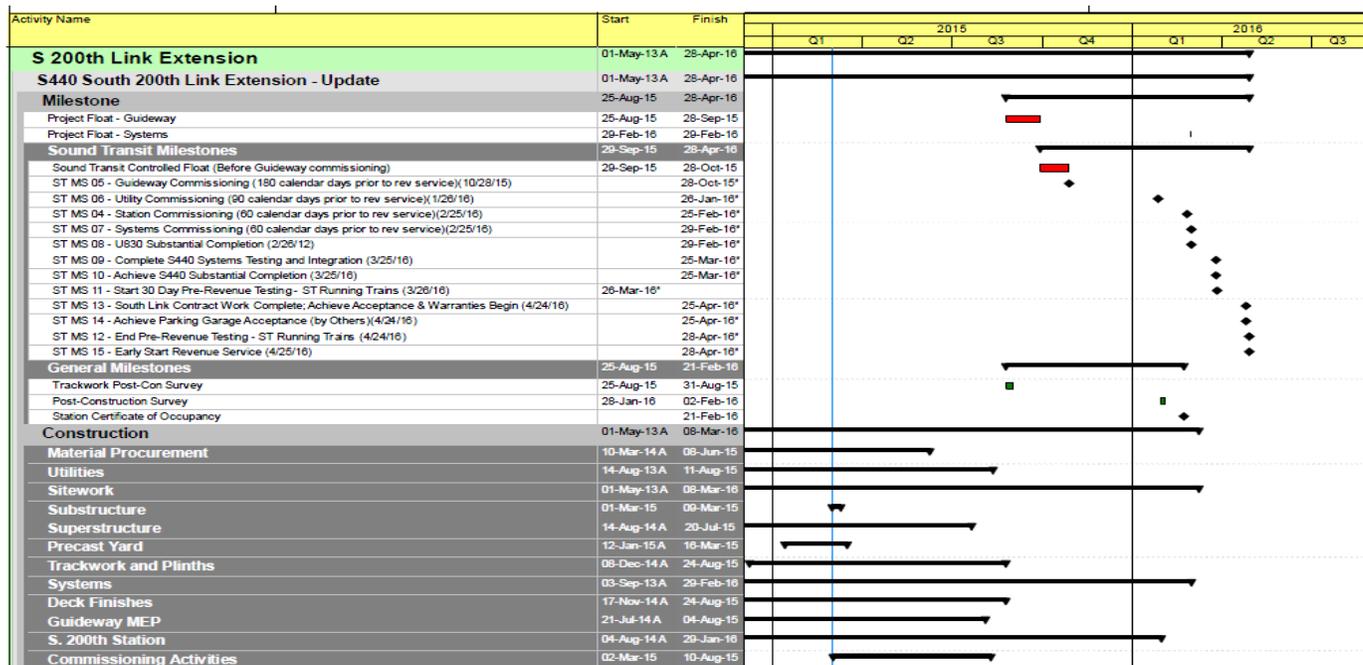
## S440 Contract—Design -Build (Guideway and Station)

### Current Progress

Drilled shaft construction is complete. Column erection is completed. Casting yard production is at approx. 1,174 of 1,176 segments (99.9%) have been poured to date. Gantry erection has not progressed into full production. Typical Span Erection by the gantry is well underway but is progressing slower than expected; approx. 70% complete. Plinth and Rail installation has commenced with plinth installation at 6%. Overall the progress of this contract represents 64.5% physical completion; the Design element is 100% complete and Construction is 62.0%.

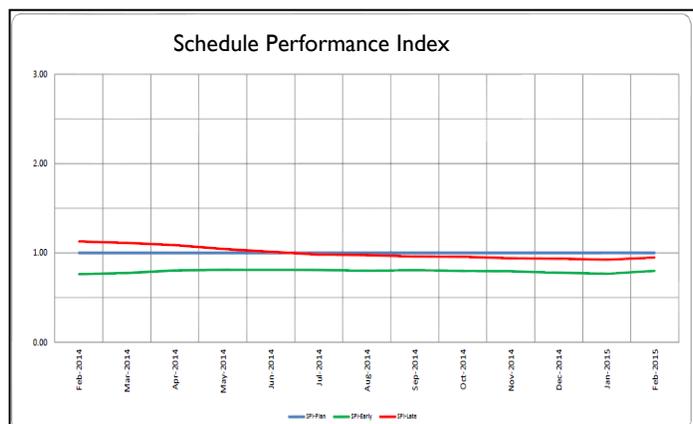
### Schedule/Critical Path

The schedule update for February has been submitted and is under review. Milestone #5, Guideway Commissioning, is reporting 58 days of positive float, including owner controlled float. Milestone #10 (Substantial Completion) is reporting 9 days of positive float. The critical path this period runs through the Track and Systems work and Testing and commissioning. Guideway and Track systems will be tracked closely. Production rates will be monitored closely.



### Schedule Performance Index

The SPI remains below 1.0 at 0.8 but has improved slightly this period. Delays to the commencement of station construction, span erection, and an aggressive baseline schedule continue to plague S440. The Contractor has been able to absorb these delays by shifting the various work sequences. Testing and Commissioning Activities for the station have been added to the schedule. Train Systems commissioning activities are expected in future updates.



### Key Activities

#### Current Period

- Continued coordination meetings.
- *Angle Lake Station/Plaza activities:* continued plaza retaining walls; construct structural Canopy and Windscreen on platform deck; continue electrical underground; construct foundation for the Ancillary Building at South plaza.
- Continue BMS design.
- Continue guideway platform decking.
- Continue special trackwork and plinth installation.
- Continue cable tray installation.
- Continue aligning permanent bearings, grouting and post tensioning spans.
- Continued long span activities: completed second to last and began last cantilever segment erection; prep for grout longitudinal tendons and closure pours.
- Continue Gantry segmental span by span erection on 28th Ave; 82% spans complete and 11 remain.
- Cantilever segment erection on Port of Seattle ROW; 89% spans complete and 1 remain.
- Segment production this month at casting yard is 14, total produced to date is 1169 out of 1170 (or 99.9%).

#### Next Period

- Continue casting precast segments at Casting Yard, finish up mid March.
- Continue launching gantry to erect spans.
- Continue cantilever segment erection.
- Continue Station work-retaining walls; underground electrical; Ancillary foundation.
- Construct Canopy, Windscreen and Rail at Platform.
- Continue guideway work: special trackwork installation; typical plinths and track installation; temporary handrails.
- Other miscellaneous work: align permanent bearings; post tensioning, and grout.

### Closely Monitored Issues

- Electrical issues at Angle Lake Station regarding code interpretation of several items, including sprinklers is close to a resolution.

### Cost Summary

Present Financial Status	Amount
<b>S440 Contractor—PCL Civil Contractors, Inc.</b>	
Original Contract Value	\$169,000,000
Change Order Value	\$3,683,919
Current Contract Value	\$172,683,919
Total Actual Cost (Amount Billed)	\$110,370,550
Financial Percent Complete:	64%
Physical Percent Complete:	65%
Authorized Contingency	\$13,520,000
Contingency Drawdown	\$3,683,919
Contingency Index*	2.4



Hanging segments.

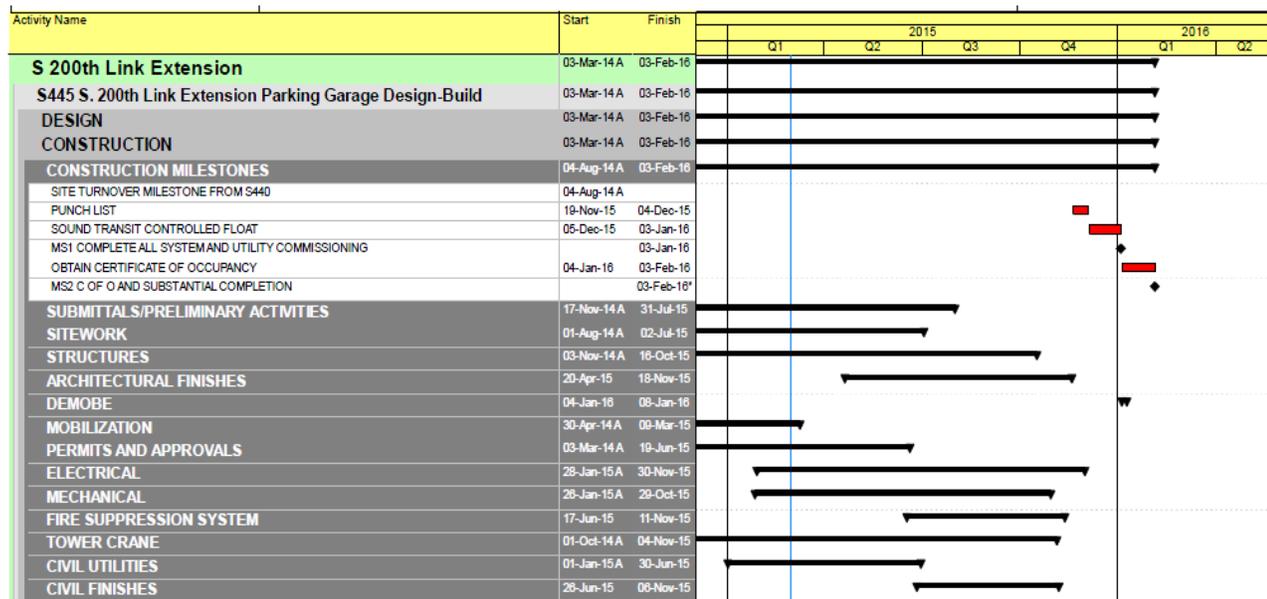
## S445 Contract—Design -Build Parking Garage

### Current Progress

S445 DB Parking Garage Design/Builder was issued the Notice to Proceed in August 2014. Mass excavation and foundation installation are well underway. The tower crane is now in operation. Production will be watched closely as the contractor comes out of the ground.

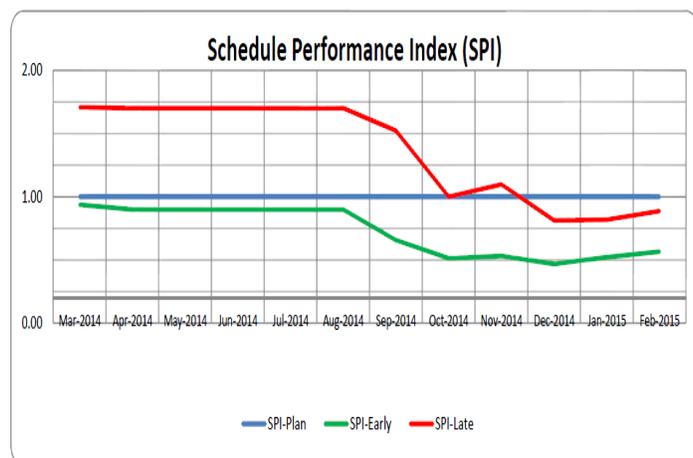
### Schedule/Critical Path

The February schedule update has been submitted. The garage design is well under way at 87% complete. Construction work has commenced and is 19% complete. Site work and mass excavation at the garage are now underway. The critical path this period follows footing concrete, through levels 1 through 7 deck form and pours and then architectural finishes. Milestone #2 Substantial Completion is reporting 35 days of negative float with 30 days of owner controlled float intact. A recovery schedule is expected to address the delays associated with the negative float.



### Schedule Performance Index

The SPI this period has risen slightly this period to .57 now that the tower crane is in operation better performance has taken place. The contractor has submitted a claim for unusually severe weather from October to January 2015 and impacts from underground storage tanks and contaminated soil. Negotiations are underway with the contractor.



