



# STATE ROUTE 520

## CONSTRUCTION PROGRESS REPORT

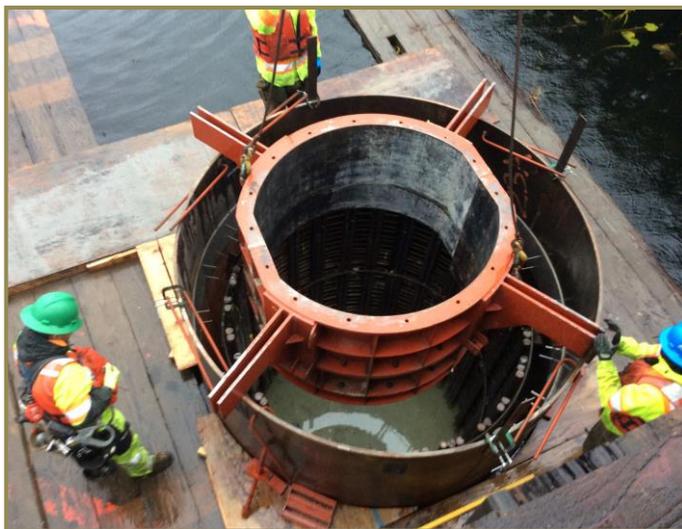
### NOVEMBER 2015



*Floating Bridge and Landings (FB&L): Erecting steel for north sentinel on east high-rise*



*West Approach Bridge North (WABN): Removal of column forms*



*WABN: Setting shaft transition formwork*



*WABN: SR 520 construction, looking west from Medina*



FB&L: Bridge maintenance facility dock



WABN: Sidewalks on east side of Montlake Boulevard

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**ACTIVE CONSTRUCTION PROJECT REPORTS\*\***

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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.

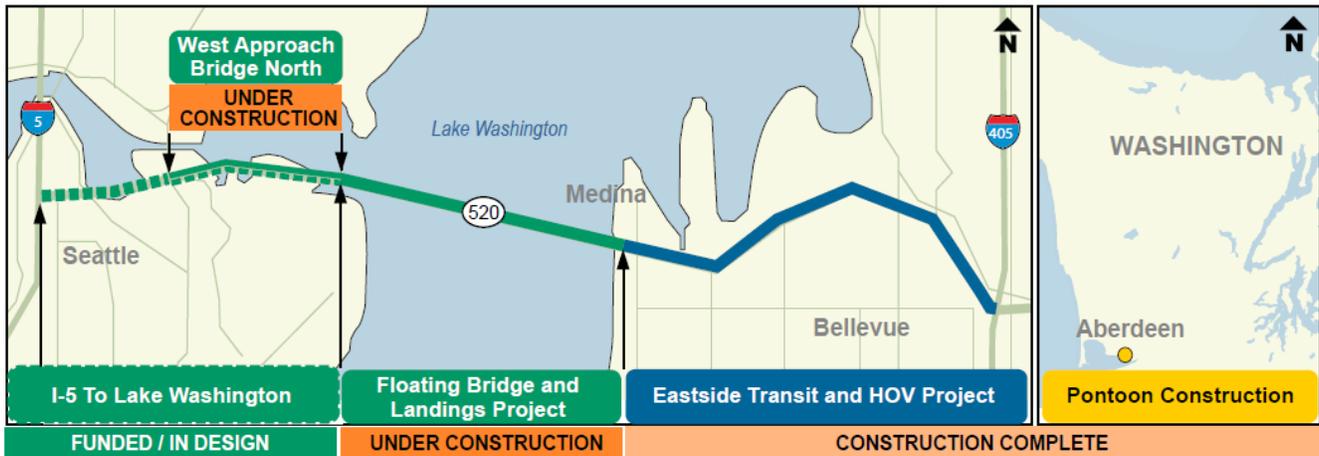
## Executive Summary

### 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: Setting railing along the floating bridge's bicycle and pedestrian shared-use path*



*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):

At the East Approach Bridge, crews worked on barrier and noise wall dry finish and placed pigmented sealer at the east transition span. On Lake Washington, crews installed west transition span barrier rebar, and erected Pontoon W's north and south sentinel steel. Crews continue bridge and electrical construction activities, and testing substations (transformers) at pontoons C, G, I, O and P.

### West Approach Bridge North (WABN):

At 24th Avenue East, crews continued preparations for deck pour, excavated for east wing wall at pier 3 and continued removal of concrete barrier on the west side. Work continued on foundations, fabricating shaft reinforcement and installing casing at 41B. Substructure work continued with crews installing shaft collars, fabricating column rebar cages, and placing column concrete.



