



STATE ROUTE 520

CONSTRUCTION PROGRESS REPORT OCTOBER 2015



Floating Bridge and Landings (FB&L): Concrete pour for west transition span



West Approach Bridge North (WABN): Concrete placed and curing in forms for Columns 20A and 20B



WABN: Cranes staged on work trestle in Lake Washington



WABN: Cutting barrier at old westbound exit to Montlake Blvd





FB&L: Belvedere coupler installation



WABN: Demolition of westbound SR 520 off-ramp

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** Note: The *State Route 520 Construction Progress Report* is no longer publishing monthly updates for the Pontoon Construction Project and the Eastside Transit and HOV Project as major construction work on those two projects has ended. Please see the April 2015 *Construction Progress Report* for the final updates on those two projects.

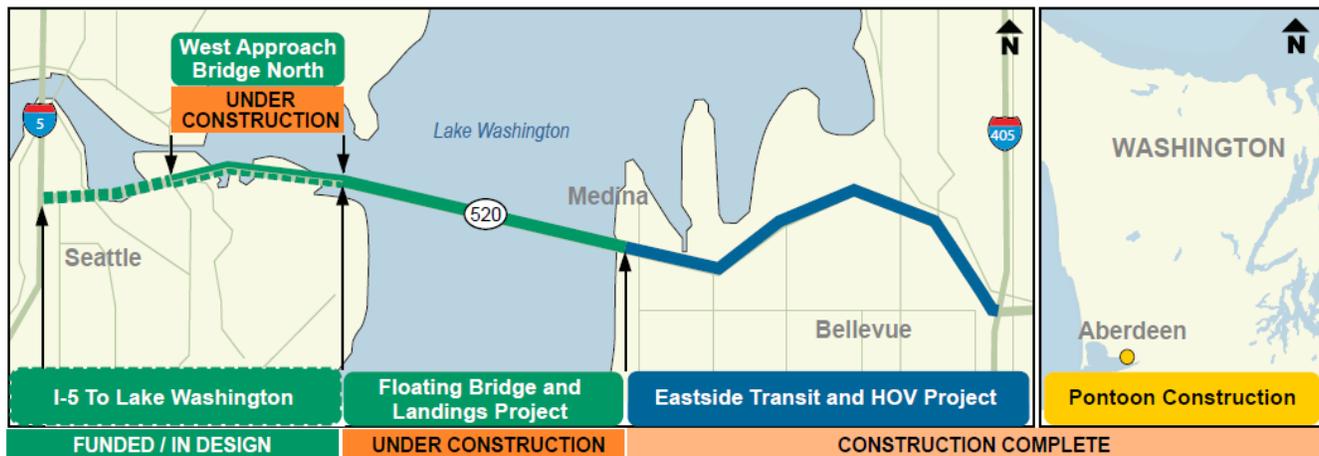
Executive Summary

EXECUTIVE OVERVIEW

The SR 520 Bridge Replacement and HOV Program will improve safety and reliability throughout the SR 520 corridor, from I-5 in Seattle to the Eastside. Projects currently under construction include the new six-lane SR 520 floating bridge, the new six-lane Eastside corridor that includes culverts, improved transit facilities and lids, pontoon construction in Aberdeen, and the new west approach bridge for westbound traffic. Future work includes replacing the Portage Bay Bridge, building a new west approach bridge for eastbound traffic, building lids in Seattle, and connecting a bicycle/pedestrian path from the floating bridge to local and regional trails in Seattle.



FB&L: Pouring concrete for the footing of an East Approach noise wall



Map of SR 520 Bridge Replacement and HOV Program

CURRENTLY FUNDED PROGRAM

We are currently funded to move forward with:

- Constructing a new, safer floating bridge
- Building the north half of the new west approach bridge, and connecting six lanes of traffic and the regional shared-use path from the Montlake interchange to the new floating bridge.
- Continuing to design the remaining elements of the west side of the corridor in Seattle, and then proceeding with construction.

PROGRAM STATUS

Floating Bridge and Landings (FB&L):

On Lake Washington, crews rock-ballasted Pontoon Q, and installed fenders, hand rails, pump wells, swimmer cables and bird ramps on various pontoons. In Medina, crews placed forms, reinforcement steel and concrete for the eastbound noise wall. At the bridge maintenance facility, crews installed plumbing fixtures, trim, HVAC system controls and wiring.