## Key Activities

### Current Period

- Continue design package development and coordination meetings with ST, RE team and other third party agencies.
- Design packages await submittal for review: 100% and IFC Architectural. IFC Structural is pending permit issuance by City of SeaTac.
- Continued design and construction interface coordination meetings with S440 DB Contractor.
- Continue BMS design.
- Continued excavation, formwork, rebar and pour garage footings.
- Continued formwork, rebar and pour retaining walls.
- Began formwork, rebar, and pour elevator pit walls; installed waterproofing.
- Poured slab on grade Level 1
- Completed interior wall pours at detention vault.
- Began installing Mechanical, Electrical and Plumbing.
- Continue ongoing survey and control.

### Next Period

- Continue design and coordination meetings.
- Anticipate review of: IFC Structures, IFC Architecture design package submittals.
- Continue with ongoing survey and control
- Continue excavate, form, rebar and pour garage footings.
- Continue excavate, form, rebar, pour, and backfill retaining walls.
- Continue installation of Mechanical, Electrical and Plumbing Begin preparation and placing slab on grade Level 2.

### **Closely Monitored Issues**

- Contractor has indicated current design is significantly over its budget and they are considering potential Value Engineering proposals.

## Cost Summary

Present Financial Status	Amount
<b>S445 Contractor—Harbor Pacific/Graham</b>	
Original Contract Value	\$29,978,000
Change Order Value	\$165,716
Current Contract Value	\$30,143,716
Total Actual Cost (Amount Billed)	\$8,047,703
Financial Percent Complete:	27%
Physical Percent Complete:	27%
Authorized Contingency	\$2,398,240
Contingency Drawdown	\$165,716
Contingency Index*	4.0



Workers installing forms and rebar for retaining wall.

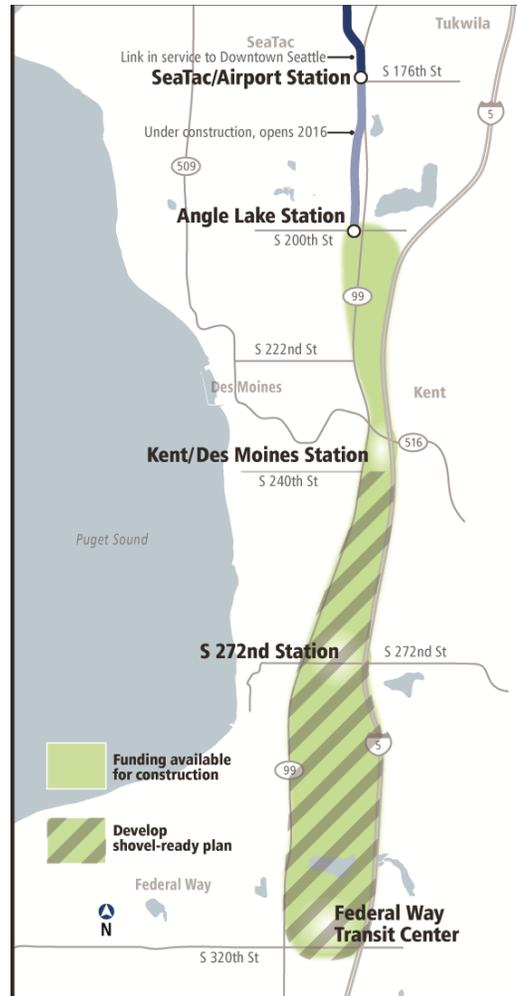
This page left blank intentionally.

## Scope

The Federal Way Link Extension includes alternatives analysis, environmental work and conceptual engineering for an extension of Link Light Rail from S. 200<sup>th</sup> St. in SeaTac to the Federal Way Transit Center. Preliminary engineering will be performed only for the segment from S. 200<sup>th</sup> St. to Kent/Des Moines (in the vicinity of High-line College).

## Key Project Activities/Issues

- Completed Phase 1 work (Alternatives Analysis) in Sept. 2013.
- DEIS alternatives identified by the Board in Sept. 2013.
- Executed Phase 2 contract amendment with HDR for Conceptual Engineering and Draft EIS work in October 2013.
- Conceptual design, cost estimates and risk assessment activities are complete.
- Three -month schedule extension to address cooperating agency comments and accommodate FTA reviews.
- Project Schedule updated to reflect Sound Transit Board identification of a Preferred Alternative in June 2015.
- Submitted Draft EIS for FTA Review January 30<sup>th</sup>, 2015.
- Currently revising Draft EIS to reflect comments from final FTA review; anticipating FTA signature in March for early April publication of Draft EIS.



Map of Federal Way Link Extension.

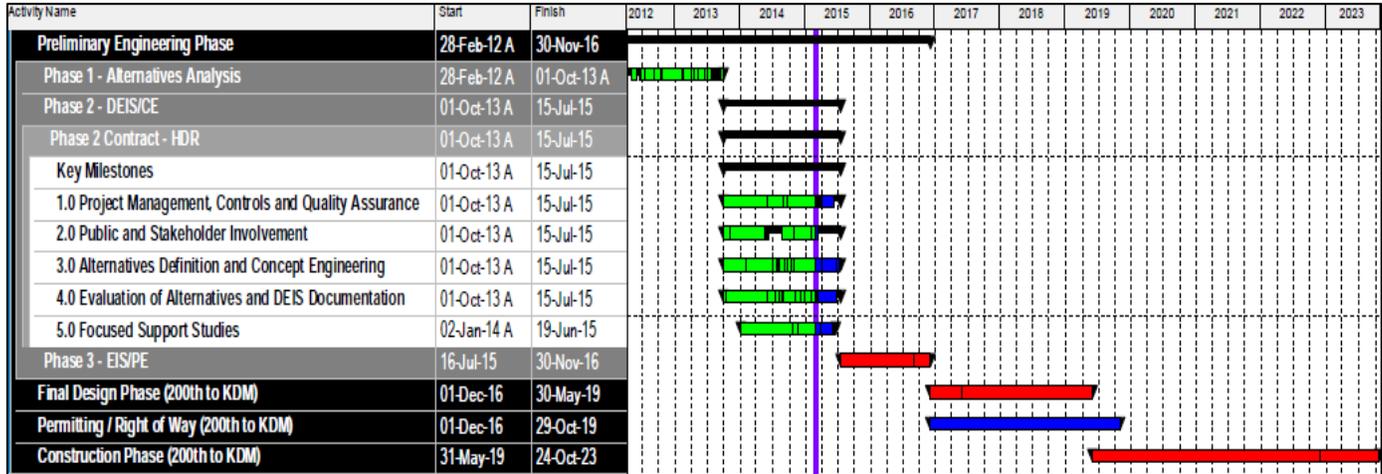
## Project Cost Summary

The Federal Way Link Extension is currently funded through the completion of preliminary engineering (PE) and environmental documentation, with the exception of the segment from Kent/Des Moines to Federal Way, which is only funded through environmental documentation. Board approval for additional funding for final design and construction of the segment from S. 200<sup>th</sup> St. to Kent/Des Moines will be sought upon completion of funded work. The proposed 2014 budget includes an increase to the project lifetime budget to fund Right of Way activities needed to advance the design work. Table (below) figures in millions.

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	\$9.4	\$2.2	\$2.2	\$7.2	\$9.4	\$0.0
Preliminary Engineering	\$30.9	\$12.3	\$10.9	\$18.6	\$30.9	\$0.0
Third Parties	\$1.6	\$0.2	\$0.1	\$1.4	\$1.6	\$0.0
Right of Way	\$1.0	\$0.2	\$0.2	\$0.8	\$1.0	\$0.0
<b>Total</b>	<b>\$42.9</b>	<b>\$14.9</b>	<b>\$13.4</b>	<b>\$28.0</b>	<b>\$42.9</b>	<b>\$0.0</b>

## Project Schedule

The DEIS and Conceptual Engineering Phase will run through the 2nd QTR 2015. The Final EIS and Preliminary Engineering will run through 4th QTR 2016. It is anticipated that the Board will adopt the project and the FTA will issue the ROD in late 2016.



## Sound Transit Board Actions

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

Motion Number	Description	Date
	None to report.	

## Community Outreach

- Continued meeting property owners and discussed potential impacts in an ongoing outreach effort.
- Participated in the Interagency working group which includes King County, City of Kent, Des Moines, Federal Way, SeaTac and local social service providers and other stakeholders.

## Environmental

- Preparing Draft EIS for publication early 2015.

## Phase 2 Conceptual Engineering

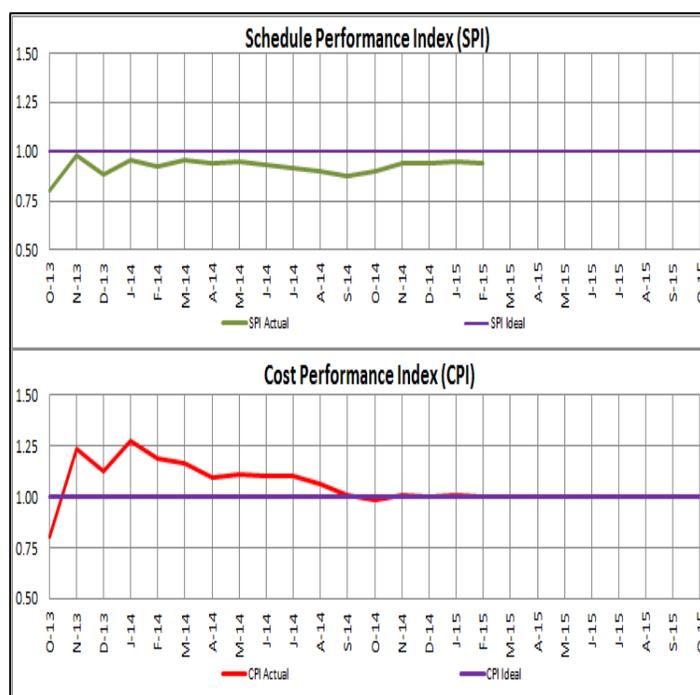
In October 2013, Sound Transit executed an amendment to the professional services agreement with HDR Engineering, Inc. for Phase 2 professional services, including Conceptual Engineering and a Draft Environmental Impact Statement.

### Phase 2 Key Activities

- Continued preparations for public outreach efforts for Draft EIS publication.
- Conducted one-on-one meetings with potentially affected property owners.
- Began final revisions to Draft EIS to address final comments from FTA legal counsel and Regional Administrator.
- Continued assessment of Transit-Oriented Development (TOD) potential of the Draft EIS alternatives.
- Continued coordination activities with key stakeholders in advance of Draft EIS publication.
- Continued advancement of permitting activities for Phase 3 field investigations.
- Continued development of Phase 3 (PE and Final EIS) scope of work.

### Phase 2 Schedule Performance

The cumulative Schedule Performance Index (SPI) is 0.94 through February, indicating the overall amount of work accomplished is less than planned. Review of the critical path indicates that publication of the Draft EIS will be in April 2015, with Board identification of a preferred alternative (& Phase 3 contract approval) in June 2015. Although this represents a three month extension of the Phase 2 schedule, the project team still expects to complete Phase 3 PE work on schedule in late 2016.



### Phase 2 Cost Performance

\$10.7M of the total contract amount, approximately 89%, has been spent through February 2015. Phase 2 expenditures through February totaled \$7.5M, approximately 84% of the Phase 2 contract total. The Phase 2 percent complete reported at the end of February is 84%, with an earned value of \$7.4M. The cumulative Cost Performance Index (CPI) through February is 1.00, indicating costs planned are very close or equal to work accomplished. Based on the current trend, the Phase 2 cost is expected to be on budget. Currently there is no indication that a three month schedule extension will result in increased costs to Phase 2.

