



STATE ROUTE 520

CONSTRUCTION PROGRESS REPORT

MAY 2015



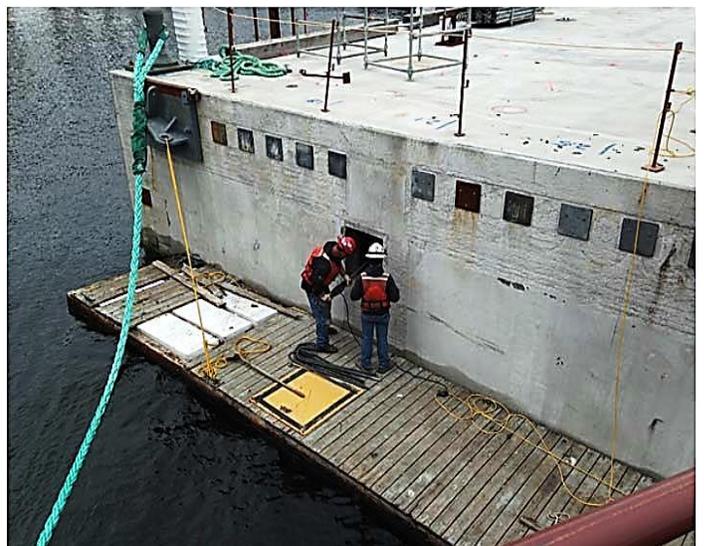
Floating Bridge and Landings (FB&L): Concrete pour for deck span



West Approach Bridge North (WABN): Construction progress



WABN: Construction of shaft rebar cage



FB&L: Pontoon F mating key work

DATE PUBLISHED: JULY 5, 2015





FB&L: East approach barrier rebar



WABN: Union Bay Bridge widening

Executive Summary.....3

ACTIVE CONSTRUCTION PROJECT REPORTS*

Floating Bridge and Landings (FB&L).....6

West Approach Bridge North (WABN).....12

* 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.

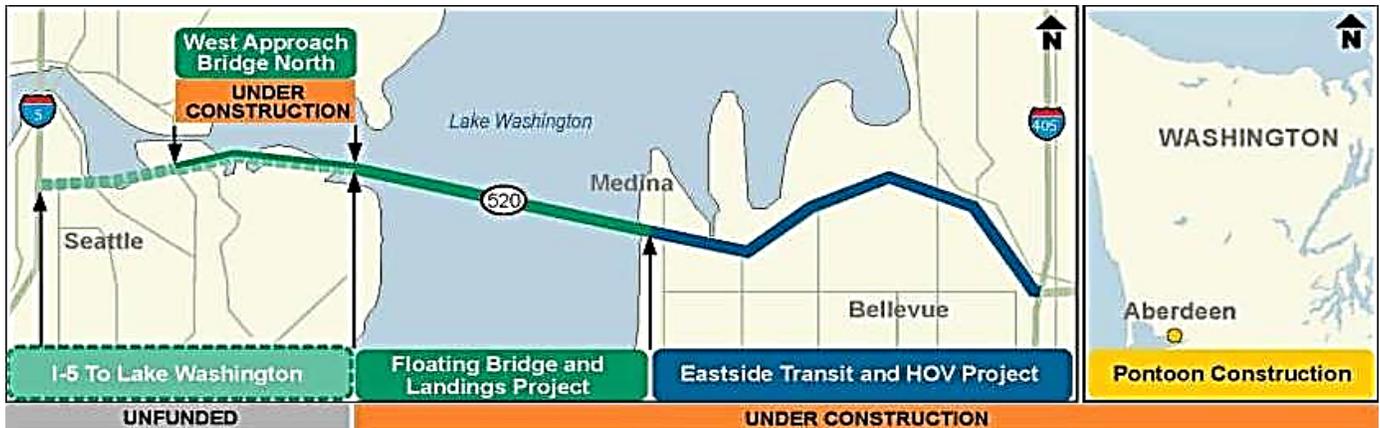
Executive Summary

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: Pontoon W staircase



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, as well as a fixed West Connection Bridge linking the new floating bridge to SR 520's existing four-lane segment in Seattle.
- Building pontoons at casting basin facilities in Tacoma and Grays Harbor.
- Constructing the Eastside Transit and HOV Project.
- 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.