West Approach Bridge North (WABN):

Crews finished formwork, rebar placement and the concrete pour for walls at pier 1 of the 24th Avenue bridge extension. Crews continued installation of shaft collars and bridge column construction, and completed span W13 demolition and removal of asbestos-contaminated concrete on the decommissioned westbound off-ramp to Montlake Blvd.



WABN: Column forms staged on work trestle

MAJOR RISKS

Notable major risks that could delay the program or increase costs include:

- Inflation costs for labor, materials and equipment.
- New requirements or contract changes required by local communities, regulatory groups or agencies.
- FB&L coordination with the WABN project at Pier 36 and the west side staging area.
- Geotechnical difficulties.
- A lengthy commissioning process that impacts the open-to-traffic date.
- Potential for damage to the new bridge during the demolition of the old bridge.

UPCOMING MILESTONES

Floating Bridge and Landings: At Lake Washington, crews will continue bridge electrical construction activities, pulling wires in pontoons H, G and E, installing emergency phones at pontoons and installing float switches in pontoon cells. At the bridge maintenance facility, crews will test and start up HVAC system, install stairwell handrail, place ramp light fixtures and install dock utilities.

WABN: Crews will continue widening and extension work at the 24th Avenue bridge; continue installation of shaft collars and fabrications of column rebar cages; and continue decommissioned ramp demolition at span W18. Also, the Contractor will continue installing casings and drilled shafts at the east end of the bridge, and form and pour columns in bridge frame 3.

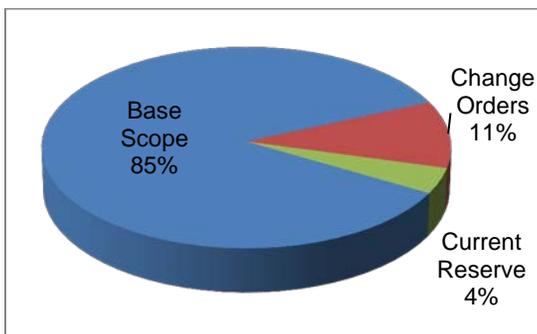
Total Program

	Total Budget	Actuals to Date	Remaining
SR520 Program Totals*	\$4,561,210,704	\$2,345,387,718	\$2,215,822,986
Funded Program	\$4,561,210,704	\$2,345,387,718	\$2,215,822,986
Row Labels			
Federal	\$498,134,693	\$353,259,644	\$144,875,049
FEDERAL GRANT FUNDS	\$3,000,000	\$3,000,000	\$0
FEDERAL FORMULA FUNDS	\$179,952,810	\$139,878,397	\$40,074,413
HIGHWAY SAFETY IMPROVEMENT	\$14,015,000	\$14,015,000	\$0
OUTDOOR ADVERTISING-INTERSTATE	\$855,000	\$855,000	\$0
STATE MATCHING (FUND 880)	\$311,883	\$311,883	\$0
TIFIA (USDOT - TIFIA LOAN)	\$300,000,000	\$195,199,364	\$104,800,636
Local	\$2,303,701	\$2,071,979	\$231,722
LOCAL PROJECT(CURRENT)	\$2,303,701	\$2,071,979	\$231,722
State	\$3,901,372,310	\$1,990,056,095	\$1,911,316,215
TRANSPORTATION PARTNERSHIP ACCOUNT (TPA)**	\$535,732,598	\$413,664,707	\$122,067,891
NICKEL ACCOUNT STATE DOLLARS	\$52,243,840	\$52,244,156	-\$316
CONNECTING WASHINGTON	\$1,642,000,000	\$0	\$1,642,000,000
SR520 CORRIDOR	\$549,032,022	\$549,032,022	\$0
SR520 GARVEE	\$924,612,501	\$924,612,501	\$0
SR520 TRIPLE BACKED BOND SECOND SALE	\$110,906,800	\$0	\$110,906,800
Toll Revenue	\$70,271,057	\$45,984,118	\$24,286,939
SR520 Civil Penalties Account***	\$14,000,000	\$1,945,099	\$12,054,901
STATE FUNDS	\$2,573,492	\$2,573,492	0
Deferred Sales Tax	\$159,400,000		\$159,400,000
DEFERRED SALES TAX	\$159,400,000		\$159,400,000

*TPA Includes \$10M from ESSB 6001 for west side design development

** \$15M Included for Civil Penalties

*** In January 2015, WSDOT announced an updated cost estimate of \$4.47 billion to reconstruct the SR 520 corridor. The new estimate included a \$1.57 billion cost to construct SR 520's unfunded western segment. (A 2012 estimate put that cost at \$1.40 billion.)