Phase 2 Performance	Previous Period	Current Period*	Cumulative To Date
Amount Invoiced	\$7,166,643	\$286,917	\$7,453,560
% Spent	81%	3%	84%
Earned Value	\$7,216,312	\$214,828	\$7,431,140
% Complete	82%	2%	84%
<b>SPI</b>	<b>0.95</b>	<b>0.71</b>	<b>0.94</b>
<b>CPI</b>	<b>1.01</b>	<b>0.75</b>	<b>1.00</b>

This page left blank intentionally.

## Scope

In cooperation with the City of Tacoma and Pierce Transit, Sound Transit is studying the potential of expanding the Tacoma Link light rail system in the context of the City and Pierce Transit service and capital plans. A technical advisory committee comprised of the City, Pierce Transit and Sound Transit staff convened to provide technical feedback and guidance throughout the Alternative Analysis (AA) process. Sound Transit, the City of Tacoma and Pierce Transit signed a cooperative agreement term sheet. In February 2014, the Tacoma City Council unanimously recommended and the Sound Transit Board unanimously identified one alignment to undergo environmental review.



Tacoma Link

## Key Project Activities

- During 1st QTR 2014 Sound Transit executed an amendment to the professional services contract with CH2M Hill in March to perform conceptual engineering and environmental review and to assist in the preparation of the Small Starts Grant application.
- Conceptual Engineering (CE): Final CE Plans are almost complete. Value Engineering and Risk Assessment studies were conducted in October 2014.
- Environmental: The FTA made a preliminary decision to proceed with DCE. The environmental review process is scheduled to be completed in 1st QTR 2015.
- The initial Small Starts Rating submittal was submitted in September 2014.

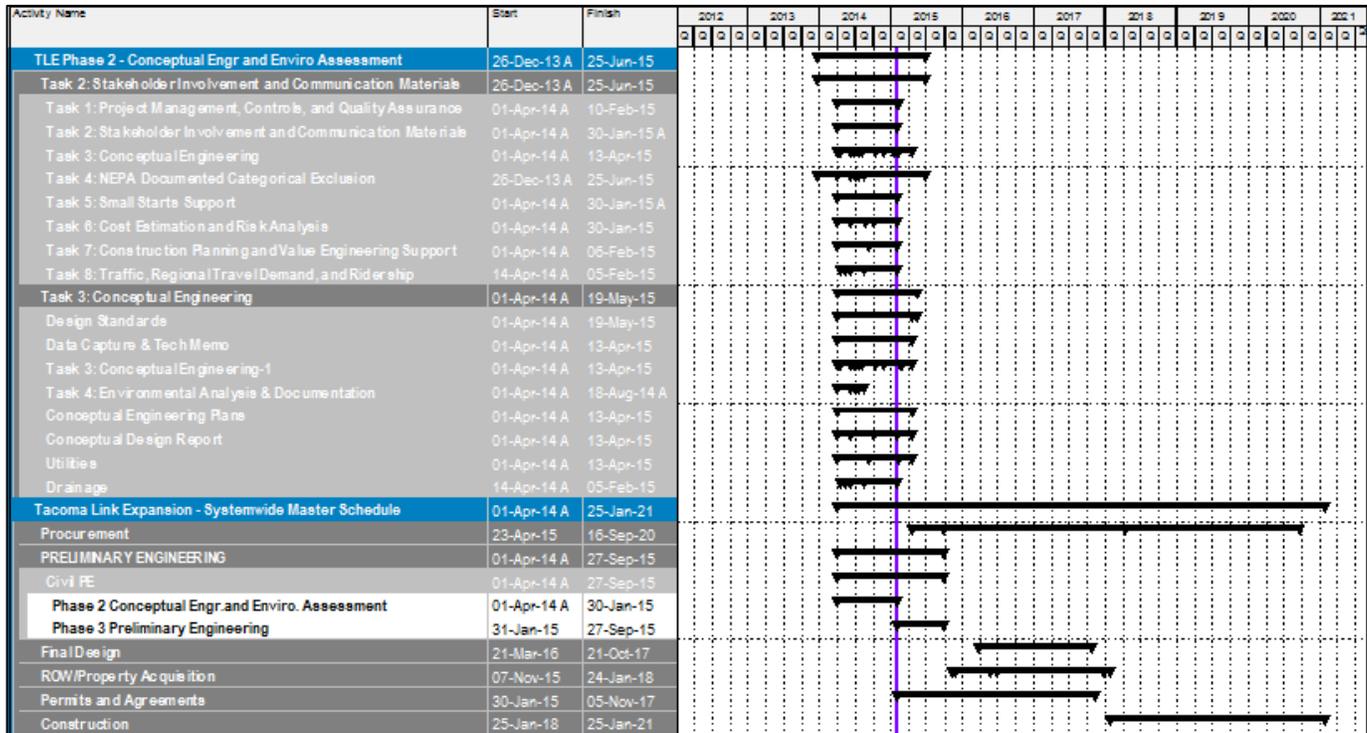
## Project Cost Summary

The Tacoma Link Alternatives Analysis is currently funded through the completion of the alternatives analysis, PE and Environmental Documentation. Funding included in the ST2 financial plan represents a maximum capital contribution by Sound Transit to the overall cost of expanding Tacoma Link if other public or private entities provide additional funding. Board approval for funding environmental documentation, preliminary engineering, final design and construction will be sought upon completion of the alternatives analysis. Board approval for funding preliminary engineering, final design and construction will be sought upon completion of the environmental documentation, a project funding strategy and agreements with funding partners. (Table in millions.)

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	\$1.8	\$1.2	\$1.2	\$0.6	\$1.8	\$0.0
Preliminary Engineering	\$5.9	\$5.3	\$3.0	\$0.6	\$5.9	\$0.0
Right of Way	\$0.1	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0
<b>Total</b>	<b>\$7.8</b>	<b>\$6.5</b>	<b>\$4.2</b>	<b>\$1.2</b>	<b>\$7.8</b>	<b>\$0.0</b>

## Project Schedule

The Alternative Analysis was completed by the 1st QTR 2014. The project schedule is presented below.



## Environmental

- Sound Transit identified a preferred alignment that will be evaluated as part of the environmental process.

## Community Outreach

- Attended Hilltop Business District Ethnic Festival luncheon.
- Attended Hilltop Business District monthly meeting.

---

## Phase 2 Conceptual Engineering

In March 2014, Sound Transit executed an amendment to the professional services agreement with CH2M Hill, Inc. for Phase 2 professional services, including conceptual engineering and environmental work.

---

### Phase 2 Key Activities

- Continued public outreach efforts.
  - Prepared detailed Phase 2 work plan and schedule.
  - Prepared design criteria and various conceptual engineering technical memos.
  - Drafted methodology for the environmental analysis.
  - Continued to refine the design of the E-1 alternative.
- 

### Phase 2 Schedule and Cost Performance

This project will begin reporting earned value data for the Phase 2 contract soon.

This page left blank intentionally.

## Scope

Sound Transit is reviewing and evaluating current and future light rail storage and maintenance requirements to support the development, design, and construction of a future light rail operations and maintenance facility for proposed system expansion. Sound Transit Board identified Draft Environmental Impact Statement (DEIS) alternatives in 2012.

## Key Project Activities

- Urban Land Institute conducted Advisory Services Panel in March 2014.
- DEIS published in May 2014 and comment period closed June 23, 2014.
- Phase 1 work is now complete and Phase 2 NTP on September 08, 2014.
- Issues with obtaining ROE's for two parcels. To date, owners have denied Sound Transit ROE requests limiting the ability to completely survey the site and prepare basemap.

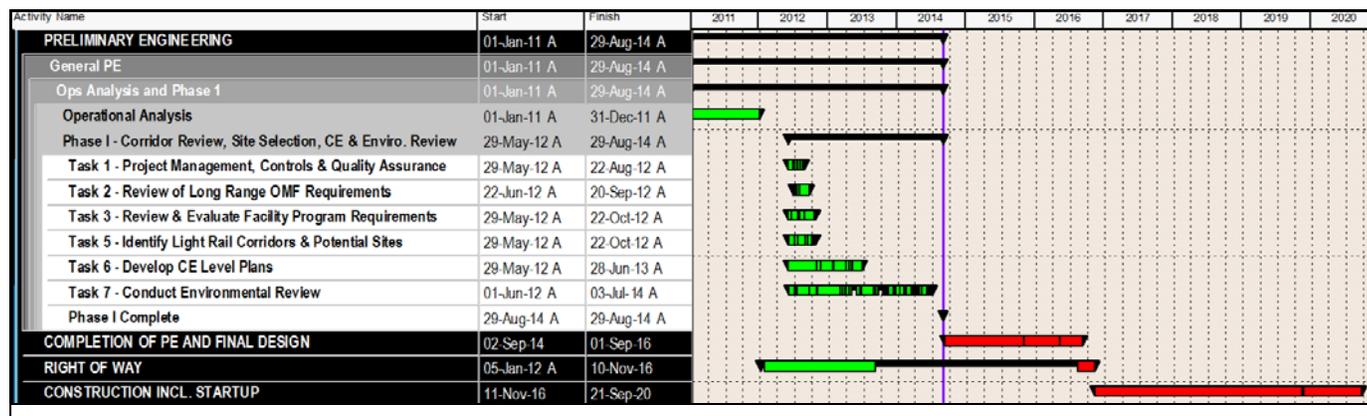
## Program Cost

The Link Operations and Maintenance Satellite Facility (OMSF) project is currently funded through the completion of preliminary engineering (PE) and environmental documentation. Board approval for additional funding for final design and construction will be sought upon completion of PE. Table (below) figures in millions.

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	\$3.2	\$0.8	\$0.8	\$2.4	\$3.2	\$0.0
Preliminary Engineering	\$10.0	\$8.6	\$4.0	\$1.4	\$10.0	\$0.0
3 <sup>rd</sup> Party Agreements	\$0.4	\$0.0	\$0.0	\$0.4	\$0.4	\$0.0
Right of Way	\$23.2	\$23.2	\$23.2	\$0.0	\$23.2	\$0.0
<b>Total</b>	<b>\$36.8</b>	<b>\$32.6</b>	<b>\$28.0</b>	<b>\$4.2</b>	<b>\$36.8</b>	<b>\$0.0</b>

## Program Schedule

The project schedule is presented below. The extension of Phase 1 completion to August 2014 requires that the remaining preliminary engineering and final design work be complete by September 2016 in order to maintain the current construction and startup schedule. Sound Transit is preparing a conceptual schedule to show the remaining preliminary engineering duration and investigating alternative delivery methods, such as design-build, in order to retain the desired service date in 2020. Moving the service date into 2021 may conflict with the operational needs of the East Link Extension. Currently, Environmental Critical Path activities are on schedule while non-critical Preliminary Engineering activities are being delayed.