PROGRAM STATUS

Floating Bridge and Landings (FB&L):

At Medina, crews placed forms and reinforcement steel for the east transition span's westbound segment. On Lake Washington, crews continued longitudinal pontoon joining and ballasting. Work continued at the bridge maintenance facility, with crews installing plumbing, sprinkler system, lights, electrical panels and wire at all levels.

West Approach Bridge North (WABN):

Through May 31, the contractor constructed four drilled shafts at Piers 16 to 18. The contractor has also installed piles at all piers and set pile caps and deck girders from Piers 3 to 19 for the Union Bay Bridge widening. Local street improvements continued near Montlake and Lake Washington boulevards.



WABN: Installation of work platform for drilled shaft work

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

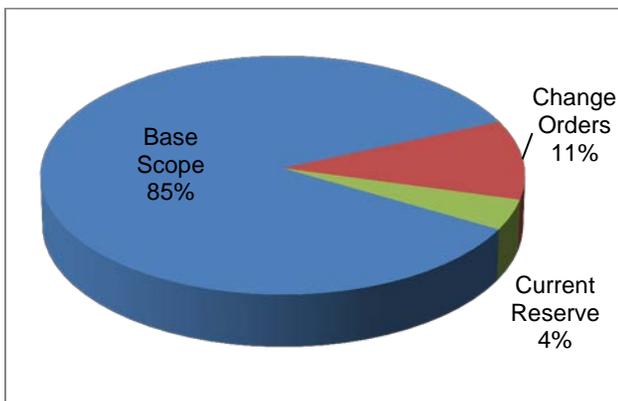
- **Floating Bridge and Landings:** At Lake Washington, crews will prepare and join pontoons E, F and G for longitudinal joining and continue with high-rise and low-rise bridge assembly. At Kenmore, crews will continue work on precast deck panels, stressing post-tensioning (PT) tendons and grouting PT ducts. At the maintenance facility, crews will install railing; install HVAC controls and radiant heater system, dry finish and place concrete coating at the maintenance dock
- **WABN:** The contractor will continue the Union Bay Bridge widening, placing rebar and pouring deck concrete, with plans to open the temporary off-ramp to Montlake Boulevard in mid-July.

Total Program

	Total Budget	Actuals to Date	Remaining
SR520 Program Totals**	\$4,471,210,704	\$2,247,019,067	\$2,224,191,953
Funded Program	\$2,905,210,704	\$2,247,019,067	\$658,191,953
Federal	\$498,134,693	\$249,250,575	\$248,884,118
FEDERAL GRANT FUNDS	\$3,000,000	\$3,000,000	\$0
FEDERAL FORMULA FUNDS	\$179,952,810	\$85,870,692	\$94,082,118
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	\$145,198,000	\$154,802,000
Local	\$2,303,701	\$1,502,311	\$801,390
LOCAL PROJECT(CURRENT)	\$2,303,701	\$1,502,311	\$801,390
State	\$2,245,372,310	\$1,996,266,181	\$249,106,445
TRANSPORTATION PARTNERSHIP ACCOUNT (TPA)*	\$535,732,598	\$423,345,130	\$112,387,468
NICKEL ACCOUNT STATE DOLLARS	\$52,243,840	\$52,244,156	\$0
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	\$44,458,880	\$25,812,177
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
Unfunded Program	\$1,566,000,000		\$1,566,000,000
I-5 TO THE FLOATING BRIDGE	\$1,566,000,000		\$1,566,000,000

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

** 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	\$432,500,000
May Change Orders	(\$1,532,000)
Previous Change Orders	(\$312,786,110)
Current Reserve	\$118,181,890