Cumulative Reserve	\$434,100,000
October Change Orders	(\$14,590)
Previous Change Orders	(\$310,443,582)
Right of Way Settlements	(\$3,777,010)
Current Reserve	\$119,864,818

Floating Bridge and Landings Project

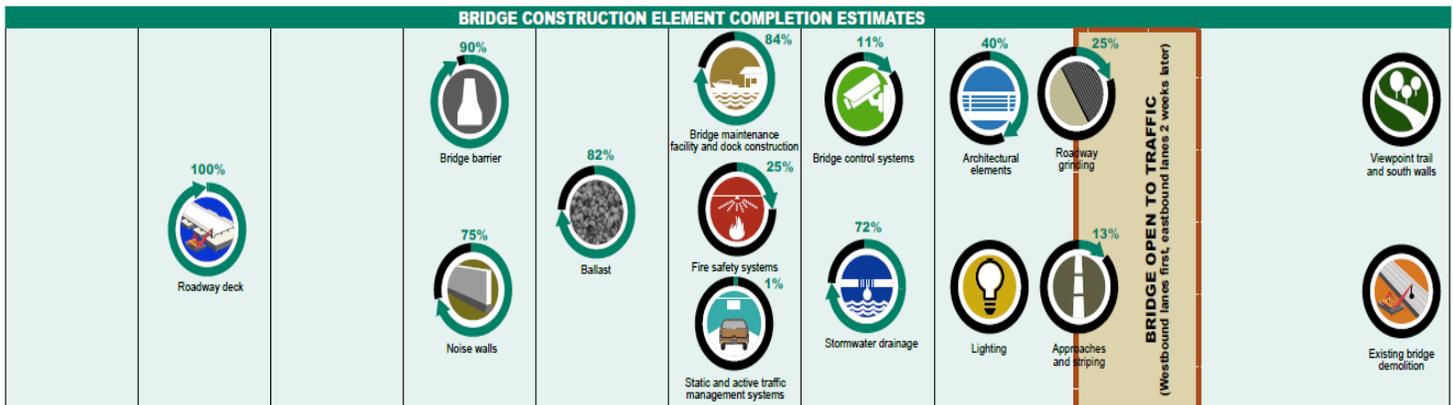
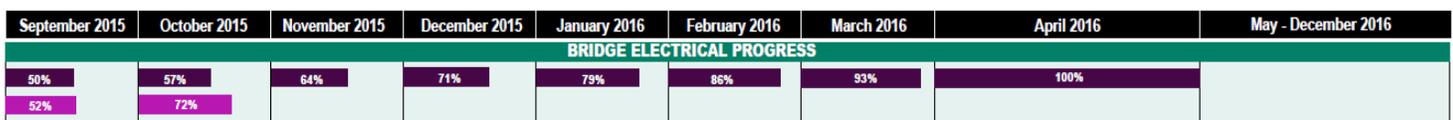
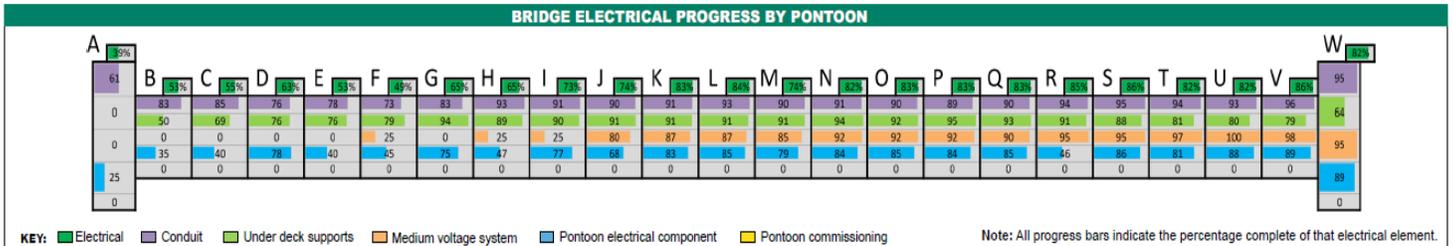
FLOATING BRIDGE AND LANDINGS

The SR 520 Floating Bridge and Landings (FB&L) Project will replace the existing, vulnerable four-lane structure with a new six-lane bridge that can withstand windstorms of up to 89 miles per hour. The new six-lane facility will include a bicycle/pedestrian path and a bridge maintenance facility on the east end. The project includes construction of 44 supplemental stability pontoons in Tacoma.