WABN: Ongoing removal of span W3

## 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 issues with foundation construction
- A lengthy commissioning process for the floating bridge 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 work on pontoon maintenance sheds, and placing siding at pontoons O, M and G maintenance sheds. At Medina, crews will continue work on barrier and noise wall finishes. At the bridge maintenance facility, crews will work on the installation of passenger and freight elevators. Crews will continue electrical work, pulling low voltage cable main feeders under the bridge deck.

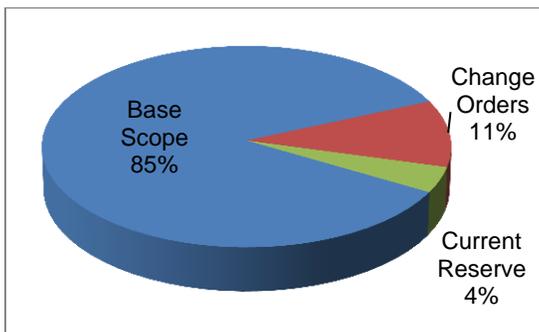
**WABN:** Crews will continue widening and extending the 24th Avenue Bridge, continue installation of shaft collars, fabrication of column rebar cages, and continue demolition of decommissioned ramps with the removal of W3 span and columns. Also, the contractor will continue foundation construction, drilling and pouring columns 37B, 38B, 39B and 40B.

### Total Program

<b>SR520 Program Totals*</b>	<b>\$4,561,210,704</b>	<b>\$2,370,748,657</b>	<b>\$2,190,462,047</b>
<b>Funded Program</b>	<b>\$4,561,210,704</b>	<b>\$2,370,748,657</b>	<b>\$2,190,462,047</b>
Row Labels			
<b>Federal</b>	<b>\$498,134,693</b>	<b>\$366,779,942</b>	<b>\$131,354,751</b>
FEDERAL GRANT FUNDS	\$3,000,000	\$3,000,000	\$0
FEDERAL FORMULA FUNDS	\$179,952,810	\$153,398,695	\$26,554,115
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
<b>Local</b>	<b>\$2,303,701</b>	<b>\$2,071,979</b>	<b>\$231,722</b>
LOCAL PROJECT(CURRENT)	\$2,303,701	\$2,071,979	\$231,722
<b>State</b>	<b>\$3,901,372,310</b>	<b>\$2,001,896,736</b>	<b>\$1,899,475,574</b>
TRANSPORTATION PARTNERSHIP ACCOUNT (TPA)*	\$535,732,598	\$424,711,631	\$111,020,967
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	\$46,038,272	\$24,232,785
SR520 Civil Penalties Account**	\$14,000,000	\$2,679,697	\$11,320,303
STATE FUNDS	\$2,573,492	\$2,578,457	(\$4,965)
<b>Deferred Sales Tax</b>	<b>\$159,400,000</b>		<b>\$159,400,000</b>
DEFERRED SALES TAX	\$159,400,000		\$159,400,000

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

\*\* \$14M Included for Civil Penalties



Cumulative Reserve	\$434,100,000
November Change Orders	(\$93,200)
Previous Change Orders	(\$310,458,172)
Right of Way Settlements	(\$3,777,010)
<b>Current Reserve</b>	<b>\$119,771,618</b>