Floating Bridge and Landings Project

FLOATING BRIDGE AND LANDINGS

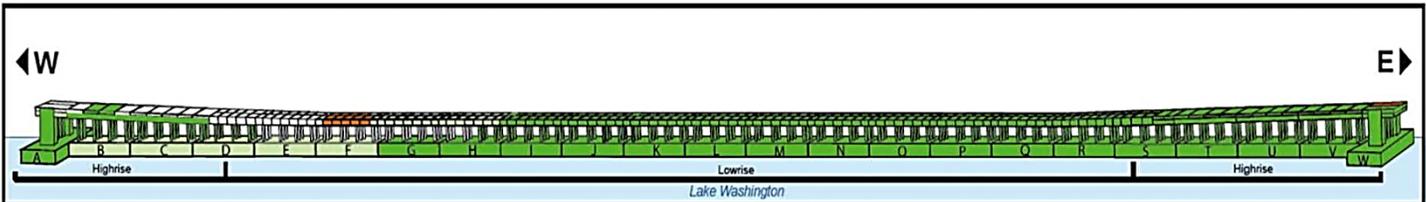
The SR 520 Floating Bridge and Landings (FB&L) Project will replace the existing, vulnerable four-lane structure with a new six-lane bridge that can withstand windstorms of up to 89 miles per hour. The new six-lane facility will include a bicycle/pedestrian path and a bridge maintenance facility on the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



FB&L: Concrete finishing at Pier 2 eastbound

Original Engineers Estimate	\$640,769,000
Bid Price	\$586,561,000
Change Orders to date	\$168,870,995
Current Contract Value	\$755,431,995

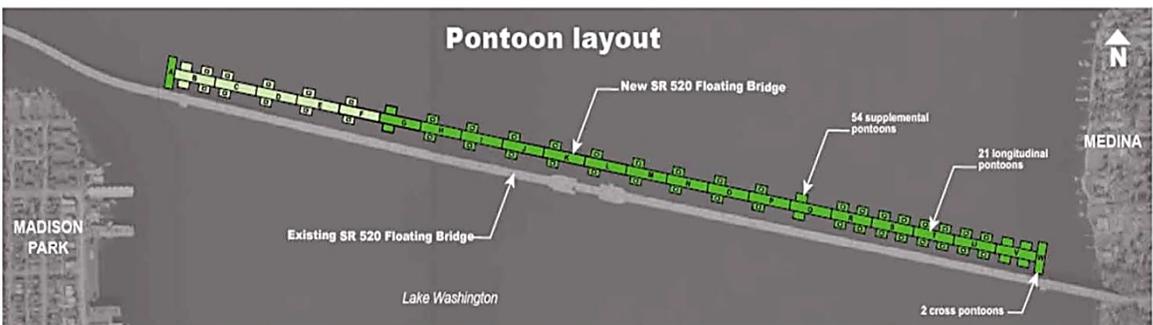
Pontoon tracking on Lake Washington, 5/31/15



GRAPHIC KEY AND FACTS

- 776 low-rise roadway deck sections
- 23 high-rise roadway deck spans
- 331 girders
- 772 columns
- 21 longitudinal pontoons + 2 cross pontoons

■ In Final Location
■ Construction Complete
■ Under Construction
 Future Construction



- Low-rise roadway deck includes pre-cast deck panels being constructed in Kenmore.
- 675 out of 776 pre-cast deck panels have been constructed. 544 of 776 have been placed.
- High-rise roadway deck includes girders and cast-in-place deck.
- 16 out of 23 cast-in-place deck spans have been constructed.
 - 331 out of 331 girders have been constructed. 316 of 331 have been placed.
- The number of columns shown is a representation of the total number of columns.
- 624 out of 772 columns have been installed.
- Current number of pontoons on Lake Washington: 77
 - Total number of pontoons constructed to date: 77
 - Pontoons currently under construction: 0

Note: not to scale, for illustrative purposes only

MAY ACCOMPLISHMENTS

Floating Bridge: Crews continued longitudinal pontoon joining, joining pontoons G to H, and H to I.