## Phase 2 Preliminary Engineering and FEIS

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

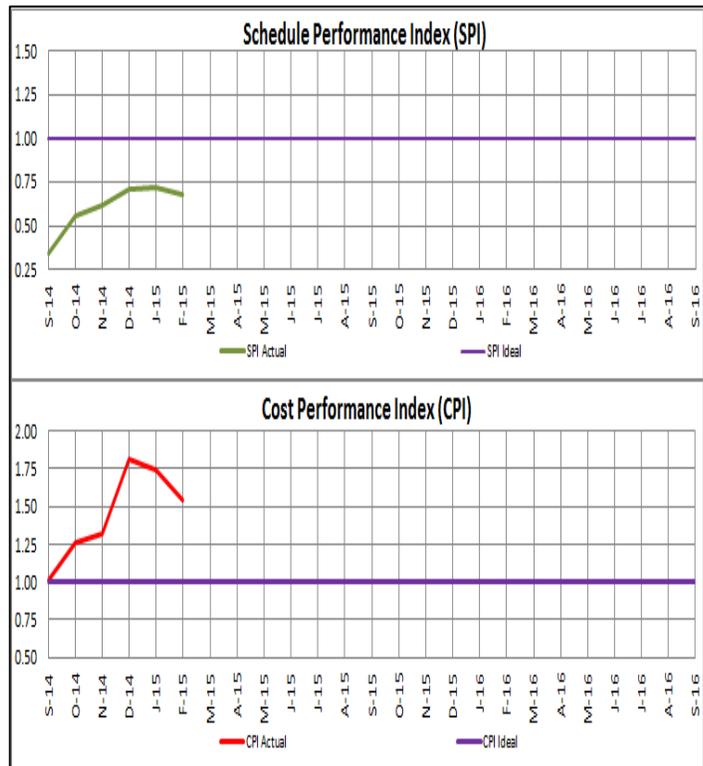
### Phase 2 Key Activities

- Delivered Final Phase 2 Baseline Schedule December 2014.
- Expediting Cultural Resources and Biological Assessment Technical Reports.
- ROE and environmental coordination revisions to geotechnical site investigation plan.

### Phase 2 Schedule Performance

Change Order 004 incorporated Phase 2 of the project on September 2014.

The cumulative Schedule Performance Index (SPI) trends at 0.68 through February 2015, which means that cumulative work accomplished is less than the planned work. The Consultant effort was focused on tasks that were not in the baseline plan. The Consultant has been asked to provide a revised plan that is consistent with the current work requirements.



### Phase 2 Cost Performance

\$0.8M of the total contract amount, approximately 15%, was spent through February 2015. The Phase 2 percent complete is 23%, with an earned value of \$1.2M. The cumulative Cost Performance Index (CPI) is 1.55, meaning that expenditures are less than the earned value. Based on these trends, the final cost is expected to be under the contract budget of \$5.3M.

Phase 2 Performance	Previous Period	Current Period	Cumulative To Date
Amount Invoiced	\$595,915	\$215,683	\$811,598
% Spent	11%	4%	15%
Earned Value	\$1,038,797	\$215,245	\$1,254,041
% Complete	19%	4%	23%
<b>SPI</b>	<b>0.72</b>	<b>0.54</b>	<b>0.68</b>
<b>CPI</b>	<b>1.74</b>	<b>1.00</b>	<b>1.55</b>

## Staffing Variance Report

### Recruiting Activity

During January 2015 the Director of Systems Engineering and Integration was named. This position was filled by the Deputy Director (Acting Director) of Systems Engineering and Integration. No other positions were filled in January.

Recruiting continued during the reporting period for the following design, engineering and construction management positions:

Position	Project Assignment	Planned Hire Date
Construction Manager	East Link Extension	2013 Attrition
Systems Engineer	Traction Power	2013 Attrition
Deputy Project Director	University Link Extension	2013 Attrition*
Construction Manager	East Link Extension	2013 Attrition*
Construction Claims Specialist	Construction Management	March 2014
Deputy Construction Manager	Northgate Link Extension	April 2014
Construction Manager	Systems	April 2014
Project Manager	Non-corridor projects	May 2014
Deputy Director	Construction Management	May 2014
Fire Protection Engineer	All capital projects	June 2014
Civil Engineering Supervisor	All capital Projects	2014 Reclassification
Sr. Project Manager	Tacoma Link Extension	2014 Attrition*
Sr. Architect	Northgate Link Extension	2014 Attrition*
Community Outreach Assistant	East Link Extension	2014 Attrition*
Sr. Design Technology Specialist	All capital projects	2014 Attrition
Systems Engineer	Link	2014 Attrition
Architect	East Link Extension	2014 Attrition
Sr. Structural Engineer	Link	2014 Attrition
Deputy Director	Sys. Eng. & Integration	2015 Attrition*

\*Attrition resulting from internal promotion

## Project Staffing-Link Light Rail Program– January 2015

Staffing variance for January is based on the 2015 Agency Staffing Plan.

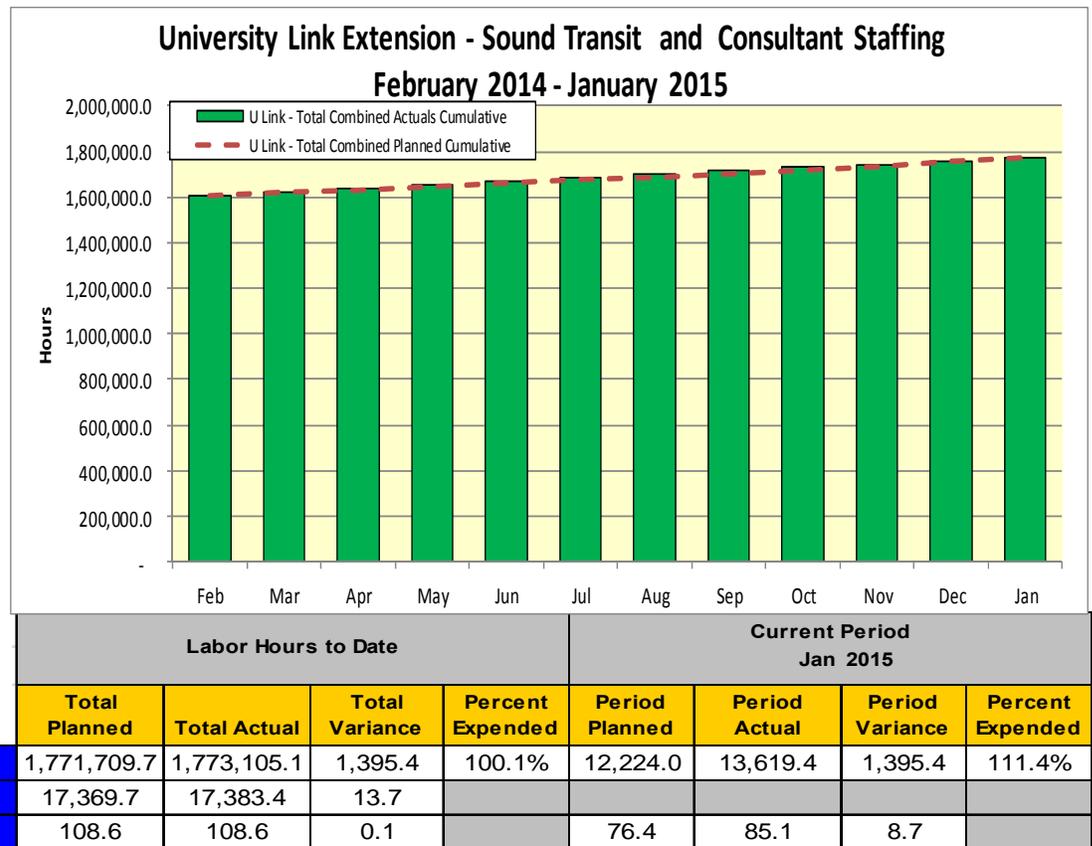
A total of 470 (99% of plan) consultant and internal staff full time equivalents (FTE) participated in the on-going planning, design and construction of Link light rail extensions in January 2015, a decrease of 10% (49.4 FTE) from December. Staffing exceeded plan for the University, Northgate and Lynnwood Link Extensions. Staffing for the S. 200th (40.1 FTE) and East Link (191.3 FTE) Extensions was 87% and 89% of plan respectively. Staffing variance to plan for the month by project follows.

January 2015 Staffing Plan Variance Summary												
Project	Consultant Staff				Sound Transit Staff				Total (YTD)			
	FTE		Variance		FTE		Variance		FTE		Variance	
	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan	Planned	Actual	FTE	% of Plan
University Link Extension	36.9	54.9	18.0	149%	39.5	30.2	-9.3	76%	76.4	85.1	8.7	111%
Northgate Link Extension	73.6	105.1	31.5	143%	48.7	26.5	-22.2	54%	122.3	131.6	9.3	108%
South 200th Extension	20.1	23.1	3.0	115%	20.6	12.1	-8.5	59%	40.7	35.2	-5.5	86%
East Link Eextension	109.2	111.7	2.5	102%	73.2	50.5	-22.7	69%	182.4	162.2	-20.2	89%
Lynnwood Link Extension	27.0	44.2	17.2	164%	26.6	11.8	-14.8	44%	53.6	56.0	2.4	104%
<b>Total</b>	<b>266.8</b>	<b>339.0</b>	<b>72.2</b>	<b>127%</b>	<b>208.6</b>	<b>131.1</b>	<b>-77.5</b>	<b>63%</b>	<b>475.4</b>	<b>470.1</b>	<b>-5.3</b>	<b>99%</b>

## University Link Extension Staffing

### Total Internal and External Staffing – University Link Extension

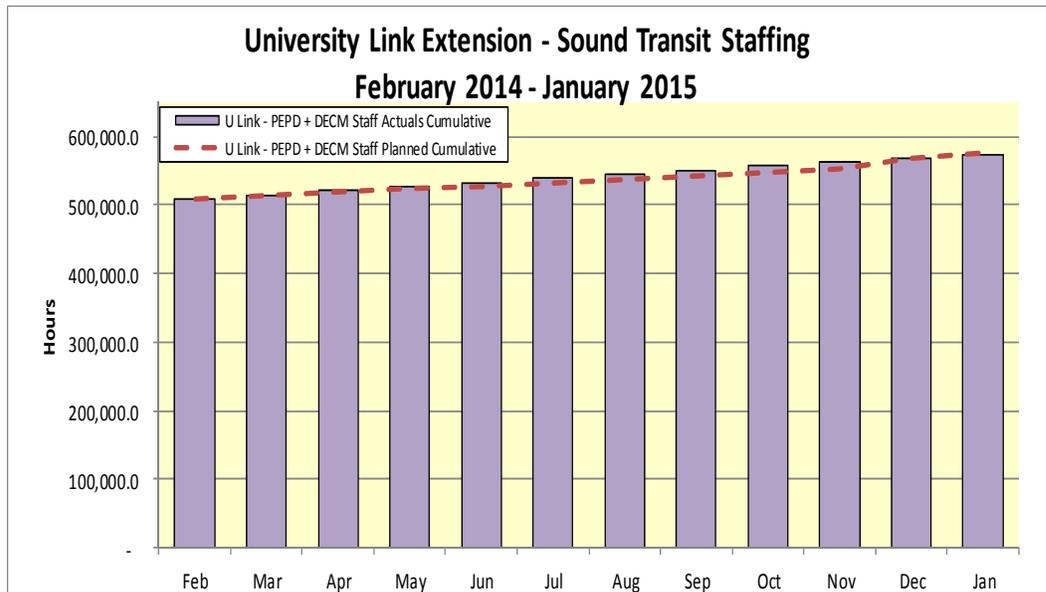
There were 85.1 FTE assigned to the University Link Extension in January including 54.9 consultant and 30.2 internal FTE. Staffing for the month decreased 11% (10.3 FTE) from December but was above plan by 11% (8.7 FTE). Cumulatively, since August 2006, average monthly project staffing is consistent with plan.



## University Link Extension Staffing

### Internal Resource Commitments to University Link Extension

There were 30.2 internal FTE assigned to the University Link Extension in January. Internal staffing was 23% (9.3 FTE) below plan and 13% (4.5 FTE) below staffing for December. Cumulatively, since August 2006, average monthly internal staffing is trending with plan.