### Floating Bridge and Landings Project

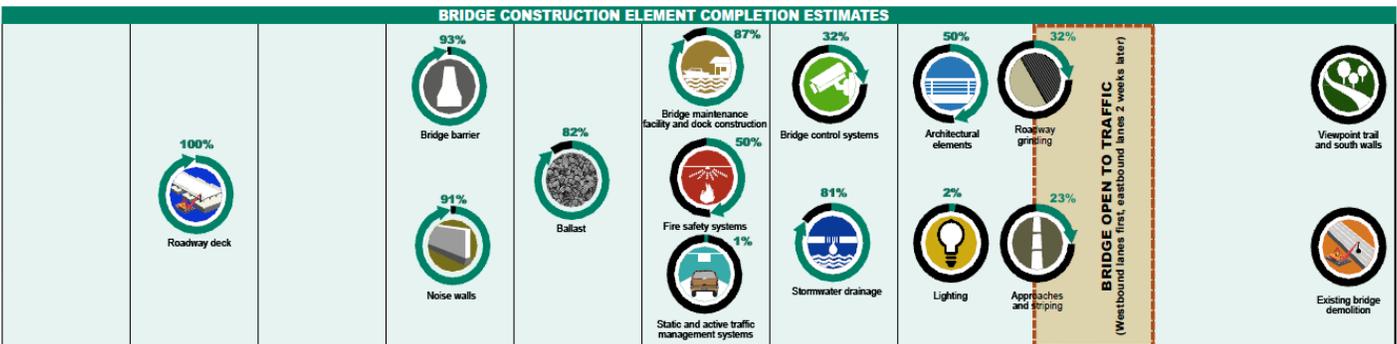
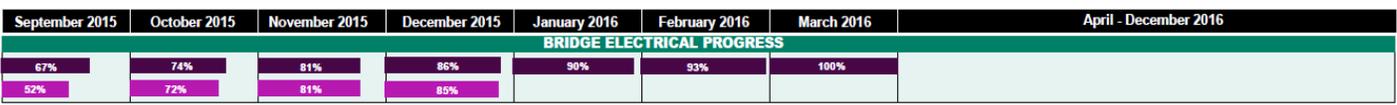
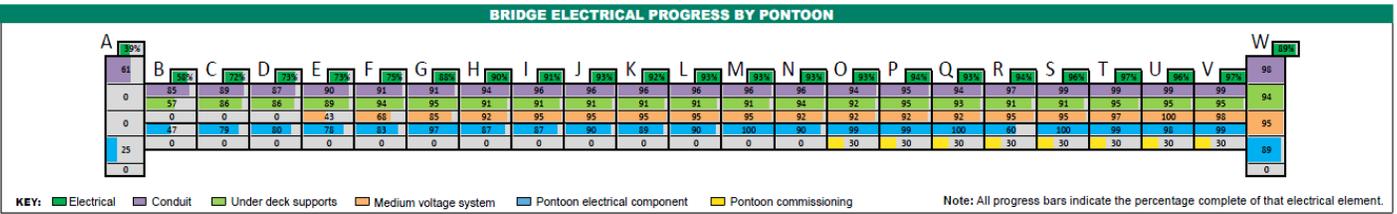
#### FLOATING BRIDGE AND LANDINGS

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: Crews pour south expansion joint on east high-rise

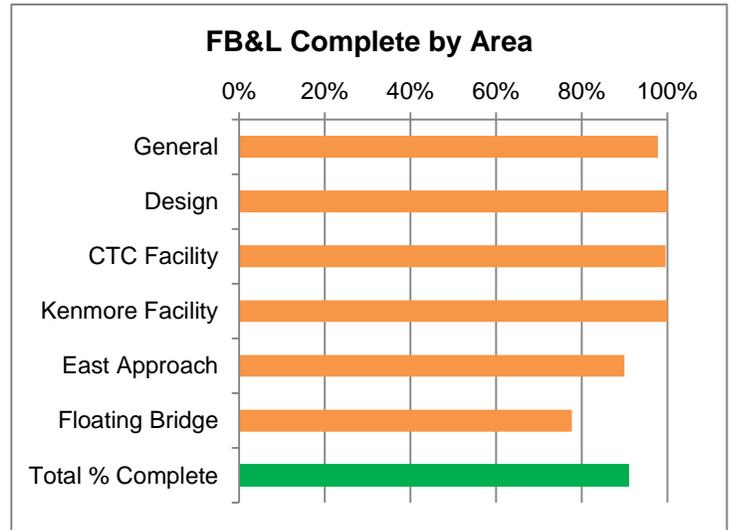
Original Engineers Estimate	\$640,769,000
Bid Price	\$586,561,000
Change Orders to date	\$168,834,735
<b>Current Contract Value</b>	<b>\$755,395,735</b>



Floating Bridge Electrical Progress and Commissioning milestones

### NOVEMBER ACCOMPLISHMENTS

At the East Approach Bridge, crews worked on barrier and noise wall dry finish and placed pigmented sealer at east transition span. On Lake Washington, crews installed west transition span barrier rebar, and erected sentinel steel at pontoon W north and south. Crews continue bridge and electrical construction activities, and testing substations (transformers) at pontoons C, G, I, O and P. At the bridge maintenance facility, crews worked on installation of freight elevators at all levels, placed data network conduit, wiring, and terminations at all levels.



### RISK

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.

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

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 may not be completed as show.

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.



FB&L: Pontoon W north sentinel steel

### NOVEMBER COSTS

Preliminary engineering is complete. The total actual cost to date from the contractor is 92 percent of the budget.