East Approach Bridge: At Pier 1, crews placed forms and reinforcement steel for the east transition span's westbound segment and bridge deck

Medina Area: Crews continued work on the maintenance facility, installing a sprinkler system, lights and electrical panels.

Kenmore: Crews continued work on precast deck panels,

RISK

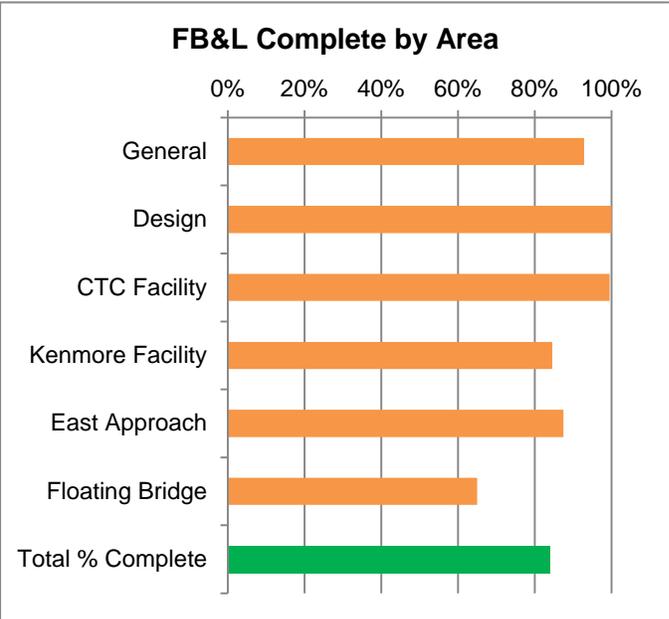
West Approach Bridge North (WABN) construction is underway with work progressing toward the FB&L work area. Coordination will continue to be a priority between contractors and WSDOT project offices.

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 have been environmental concerns regarding project use of the Kenmore site. WSDOT is monitoring the situation. Continued use of the Kenmore site is critical to completing the floating bridge on schedule.

Removal of the existing bridge will begin after traffic is switched to the new bridge. Good planning and execution of the removal plan is critical to ensure the removal operation does not damage or impact the new bridge.

The Department of Ecology has issued a warning letter to WSDOT for environmental issues on Lake Washington. Continued concern by the Department of Ecology or other resource agencies could result in fines or stop-work orders.



The final pontoons from Grays Harbor have been delivered to Lake Washington. Until these pontoons are joined and bridge construction is well underway, there remains a potential risk with difficulty in joining or construction of the bridge on the pontoons.



MAY COSTS

Preliminary engineering is complete. The right of way budget is complete. The total actual cost to date from the contractor is 83 percent of the budget.

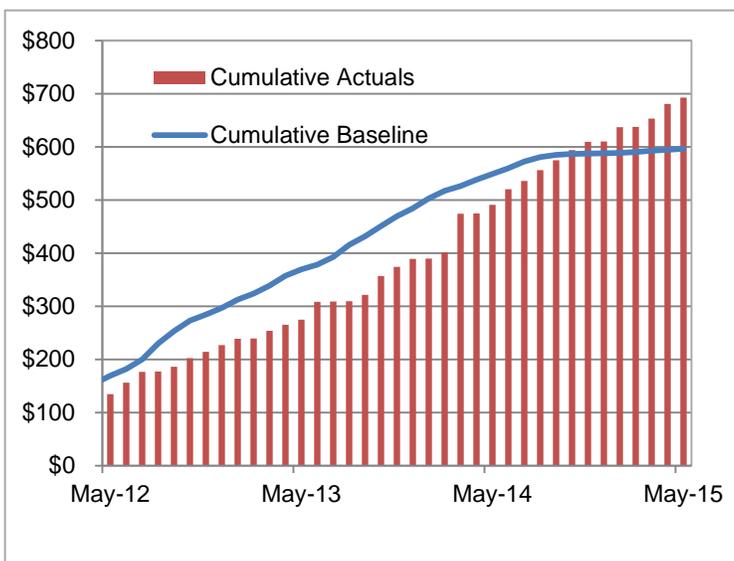
	Current Budget	Actuals to Date	Remaining Budget
Floating Bridge and Landings Construction Project Totals	\$835,678,593	\$707,746,751	\$127,931,842
Preliminary Engineering	\$10,659,063	\$10,659,063	\$0
Right of Way	\$4,426,535	\$3,768,678	\$657,857
Construction	\$820,592,995	\$693,319,010	\$127,273,985
<i>Current Contract Value</i>	\$755,431,995	\$638,283,181	\$117,148,814
<i>Agreements</i>	\$35,792,407	\$31,741,931	\$4,050,476
<i>Construction Engineering</i>	\$21,628,593	\$16,585,771	\$5,042,822
<i>State Force Work</i>	\$60,000	\$3,270	\$56,730
<i>State Materials</i>	\$0	\$0	\$0
<i>Vendor Supplied Materials</i>	\$7,680,000	\$6,704,857	\$975,143