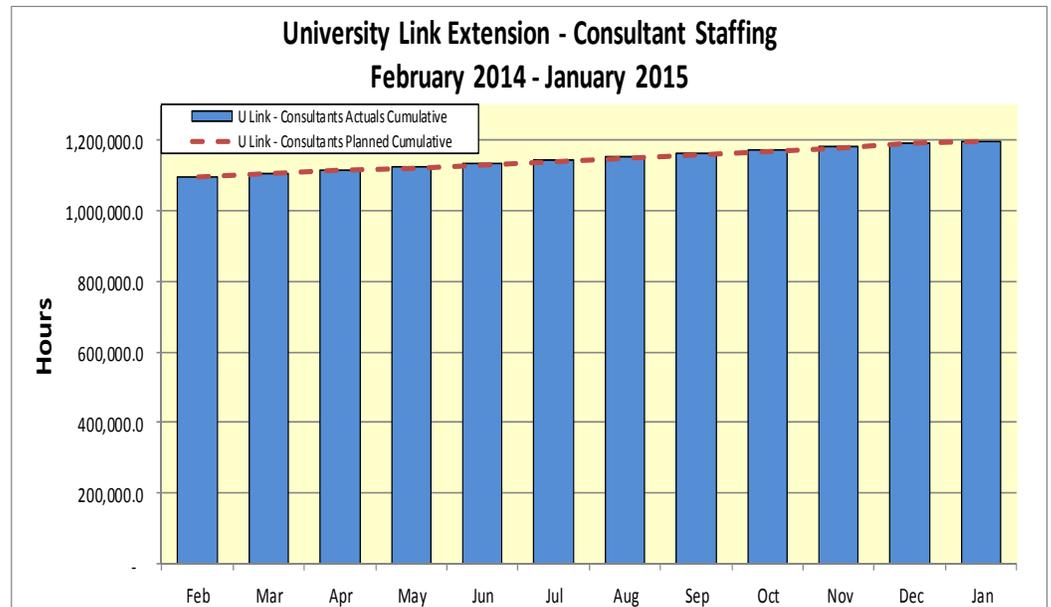


	Labor Hours to Date				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	574,883.6	573,400.3	-1,483.3	99.7%	6,320.0	4,836.7	-1,483.3	76.5%
<b>Monthly Average</b>	5,636.1	5,621.6	-14.5					
<b>Monthly FTE</b>	35.2	35.1	-0.1		39.5	30.2	-9.3	

## University Link Extension Staffing

### Consultant Resource Commitments to University Link Extension

During January, 54.9 consultant FTE were assigned to the University Link Extension; consultant staffing was 49% (18 FTE) above plan and 11% (5.8 FTE) below December staffing. Cumulatively, since August 2006, average monthly consultant staffing is trending with plan.



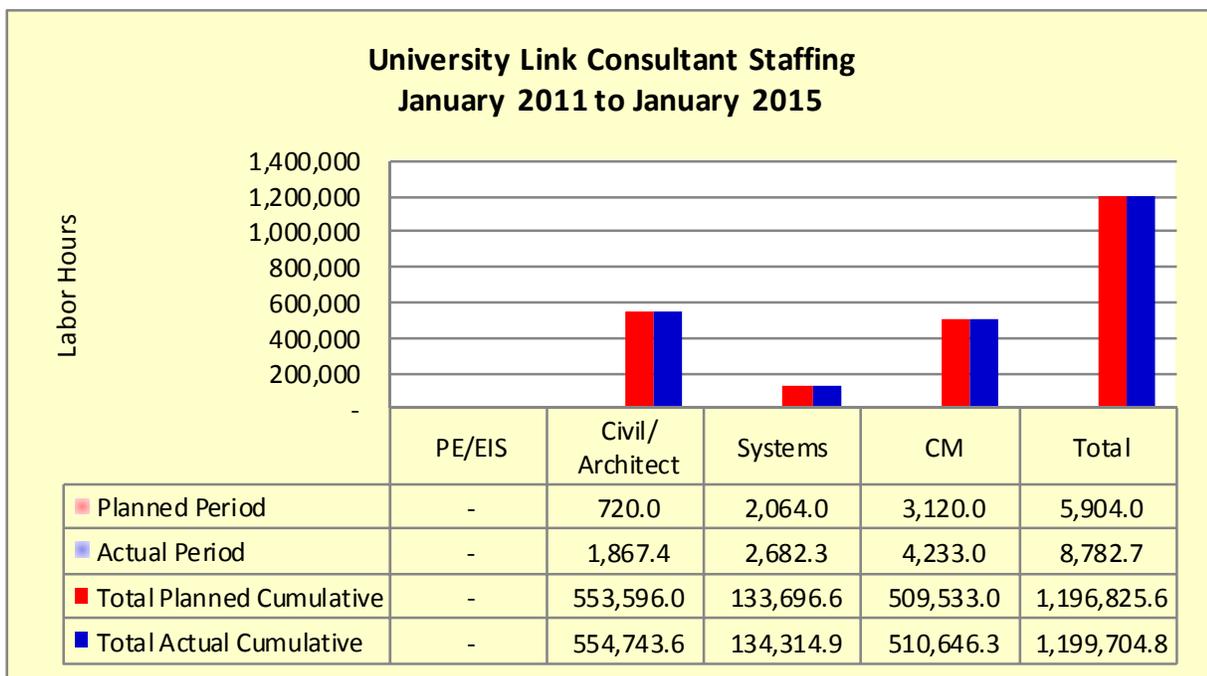
	Labor Hours to Date				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	1,196,826.1	1,199,704.8	2,878.7	100.2%	5,904.0	8,782.7	2,878.7	148.8%
<b>Monthly Average</b>	11,733.6	11,761.8	28.2					
<b>Monthly FTE</b>	73.3	73.5	0.2		36.9	54.9	18.0	

## University Link Extension Staffing

### Consultant Resource Commitments to University Link Extension, continued

Consultant utilization by discipline for the University Link Extension since January 2011 is illustrated below.

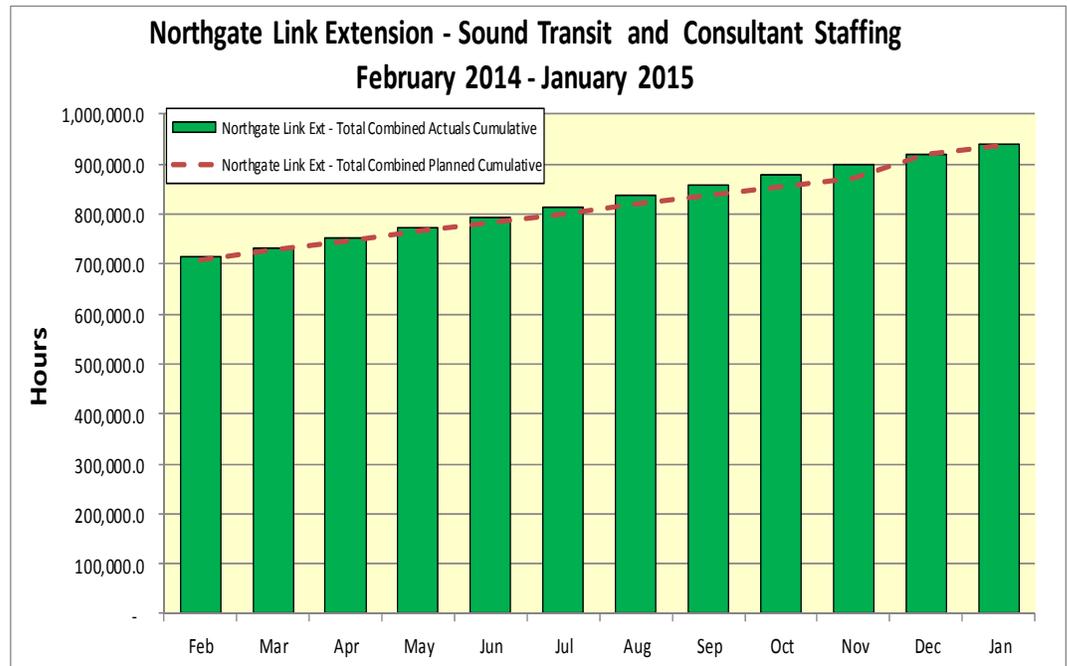
In January, civil engineering consultant staffing (11.7 FTE) was 159% (7.2 FTE) above plan and 34% (3 FTE) above December staffing. Systems engineering staffing (16.8 FTE) was 30% (3.9 FTE) above plan and 8% (1.4 FTE) below Systems staffing in December. Construction management consultant staffing (26.5 FTE) decreased 22% (7.4 FTE) from December but remained above plan by 36% (7 FTE). Cumulative staffing levels are 34 FTE/mo, 8.2 FTE/mo and 31.3 FTE/mo. for civil, systems and construction management consultants respectively.



## Northgate Link Extension Staffing

### Total Internal and External Staffing – Northgate Link Extension

During January, 26.5 internal and 105 consultant FTE were assigned to the Northgate Link Extension. This is a 4% (5.1 FTE) increase from December and is 8% (9.2 FTE) above plan. Cumulatively since January 2011 average monthly staffing is consistent with plan.

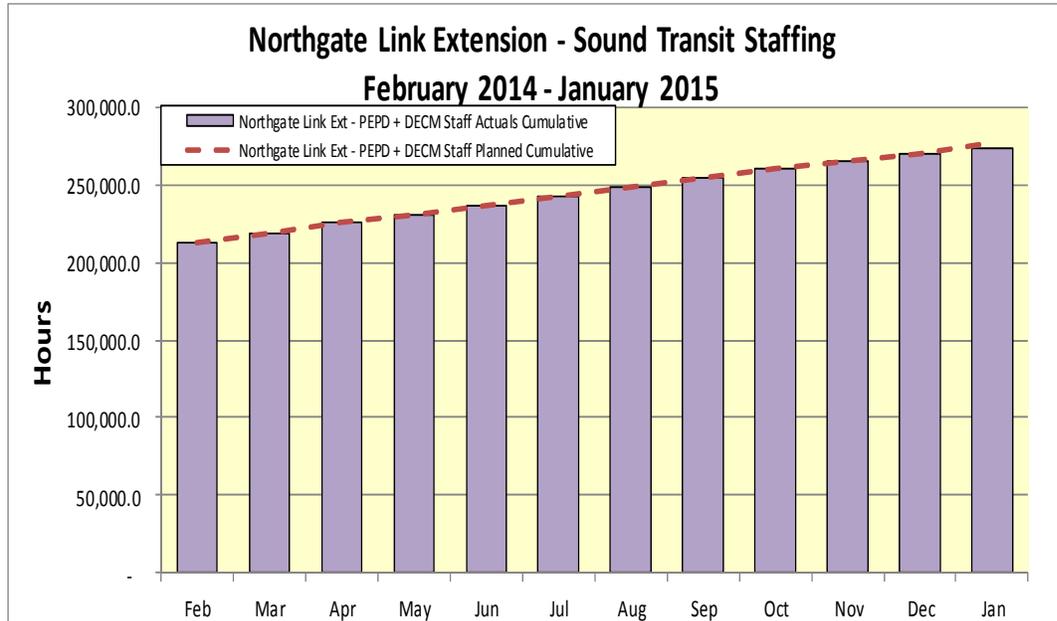


	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	937,571.2	939,044.6	1,473.4	100.2%	19,568.0	21,041.4	1,473.4	107.5%
<b>Monthly Average</b>	19,134.1	19,164.2	30.1					
<b>Monthly FTE</b>	119.6	119.8	0.2		122.3	131.5	9.2	

## Northgate Link Extension Staffing

### Internal Resource Commitments to Northgate Link Extension

Internal staffing in January (26.5 FTE) decreased 8% (2.4 FTE) from December and was 46% (22.2 FTE) below plan. Cumulatively, since January 2011, average monthly internal staffing is consistent with plan.