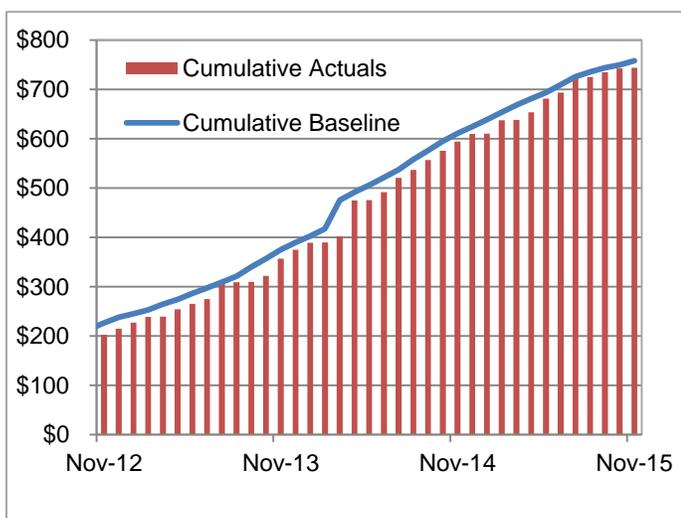
	Current Budget	Actuals to Date	Remaining Budget
<b>Floating Bridge and Landings Construction Project Totals</b>	<b>\$835,239,231</b>	<b>\$772,129,065</b>	<b>\$63,110,166</b>
<b>Preliminary Engineering</b>	<b>\$10,659,063</b>	<b>\$10,659,063</b>	<b>\$0</b>
<b>Right of Way</b>	<b>\$4,046,033</b>	<b>\$3,784,694</b>	<b>\$261,339</b>
<b>Construction</b>	<b>\$820,534,135</b>	<b>\$757,685,308</b>	<b>\$62,848,827</b>
<i>Current Contract Value</i>	\$755,395,735	\$699,310,378	\$56,085,357
<i>Agreements</i>	\$36,882,740	\$33,248,885	\$3,633,855
<i>Construction Engineering</i>	\$20,515,660	\$18,417,508	\$2,098,153
<i>State Force Work</i>	\$60,000	\$3,681	\$56,319
<i>State Materials</i>	\$0	\$0	\$0
<i>Vendor Supplied Materials</i>	\$7,680,000	\$6,704,857	\$975,143

Cost information through Nov. 30, 2015

### NOVEMBER CHANGE ORDER SUMMARY

There were two zero-cost change orders executed in November. Change orders total \$168,834,735 for the FB&L project at the time of this report.

### NOVEMBER PERFORMANCE



Monthly actuals are trending down as the project nears substantial completion



FB&L: Crews pour concrete for a belvedere curb

### 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	11/14/2013
Substantial Completion	4/28/2016	On Time
Physical Completion	2/22/2017	Early

### NOVEMBER 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 staffs 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	3723	50	3773	21	2752
	Previous Total	Open	Current Period	Avg. Time Open	
Nonconformance Reports (NCR)	365	57	1	431 days	
Nonconformance Issues (NCI)	911	26	3	173 days	

### NOVEMBER 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	40	0	40
Lost Time Incidents	4	0	4
Contract Days without an Incident	18	31	49

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

No safety incidents this month.

### NOVEMBER 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)	57	0	57
Minor Environmental Event	51	3	54

On 11/10/2015, a Minor Environmental Event occurred. A hydraulic hose failed on a scissor lift working on Pontoon G, approximately 2 to 3 cups of hydraulic fluid sprayed onto the pontoon surface. None of it entered the water and all of it was recovered.

On 11/11/2015, a Minor Environmental Event occurred. A container of pigmented sealer broke open when it fell off the bed of a truck, spilling about 4 gallons of sealer onto the paved access road. Some of it also entered a catch basin. The stormwater system was flushed, inlet protection was replaced and the roadway was washed. All of the sealer was contained and captured before it reached waters of the state.

On 11/18/2015, a Minor Environmental Event occurred. Crews were grinding epoxy on the bottom side of the low-rise segmental portion of the SR 520 Bridge around Pontoon E. The grinders were equipped with vacuums to control the dust. Some of the dust left the work area and settled onto the surface of Lake Washington. A 3 ft. by 5 ft. film was observed on the water next to the grinding operation. All of the material was contained and removed. The grinding operation was stopped and will not be resumed until additional BMPs are installed.