FB&L: Concrete pour for east approach slab

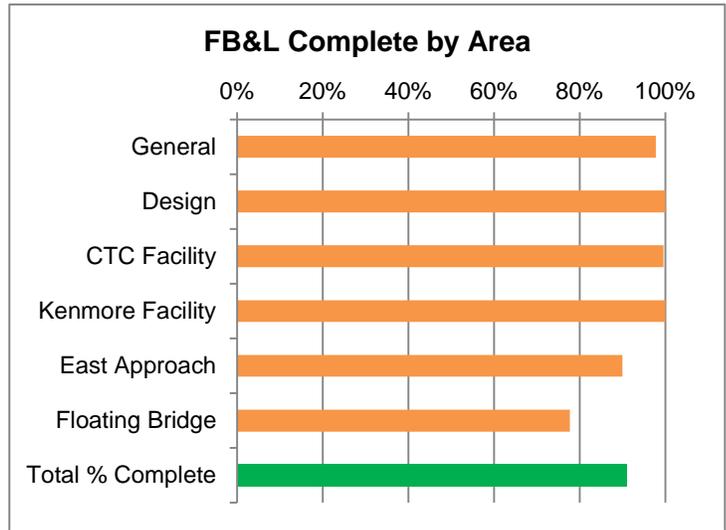
Original Engineers Estimate	\$640,769,000
Bid Price	\$586,561,000
Change Orders to date	\$168,834,735
Current Contract Value	\$755,395,735



Floating Bridge Electrical Progress and Commissioning milestones

OCTOBER ACCOMPLISHMENTS

On Lake Washington, crews installed conduit and supports for electrical and communication feeds, and pulled main feeder electrical cable. In Medina, crews placed forms, reinforcement steel and concrete for the eastbound bridge noise wall. At the bridge maintenance facility, crews installed plumbing fixtures, trim, HVAC system controls and wiring.



RISK

WSDOT has expressed a concern with the design-builder that there may be excessive cracking in the roadway deck on the segmental bridge, the high-rise, and the low-rise structures. WSDOT feels the design-builder has addressed cracking on the low-rise but not yet fully addressed the segmental and high-rise bridges.

The design-builder continues performing major work on Lake Washington. Spill of oil, concrete or soils from the project may cause work stoppage or fines. This includes demolition of the existing bridge. Permits are tied to all projects working on the lake. Other project violations could impact permits on this project.

Commissioning of the new floating bridge is a complex and potentially time-consuming process and is on the critical path to switching traffic to the new bridge. Traffic cannot be switched to the new bridge until commissioning is completed to ensure all systems are in working order and safe for public use.

There is a project interface between the Eastside and the FB&L projects. The work, such as drainage, lighting, electrical, Intelligent Transportation System (ITS), paving, and barrier installation, may not be completed as designed.

The existing access from Evergreen Point Road to eastbound SR520 is temporary and will soon be closed; access will be cutoff with permanent barrier installation. The city of Bellevue Fire Department has inquired about leaving this access open to emergency vehicles. This would be a change in the construction features and a change to the work.



FB&L: Pouring concrete for an expansion joint

OCTOBER COSTS

Preliminary engineering is complete. The total actual cost to date from the contractor is 91 percent of the budget.

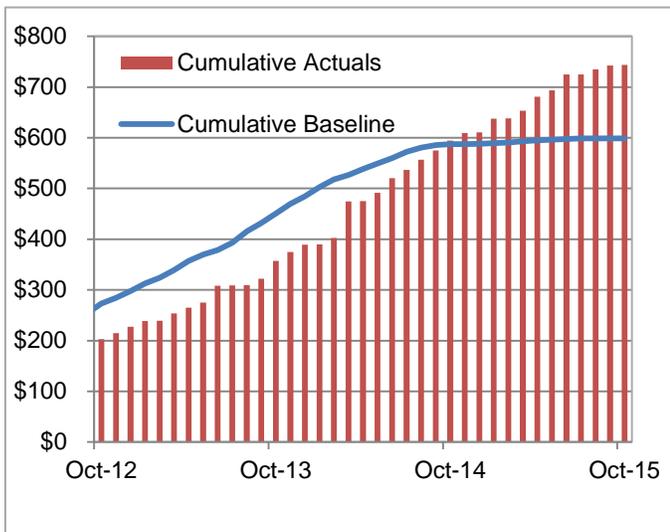
	Current Budget	Actuals to Date	Remaining Budget
Floating Bridge and Landings Construction Project Totals	\$835,261,830	\$762,500,162	\$72,761,668
Preliminary Engineering	\$10,659,063	\$10,659,063	\$0
Right of Way	\$4,046,032	\$3,781,520	\$264,512
Construction	\$820,556,735	\$748,059,579	\$72,497,156
Current Contract Value	\$755,395,735	\$691,343,226	\$64,052,509
Agreements	\$36,818,940	\$32,485,439	\$4,333,501
Construction Engineering	\$20,602,060	\$17,522,787	\$3,079,273
State Force Work	\$60,000	\$3,270	\$56,730
State Materials	\$0	\$0	\$0
Vendor Supplied Materials	\$7,680,000	\$6,704,857	\$975,143