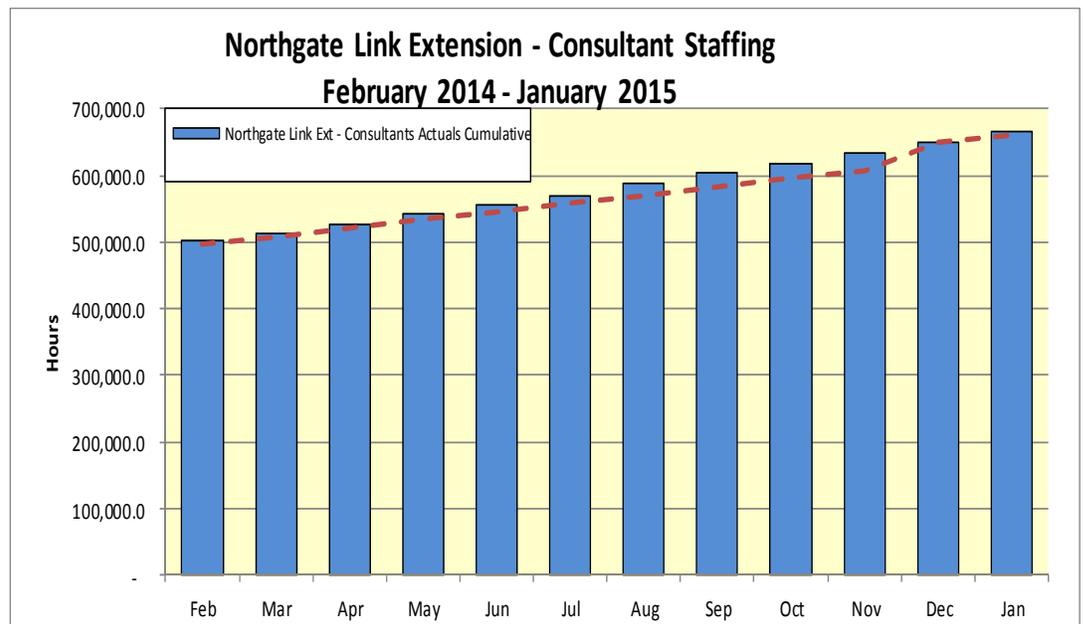


	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	277,045.4	273,486.1	-3,559.3	98.7%	7,792.0	4,232.7	-3,559.3	54.3%
<b>Monthly Average</b>	5,654.0	5,581.3	-72.6					
<b>Monthly FTE</b>	35.3	34.9	-0.5		48.7	26.5	-22.2	

## Northgate Link Extension Staffing

### Consultant Resource Commitments to Northgate Link Extension

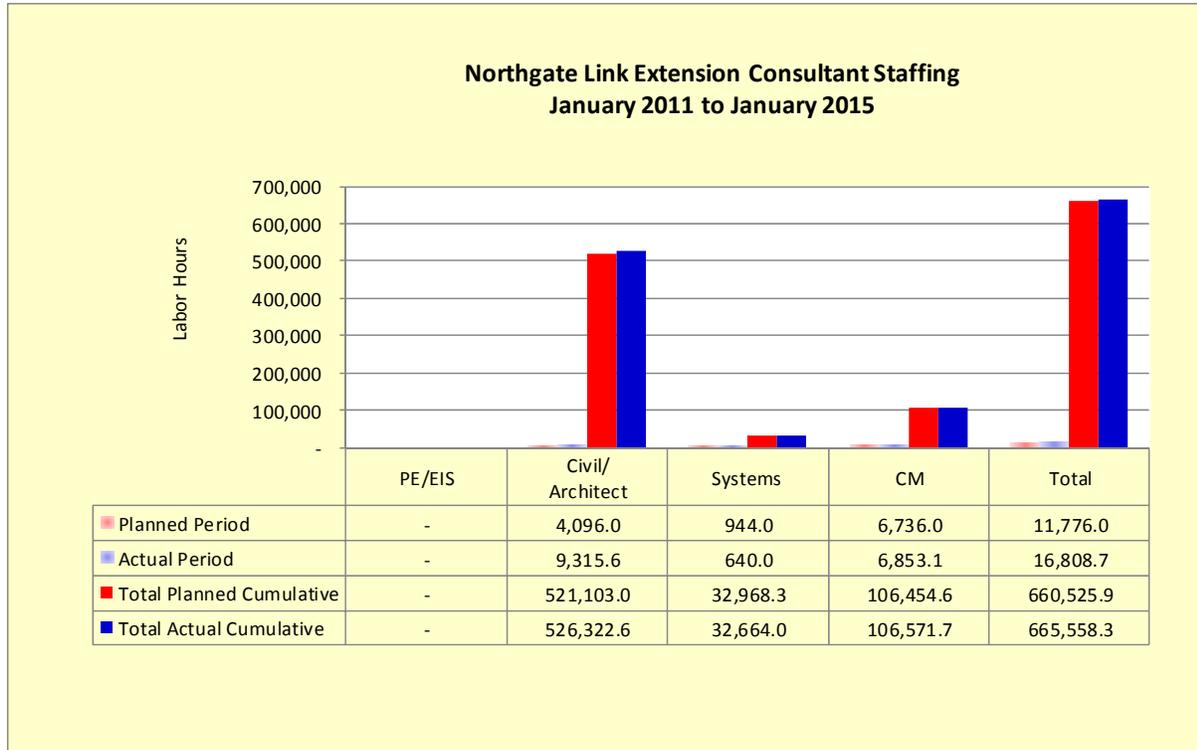
In January , 105.1 consultant FTE were assigned to the Northgate Link Extension; consultant staffing was above plan by 43% (31.5 FTE) and increased 7% (7.5 FTE) from December. Cumulatively, since January 2011, average consultant utilization is consistent with plan.



	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	660,525.8	665,558.5	5,032.7	100.8%	11,776.0	16,808.7	5,032.7	142.7%
<b>Monthly Average</b>	13,480.1	13,582.8	102.7					
<b>Monthly FTE</b>	84.3	84.9	0.6		73.6	105.1	31.5	

## Northgate Link Extension Staffing

### Consultant Resource Commitments to Northgate Link Extension



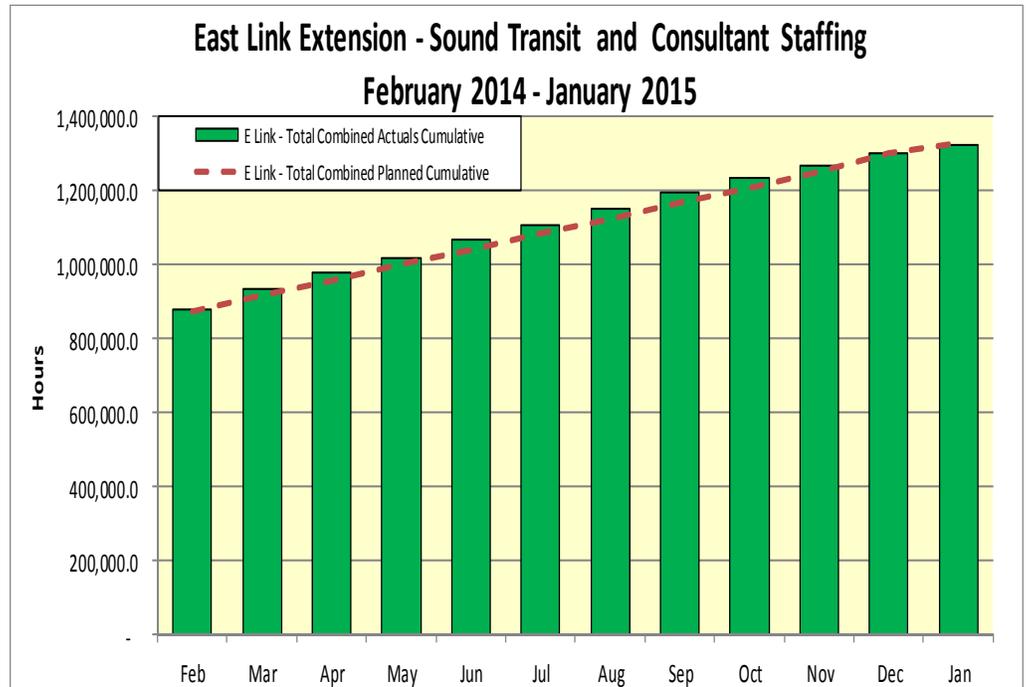
Consultant utilization by discipline follows:

- Civil/architecture consultant utilization in January (58.2 FTE) increased 26% (11.9 FTE) from December and was 127% (32.6 FTE) above plan. Cumulatively since January 2011, civil engineering/architecture consultant staffing of 67.1 FTE/mo. is 1% (0.7 FTE/mo.) above plan.
- Systems consultant utilization (4 FTE) was consistent with plan and 44% (1.2 FTE/mo) above December staffing. Since January 2011, average monthly Systems consultant staffing is trending with plan.
- CM consultant staffing in January (42.8 FTE) decreased 12% (5.6 FTE) from December and was 2% (0.7 FTE) above plan. Cumulatively, since January 2011, average monthly CM consultant staffing (13.6 FTE/mo) is trending with plan.

## East Link Extension Staffing

### Total Internal and External Staffing – East Link Extension

Staffing for the East Link Extension in January (162.3 FTE) decreased 15% (29.5 FTE) from December and was 11% (20.1 FTE) below plan. Cumulatively since January 2011, average monthly staffing is trending with plan.

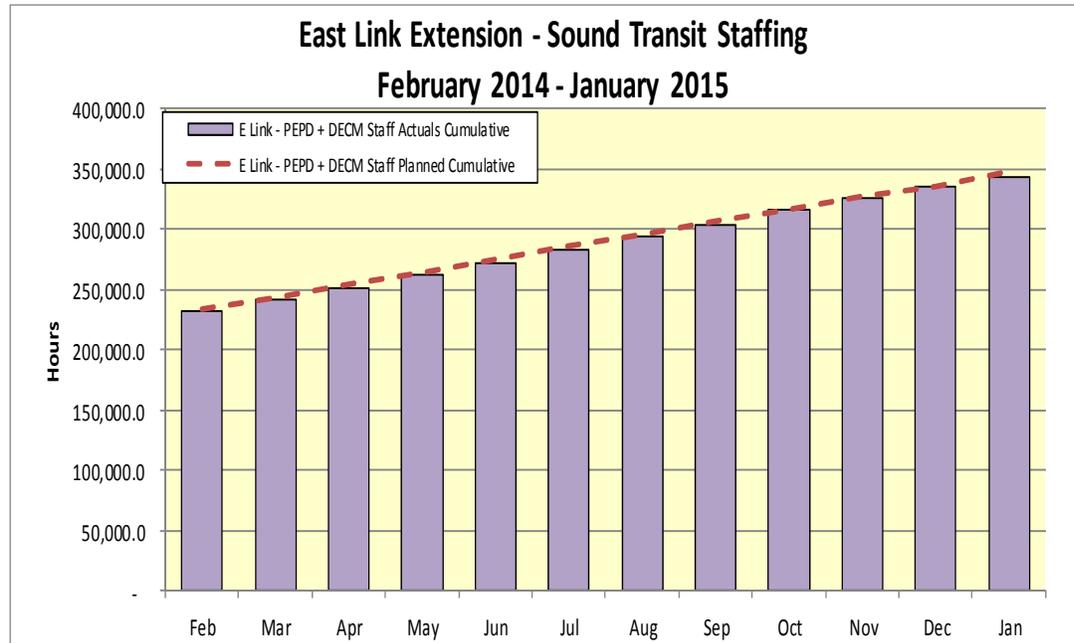


	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	1,329,466.7	1,326,243.8	-3,222.9	99.8%	29,184.0	25,961.1	-3,222.9	89.0%
<b>Monthly Average</b>	27,132.0	27,066.2	-65.8					
<b>Monthly FTE</b>	169.6	169.2	-0.4		182.4	162.3	-20.1	

## East Link Extension Staffing

### Internal Resource Commitments to East Link Extension

During January, internal staffing for the East Link Extension (50.5 FTE) decreased 21% (13.5 FTE) from December and was 31% (22.7 FTE) below plan. Cumulatively, since January 2011, average monthly internal staffing is trending with plan.