Cost information through May 31, 2015

MAY CHANGE ORDER SUMMARY

There was one change order executed in May for \$1,500,000. Change orders total \$168,870,995 for the FB&L project at the time of this report.

MAY PERFORMANCE



The Schedule Performance Index (SPI) is at 1.03 through May 2015. Work is progressing well and contractor is on schedule.



FB&L: Westbound transition span

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

MAY 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.

“**Nonconformance Issues**” are incidents recorded by WSDOT’s Quality Verification staff due to an audit finding based on their observance of the work.

	Previous Total	Current Period	Project Total	Open	Closed
Audits - Actual	3275	115	3390	60	3330

	Previous Total	Open	Current Period	Avg. Time Open
Nonconformance Reports (NCR)	330	73	7	344 days
Nonconformance Issues (NCI)	841	75	24	81 days

MAY 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	34	2	36
Lost Time Incidents	3	0	3
Contract Days without an Incident	49	28	28

MAY 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)	49	2	51
Minor Environmental Event	45	2	47

On 5/6/15 a Noncompliance Event was identified. Approximately two cups of hydraulic fluid was discharged to the lake at around 5:15 p.m. when a hose fitting came off a hydraulic hammer while removing pile. All the fluid was contained in the boom. Towels were used to wipe down the deck of the nearby barge. No injured or distressed fish observed. Resource agencies will be notified.

On 5/20/15 a Noncompliance Event was identified. A grout tube burst under pressure on the transition span, blowing out a small amount of concrete around the tube. Approximately two gallons of cured concrete and grout were pushed through a bolt sleeve hole, with most of it landing on the maintenance dock. About a half-gallon discharged directly into the lake. None of it could be recovered and all the appropriate resource agencies were notified.



MAY ENVIRONMENTAL SUMMARY CONTINUED

“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.

On 5/20/15 a Minor Environmental Event occurred. A hydraulic hose failed on a forklift working on Pontoon V, spraying hydraulic fluid onto the pontoon deck. All of the fluid was recovered and none of it entered the lake.

On 5/26/15 a Minor Environmental Event occurred. A fitting broke on a forklift that was working on the low-rise. The forklift ran over a piece of plywood that damaged the hydraulic hose fitting, spilling approximately 5 gallons of hydraulic fluid onto the concrete. All of the material was cleaned up and none of it entered the lake.