## West Approach Bridge North Project

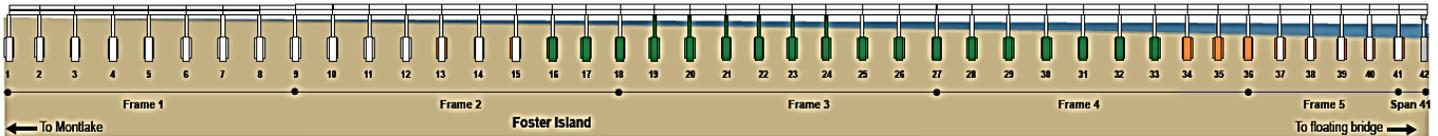
### CONSTRUCTION OVERVIEW

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: Filling shaft 35B with pea gravel for stabilization

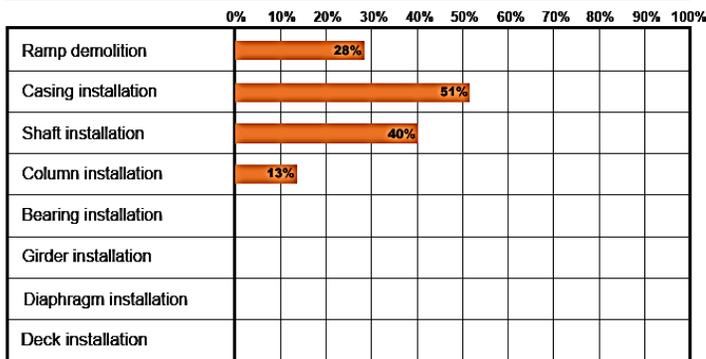
Original Engineers Estimate	\$209,905,587
Bid Price	\$199,537,371
Change Orders to date	(\$183,419)
<b>Current Contract Value</b>	<b>\$199,353,952</b>



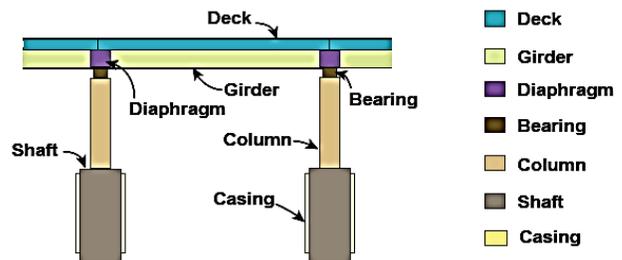
**PROGRESS KEY:** ■ Complete ■ Under construction □ To be constructed ■ New floating bridge structure — Installation by barge

Note: This graphic is for illustrative and tracking purposes only. It is not to scale and is in profile view.

#### WABN PROGRESS



#### STRUCTURE LEGEND:



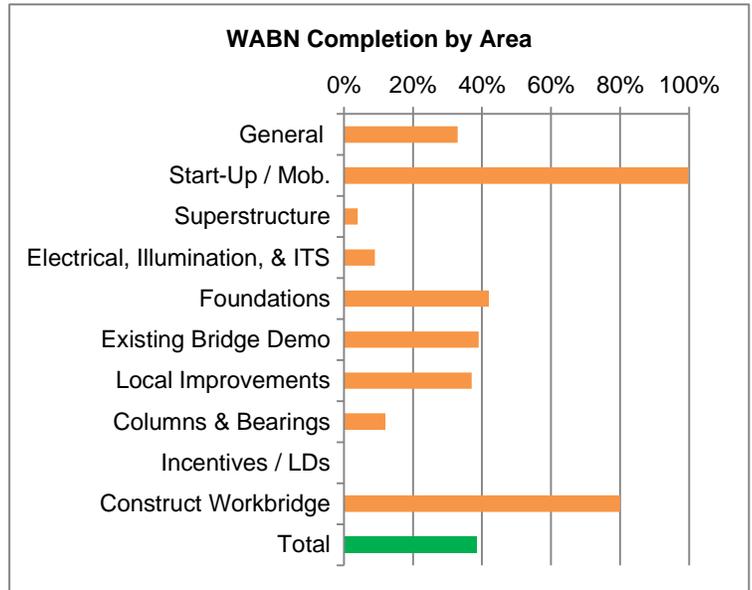
#### BY THE NUMBERS:

- 50 of 99 casings complete
- 40 of 99 shafts complete
- 12 of 95 columns complete
- 0 of 47 diaphragms complete
- 0 of 104 bearings complete
- 0 of 353 girders complete
- 0 of 41 sections of roadway deck complete

West Approach Bridge North progress tracker as of Nov 30, 2015

### NOVEMBER ACCOMPLISHMENTS

Through Nov. 30, the contractor has installed 50 bridge casings at 29 pier locations and constructed 41 drilled shafts at Piers 13-37. In November, the contractor continued demolition of the 520/6 W-W spans and construction of the 24th Avenue East westbound off-ramp, and continued marine work for piers east of Pier 33.