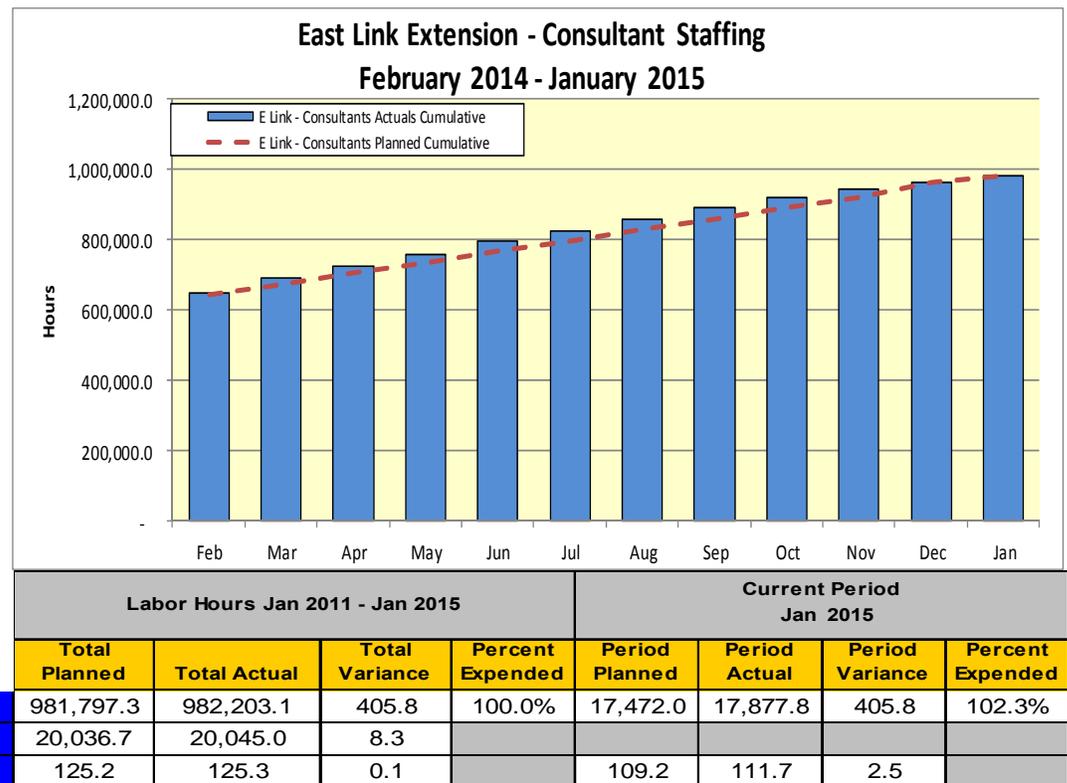


	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	347,669.4	344,040.7	-3,628.7	99.0%	11,712.0	8,083.3	-3,628.7	69.0%
<b>Monthly Average</b>	7,095.3	7,021.2	-74.1					
<b>Monthly FTE</b>	44.3	43.9	-0.5		73.2	50.5	-22.7	

## East Link Extension Staffing

### Consultant Resource Commitments to East Link Extension

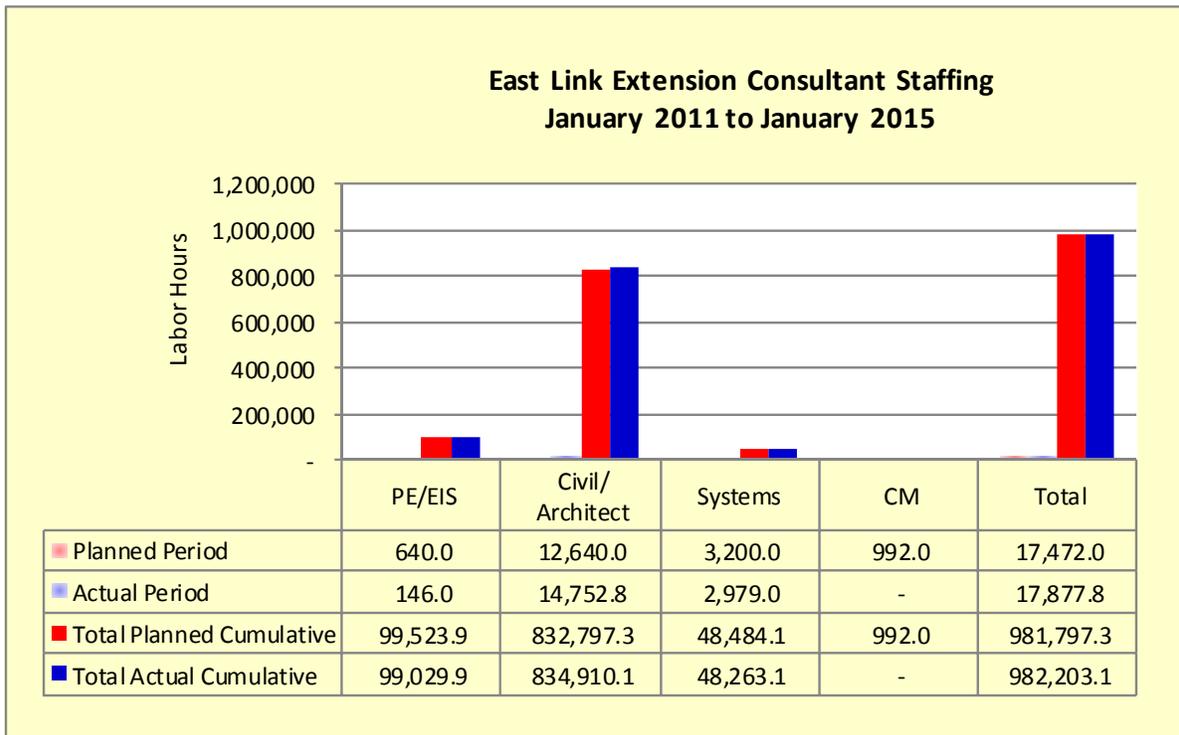
There were 111.7 consultant FTE assigned to the East Link Extension during January. Consultant staffing decreased 14% (15.9 FTE) from December but was 2% (2.5 FTE) above plan. Cumulatively since January 2011, average monthly consultant staffing is trending with plan.



## East Link Staffing

### Consultant Resource Commitments to East Link, continued

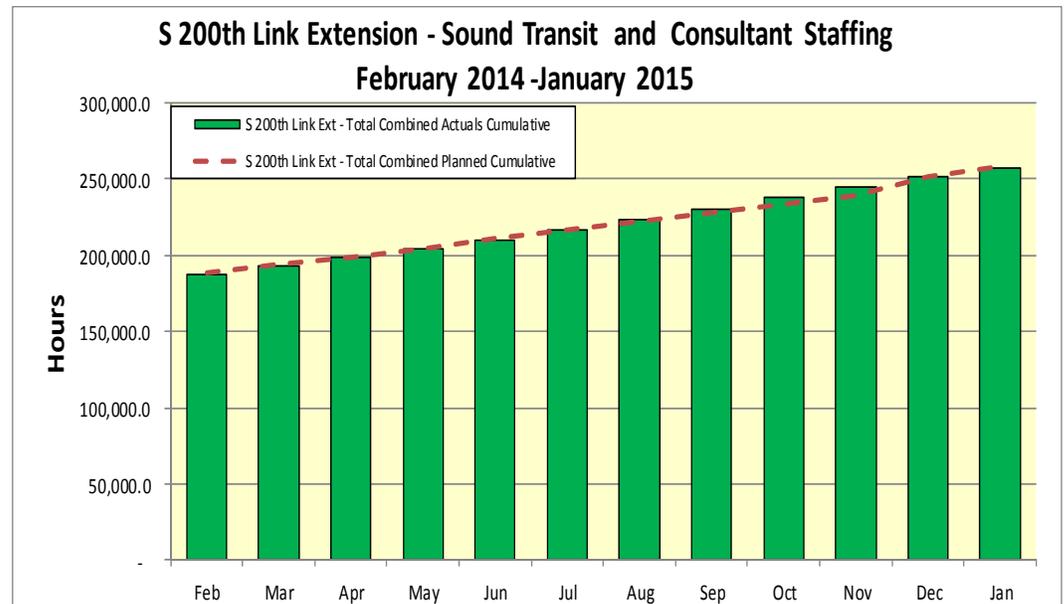
In January civil engineering consultant staffing (92.2 FTE) was 83% of consultant staffing for the month. Civil engineering consultant staffing was 17% (13.2 FTE) above plan. Systems consultant staffing (18.6 FTE) increased 49% (6.1 FTE) from December and was below plan by 77% (1.4 FTE). Cumulatively since January 2011, Preliminary Engineering (PE) consultant staffing (12.6 FTE/mo.) is consistent with plan.



## S. 200th Link Extension Staffing

### Total Internal and External Staffing – S. 200th Link Extension

Staffing for the South 200<sup>th</sup> Link Extension in January (35.2 FTE) decreased 12% (4.9 FTE) from December and was below plan by 13% (5.5 FTE); since January 2011, average monthly internal and consultant staffing is trending with plan.

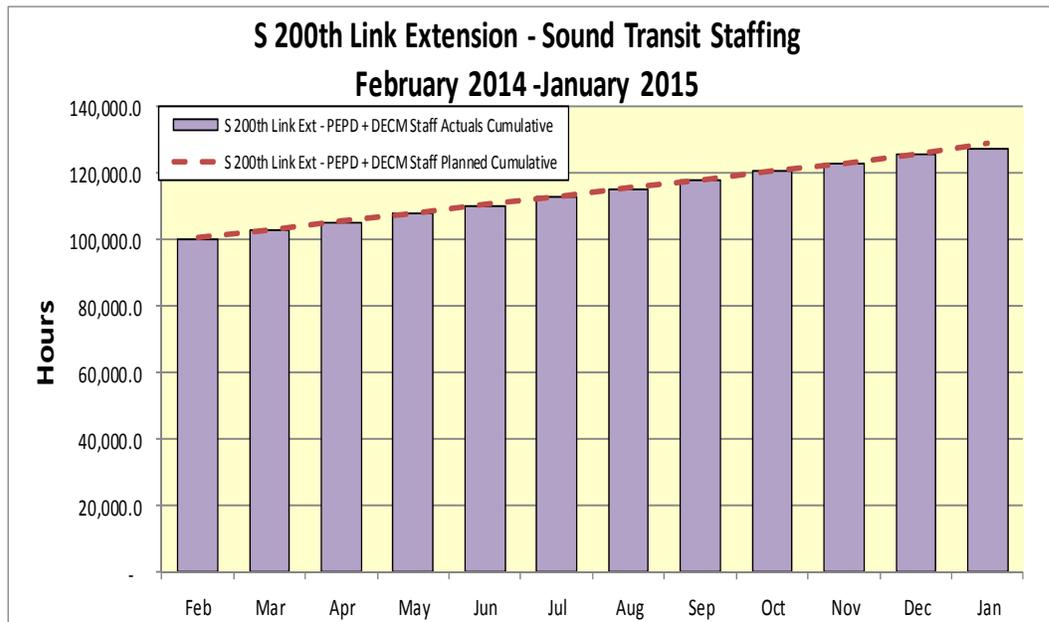


	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	257,929.6	257,052.4	-877.2	99.7%	6,512.0	5,634.8	-877.2	86.5%
<b>Monthly Average</b>	5,263.9	5,246.0	-17.9					
<b>Monthly FTE</b>	32.9	32.8	-0.1		40.7	35.2	-5.5	

## S. 200th Link Extension Staffing

### Internal Resource Commitments South Link to S.200th Link Extension

Internal staffing in January (12.1 FTE) was 16% (2.4 FTE) below December staffing and 41% (8.5 FTE) below plan. Cumulatively, since January 2011, average monthly internal staffing is trending approximately 1% (0.2 FTE/mo.) below plan.