Cost information through Oct. 31, 2015

OCTOBER CHANGE ORDER SUMMARY

There were two change orders executed in October for \$1,140. Change orders total \$168,834,735 for the FB&L project at the time of this report.

OCTOBER PERFORMANCE



Cumulate actuals are above the baseline for October



FB&L: Concrete pour for noise wall along eastbound SR 520

SUMMARY SCHEDULE

The contractor's current schedule submittal is showing on-time substantial completion by April 28, 2016, consistent with the revised contract date.

Milestone	Revised Contract Date	Actual/Trend
Notice to Proceed 1 - Design Initiated	9/1/2011	9/1/2011
Notice to Proceed 2 - Site Construction Start	9/1/2011	9/1/2011
Pier 36 Construction	11/15/13	8/23/2013
Substantial Completion	4/28/2016	On Time
Physical Completion	2/22/2017	Early

OCTOBER QUALITY SUMMARY

"Audits – Actual" are audits performed by WSDOT Quality Verification staff on the design-builder's compliance with contract requirements.

"Nonconformance Reports" are incidents recorded by the design-builder's quality inspection staff that do not appear to be constructed in accordance with the approved drawings and specifications.

	Previous Total	Current Period	Project Total	Open	Closed
Audits - Actual	3678	45	3723	23	3700
	Previous Total	Open	Current Period	Avg. Time Open	
Nonconformance Reports (NCR)	358	60	7	430 days	
Nonconformance Issues (NCI)	901	33	10	128 days	

OCTOBER SAFETY SUMMARY

"Recordable Incidents" are job-related safety incidents that have been recorded.

"Lost Time Incidents" are job-related safety incidents that result in personnel not being able to work.

Design-Builder	Previous Total	Current Period	Project Total
Recordable Incidents	39	1	40
Lost Time Incidents	4	0	4
Contract Days without an Incident	9	18	18

"Contract Days without an Incident" are the number of days since a lost-time incident has occurred.

On 10/12/2015, a Recordable Incident occurred. A KGM subcontractor (Raymond) employee felt pain in his back while loading drywall; he required prescription medication.

OCTOBER ENVIRONMENTAL SUMMARY

“**Noncompliance Event (ECAP)**” is an action not in compliance with environmental standards, permits or laws.

“**Minor Environmental Event**” is an environmental impact that does not meet the requirements to become an ECAP.

	Previous Total	Current Period	Total
Noncompliance Event (ECAP)	56*	1	57
Minor Environmental Event	50	1	51

*2 Noncompliance events were not counted in the September report, raising the previous total from 54 to 56

On 9/18/2015, a Noncompliance Event occurred. The annual water quality monitoring report was not submitted by Aug. 1, 2015. This is considered an administrative ECAP. The original submittal date for the annual report has been April 15. This date was amended to Aug. 1 in an updated version of the Biological Opinion. This information was never submitted to the construction office. The situation has been resolved. A report was generated and submitted to the USFWS and NMFS on Sept. 25.

On 9/24/2015, a Noncompliance Event occurred. Crews were removing excess hardened concrete on the side of the segment portion of the floating bridge. A man lift with a completely contained deck was being used for workers to access the area. A small piece of grout tube and dried grout bypassed the lift and fell into the lake. Ecology was notified of the event on 9/16. For future activities, KGM will be placing netting under the man lifts to capture any material before it can enter the lake.

On 10/6/2015, a Minor Environmental Event occurred. A truck was delivering a transformer. Approximately two gallons of diesel fuel spilled onto the pavement. The source was determined to be a missing fuel cap and when the truck was driving up the steep access road from the maintenance facility, the fuel spilled out. The diesel was cleaned up and none of it entered waters of the state.