### RISK

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



WABN: Containment for drilling of shaft 35B

### NOVEMBER COSTS

The preliminary engineering is complete; final right-of-way costs are being recorded. There have been 15 payments made to the contractor through November 2015.

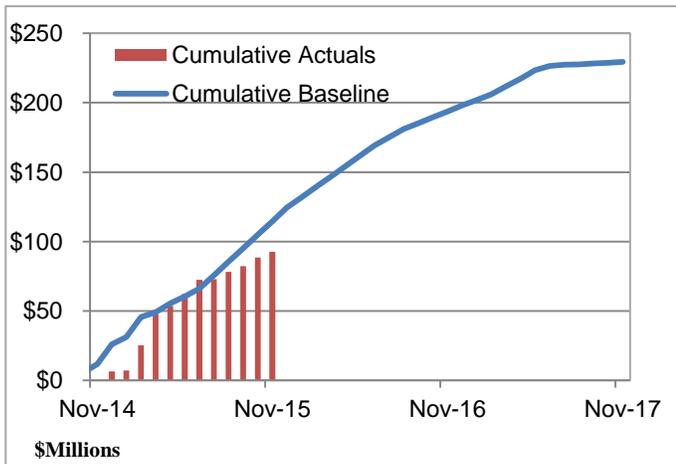
	Current Budget	Actuals to Date	Remaining Budget
<b>West Approach Bridge North Project Construction Totals</b>	<b>\$253,440,997</b>	<b>\$128,610,186</b>	<b>\$124,830,811</b>
<b>Preliminary Engineering</b>	<b>\$26,485,353</b>	<b>\$26,485,353</b>	<b>\$0</b>
<b>Right of Way</b>	<b>\$4,730,000</b>	<b>\$4,229,332</b>	<b>\$500,668</b>
<b>Construction</b>	<b>\$222,225,644</b>	<b>\$97,895,501</b>	<b>\$124,330,143</b>
<i>Current Contract Value</i>	\$199,353,952	\$86,436,102	\$112,917,849
<i>Agreements</i>	\$9,226,954	\$5,820,237	\$3,406,717
<i>Construction Engineering</i>	\$13,478,157	\$5,535,487	\$7,942,670
<i>State Force Work</i>	\$10,301	\$10,301	\$0
<i>State Materials</i>	\$0	\$0	\$0
<i>Vendor Supplied Materials</i>	\$156,280	\$93,374	\$62,906

Cost information through Nov. 30, 2015

### NOVEMBER CHANGE ORDER SUMMARY

There were four change orders executed in November for \$93,200. Change orders total **(\$183,419)** for the WABN project at the time of this report.

### NOVEMBER PERFORMANCE



Cumulative actuals are slightly below the baseline through November.



WABN: Installing rebar cage for column 23B

### SUMMARY SCHEDULE

The tenth progress schedule update (November) 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	7/3/2017
End of Working Days	11/3/2017	11/16/2017

### NOVEMBER 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

\*Recordable incident requiring first aid was incorrectly reported in October. The previous total was 4.

On 11/20/2015, a Recordable Incident occurred. An employee was grasping a board, when a nail made a shallow puncture through a glove into the skin. First aid was administered.

### NOVEMBER 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)	66	4	70
Minor Environmental Event	0	0	0

On 11/3/2015, a Noncompliance Event occurred. Concrete demolition debris fell into lake Washington while configuring containment BMPs at Span 12.

On 11/7/2015, a Noncompliance Event occurred. Impact noise from subcontractor Staton while processing concrete debris at the Museum of History and Industry staging area was conducted outside of allowed hours.

On 11/11/2015, a Noncompliance Event occurred. Up to 10 gallons of vegetable based hydraulic fluid spilled into lake Washington from broken hose on excavator.

On 11/11/2015, a Noncompliance Event occurred. Concrete demolition debris spilled into Lake Washington while removing pier cap.

### 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](http://www.wsdot.wa.gov/projects/SR520Bridge)  
E-mail: [SR520Bridge@wsdot.wa.gov](mailto: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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