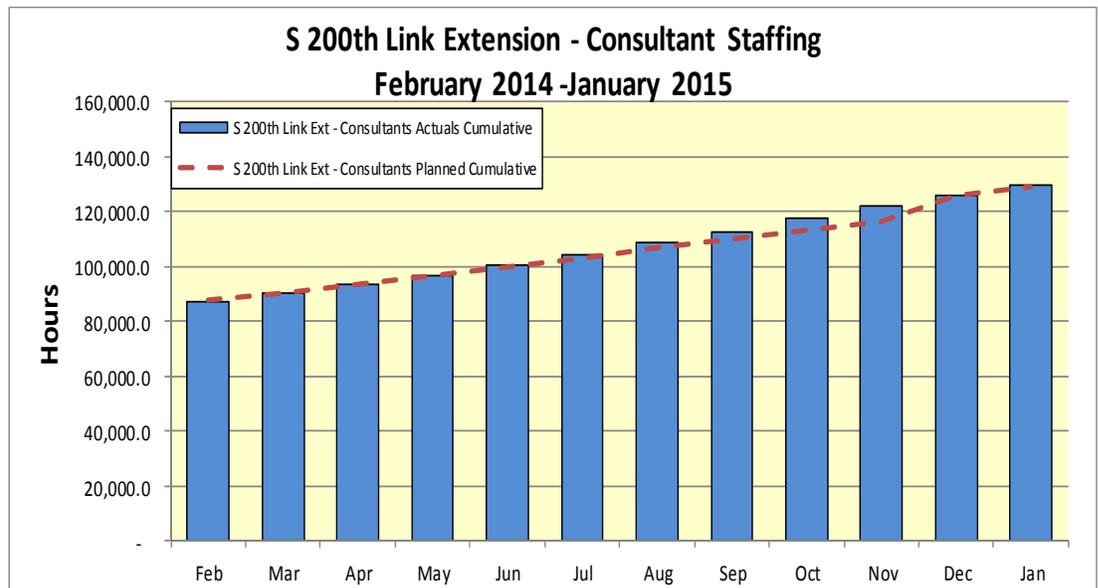


	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	128,800.9	127,436.7	-1,364.2	98.9%	3,296.0	1,931.8	-1,364.2	58.6%
<b>Monthly Average</b>	2,628.6	2,600.7	-27.8					
<b>Monthly FTE</b>	16.4	16.3	-0.2		20.6	12.1	-8.5	

## S. 200th Link Extension Staffing

### Consultant Resource Commitments to S. 200<sup>th</sup> Link Extension

Consultant staffing on the S. 200<sup>th</sup> Link Extension in January (23.1 FTE) decreased 11% (2.5FTE) from December but was 15% (3 FTE) above plan. Cumulatively since January 2011, average consultant staffing is trending with plan.

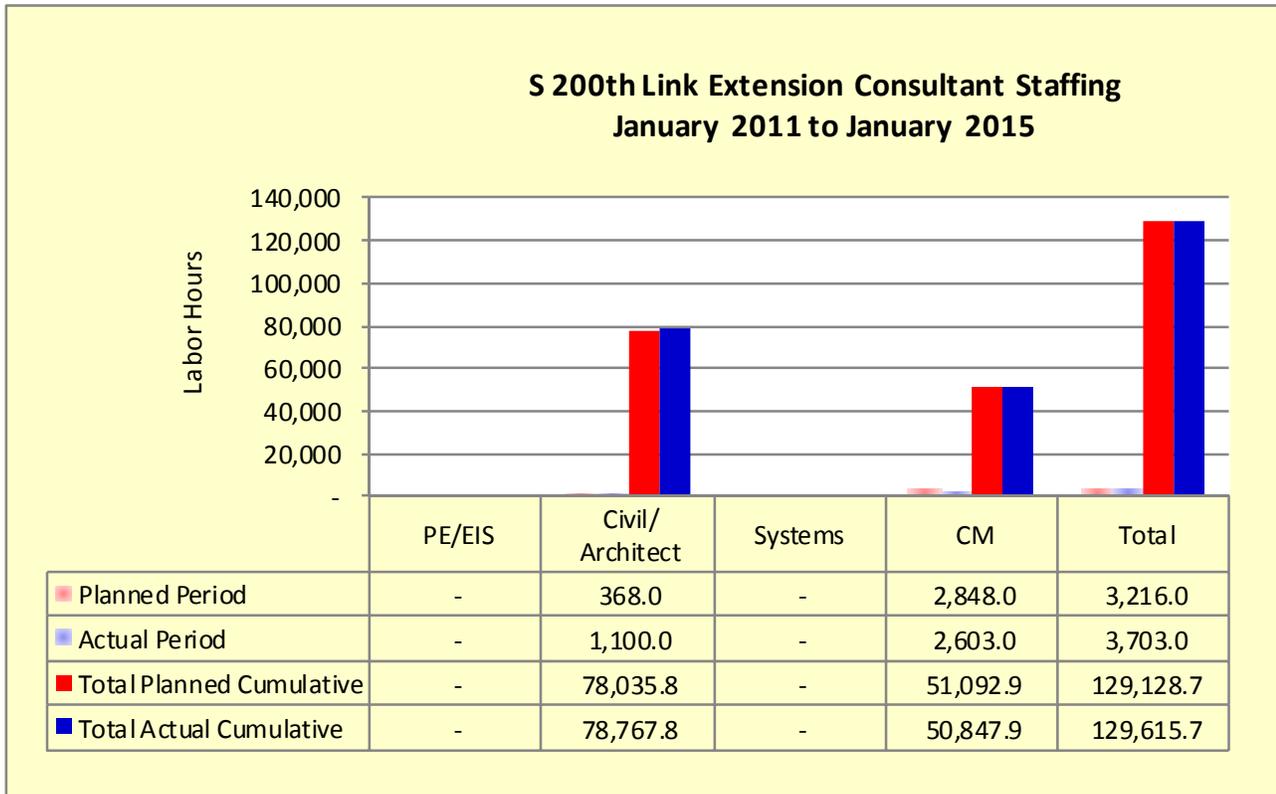


	Labor Hours Jan 2011 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	129,128.7	129,615.7	487.0	100.4%	3,216.0	3,703.0	487.0	115.1%
<b>Monthly Average</b>	2,635.3	2,645.2	9.9					
<b>Monthly FTE</b>	16.5	16.5	0.1		20.1	23.1	3.0	

## S. 200th Link Extension Staffing

### Consultant Resource Commitments to S. 200<sup>th</sup> Link Extension

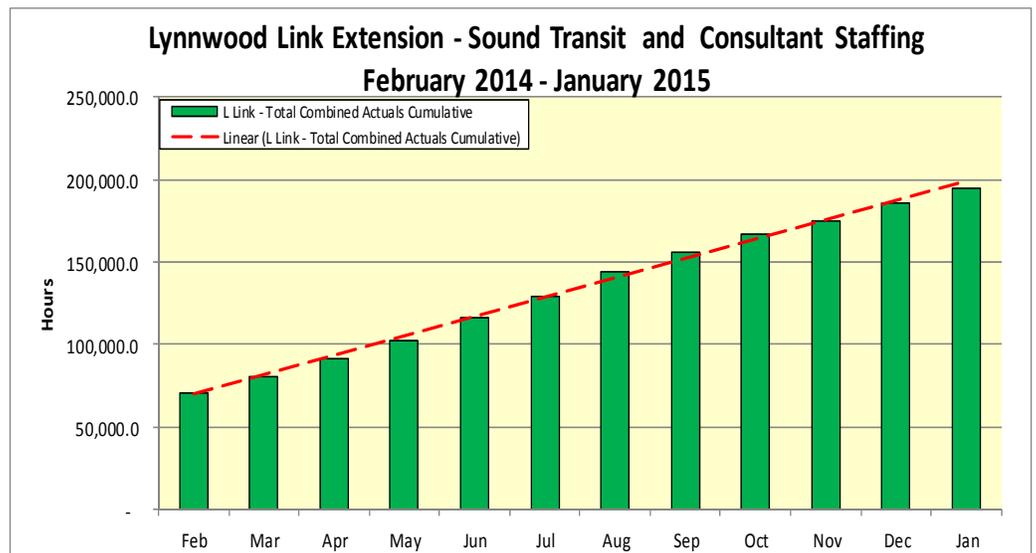
Design/build project management consultants (16.3 FTE) accounted for 70% of consultant staffing in January, additional consultant staff (6.9 FTE) provided civil and architectural engineering support.



## Lynnwood Link Extension Staffing

### Total Internal and Consultant Staffing – Lynnwood Link Extension

During January there were 56 consultant and internal FTE (104% of plan) assigned to the Lynnwood Link Extension. Internal staffing for January (11.8 FTE) was 10% (1.3 FTE) below December staffing and 56% (14.8 FTE) below plan. Consultant staffing (44.2 FTE) decreased 19% (8.6 FTE) from December but was above above plan by 64% (17.2 FTE). All consultant staff assigned to the project are supporting preliminary engineering. Cumulatively since January 2013, staffing for the Lynnwood Link Extension (48.7 FTE/mo) is trending with plan.



	Labor Hours Jan 2013 - Jan 2015				Current Period Jan 2015			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
<b>No. of Hours</b>	194,464.1	194,847.4	383.3	100.2%	8,576.0	8,959.3	383.3	104.5%
<b>Monthly Average</b>	7,778.6	7,793.9	15.3					
<b>Monthly FTE</b>	48.6	48.7	0.1		53.6	56.0	2.4	

This page left blank intentionally.

## ACRONYMS

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

ACRONYMS, continued

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

---

ACRONYMS, continued

RMP	Risk Management Plan
ROD	Record of Decision
ROW	Right of Way
SB	Southbound
SCADA	Supervisory Central and Data Acquisition
SCC	Standard Cost Categories
SCL	Seattle City Light
SDEIS	Supplemental Draft Environmental Impact Statement
SEPA	State Environmental Policy Act
SIP	Street Improvement Permitting
SPI	Schedule Performance Index
SR	State Route
ST	Sound Transit
START	Seattle Tunnel and Rail Team
SWI	Stacy & Witbeck, Inc.
TBM	Tunnel Boring Machine
TCE	Temporary Construction Easement
TE	Traction Electrification
TFK	Traylor Frontier Kemper Joint Venture
TOD	Transit Oriented Development
TVM	Ticket Vending Machine
UAC	Unallocated Contingency
U-Link	University Link project
USFWS	U.S. Fish and Wildlife Service
UW	University Of Washington
UWS	University of Washington Station
VE	Value Engineering
VECP	Value Engineering Cost Proposal
WBS	Work Breakdown Structure
WSDOT	Washington Department of Transportation