On 10/16/2015, a Noncompliance Event occurred. During painting of the piers on the east side of the bridge, the painters sprayed around the corner of the pier from where the barge was staged. The paint from the over spray landed on the water below, creating a very light sheen covering an approximately 50 feet by 100 feet. Absorbent boom was applied and all of the sheen was contained and removed. The appropriate resource agencies were notified.

West Approach Bridge North Project

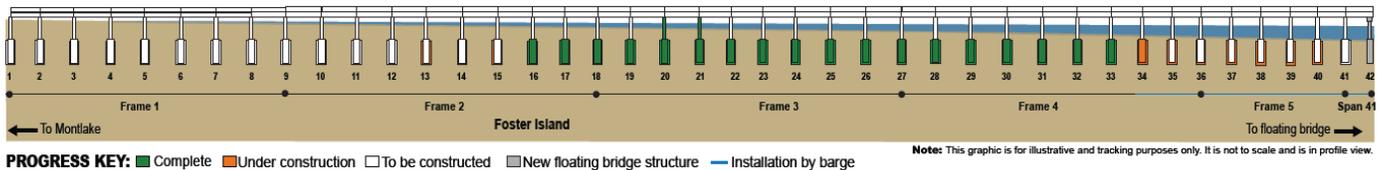
CONSTRUCTION OVERVIEW

The West Approach Bridge North Project (WABN), the first stage of western landings for the new SR 520 floating bridge, continues WSDOT's commitment to replace vulnerable structures and improve mobility for motorists. The new approach bridge, more than 6,000 feet long, will support a six-lane highway corridor and a regional shared-use path for bicyclists and pedestrians between the new floating bridge and Montlake. The WABN project will also greatly benefit the local built and natural environment by improving stormwater treatment, employing noise reduction measures, mitigating for wetland and aquatic impacts, and improving the Arboretum and local parks.

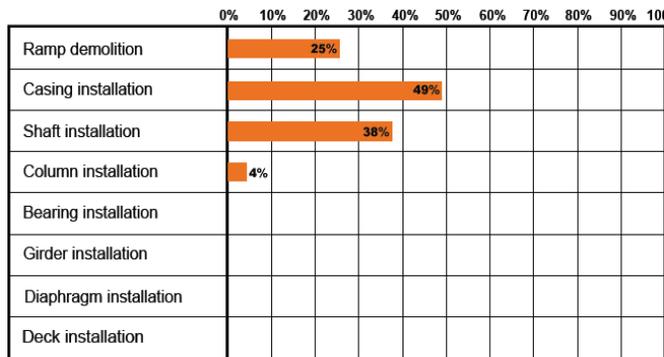


WABN: Pouring concrete for a column

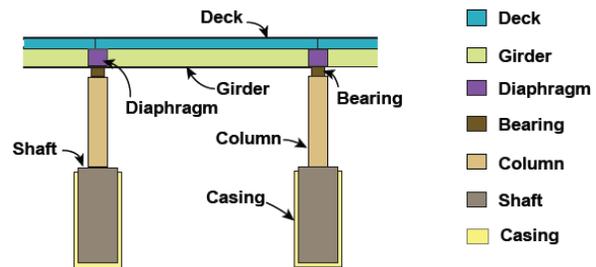
Original Engineers Estimate	\$209,905,587
Bid Price	\$199,537,371
Change Orders to date	(\$276,619)
Current Contract Value	\$199,260,752



WABN PROGRESS



STRUCTURE LEGEND:

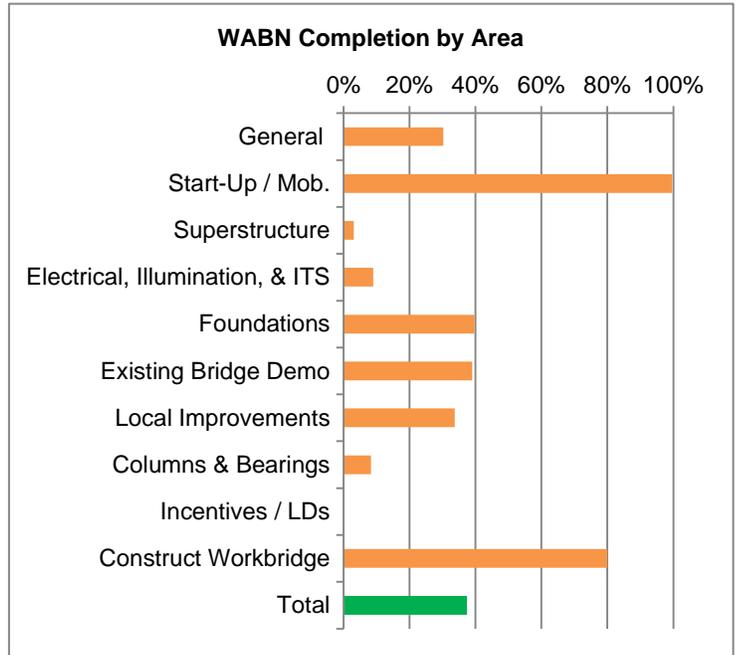


BY THE NUMBERS:			
• 49 of 99 casings complete	• 0 of 47 diaphragms complete	• 0 of 41 sections of roadway deck complete	
• 38 of 99 shafts complete	• 0 of 104 bearings complete		
• 4 of 95 columns complete	• 0 of 353 girders complete		

West Approach Bridge North progress tracker as of Oct. 31, 2015

OCTOBER ACCOMPLISHMENTS

Through October 31st, the Contractor has installed 49 bridge casings at 28 pier locations and constructed 38 drilled shafts at Piers 13-36. In October, the Contractor continued demolition of the 520/6 W-W spans, construction for the 24th Ave bridge and continued marine work for Piers east of Pier 33.



RISK

- Environmental noncompliance events
- Procurement of seismic isolation bearings
- Procurement of expansion joints



WABN: Demolition of westbound SR520 off-ramp in Montlake

OCTOBER COSTS

The preliminary engineering is complete; final right-of-way costs are being recorded. There have been 14 payments made to the contractor through October 2015.

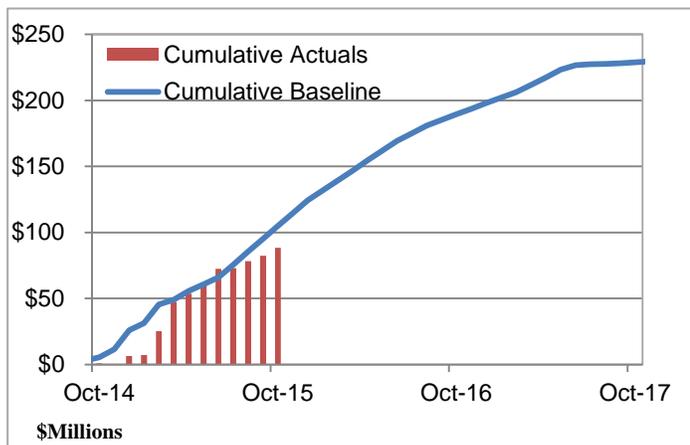
	Current Budget	Actuals to Date	Remaining Budget
West Approach Bridge North Project Totals	\$252,463,121	\$124,499,462	\$127,963,659
Preliminary Engineering	\$26,485,353	\$26,485,353	\$0
Right of Way	\$4,730,000	\$4,228,745	\$501,255
Construction	\$221,247,768	\$93,785,364	\$127,462,404
<i>Current Contract Value</i>	<i>\$199,260,752</i>	<i>\$83,105,549</i>	<i>\$116,155,203</i>
<i>Agreements</i>	<i>\$8,342,278</i>	<i>\$5,385,778</i>	<i>\$2,956,500</i>
<i>Construction Engineering</i>	<i>\$13,478,157</i>	<i>\$5,190,362</i>	<i>\$8,287,795</i>
<i>State Force Work</i>	<i>\$10,301</i>	<i>\$10,301</i>	<i>\$0</i>
<i>State Materials</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>
<i>Vendor Supplied Materials</i>	<i>\$156,280</i>	<i>\$93,374</i>	<i>\$62,906</i>

Cost information through Oct 31, 2015

OCTOBER CHANGE ORDER SUMMARY

There was one change order executed in October for \$13,450. Change orders total **(\$276,619)** for the WABN project at the time of this report.

OCTOBER PERFORMANCE



Cumulative actuals are slightly below the baseline in October.



WABN: Cured columns for the new west approach

SUMMARY SCHEDULE

The ninth progress schedule update (October) has been submitted and is under review.