West Approach Bridge North Project

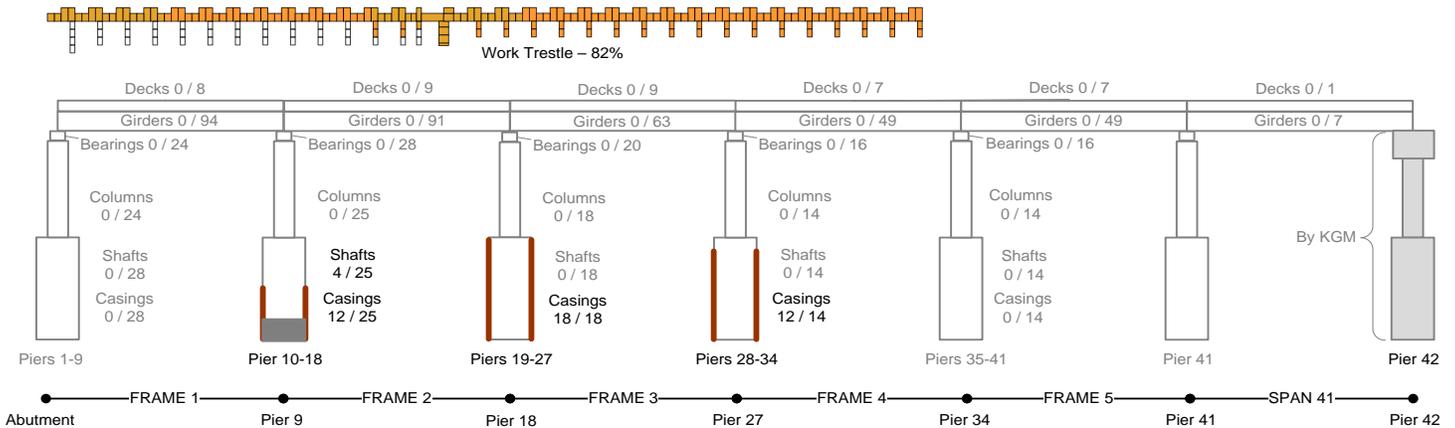
CONSTRUCTION OVERVIEW

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 construction progress, looking east

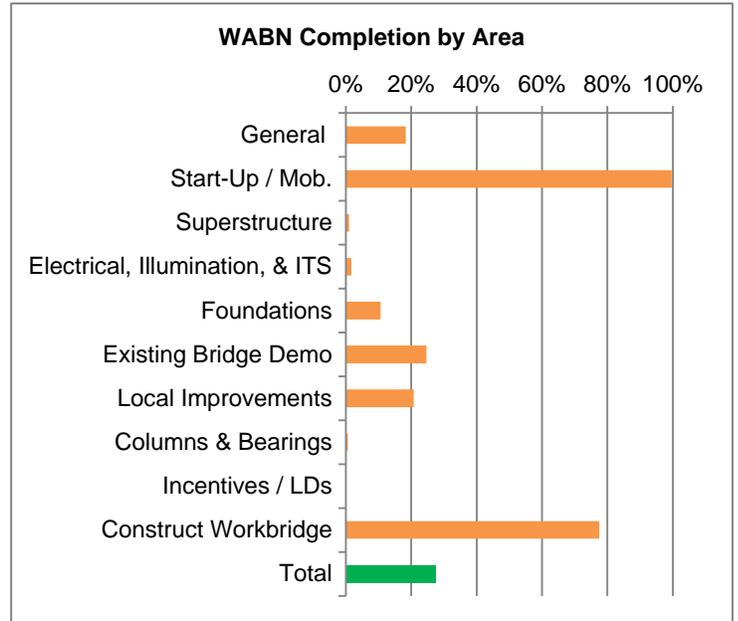
Original Engineers Estimate	\$209,905,587
Bid Price	\$199,537,371
Change Orders to date	\$1,297,431
Current Contract Value	\$200,834,802



West Approach Bridge North progress tracker as of May 31, 2015

MAY ACCOMPLISHMENTS

Through May 31, the contractor has constructed four drilled shafts at Piers 16 to 18. The contractor has also installed piles at all piers and set pile caps and deck girders from Piers 3 to 19 for the Union Bay Bridge widening. In May the contractor continued local street improvements near Montlake and Lake Washington boulevards.