Milestone	Contract Date	Actual/Trend
First Charged Working Day	9/11/2014	9/11/2014
Begin Access East of Pier 33	9/1/2015	9/1/2015
Begin Access to Floating Bridge	9/1/2016	9/1/2016
Bridge Open to Traffic	6/20/2017	7/10/2017
End of Working Days	11/3/2017	11/20/2017

OCTOBER SAFETY SUMMARY

	Previous Total	Current Period	Project Total
Work-related injuries requiring first aid only	4	1	5
Work-related injuries resulting in transfers or restrictions	3	0	3
Work-related injuries resulting in days away from work	0	0	0

On 10/9/2015, a Recordable Incident occurred. An employee was installing a T post when the T post driver slipped off of the post and the employee struck his thumb between the T post and the T post driver, causing a minor wound.

OCTOBER ENVIRONMENTAL SUMMARY

“**Noncompliance Event (ECAP)**” is an action not in compliance with environmental standards, permits or laws.

“**Minor Environmental Event**” is an environmental impact that does not meet the requirements to become an ECAP.

	Previous Total	Current Period	Project Total
Noncompliance Event (ECAP)	56	10	66
Minor Environmental Event	0	0	0

On 10/1/2015, a Noncompliance Event occurred. WSDOT did not report water quality data to US Fish and Wildlife in a timely manner.

On 10/5/2015, a Noncompliance Event occurred. Concrete demolition debris fell into Lake Washington from span W16 of bridge 520/6W-W.

On 10/6/2015, a Noncompliance Event occurred. Concrete demolition debris spilled into Lake Washington from span W15 of bridge 520/6W-W

On 10/6/2015, a Noncompliance Event occurred. Concrete demolition debris spilled into Lake Washington while removing pier cap.

On 10/7/2015, a Noncompliance Event occurred. Concrete demolition debris spilled into Lake Washington while unloading a barge.

On 10/7/2015, a Noncompliance Event occurred. Concrete demolition debris spilled into lake Washington at span W17 of bridge 520/6W-W.



OCTOBER ENVIRONMENTAL SUMMARY CONTINUED

On 10/12/2015, a Noncompliance Event occurred. Up to 10 gallons of vegetable based hydraulic fluid spilled into Lake Washington as a result of a broken hose and excavator.

On 10/13/2015, a Noncompliance Event occurred. Concrete demolition debris spilled into Lake Washington while crews were removing girders and deck from span W17.

On 10/20/2015, a Noncompliance Event occurred. A demolition contractor employee noticed a single piece of concrete debris falling into Lake Washington from the demolition of the barrier on span W14.

On 10/21/2015, a Noncompliance Event occurred. Concrete demolition debris spilled into Lake Washington while crews were removing the east diaphragm of span W14.

GLOSSARY OF FREQUENTLY USED PROJECT AND INDUSTRY ACRONYMS

ATM	Active Traffic Management
CCMP	Community Construction Management Plan
CIP	Cast-in-Place
CTC	Concrete Technology Corporation (SSP production site)
D-B	Design-Builder
DBIC	Design-Builder Initiated Change
Eastside	Eastside Transit and HOV Project
ECAP	Environmental Compliance Assurance Procedure
ECC	Eastside Corridor Constructors (Eastside Design-Builder)
ESA	Endangered Species Act
FB&L	Floating Bridge & Landings
FONSI	Finding of No Significant Impact
GH	Grays Harbor (Pontoon construction site)
HQ	WSDOT Headquarters
ITS	Intelligent Transportation System
K-G	Kiewit General, A Joint Venture (PCP Design-Builder)
KGM	Kiewit General Manson, A Joint Venture (FB&L Design-Builder)
M-A	Mowat American, A Joint Venture (WCB Contractor)
NCI	Non-Conformance Incident
NCR	Non-Conformance Report
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
NWR	WSDOT Northwest Region
PCI	Potential Change Issue
PCO	Potential Change Order
PCP	Pontoon Construction Project
PT	Post-Tensioning
QA	Quality Assurance
QC	Quality Control
RFI	Request for Information
RFP	Request for Proposal
ROD	Record of Decision
SPI	Schedule Performance Index is a performance index which equals
SSP	Supplemental Stability Pontoon
TCE	Temporary Construction Easement
TIFIA	Transportation Infrastructure Finance and Innovation Act
WABN	West Approach Bridge North
WCB	West Connection Bridge

For more information

Visit: www.wsdot.wa.gov/projects/SR520Bridge
E-mail: SR520Bridge@wsdot.wa.gov
Call: 1-888-520-NEWS (6397)
Mail: Washington State Department of Transportation
SR 520 Bridge Replacement and HOV Program
999 3rd Avenue, Suite 2200
Seattle, WA 98104

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