RISK

- Environmental noncompliance events
- Seismic isolation bearing procurement
- King County Discharge Permit
- Dewatering / shoring
- Steel piling material traceability



WABN: First concrete pour for bridge shafts

MAY COSTS

The preliminary engineering and right of way phases are nearly complete; final costs are being recorded. There have been eight payments made to the contractor through May 2015.

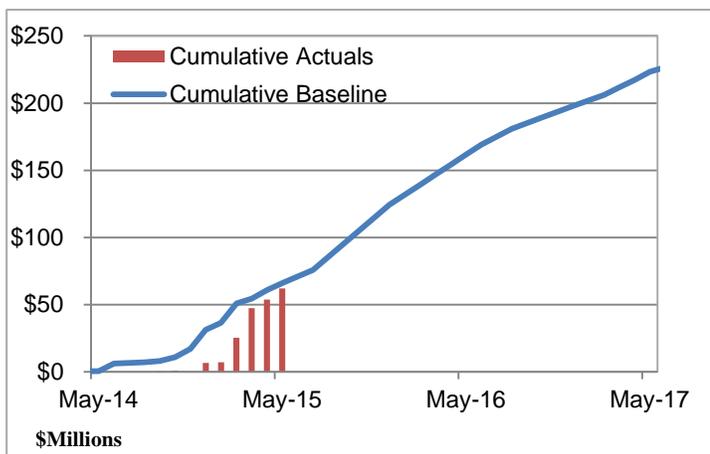
	Current Budget	Actuals to Date	Remaining Budget
West Approach Bridge North Project Totals	\$252,711,742	\$94,100,378	\$158,611,364
Preliminary Engineering	\$26,485,353	\$26,485,353	\$0
Right of Way	\$4,730,000	\$4,211,235	\$518,765
Construction	\$221,496,389	\$63,403,790	\$158,092,599
<i>Current Contract Value</i>	<i>\$200,834,802</i>	<i>\$56,890,783</i>	<i>\$143,944,019</i>
<i>Agreements</i>	<i>\$7,119,129</i>	<i>\$3,232,485</i>	<i>\$3,886,644</i>
<i>Construction Engineering</i>	<i>\$13,478,157</i>	<i>\$3,226,447</i>	<i>\$10,251,710</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>\$54,000</i>	<i>\$43,774</i>	<i>\$10,226</i>

Cost information through May 31, 2015

MAY CHANGE ORDER SUMMARY

There were five change orders executed in May for \$26,000. Change orders total \$1,297,431 for the WABN project at the time of this report.

MAY PERFORMANCE



Cumulative actuals were below the baseline in May.



WABN: Casing installation

SUMMARY SCHEDULE

The baseline schedule was approved in February. The third Progress Schedule Update (April) was submitted on May 14, with a progress data date of 4/30/15, reviewed by the project team, and Returned for Correction on May 21. On May 29, revision 1 of the April Progress Schedule Update was submitted.

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	6/20/2017
End of Working Days	11/3/2017	11/3/2017

MAY SAFETY SUMMARY

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

*Safety numbers were updated to reflect a past incident involving a subcontractor that was previously unreported.

MAY 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)	35	5	40
Minor Environmental Event	0	0	0

On 5/8/15, a Noncompliance Event was identified. Based on a site visit from the state Department of Ecology (DOE) on 4/30/15, track-out at Montlake and both work trestles violates the NPDES permit.

On 5/18/15, a Noncompliance Event was identified. The city of Seattle is planning to fine Flatiron for not following the intent of the Temporary Noise Variance by using a backhoe as an impact tool to break concrete.

On 5/18/15, a Noncompliance Event was identified. A dead fish was found in the waters near the construction site; its death is not attributed to the project, but was reported nonetheless.

On 5/20/15, a Noncompliance Event was identified. A dump truck leaked approximately 80 to 100 gallons of fuel onto the work trestle and down to Foster Island.

On 5/27/15, a Noncompliance Event was identified. Pooled drilling slurry leaked through a liner onto the work trestle.

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
WSDOT	Washington State Department of Transportation

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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